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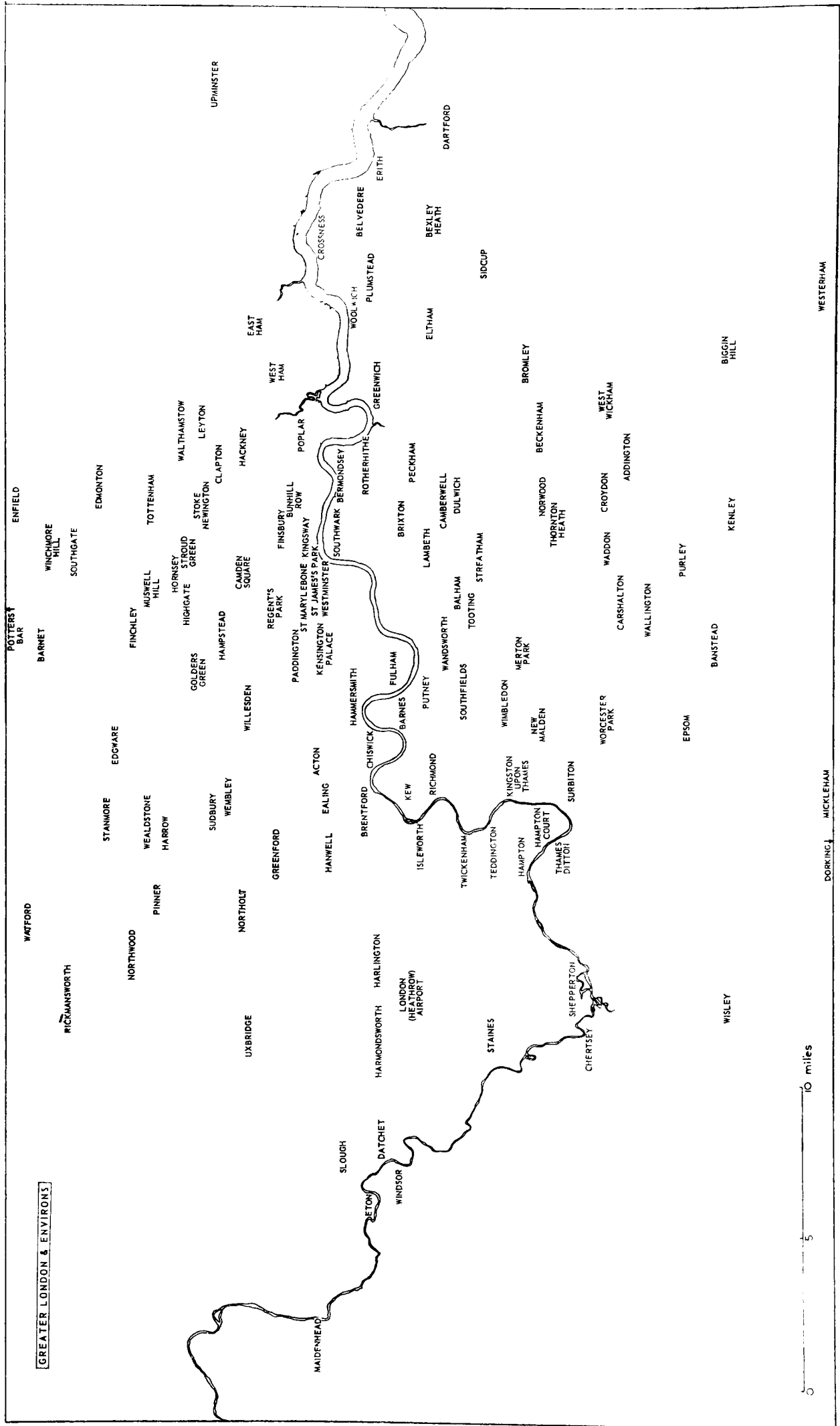
LONDON WEATHER

J H BRAZELL

HMSO

LONDON WEATHER

GREATER LONDON & ENVIRONS



Met.O. 783

METEOROLOGICAL OFFICE

LONDON WEATHER

By J. H. BRAZELL, M.Sc.

LONDON

HER MAJESTY'S STATIONERY OFFICE

1968

Decimal Index

551.506.3(421)

551.582.2(421)

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Published by

HER MAJESTY'S STATIONERY OFFICE

To be purchased from

49 High Holborn, London w.c.1

423 Oxford Street, London w.1

13A Castle Street, Edinburgh 2

109 St. Mary Street, Cardiff CF1 1JW

Brazennose Street, Manchester 2

50 Fairfax Street, Bristol 1

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London Weather

INTRODUCTION

Many of the inquiries received by the London Weather Centre from the Press, Radio, Television and the general public are for comparisons of current weather with that experienced in past years. The climatological statistics issued by the Meteorological Office go a long way to meet the needs of our customers but they do not readily answer questions such as 'Is today's temperature a record?', 'When was the last fine Easter?', and so on. W. A. L. Marshall's *A Century of London Weather*, published in 1952, assembled in one cover the main facts of London's weather over the 109 years 1841 to 1949 in a form suitable for quick reference and comparison. The purpose of this present book is to bring *A Century of London Weather* up to date and to extend its scope by the inclusion of chapters dealing with weather during public holidays, London fogs, droughts and floods, and the weather before 1841; the aim is to cover all aspects of weather in Greater London and environs* from the earliest times up to the present. The opportunity has been taken to correct errors in the earlier publication.

Chapters 1 and 2 and the chronology of London weather given in Appendix I deal with outstanding weather which occurred from Roman to early Victorian times. Instrumental observations were not available for most of this period, so the treatment is mainly descriptive. However, temperatures are quoted occasionally from about the beginning of the 18th century onwards, and Appendix II consists of early rainfall records in or near London from about the end of the 17th century to 1840. The sources of this information are indicated, and any doubts about the authenticity of any report are expressed in the text.

Chapters 3, 4 and 5 give monthly, seasonal and annual weather summaries with particular reference to extreme values of temperature, rainfall and sunshine during the period 1841 to 1964. These summaries are based mainly on the climatological statistics for Greenwich and Kew given in Appendix III, and on reports from other stations in the Greater London area published in the *Monthly Weather Report* of the Meteorological Office and in *British Rainfall*. Plates III to XIX give mean temperature, total rainfall and total sunshine for each month, season and year from 1841 to 1964 but only from 1881 in the case of sunshine; the reader can see at a glance how the monthly, seasonal and annual values compare with the latest averages, and how London's climate has changed. When values are above average, mean temperature, total rainfall and total sunshine are given by the tops of the black columns and when values are below average they are given by the bottoms of the stippled columns. Space has been provided in the diagrams so that the reader can enter data for the next few years as they become available; these data will be published in the *Monthly Weather Report*.

*See frontispiece map

The Press and the public have always displayed great interest in the comparison of weather during public holidays with that experienced in past years. To meet this need, details of weather during Easter, Whitsun, August Bank Holiday and Christmas for the period 1871 to 1964 are given in Plates XX to XXIII and in Chapter 6, where the tradition of a 'White Christmas' is examined over a much longer period.

London is reputed to be a very foggy city and this question is discussed in Chapter 7. The interpretation of early fog reports is difficult since visibility observations were not standardized until about 1920, and regular observations throughout the 24 hours were not made in central London until 1941. However, a detailed analysis of the frequency of fog in central and outer London for the period 1947-62 has been included together with accounts of outstanding fogs.

Chapters 8 and 9 deal with 'warm and cold spells' and 'wet and dry periods' respectively. It is shown that the Buchan warm and cold periods do not apply to London. Details of outstanding droughts and floods have been included in Chapter 9; it may be argued that floods should not be included in this book, but weather is either the main cause, or a major contributory cause, of most floods.

Chapter 10 deals with weather trends and persistence and Chapter 11 discusses weather lore and tests the truth of some of the old weather sayings. The Fahrenheit scale of temperature is used throughout this book because it is the scale in which the observations were made and recorded except for the Kew observations from 1911 onwards which were recorded in degrees Absolute. Transposition of all the material into the Celsius scale would have been laborious and also in some respects unsatisfactory since many observing stations recorded temperatures to the nearest whole degree Fahrenheit. Conversion of these temperatures to the Celsius scale (to the first decimal place) would have given a false impression. This difficulty did not arise in the conversion of the Kew observations from the Absolute to the Fahrenheit scale. A conversion table has been included at Appendix IV to assist readers for whom the Celsius scale is more convenient. A list of bibliographical references will be found on pp. 242-243.

All the climatological statistics, tables and diagrams have been checked carefully, but, in view of the large amount of material handled, it would perhaps be unduly optimistic to assume that all errors have been detected.

The author wishes to thank Mr H. H. Lamb, Mr H. C. Shellard and Mr A. Bleasdale of the Meteorological Office who read and commented on the first draft of the book. He is also indebted to the staff of the London Weather Centre for assistance in checking and manipulating data; in particular the author is grateful to Miss Beryl Spear who extracted and processed most of the climatological data and prepared most of the diagrams.

CHAPTER 1. WEATHER BEFORE 1841

*Murphy has a weather eye,
He can tell whene'er he pleases
Whether it's wet or whether it's dry,
Whether it's hot or whether it freezes.*

(WEATHER LORE)

Introduction

A chronology of London weather up to 1840 is given in Appendix I; it is divided into five sections—'Wet Weather and Floods'; 'Warm and Dry Weather and Droughts'; 'Cold Weather, Snow and Frost'; 'Gales and Storms'; and 'Fog'. The sources of the information are indicated by the figures in brackets at the end of the descriptions of the various events; these figures refer to the Bibliography. Sometimes the same event is reported in different years by different chroniclers and it is difficult to decide which is correct. The introduction of a new calendar on the day following 2 September 1752, which day was called 14 September 1752 (with the 'loss' of eleven days), introduced further complications since some authors did not indicate clearly whether they were using the old or new calendar. In Appendix I dates on and before 2 September 1752 are in the Julian calendar, and dates on and after 14 September 1752 are in the Gregorian calendar. Some of the events listed such as 'A wet year' or 'A severe winter' refer to England or Britain, but they have been included since it is probable that London was affected. The only record of some of the events given in Appendix I is Dr Thomas Short's work *A General Chronological History of the Air, Weather, Seasons, Meteors, etc.* published in 1749. Short hardly ever quoted any authority for his statements, and Britton could find no earlier sources for most of the early events chronicled by Short. Therefore the authenticity of the early events which depend only on Short must be regarded as very doubtful. Some of the early reports of loss of life associated with storms and floods are almost certainly exaggerated.

Wet weather and floods

Two reports of coloured rain, described as 'bloody rain', are included in the chronology; the first was in A.D. 4 and the other in A.D. 685. Coloured rain is usually due to the presence in the atmosphere of very fine sand or volcanic dust which may have originated thousands of miles away from the place where the rain fell. Vesuvius and Etna were very active in 685, and the 'bloody rain' which fell that year probably contained volcanic dust.

Appendix I gives 39 wet years during the period 1086 to 1840 but it is doubtful whether all the wet years which occurred before the 18th century were recorded; rainfall records are available for most of the 18th and all the 19th centuries. The first recorded wet year was 1086, and 1087 may also have been a wet year; there was much famine and pestilence during these two years. There was a further occasion of two consecutive wet years in 1201 and 1202. The year 1258 seems to have been very wet, and the combination of a cold backward spring and heavy autumn rains gave a very poor harvest. Several famines occurred during the three years 1314 to 1316, and the famine of 1316 was probably the last really severe one in England. Each one of the years 1314, 1315 and 1316 was recorded as very wet by various historians; there may be some confusion and overlapping but it seems likely that at least one, and probably two, of the years were very wet. It has been suggested that the heavy rain and severe flooding

which occurred in the summer of 1315 might be the origin of the St Swithin legend. Brooks and Glasspoole consider that 1527 may have been wetter than 1258, and that the two years 1527 and 1528 were probably the wettest pair of consecutive years since weather chronicles began. The year 1648 was very wet but it was probably not so wet as 1258 or 1527.

The earliest available rainfall record in England started in 1677 at Townley near Burnley, Lancashire, and the earliest London records available commenced in September 1695 but unfortunately they only covered 11 months. From 1725 onwards, a continuous record of rainfall somewhere in the London area is available except for the period 1736–1764, but, even for this period, records for Tonbridge, Kent, give a fair indication of the variation of London rainfall. These early rainfall records are given in Appendix II; the measurements of rainfall on the roof of Somerset House do not agree with other London rainfall records and must be regarded as suspect, as must all rainfall measurements made on the roofs of buildings. The first half of the 18th century seems to have been remarkably dry if its rainfall is compared with the average rainfall for the period 1916–50; dry years were common while wet years were few and far between. It is usually claimed that 1768 was the wettest year in the 18th century but 1782 was slightly wetter than 1768 at Lambeth. The first 40 years of the 19th century were a wet period with 8 wet years (1816, 1817, 1819, 1821, 1824, 1828, 1831 and 1839), 1821 and 1824 being outstandingly wet.

The first recorded wet summer was in 1233 when heavy rains led to severe and widespread flooding over most of England. The wet summer of 1460 was claimed to be one of the worst for 100 years and the summer of 1648 was described as worse than several of the past winters. The summer of 1692 was exceedingly wet and rather cold and was stated to be the worst summer since 1648. There were only 5 wet summers during the first half of the 18th century compared with 16 during the second half. The first 40 years of the 19th century were almost as bad with 10 wet summers. The first recorded Thames flood was in A.D. 7 or 9 and the next one was in A.D. 48, but there is no mention of these floods before Short. Brooks and Glasspoole suggest that the first was a tidal flood but that the second was due to heavy rainfall. It was reported that 10,000 people were drowned in the A.D. 48 flood but this is almost certainly an exaggeration. Appendix I includes floods in 479, c.630 and 973 but there is no record of these floods in any of the early chronicles. On 11 November 1099, a tidal flood affected the Thames estuary and Kent; it is not known whether London was affected but according to legend, this inundation was responsible for the formation of the Goodwin Sands.

The old London Bridge (Plate I) which was constructed in 1209 had a great effect on the flooding of the Thames. The bridge was very solid, the piers or pillars were very broad and the arches between them were so narrow that nothing larger than a wherry could pass. In the 18th century the two centre arches were combined so that barges could pass, but even then the total space between the pillars was much less than the space occupied by solid masonry. The difference between the water level on one side and the other was sometimes several feet and water used to pour through like cataracts. The incoming tides were largely expended against the bridge and the tidal rise and fall up-river was much less than at present; thus the result was to decrease the chances of tidal flooding above the bridge, but the bridge held up the flow of the river and therefore

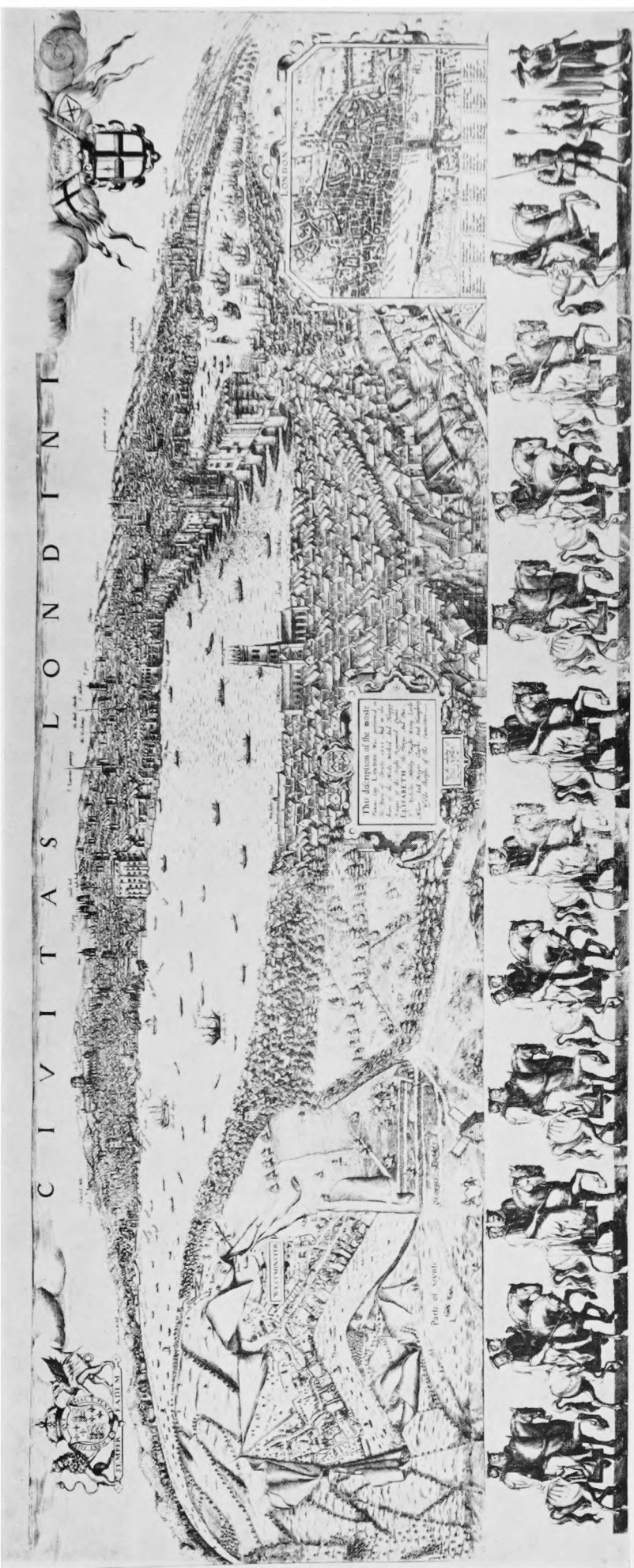


PLATE I. A VIEW OF LONDON IN 1600 BY JOHN NORDEN
Plate by courtesy of the London Topographical Society



PLATE II. FROST FAIR ON THE THAMES 1814

increased the danger of flooding above the bridge during or following heavy rain. Another factor is that flood protection was much more rudimentary than it is now.

Flooding of the Thames in London and neighbouring districts is often due to a combination of a high tide, a tidal surge caused by strong winds over the North Sea, and a river swollen by heavy or prolonged rain or thawing snow; it is often difficult to decide which was the major factor in past floods. During the period 1209 to 1840 the Thames flooded London and environs on 36 occasions. Other floods are mentioned in the record but it is not clear whether the Thames was in flood or not on these occasions. Thirteen of the 36 floods were partly or completely tidal, but most of the others seem to have been due to heavy prolonged rain or rapid thawing of heavy snowfall. There were two floods in 1236; the first, which flooded Westminster Palace early in the year, was due to heavy prolonged rain. The second flood in 1236, which was produced by a high tide in November, drowned many people and a great number of cattle in the Woolwich area. The flood which occurred in December 1382 prevented the King from travelling from Westminster to Windsor where he had proposed to spend Christmas. The tidal flood of 5 October 1570, which affected the Thames estuary as far up-river as Erith, extended from the Humber to the Straits of Dover. The high tide was associated with severe gales and the flood was aggravated by heavy rainfall. The flood of 7 December 1663, which submerged Whitehall, was produced by a high tide which was not exceeded for more than 200 years. The tidal flood of November 1703 was associated with one of the worst storms ever experienced in this country but the Thames flood was not as severe as the floods in the Severn and on the coast of Holland. In December 1768 the Exeter coach was carried away by the Thames flood near Staines and all six passengers and the four horses were drowned. Henley bridge was destroyed in the March 1774 flood, which, although partly tidal, was mainly due to excessive rains; this flood was the highest on record at Teddington. The January 1809 flood, which may have been tidal in the lower reaches of the Thames, carried away bridges at Eton, Deptford and Lewisham. The flood which occurred at the end of December 1821 reached half-way up the buildings in the market place at Kingston.

Thunderstorms

The chronology contains many reports of thunderstorms and hailstorms but in general only storms which caused damage or which occurred in the months when thunder is infrequent were noted by the historians and chroniclers. Therefore Appendix I gives no indication of the frequency of thunder. The first recorded thunder was in A.D. 69 when lightning was supposed to have destroyed part of London, but this was not mentioned by any writer before Short. The year 1086 was a thundery year with much flooding and many people were killed by lightning. The year 1193 was also unseasonable with thunder and lightning throughout the year. Thunder is usually rare in November but, curiously enough, this month was very thundery in the consecutive years 1232 and 1233. Several houses in Windsor, including the one occupied by the Royal Family, were struck by lightning during a severe thunderstorm on 19 May 1251. St Paul's was struck by lightning and the steeple was set on fire on 1 February 1444 and again in June 1561. (This was in the days before lightning conductors which were first

suggested by Benjamin Franklin in 1752.) During a thunderstorm on 25 July 1738, hailstones bigger than walnuts fell at Uxbridge; house roofs were damaged and several people were injured. Large hailstones, about 2 inches in diameter, did considerable damage to windows and gardens during a thunderstorm on 12 June 1748. The year 1750 seems to have been a thundery year and severe thunderstorms with hail caused flooding on 11 and 24 July. A whirlwind associated with the thunderstorm of 20 July 1752 lifted two boats several feet out of the Thames at Vauxhall and smashed one of them to pieces on the river bank; it is claimed that this was the only thunderstorm in London during 1752.

Dry Weather and Droughts

A drought may be defined as a period of dryness or severe shortage of water due to lack of rain, but most of the early records give no indication of the length of the dry period. The droughts of A.D. 139, 362 and 374 were first mentioned by Short in 1749 but no earlier confirmation has been found. Several chroniclers refer to a famine in 439 and some state that it was a year of drought, but there is no authority, apart from Short, for a drought in 605. According to legend, the drought which ended in 681, and which was claimed to have lasted for three years, was broken on the day when Bishop Wilfrid (St Wilfrid) converted the South Saxons to Christianity. The severe winter of 763/64 was followed by a long and terrible drought, but there is no confirmation in the early chronicles of the drought of 1102, which was first mentioned by Short. The year 1114 is considered to be one of the driest years on record, and on 10 October, the Thames at London was so low that men and boys were able to wade across the river. The period 1135 to 1137 was relatively dry with one exceptionally dry year in 1136; the year 1222 was also dry and there was a prolonged drought from March to October in 1241. Both 1252 and 1253 were dry years and according to Brooks and Glasspoole they were the driest pair of consecutive years since the beginning of history. Curiously, flooding occurred in October in both years; the 1252 flood was due to heavy rain and the 1253 one was tidal. Severe droughts occurred in 1325 and 1326, rivers and springs dried up, and in both years the Thames was so low that sea water penetrated much further up the river than usual. In the spring of 1331, there was a drought which lasted 15 weeks, but a few days before 17 June, when a tournament was due to commence at Stepney, the drought was broken and 'all the ground was thoroughly watered'.

Appendix I includes numerous droughts from the beginning of the 15th century onwards but only outstanding ones need be considered here. Most of the droughts in the 15th, 16th and 17th centuries were first mentioned by Short and were later included in Symons' list of droughts. As Symons pointed out, Short did not always distinguish between British and continental droughts, and it was not possible to detect and eliminate all these mistakes. Therefore some of the droughts in Appendix I, which were first mentioned by Short, may not apply to England at all. Droughts with very hot summers occurred in the three successive years 1473 to 1475. The four successive years 1538 to 1541 apparently experienced drought; 1540 and 1541 were particularly dry, and in both years the Thames was so low that sea water extended above London Bridge, even at ebb tide in 1541. The drought of 1556 was reputed to be responsible for the increase in the price of wheat from 8s. to 53s. per quarter. In 1591 or 1592 (there is some doubt about the year) the drought was so great that horsemen could ride

across the Thames at London Bridge. The drought in August and September 1666 is noteworthy because it preceded the Great Fire of London; apparently the east wind, which prevailed during that period, had dried the wooden houses of London until they were like tinder. When the fire started early in September, the east wind drove the flames before it and helped the fire to spread rapidly. According to the diarist Evelyn, there was scarcely any rain from Christmas 1680 to June 1681 and he wrote 'there still continues such a drought as has hardly ever been known in England'. However, the price of wheat was not unduly high in either 1681 or 1682. The years 1691, 1697 and 1699 all appear to have been dry years.

The first half of the 18th century seems to have been remarkably dry all over Britain and the continent, and dry years were also frequent in the London area during the last 20 years of the century. The year 1704 was claimed to be the driest year for 20 years, but in London it was probably no drier than 1697 or 1699. The year 1714 was outstandingly dry; the annual rainfall at Upminster (Essex) was 11.25 inches which is only about 50 per cent of the 1916–50 average. This low rainfall record of 11.25 inches was not broken until 1921 when annual totals of 7.94 and 9.28 inches were recorded at the Isle of Grain (Kent) and Margate respectively. Annual totals of less than 10 inches were recorded at Somerset House, London, in 1827 (9.98 inches) and 1834 (8.01 inches), but these rainfall measurements were made on the roof of the building and cannot be regarded as satisfactory. Moreover the Somerset House values do not agree with measurements made elsewhere in London. In 1827, Edmonton and Greenwich recorded rainfalls of 22.20 inches and 24.9 inches respectively, while in 1834 these two stations had annual rainfalls of 19.20 inches and 19.6 inches respectively. It is inconceivable that annual rainfall at Somerset House should be less than half that at Greenwich. Examination of monthly rainfall records for Somerset House in 1827 and 1834 reveals some surprising features; February was completely dry in both years and the monthly rainfall in May and June 1827 was exactly the same. The most probable reason for the low rainfalls at Somerset House in 1827 and 1834, which cannot be regarded as records, was the roof exposure. The next dry year, after 1714, was 1716; during this year the Thames was so low that people walked under the arches of London Bridge; the year 1731 was also outstandingly dry, and, like so many dry years, it started with a great frost. According to Brooks and Glasspoole the worst dry spell of the 18th century in England was the four-year period 1740–43, and they indicated that two of these years (1741 and 1743) could stand comparison with the record dry year 1921. However, the early Tonbridge rainfall records (Appendix II), which give a fair indication of the rainfall pattern in London, show that, while 1742 and 1743 can be regarded as dry years and 1740 and 1741 as fairly dry, none of these four years approaches the dryness of 1921 in the London area. There were 5 dry years (1780, 1781, 1788, 1795 and 1796) in the last 20 years of the 18th century and 3 dry years (1802, 1807 and 1840) in the first 40 years of the 19th century.

Fine summers

The first fine summer recorded in Appendix I was in 1136 when there was a hot and dry summer in England and Wales. From the 13th century onwards there are many references to dry and/or hot summers except during the 14th and

15th centuries. According to Lamb this was the beginning of a long period of climatic deterioration in Europe. However, this deterioration seems to have persisted until the end of the 17th century, so that there is no reason why fine summers should have been less frequent in the 14th and 15th centuries than they were in the 16th and 17th centuries. An outstandingly dry and hot summer occurred in 1252; the drought ruined the crops and many people died from the excessive heat. It seems that there were five fine summers in the seven-year period 1473 to 1479, and three successive fine summers from 1538 to 1540; the weather in 1540 was so fine that picking of cherries commenced before the end of May and grapes were ripe in July. According to Short, there were three successive fine summers from 1636 to 1638, and four successive hot summers from 1651 to 1654. The same author stated that the summer of 1699 was the first of several hot summers after nine successive cold summers. While this summer was dry, it was not particularly hot, but it was the warmest summer for about 20 years, and five of the six summers immediately following 1699 were warmer than the five summers which preceded 1699. Fine summer weather gave a good crop of grapes at Richmond in 1718 and in 1719, and the summer of 1719 was claimed to be one of the hottest for some time. There were four warm summers (1778, 1780, 1781 and 1783) in the six-year period 1778 to 1783. The summer of 1818 was claimed to be the longest, driest and warmest in living memory.

Severe winters

The first severe winter recorded in Appendix I occurred about A.D. 80; it may have been any of the winters between A.D. 77 and 84. One chronicler wrote of this winter 'Sic crwell cald was nevir sene beforne'. Short, writing in about 1749, recorded severe winters in A.D. 134, 153, 173, 220, 250 and 291, but Britton found no confirmation of these severe winters in earlier chronicles. Britton found no record in the early chronicles of severe winters in 329 (first mentioned by Lowe) and in 474, 508 and 525 (first mentioned by Short). It is doubtful whether a severe winter occurred in both 545 and 554, but one of the winters may have been very cold. According to Britton, some of the early chronicles refer to a severe winter in western Europe in 695 or 696, and it is possible that Britain was affected, but Short was the first to mention that the Thames was frozen in this year. The winter of 763/64 was undoubtedly one of the severest winters known to history and it seems to have affected the whole of Europe. Severe winters occurred in about 859/60 and probably in 974/75, but Short was the first to record severe winters in 827, 908, 923, 998 and 1020.

Records of severe cold weather become more numerous from the middle of the eleventh century onwards, and only outstanding events will be discussed here. The winter of 1047 was reputed to be the worst in living memory, and the severe frost of 1092/93 followed a very wet year. The next outstandingly severe winter was in 1114/15; the frost lasted for about 9 to 11 weeks and nearly all the bridges in England were damaged by ice. The first authentic report of the Thames being frozen solid refers to the winter of 1149/50 when the frost lasted from December to March and the frozen river was crossed on foot and on horseback. The winter of 1204/05 was one of the severe winters of history and most rivers including the Thames were frozen completely; the frost prevented ploughing, and all agricultural work was suspended from 14 January to 22 March, the winter seed was destroyed and there was widespread famine. A bitter frost

persisted for about 10 weeks during the severe winter of 1269/70; the Thames froze solid and was closed to shipping, so that merchandise had to be transported overland between the Channel ports and London. Accounts of this winter included reference to glazed frost; the thaw, when it arrived, was accompanied by heavy rain and flooding. The next notable winter occurred in 1281/82 when the frost and snow persisted from Christmas to March; the Thames was frozen so hard that people could walk across the river and the force of the ice damaged five arches of London Bridge. This bridge was again damaged by ice during the severe winter of 1309/10. The winter of 1407/08, which affected most of Europe, was one of the most severe on record; the frost lasted for 15 weeks and people were able to walk across the frozen Thames. Another very severe winter occurred in 1433/34; the Thames froze solid and was closed to shipping, and wine had to be transported overland from Gravesend to London. The Thames was frozen and the ice was thick enough to bear the weight of people and even horses and carts during the severe frosts of January 1506, January 1514, December 1536 to January 1537, and December 1564 to January 1565. A frost fair, the first on record, was held on the Thames during the severe winter of 1607/08. Both Andrews and Gregory refer to a severe winter in 1609/10; this may be correct but it may also be a mistaken reference to the winter of 1607/08. Three of the five winters from late 1662 to early 1667 seem to have been cold with severe frosts. It is claimed that skating was introduced into England during the winter of 1662/63 and that the King watched this new sport on the frozen Thames. The great frost of 1683/84 was claimed to be the longest on record; the Thames in London was completely frozen for about two months, and the ice was reported to be 11 inches thick. This was the winter described so vividly by R. D. Blackmore in *Lorna Doone*. Long and severe frosts were experienced during the winters of 1688/89 and 1694/95, and frost, hail and snow persisted from January to May in 1698.

The first severe winter of the 18th century was in 1708/09; the frost lasted for three months and the temperature fell to 0°F. The Thames was completely frozen for about two months during the severe winter of 1715/16 and a frost fair was held on the river. The first six weeks of 1731 were very cold with much snow, and the temperature in London fell to 0°F. The winter of 1739/40 was extremely severe and may have been worse than that of 1715/16; the streets of London were clogged with snow and ice, the Thames was frozen for about eight weeks, and Thames shipping and London Bridge were damaged considerably by the ice. According to the Rev. W. Denham, the frost of 1739/40 was the most severe on record and the temperature on 3 January was down to —11°F. Both 1767 and 1768 commenced with severe frosts which were comparable in intensity with the frost of 1739/40. Two successive severe winters occurred in 1783/84 and 1784/85; in both winters the Thames was completely frozen for a short period, and navigation was affected for a much longer period. The Thames was again completely frozen during the severe winter of 1788/89, and a frost fair was held on the river. The greatest frost of the 19th century commenced on 27 December 1813; the onset of the frost was accompanied by thick fog which is described later. Heavy snow fell during 3–5 January 1814 and this was followed by a temporary thaw which only lasted one day; the frost then returned and persisted until 5 February. The Thames was frozen solid from 31 January to 5 February and a frost fair was held on the river; a thaw took place between 5 and 7 February and the drifting ice damaged shipping considerably. Apart from

1813/14, there were six severe winters (1815/16, 1819/20, 1822/23, 1829/30, 1837/38, 1840/41) during the first 40 years of the 19th century; there was a great deal of ice in the Thames during most of these winters, but the ice was never strong enough to enable people to walk from one side of the river to the other. The Thames at Greenwich was blocked by ice on 3 February 1830, but all the ice had drifted out to sea by 10 February. The severe winter of 1837/38 was called Murphy's winter; Patrick Murphy won fame and a small fortune from the sale of an almanac in which he predicted the severe frost of January 1838, and his success was celebrated in a rhyme of the period which heads this chapter. Like many other so-called long-range forecasters, Murphy never repeated his success and soon fell back into obscurity.

Cold summers, early and late snow

Snow in London is rare before November and after April. Heavy snow fell in the city on 9 October 1280 and on 14 May 1294; the fall in 1294 is particularly interesting since the equivalent date according to the modern calendar would be 25 May. A spell of cool summers, which commenced in 1687, culminated in the cold summers of 1694 and 1695. Both these years were cold and 1695 was reckoned to be one of the coldest years ever known. The year 1698 was reputed to be the coldest year between 1695 and 1742; there was deep snow all over England on 3 May and the spring of 1698 was the most backward for 47 years. However, in London the years 1725 and 1740 were probably as cold as 1698, while 1742 was not particularly cold; the summer of 1725 was probably colder than the summer of 1694 or 1695. There were three successive cold years from 1784 to 1786; heavy snow fell on 25 October 1784 and there was snow on 26 and 29 October 1785. The years 1814 and 1816 were as cold as, if not colder than, 1695; the year 1816 was known as 'the year without a summer' and the summer of 1814 was also cold. The years 1829 and 1838 were almost as cold as 1816; over an inch of snow fell on 7 October 1829, and there were snow showers on 13 October 1838.

Gales and storms

In general, droughts and floods, with their accompanying famine and pestilence, affected the life of the people much more than gales and storms. It is therefore not surprising that the number of storms recorded is much less than the number of droughts and floods. Obviously, only storms which produced considerable havoc would be remembered and recorded. The storms of A.D. 18, 253, 277, 548 and 944, all of which were supposed to have caused damage in London, were first mentioned by Short writing in about 1749, and no confirmation has been found in earlier chronicles. The first authenticated report in Appendix I is the gale of 17 October 1091, which blew down more than 600 houses and damaged many churches and the Tower of London; this gale was described as a violent whirlwind coming from the south. A violent north-easterly gale did much damage in London on 18 October 1220 or 1221; the exact year is uncertain. The gale of 16 January 1342 which destroyed the tower of the Church of Friars Minor in London, occurred at night and was associated with a violent thunderstorm. A severe gale from between south and west commenced on 15 January 1362 and lasted for about a week. This storm is probably the severest on record with the exception of the great storm of November 1703;

a large number of buildings were blown down or damaged, including St Pancras Church and the church of the Austin Friars in London. Cromwell died on 3 September 1658; it was a wild and stormy night, chimneys and roofs were blown down and many trees were uprooted. The great storm of 1703 which commenced on Friday 26 November and lasted until Wednesday 1 December was probably the worst ever experienced in England; it is described by Defoe in his work *The Storm 1703*. This storm was associated with a deep secondary depression which swept across Ireland, Wales and central England; it is possible that this secondary developed from a West Indian hurricane which had been off the coast of Florida a few days previously. The gale first blew from the south, then veered to west-south-west and finally to north-west. The southern half of the country felt the full force of the storm and it was worst in London on the nights of Friday 26 November and Tuesday 30 November, when bricks, tiles and stones flew about with such force, and were so numerous, that none dared venture forth from their homes. After the storm the price of tiles increased by about 300 per cent. On Sunday 28 November a tidal flood associated with the storm affected the Thames. Twelve warships with 1300 men on board were lost in sight of land, Eddystone lighthouse was destroyed and practically all shipping in the Thames was destroyed or damaged. In London alone, 22 people were drowned, 21 people were killed and 200 injured by falling and flying debris. It was estimated that 8000 people lost their lives in the floods caused by the storm in the rivers Thames and Severn and in Holland. The damage due to storm and flood in London was estimated to be £2,000,000.

The westerly or west-south-westerly gale of 8 January 1735 was the most violent since the destructive storm of November 1703. The damage in London was considerable; several houses were destroyed, practically every street was covered with tiles, and 36 trees were uprooted in St James's Park. There were two violent gales in 1737; the first on 3 August uprooted numerous trees and sank some ships in the Thames, and considerable damage was also caused by the second gale on 1 December. The winter of 1739/40 was a severe one with a hard prolonged frost; a violent easterly gale, which was accompanied by snow, did considerable damage on 29 and 30 December 1739. The gale and large blocks of drifting ice played havoc with shipping on the Thames; many ships were driven ashore and dashed to pieces. In 1740, London experienced gales on 4 and 7 September and on 1 November; the gale of 7 September did great damage to shipping, and the gale of 1 November blew down one of the spires of Westminster Abbey and most of the wall around Hyde Park. The severe gale of 26 February 1751 affected most of the southern half of the country and destroyed a number of ships in the Thames. Very severe gales caused much damage on 4, 7 and 8 March 1818, and a severe gale blew down trees and unroofed houses on 29 November 1836.

Fog

In early and mediaeval times, people rarely travelled at night and even when they did, they usually proceeded fairly slowly. Thus our early ancestors were not hindered and plagued by fog as much as later generations, and this may be the reason for the lack of early reports of fog. Atmospheric pollution, which causes fog to thicken and persist, increases with population; the population of London increased rapidly during the 15th and 16th centuries, and complaints about the smoke produced by burning coal date back to the reign of Queen Elizabeth I.

The diarist Evelyn's description of the fog in December 1671 as 'The thickest and darkest fog ever known in the memory of man' brings to mind the 'pea-soupers' and 'smogs' of more recent times. The conditions favourable for the formation of fog overland are light winds and clear skies which are nearly always found in anticyclones. The winter of 1708/09 was very cold with severe frost which lasted from December to March; this suggests anticyclonic conditions which would agree with the foggy period in December 1708 given in Appendix I. According to Short the first two months of 1710 were dry; this suggests that conditions were anticyclonic, which would fit in with Short's report of a foggy January and February in that year. December 1713 was very mild with a lot of fog and there was thick fog on the 13th. October 1722 and February 1725 were exceptional months with fog on 9 and 10 days respectively. Lowe records a great fog in London on 1 January 1730, and, without giving any details, he states that many lives were lost. Many other reports of fog during the 18th century are given in Appendix I.

The greatest frost of the 19th century commenced on the evening of 27 December 1813, and the onset of the frost was accompanied by dense fog which persisted until 3 January 1814. On 27 December the fog was so dense that the Prince Regent, who was on his way to visit the Marquis of Salisbury at Hatfield House near St Albans, had to turn back at Kentish Town and return to Carlton House. This short journey took several hours and one of the Prince Regent's outriders fell into a ditch at Kentish Town. The fog was still dense on 28 December and on that night the Maidenhead coach, which was returning from London, lost its way and overturned. Dense fog continued on 29 December and the Birmingham mailcoach took nearly seven hours to go from London to just past Uxbridge. Traffic was almost at a standstill in London on the nights of 30 and 31 December; many coachmen had to lead their horses and others only drove at a walking pace. Only pedestrians who knew the locality well dared venture forth, and even some of them lost their way. The fog was finally cleared by a cold northerly wind, accompanied by heavy snow, which set in on 3 January 1814.

CHAPTER 2. FROST FAIRS ON THE THAMES

*'Behold the wonder of this present age,
A famous river now becomes a stage.
Question not what I now declare to you,
The Thames is now both fair and market too.'*

(PRINTED BY M. HALY AND J. MILLER, 1684)

Appendix I includes many reports of the freezing of the Thames during severe winters before the 12th century, but Short is the only authority for these reports, and no confirmation has been found in earlier chronicles. The first authentic report of the Thames being frozen over was in the severe winter of 1149/50 when the ice was thick enough to enable men to cross the river on foot and on horseback, but there is some uncertainty about the exact date of this severe winter, and it may have been in 1150/51. The next report of the frozen Thames' being crossed by people on foot was in the winter of 1204/05. The Thames was frozen over and the ice was thick enough for people and sometimes vehicles to cross from one side of the river to the other in 23 winters during the period 1260 to 1814. Appendix I includes reports of the Thames being frozen during other winters but, in these cases, there was no indication that the ice was strong enough to bear the weight of people. The first recorded sport on the frozen river was during the severe winter of 1309/10 when dancing took place around a fire built on the ice and a hare was coursed on the frozen waterway. During the severe winter of 1536/37 or 1537/38 (the date is uncertain), King Henry VIII drove on the frozen Thames from London to Greenwich. In the winter of 1564/65, crowds of people walked on the frozen Thames from London Bridge to Westminster and some of them played football on the ice. The court, which was then at Westminster, took part in various sports on the river and Queen Elizabeth is supposed to have walked on the ice every day. The sudden break-up of the frost led to floods which caused much damage.

Eight frost fairs were held on the Thames between 1607 and 1814; the first recorded frost fair was in the winter of 1607/08. The frost commenced in mid-December, and by 10 to 15 January the ice between Lambeth and Westminster was firm and thick enough to allow a large number of people to walk on it in perfect safety. Booths were set up for the sale of fruit, food, beer and wine, and shoemakers and barbers plied their trade on the ice. Fires were kept going in many of the tents or booths, and people enjoyed all sorts of sport on the ice, such as bowling, shooting and dancing. Little information is available about the frost fair held on the Thames during the winter of 1620/21.

A famous frost fair was held on the Thames during the winter of 1683/84; the frost lasted from early December to early February but the fair was confined to the second half of January. The ice was thick and firm, and the number of shops, booths and people on the frozen river made it appear like another city. The booths, which sold all sorts of goods and merchandise and covered a variety of trades, were arranged in formal streets from the Temple to Southwark. A printing press was set up on the ice and the practice of having their names printed with the date and the phrase 'printed on the Thames' became so popular with the people that the printer made a small fortune. Coaches and boats fitted up as sledges plied for hire from Westminster to the Temple, and the diarist Evelyn relates that his coach crossed the river from Lambeth to Millbank, Westminster. Coffee-houses and taverns were set up on the river and a whole

ox was roasted on the ice. People indulged in practically every sport including dancing, skating, sledging, bull-baiting, bear-baiting, fox-hunting, football and skittles. All kinds of gambling took place, and horse and coach-races were held on the ice. King Charles II and his family visited the frost fair and had their names printed on a quarto sheet of Dutch paper by 'G. Croom on the ICE on the River Thames January 31st 1684'. The following extract is from a broad-sheet printed in 1684 and preserved in the British Museum:

'Kind master, drink you beer, or ale, or brandy?
Walk in, kind sir, this booth it is the chief,
We'll entertain you with a slice of beef,
And what you please to eat or drink, 'tis here,
No booth, like mine, affords such dainty cheer;
Another crys, Here master, they but scoff ye,
Here is a dish of famous new made coffee.
And some do say a giddy senseless ass
May on the Thames be furnished with a lass.'

The next frost fair was in 1688/89 when a severe frost lasted from 20 December to 6 February. The Thames was covered with streets of shops and booths; hackney coaches plied for hire on the ice roads and a coach with six horses was driven from Whitehall almost to London Bridge. When the thaw set in, all the ice disappeared in two days. Twenty-seven years later (1715/16), another frost fair was held on the Thames, which appeared like a town, with streets of booths and shops selling food, beer, wines, spirits and many other goods. Goldsmiths, silversmiths and workers in brass and pewter set up their shops on the ice. A large cook-shop was erected on the ice, and gentlemen dined there as frequently and as calmly as they did in any tavern on land. As usual, printing presses on the ice were quite busy, and coaches, wagons and carts were driven on the frozen river. An enthusiastic preacher held a service on the ice. Thousands of people flocked to the fair and, according to a newspaper of the day, the theatres of London were almost deserted. The Prince of Wales visited the fair sometime in January 1716, and, on this day, a high spring tide lifted the ice about 14 feet without interrupting the fair. The winter of 1739/40 was the most severe since 1715/16; frost commenced on Christmas day and lasted until about mid-February. The Thames above London Bridge was completely frozen over and tents and booths were set up for the sale of fancy articles, food and drink to the crowds who flocked there daily. A printing press was in operation on the river, and a whole ox was roasted on the ice; the whole scene was very similar to a normal fair on land. Almost 50 years elapsed before another frost fair was held on the Thames. This was during the winter of 1788/89 when frost commenced about 25 November and lasted until mid-January. The fair extended from Putney Bridge to Rotherhithe and consisted of a variety of amusements including turnabouts, puppet-shows, bear-baiting and an exhibition of wild beasts. Numerous booths were set up and a printing press was again at work on the Thames.

The last frost fair held on the Thames was during the winter of 1813/14 which experienced the greatest frost of the century; this fair is illustrated in Plate II. The frost commenced on 27 December and by 30 January large masses of ice which had floated down the river blocked the Thames between Blackfriars and London Bridges. Next day this mass of ice had frozen solid and people walked

across the river. On 1 February thousands of people were on the ice and a variety of amusements and diversions were set up for their entertainment. There were a great number of booths for the sale of gin, beer and gingerbread, and sheep were roasted over a coal fire on the ice. The meat was called Lapland Mutton and was sold at a shilling per slice. By 2 February there was a complete frost fair on the Thames. The main walk or street started at Blackfriars Bridge; it was called City Road and was lined on both sides with shops and booths of all descriptions. Many printing presses were at work and rhymes commemorating the great frost were printed and sold on the ice. One of these rhymes reads:

‘You that walk here, and do desyn to tell
Your children’s children what this year befell,
Go print your names and take a dram within
For such a year as this, has seldom been.’

On 3 February the fair expanded to include bookstalls, swings, dancing in a barge, skittles, and many gambling games. Many thousands of people flocked to this unusual spectacle. The fair was in full swing on 4 February, which brought a fresh addition of pedlars of all types. Goods were sold at double or treble their worth and there was a profusion of books and toys labelled ‘Bought on the Thames’. Watermen charged people a toll of 2*d.* or 3*d.* for entry to the frost fair and some of these men collected as much as £6 per day. In spite of indications of a thaw, the fair continued on 5 February. Gambling, such as the wheel of fortune, was in full swing; the drinking tents were crowded, some couples danced while others sat around large fires drinking rum, grog and other spirits. Towards evening rain commenced and the ice began to crack and move; the last frost fair on the Thames was over. The thaw continued on 6 February, a few people were drowned and many booths were destroyed. The loose ice did considerable damage to lighters, barges and boats on the river; the loss in the section from London Bridge to Westminster was estimated to be £20,000.

The descriptions of frost fairs on the Thames naturally emphasized the entertainment, merriment and jollity associated with these severe frosts. However, such weather also brought misery and hardship to a large number of Londoners. During these severe winters, most of the dockers, watermen, boatmen and fishermen were out of work and unemployment was also very high among other out-of-door workers. London received most of its supplies by water transport, and the short-fall produced by suspension of navigation in the Thames could not be made good by land transport, especially since the severe weather also delayed and hampered travel by land. Thus the severe and prolonged frosts produced shortages which in turn gave rise to a steep increase in prices and added to the great distress among the poor and unemployed. During the severe winter of 1739/40, unemployed watermen, boatmen, fishermen, carpenters and bricklayers paraded through the streets of London carrying the tools of their trade, which were dressed in mourning, and imploring relief for their suffering families. Subscriptions were organized and were very well supported by the wealthier members of the community. Distress and hardship were alleviated but the intensely cold weather killed many people. The severe winter of 1788/89 also caused much hardship, distress and unemployment. The Prince of Wales subscribed £1000 and the City of London granted £1500 to a fund for the relief of distress and suffering among the poor and unemployed.

In spite of liberal subscriptions to the fund, many London families experienced great hardship and misery, and many persons perished from cold and hunger.

During the 300 years or so from about 1500 to 1814, the Thames was completely frozen in 18 winters. Since 1814, the Thames in London has never been frozen solid, although, during severe winters, there have been plenty of ice floes and thin ice sheets in the river, and it has even frozen solid well upstream from London. There are several reasons why the Thames has not frozen in London since 1814, and these are discussed in Chapter 8. However the most important factor during the period 1814 to 1841 was the removal of the old London Bridge, which acted as a barrier to the flow of the river. The in-coming tides rarely penetrated much above the bridge and it also tended to delay the down-river flow. During long and severe frosts, ice floes formed in the river; this ice floated down river and soon blocked the narrow arches of the old London Bridge. The ice floes piled up and froze together to form a solid, though uneven, ice pack or sheet on the up-river side of the bridge. This sheet of ice grew up-river in two ways; the blockage produced a pool of almost stagnant water which froze more quickly than running water, and the arrival of more floating ice helped the build-up. In 1831 the old London Bridge was demolished and replaced by a bridge which allowed a much freer flow of the river and tides; dredging of the river also commenced about this time. This dredging and the increased flushing action of the tides soon produced a deep channel up which the tidal water could run freely and, as a result, the average level of high tide at Battersea rose by more than a foot above that experienced before the removal of the old London Bridge. Thus the replacement of the old bridge resulted in a much faster and more powerful flow, up-river at tide flow and down-river at ebb tide, and considerably reduced the possibility of floating ice blocking the river at London Bridge.

The three quotations in this chapter are from 'Famous Frosts and Frost Fairs' by William Andrews, F.R.H.S., published in 1887 by George Redway, York Street, Covent Garden, London.

CHAPTER 3. MONTHLY WEATHER

'There are many weathers in five days, and more in a month'

(NORWAY—WEATHER LORE)

Introduction

Regular official meteorological observations in the London area commenced in November 1840 at the Royal Observatory, Greenwich, and weather records have been kept at Kew Observatory since 1868. The monthly weather summaries which follow deal with the period 1841–1964. They are based partly on the climatological statistics for Greenwich and Kew which are given in Appendix III, and partly on weather records at other places in Greater London.* The summaries include some outstanding temperatures recorded at Rickmansworth during the period January 1930 to February 1937. However it must be remembered that the observation site at Rickmansworth was exceptional; it was situated at the bottom of a narrow enclosed valley about halfway between the townships of Rickmansworth and Chorley Wood. As a result, the minimum temperature at Rickmansworth was usually lower, and the maximum temperature higher, than at neighbouring stations.

Temperatures are in degrees Fahrenheit, and, unless it is specified otherwise are readings of thermometers exposed in a thermometer screen about four feet above the ground. Some stations recorded daily maximum and minimum temperatures to one decimal place, while others gave them to the nearest whole degree. To secure uniformity all daily maximum and minimum temperatures have been rounded off to the nearest whole degree except for extreme values for Kew and Greenwich given in some of the tables and in Appendix III. The word frost, when unqualified, means air frost, that is a temperature of 32°F. or below (changed to 'below 32°F.' on 1 January 1963) in a thermometer screen about four feet above the ground. Grass minimum temperatures are recorded about one or two inches above the ground, and ground frost was reported when the grass temperature had fallen to 30·4°F. or below; this limit was changed to 32°F. or below on 1 January 1961, and to below 32°F. on 1 January 1963. A 'rain day' is defined as a period of 24 hours with a rainfall of 0·01 in or more, and for this purpose the rainfall covers all forms of precipitation including snow. A 'dry day' is defined as a period of 24 hours with a rainfall less than 0·01 in. Weather phenomena, which are not included in the monthly summaries, are dealt with in other chapters; snowstorms and gales in Chapter 4, fog in Chapter 7, and floods and droughts in Chapter 9.

*See frontispiece map.

JANUARY

*'The blackest month in all the year
Is the month of Janiveer'*

(WEATHER LORE)

Temperature

On average, January is the coldest month of the year but February is a close second. Monthly mean temperatures for the 124 years ending 1964 are given in Plate III, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. There were frequent cold Januarys during the period 1879 to 1897; in 14 of these 19 years the mean January temperature was below or well below average, and January was outstandingly cold in the three consecutive years 1879–81. Another period with frequent cold Januarys was 1940–47 with six cold or very cold Januarys in eight years. The coldest January on record was in 1963 with a mean temperature of only 29.7°F. at Kew. There were 16 mild or fairly mild Januarys during the 20-year period 1920–39, and the mildest January on record was in 1921 when the mean temperature at Kew was 45.9°F.

Maximum temperature. The mildest January day was 9 January 1922 with a maximum temperature of 60°F. at Kensington Palace. The temperature reached 59°F. at East Ham, Greenwich, Kensington and St James's Park on 19 January 1930, and at Dartford on 15 January 1954. The coldest days were 8 January 1841 and 4 January 1867 with a maximum temperature of only 17°F. at Greenwich in 1841 and at Camden Square in 1867. Other low daily maximum temperatures were 18°F. at Camden Square and 19°F. at Greenwich both on 5 January 1894. The lowest monthly maximum temperature was 42°F. at Kew in January 1963. However, it is rare for the maximum temperature to remain below 50°F. throughout the whole of January; this only happened 8 times during the 124 years up to 1964.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN JANUARY AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

HIGH		LOW	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
55 and above	21	31 and below	22
56 and above	9	30 and below	16
57 and above	2	29 and below	12
		28 and below	8
		27 and below	5
		26 and below	4
		25 and below	3
		24 and below	3
		23 and below	2

Highest 57.7°F. on 15 Jan. 1954

Lowest 22.2°F. on 5 Jan. 1894

Minimum temperature. The coldest night occurred on 3/4 January 1867, when the temperature fell to 1°F. at Kew; however, it was reported that the temperature fell to –12°F. at Epsom and to –10°F. at East Peckham during the period 3–5 January 1867, but it is not clear whether these low readings refer to air or grass temperature. Other very low daily minimum temperatures were 3°F. at Northolt on 1 January 1962, 4°F. at Greenwich on 9 January 1841, and 5°F. at Croydon on 29 January 1947.

Minimum temperatures below 20°F. were reported:

On 10 nights at both Greenwich and Kew in January 1881 (including the 5 consecutive nights from the 13th to the 17th).

On 7 nights at Greenwich in January 1867.

On 5 nights at Greenwich in January 1861 and in January 1880.

On 5 consecutive nights at Greenwich in January 1893 (1st–5th) and in January 1894 (4th–8th).

On 5 nights at Kew in January 1940.

The highest daily minimum temperature was 54°F. at Greenwich on the night 2/3 January 1932 and at Kew on the night 4/5 January 1957. On the night 2/3 January 1932, the minimum temperature at Kew was 53°F. after a minimum of 22°F. two nights earlier—an increase of 31 degF. in minimum temperature in 48 hours.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN JANUARY AT KEW
1883–1962

The following daily minimum temperature occurred on at least one day per month:

Temperature °F.	LOW Occurred in 'number of years' out of 80	Temperature °F.	HIGH Occurred in 'number of years' out of 80
20 and below	16	49 and above	19
19 and below	11	50 and above	15
18 and below	10	51 and above	4
17 and below	7	52 and above	3
16 and below	6	53 and above	1
15 and below	5		
14 and below	3		

Lowest 13.1°F. on 5 Jan. 1893

Highest 53.8°F. on 5 Jan. 1957

Frost. There were only two years, 1884 and 1938, with no air frost at all at Kew in January. Camden Square, East Ham, Kensington, Regent's Park and Tottenham were also free of air frost during January 1938, and Greenwich reported no air frost during January 1884. At Kew continuous frost for at least 24 hours occurred in about 4 Januarys out of 10 up to 1920, but only in about 3 Januarys out of 10 during the period 1921–64. During the decade 1951–60 continuous frost lasting for at least 24 hours occurred at Kew in only one year, 1954. At Hampstead in January 1917 frost persisted for 10 days from the 21st to the 30th. The greatest numbers of frosty nights in January were:

30 nights at Hampstead in 1963.

29 nights at Addington and Hampton in 1963.

27 nights at Brixton in 1879, and at Camden Square in 1963.

26 nights at Greenwich in 1842, at Kew in 1879 and 1940, and at London (Heathrow) Airport and Greenwich in 1963.

25 nights at Kensington Palace, St James's Park, Regent's Park and Kew in 1963.

24 nights at Greenwich in 1850.

23 nights at Greenwich in 1848.

In 1895 there was a frost at both Kew and Greenwich every night from 21 January to 20 February inclusive (31 nights). The longest periods of continuous frost were:

- 10 days at Hampstead in 1917.
- 9 days at Greenwich in 1881, and at Kew in 1963.
- 8 days at Hampstead in 1947.
- 7 days at Greenwich in 1947.
- 6 days at Kew in 1893.

The most severe air frosts (lowest minimum temperatures) were:

- 1°F. at Kew on 4 January 1867.
- 3°F. at Northolt on 1 January 1962.
- 4°F. at Greenwich on 9 January 1841.
- 5°F. at Croydon on 29 January 1947.
- 7°F. at Greenwich on 5 January 1867, and at Waddon on 23 January 1963.
- 8°F. at Greenwich on 4 January 1867, and at London (Heathrow) Airport on 23 January 1963.
- 9°F. at Kew on 17 January 1881, and at Enfield on 20 January 1940 and 21 January 1942.

Ground frost occurred on 30 nights at Hampstead in January 1940 and at Hampton in January 1963, and on 29 nights at Rickmansworth in January 1933 and at Regent's Park in January 1963. On the morning of 29 January 1947, Northolt recorded a grass minimum temperature of -9°F . and Croydon reported -7°F .

Ten-day average and extreme temperatures at Kew. Averages 1931–60, Extremes 1867–1964

Period January	Maximum temperatures					Minimum temperatures				
	Average		Highest		Lowest		Average		Lowest	
	°F.	°F.	Year	°F.	Year	°F.	°F.	Year	°F.	Year
1st–10th	44.2	57.2	1922	22.2	1894	35.8	1.0	1867	53.8	1957
11th–20th	43.7	57.7	1954	25.0	1881	35.2	9.4	1881	50.4	1930, 1950
21st–31st	43.3	56.1	1953	25.0	1880	34.9	14.5	1963	50.6	1899

Monthly, day-to-day and diurnal temperature ranges. The range of temperature in January can exceed 45 degF.; it was 55 degF. at Kew in January 1867 with a maximum temperature of 56°F. on the 27th and a minimum temperature of 1°F. on the 4th. At Northolt in January 1962, a minimum temperature of 3°F. on the 1st was followed by a maximum temperature of 54°F. on the 24th giving a monthly range of 51 degF. Day-to-day temperature changes of about 10 degF. or more occur in most Januarys and there have been several occasions of one day being 18 degF. milder than its predecessor. At Kew in January 1908, a maximum temperature of 30°F. on the 5th was followed by a maximum of 48°F. on the 6th. Large temperature falls are usually spread over a few days but at Camden Square in January 1914, the maximum temperature on the 11th was 19 degF. below the maximum on the 10th. In January 1896, a maximum temperature of 50°F. at Kew on the 19th was followed by a maximum of 36°F. on the 20th, a fall of 14 degF. The diurnal temperature range in January can be as much as 30 degF.; for example the maximum and minimum temperatures at Greenwich on 30 January 1888 were 51°F. and 21°F. respectively. On 6 January 1908, the temperature at Kew rose from 21°F. at 3 a.m. to 48°F. at 4 p.m., and on New Year's Day 1932 it rose 19 degF. between 7 a.m. and 1 p.m.

Precipitation

Rainfall. Plate III shows the variation of January rainfall during the 124 years ending 1964 compared with the 1916–50 average. Noteworthy points are the series of wet Januarys from 1865 to 1869 and from 1936 to 1943, and the series of dry Januarys during the periods 1907–11 and 1931–35. A January rainfall of 5 in or more was recorded somewhere in the London area in the six years 1877, 1936, 1937, 1939, 1943 and 1948. The wettest January on record was in 1943 when Croydon recorded 6·05 in of rain and Addington measured 5·54 in. Other high monthly totals were 5·72 in at Addington and 5·37 in at Croydon both in January 1937, and 5·57 in at Croydon in January 1877. At least one rainfall station in the London area reported a January rainfall of only $\frac{1}{2}$ in or less in the three years 1880, 1892 and 1914. There is no record of a completely dry January but only 0·26 in of rain fell at Greenwich in January 1880. During the same month, rainfall was only 0·31 in at Camden Square, 0·37 in at Uxbridge and 0·38 in at Croydon. Other low monthly totals were 0·38 in at Greenwich and 0·45 in at Kew both in January 1892, and 0·40 in at South Kensington and Tottenham, 0·44 in at St James's Park, and 0·47 in at New Malden all in January 1914.

A daily rainfall of 1 in or more, which was frequently a mixture of rain and melted snow, was reported somewhere in the London area in about one January in eleven on the average. A daily rainfall of 1·90 in was recorded at Epsom on 7 January 1908. On the same day, 1·38 in of rain fell at Camden Square, 1·26 in at Tottenham, 1·15 in at St James's Park and 1·11 in at Norwood. In January 1940, daily rainfall, consisting mainly of melted snow, exceeded 1 in somewhere in London on four consecutive days during the month as follows:

1·02 in at East Ham on the 25th.

1·18 in at Regent's Park, 1·07 in at Camden Square and St James's Park, 1·04 in at Greenwich and Kensington, and 1·01 in at Bromley, all on the 26th.

1·09 in at Kew on the 27th.

1·04 in at Hampstead on the 28th.

The greatest numbers of 'rain-days' in January were:

28 rain-days at Addington in 1919.

27 rain-days at Rickmansworth in 1930 and at Wealdstone in 1948.

26 rain-days at Hampstead in 1928 and 1931, and at Rickmansworth in 1931, 1936 and 1937.

25 rain-days at Addington in 1921, and at Wealdstone in 1956.

24 rain-days at Kew in 1886, at Hampstead in 1938, and at Addington in 1951.

23 rain-days at Kew in 1887, at Brixton in 1894, at Addington in 1920 and 1943, at Kensington in 1939, and at Bromley in 1941.

22 rain-days at Kew in 1877 and 1893, at Brixton in 1904, at Wallington in 1912, at Hampstead in 1929 and 1960, at Rickmansworth in 1934, and at Wealdstone in 1957.

However, a large number of 'rain-days' does not necessarily mean a wet month; for example the January rainfall at Kew in 1887 and 1893 was well below average.

The greatest numbers of 'dry-days' in January were:

26 dry-days at Kew in 1880 and at St James's Park in 1964.

25 dry-days at St James's Park in 1905, at Tottenham in 1907, and at Regent's Park and London (Heathrow) Airport in 1950.

24 dry-days at Kew in 1881, at Brixton in 1888, at Tottenham and St James's Park in 1908, at South Kensington and Tottenham in 1914, at Regent's Park and St James's Park in 1963, and at Camden Square and Waddon in 1964.

23 dry-days at Kew in 1879 and 1896, at Tottenham in 1909 and 1940, and at Greenwich and Croydon in 1953.

22 dry-days at Kew in 1876, at Brixton in 1902, at Regent's Park in 1935 and 1954, at Enfield in 1944 and 1946, at East Ham in 1946, at St James's Park, Northolt and London (Heathrow) Airport in 1954, at Hampton in 1963, and at Regent's Park and Hampton in 1964.

However, a large number of 'dry-days' does not necessarily mean a dry month; for example the January rainfall at Kew in 1879 was above average.

Snow. A January without at least local snow is rare and there have only been five years since 1900 (1904, 1906, 1916, 1925 and 1944) when no snow at all was reported in London during the month of January. The snowiest Januarys were:

Snow or sleet* on 21 days at Kew in 1963.

Snow or sleet on 20 days at Hampstead in 1942.

Snow or sleet on 19 days at Hampstead in 1917.

Snow or sleet on 18 days at Hampstead in 1963.

Snow or sleet on 17 days at London (Heathrow) Airport in 1963.

Snow or sleet on 16 days at Hampstead in 1945, and at Hampton and Bromley in 1956.

Snow or sleet on 15 days at Croydon in 1929 and at Hampstead in 1941.

Snow or sleet on 14 days at Brixton in 1886, and at Kew in 1895.

The ground was snow-covered throughout January 1963 over most of London; at Hampstead the snow depth was 12 in at the beginning of the month, and it was still 9 in on the last day of the month.

Thunderstorms.

Thunder in January is rare; it was reported somewhere in the London area in about 3 Januarys out of 10 on the average. Hampton reported thunder on 3 days in January 1959. A remarkably brilliant display of sheet lightning was observed at Epsom on 2 January 1911.

Sunshine

Plate III gives details of January sunshine at Kew from 1881 to 1964 compared with the 1931-60 average. The sunniest January was in 1952 when 82 hours sunshine were recorded at Kew; January 1959 was also sunny with 80 hours sunshine at Kew. The dullest January was in 1885 with only 6 hours sunshine at Bunhill Row and only 15 hours at Kew. In January 1912 there were 14 consecutive sunless days at Kew (10th-23rd).

*Defined by the Meteorological Office as 'rain or drizzle and snow'.

FEBRUARY

*'Good-morrow, Benedick; why what's the matter,
That you have such a February face,
So full of frost, of storm, of cloudiness'*

(SHAKESPEARE—MUCH ADO ABOUT NOTHING)

Temperature

Monthly mean temperatures for the 124 years ending 1964 are given in Plate IV and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. There were three outstandingly cold Februarys (1855, 1895 and 1947); one every 40 to 50 years. There were seven consecutive cold Februarys from 1886 to 1892 and six consecutive mild Februarys from 1910 to 1915. The coldest February on record was in 1895 with a mean temperature of 29.1°F. at Kew, and the mildest February on record was in 1961 with a mean temperature of 46.3°F. at Kew.

Maximum temperature. The highest daily maximum temperature of 66°F. was recorded at Brixton and Kensington on 10 February 1899, and at Greenwich on 28 February 1959. Other high daily maximum temperatures were 65°F. at Kensington and Regent's Park on 28 February 1959 and at Bromley on 14 February 1961, and 64°F. at Greenwich on 10 February 1899, at East Ham on 18 February 1920 and at Regent's Park, Greenwich and Hampton on 14 February 1961. The coldest days were 12 and 13 February 1929, when the maximum temperature at Hampstead was only 22°F. Other low daily maximum temperatures were 23°F. at Dartford, Croydon and Southgate on 1 February 1956 and at Kew on 9 February 1895, and 24°F. at Kew on 1 February 1956. The lowest monthly maximum temperature was 40°F. at Kew in February, 1947.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN FEBRUARY AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

HIGH		LOW	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
57 and above	18	32 and below	17
58 and above	11	31 and below	12
59 and above	4	30 and below	10
60 and above	3	29 and below	7
61 and above	3	28 and below	5
62 and above	1	27 and below	3
		26 and below	3
		25 and below	2
		24 and below	1

Highest 62.3°F. on 10 Feb. 1899

Lowest 23.1°F. on 9 Feb. 1895

Minimum temperature. The lowest temperature on record was 6°F. at New Malden on the morning of 7 February 1917. Other low daily minimum temperatures were 7°F. at Greenwich on 8 February 1895, at Rickmansworth on 12 February 1936, and at Wealdstone on 24 February 1947, and 8°F. at Greenwich on 12 February 1845, at Bromley on 24 February 1947, and at Croydon on 25 February 1947.

Minimum temperatures below 20°F. were reported:

On 11 nights at Greenwich in February 1895 (including the 6 consecutive nights 5th–10th).

On 10 nights at Kew in February 1895 (including the 6 consecutive nights 5th–10th).

On 10 nights at Greenwich in February 1855 (including the 7 consecutive nights 16th–22nd).

The highest daily minimum temperature of 52°F. was recorded at Kew on 15 February 1928, 10 February 1939 and 14 February 1958, and at London (Heathrow) Airport on the night 31 January/1 February 1957.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN FEBRUARY AT KEW
1883–1962

The following daily minimum temperatures occurred on at least one day per month:

Temperature °F.	LOW Occurred in 'number of years' out of 80	Temperature °F.	HIGH Occurred in 'number of years' out of 80
22 and below	16	49 and above	18
21 and below	12	50 and above	12
20 and below	9	51 and above	4
19 and below	8		
18 and below	7		
17 and below	5		
16 and below	5		
15 and below	5		
14 and below	3		
13 and below	2		
12 and below	1		
11 and below	1		

Lowest 10.8°F. on 7 Feb. 1895

Highest 51.6°F. on 15 Feb. 1928, on
10 Feb. 1939 and on 14 Feb. 1958

Frost. Air frost has been reported somewhere in London on at least one night in every February since records were first published in the *Monthly Weather Report* in 1884. However, in February 1961 the London area was free of frost except for Greenwich where the temperature fell to just 32°F. on one night (4th). There was no frost in February at Greenwich in 1867, at Kew and Greenwich in 1872, at St James's Park in 1925 and at Camden Square, Kensington, Regent's Park and St James's Park in 1945. The greatest numbers of frosty nights in February were:

28 nights at Hampstead in 1963.

27 nights at Camden Square in 1947 and 1963, and at Regent's Park and Addington in 1963.

26 nights at Addington in 1956, and at Greenwich in 1963.

25 nights at Kew in 1942, and at Southgate and Waddon in 1963.

24 nights at Kew in 1895, and at London (Heathrow) Airport in 1963.

In 1947 there was a frost at Camden Square on every night from 5 February to 9 March inclusive (33 nights) and at Kew on every night from 11 February to 9 March inclusive (27 nights). At Kew continuous frost for at least 24 hours occurred in about 2 Februarys out of 10. There were several occasions when frost persisted all day on the last day of February.

The longest periods of continuous frost were:

- 14 days at Greenwich in 1947.
- 13 days at Hampstead in 1947.
- 9 days at Greenwich in 1841.
- 8 days at Kew in 1947.
- 7 days at Kew and Greenwich in 1895.
- 6 days at Kew in 1956.
- 5 days at Kew in 1929.
- 4 days at Greenwich in 1870.

The most severe air frosts (lowest minimum temperatures) were:

- 6°F. at New Malden on 7 February 1917.
- 7°F. at Greenwich on 8 February 1895, at Rickmansworth on 12 February 1936, and at Wealdstone on 24 February 1947.
- 8°F. at Greenwich on 12 February 1845, at Bromley on 24 February 1947, and at Croydon on 25 February 1947.
- 9°F. at Hampstead on 15 February 1929, and at Greenwich on 24 February 1947.

Ground frost was recorded on every night in February:

- at Rickmansworth in 1934 and 1936
- at Hampstead and Southgate in 1942 and 1947
- at Enfield in 1942
- at Greenwich and Southgate in 1963.

Low grass minimum temperatures included -3°F. at Northolt on 20 February 1955, at -2°F. at Hampstead on 15 February 1929, and -1°F. at Croydon on 24 February 1947.

Ten-day average and extreme temperatures at Kew. Averages 1931–60, Extremes 1867–1964

Period February	Maximum temperatures					Minimum temperatures				
	Average °F.	Highest °F.	Year	Lowest °F.	Year	Average °F.	Lowest °F.	Year	Highest °F.	Year
1st–10th	43.5	62.3	1899	23.1	1895	34.7	10.8	1895	51.6	1939
11th–20th	44.4	61.2	1945	25.9	1929	35.1	12.6	1929	51.6	1928, 1938
21st–28th (29th in leap years)	46.2	61.2	1959	29.5	1947	35.6	14.5	1947	50.4	1912

Monthly, day-to-day and diurnal temperature ranges. The temperature range in February can exceed 40 degF.; it was 48 degF. at Croydon in February 1948 with a maximum temperature of 62°F. on the 29th and a minimum of 14°F. on the 22nd. At New Malden in February 1917 a minimum temperature of 6°F. on the 7th was followed by a maximum temperature of 51°F. on the 17th and 19th giving a monthly range of 45 degF. Day-to-day temperature changes of 10 degF. or more are not as frequent as they are in January; normally they occur at least once in 5 Februarys out of 10, rises being more frequent than falls. At Greenwich in February 1896, a maximum temperature of 37°F. on the 18th was followed by a maximum of 55°F. on the 19th, a rise of 18 degF. In February 1920 a maximum temperature of 58°F. at Kew on the 19th was followed by a maximum of 42°F. on the 20th, a fall of 16 degF. The diurnal temperature range in February can exceed 30 degF.; for example the maximum and minimum

temperatures at Greenwich on 28 February 1891 were 61°F. and 28°F. respectively.

Precipitation

Rainfall. Plate IV shows the variation of February rainfall during the 124 years ending 1964 compared with the 1916–50 average. Outstanding points are the 13 dry or comparatively dry Februarys in the 15-year period 1850–64, the three very dry Februarys during the four years 1929–32 and the three series of three consecutive wet Februarys in 1879–81, 1914–16 and 1925–27. Since 1841 a February rainfall of 5 in or more has only occurred three times (1915, 1937 and 1951) somewhere in the London area. The wettest February was in 1951 when Addington recorded 7·34 in, Croydon 7·06 in, Bromley 6·70 in, and 10 other stations in the London area reported a monthly rainfall of 5 in or more. Other high monthly totals were 5·30 in at Addington and 5·23 in at Rickmansworth both in February 1937, and 5·02 in at Croydon in February 1915. At least one place in the London area reported a February rainfall of only $\frac{1}{4}$ in or less in the 9 years 1857, 1891, 1895, 1921, 1932, 1934, 1956, 1959 and 1963. In February 1891 no rain at all fell at Muswell Hill or Savile Row, and the low monthly rainfalls of 0·01 in at Kensington, Camden Square and Pinner Hill, 0·03 in at Hornsey, and 0·04 in at Croydon and Brixton were all attributed to dense wet fogs at the end of the month and not to rain. Another very dry month was February 1959 with only 0·03 in of rain at Dartford, only 0·04 in at Greenwich and Southgate, only 0·05 in at Croydon, and with every other rainfall station in the London area reporting a monthly rainfall of less than 0·15 in. Other low monthly totals were 0·05 in at Dartford and 0·09 in at London (Heathrow) Airport both in February 1956. Noteworthy droughts at Kew included two of 22 days, the first from 3–24 February 1934, and the other from 10 February to 3 March 1942.

A daily rainfall of 1 in or more is rare in February and, more often than not, is made up of a mixture of rain and melted snow; only in 6 years (1879, 1925, 1927, 1950, 1951 and 1958) during the last 100 years has such a fall been recorded somewhere in London. The greatest daily rainfall reported was 1·45 in at Brixton on 21 February 1879; most of this was due to a very heavy snowstorm. A daily rainfall of 1 in or more was recorded twice in February 1925 and also in February 1951 as follows:

- 1·30 in at Tottenham and 1·13 in at Kew on 13 February 1925.
- 1·06 in at Croydon and 1·02 in at Wallington on 25 February 1925.
- 1·14 in at Croydon, 1·12 in at Addington, 1·06 in at Enfield, and 1·05 in at Bromley, all on 4 February 1951.
- 1·00 in at Dartford on 8 February 1951.

The greatest numbers of 'rain-days' in February were:

- 26 rain-days at Wallington in 1923, at Hampstead in 1931, and at Rickmansworth in 1937.
- 25 rain-days at Brixton in 1879, and at East Ham and Wealdstone in 1951.
- 24 rain-days at Epsom in 1906, at Epsom, Norwood, Greenwich and St James's Park in 1910, at Camden Square, Enfield, Hampstead, Kensington and Addington in 1923, at Regent's Park in 1937, and at Addington in 1955.
- 23 rain-days at Kew in 1893, and at Addington in 1916.
- 22 rain-days at Wallington in 1915.

The greatest numbers of 'dry-days' in February were:

28 dry-days at Muswell Hill and Savile Row in 1891 and at Dartford in 1956.

27 dry-days at St James's Park, Regent's Park, Camden Square, Croydon, Dartford and Greenwich in 1959.

26 dry-days at Tottenham in 1921 and 1932, Kew in 1921, and Regent's Park in 1934.

25 dry-days at Kew in 1895.

23 dry-days at Kew in 1886 and 1891, at Tottenham in 1929, at Kew, St James's Park and East Ham in 1930, at Kew, Camden Square, Regent's Park and Wealdstone in 1942, at Enfield in 1943, and at Regent's Park in 1963.

Snow. Snow is common in February but no snow was reported in London during February in the years 1911, 1939, 1943 and 1961. During the 94-year period 1871–1964 there were 26 Februarys with no snow at Kew. There was snow on the ground during the whole month at Hampstead and Bromley in 1947 and at Camden Square in 1963. The snowiest Februarys were:

Snow or sleet on 20 days at Hampstead, Kew and London (Heathrow) Airport in 1963.

Snow or sleet on 19 days at Hampstead in 1947, at Hampstead and Croydon in 1956, and at Southgate in 1963.

Snow or sleet on 18 days at Hampstead and Croydon in 1942.

Snow or sleet on 17 days at Brixton in 1888, and at Hampton and Kensington Palace in 1963.

Snow or sleet on 16 days at Brixton in 1899.

Snow or sleet on 15 days at Kew in 1955, and at Greenwich in 1963.

Snow or sleet on 14 days at Hampstead in 1944.

Thunderstorms

Thunder in February is rare; it was reported somewhere in the London area in about 3 Februarys out of 10 on the average. Thunder was reported on two days at Hampstead in February 1943, at Hampstead, Southgate and Wealdstone in February 1945, and at London (Heathrow) Airport and Wealdstone in February 1951.

Sunshine

February sunshine in the City is about double that of January on the average, about 50 per cent higher at Greenwich and Regent's Park, and about 40 per cent higher at Kew. Plate IV includes details of February sunshine at Kew from 1881 to 1964 compared with the 1931–60 average. At Kew there were two Februarys with over 100 hours sunshine; February 1949 with 106 hours and February 1939 with 105 hours. On 28 February 1959, Kew had its sunniest February day when 9·6 hours sunshine were recorded. February 1940 with 25 hours sunshine was the second dullest February on record at Kew and followed the second sunniest February (1939) on record. The dullest February on record at Kew was in 1947 when only 19 hours sunshine were recorded, and during this month it was completely sunless for 21 consecutive days (2nd–22nd).

MARCH

‘Sturdy March, with brows full sternly bent.’

(SPENSER)

Temperature

Monthly mean temperatures for the 124 years ending 1964 are given in Plate V, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. Plate V provides a good illustration of the gradual warming which has taken place during the first half of the present century. The mean temperature in March was below or well below average in 12 of the 16 years 1843–58, and in the 8 successive years 1885–92. The coldest March on record was in 1883, with a mean temperature of 36·5°F. at Kew, and the mildest March on record was in 1957 with a mean temperature of 49·8°F. at Kew.

Maximum temperature. The highest daily maximum temperature recorded in March was 75°F. at Wealdstone on 9 March 1948. On the same day, the temperature reached 74°F. at Kensington and St James’s Park and 73°F. at Camden Square, Regent’s Park, London (Heathrow) Airport and Bromley. A daily maximum temperature of 73°F. also occurred at Camden Square on 28 and 29 March 1929, and at St James’s Park on 30 March 1929. The coldest day was 13 March 1845, when the temperature at Greenwich never rose above 25°F.; three days later, on 16 March 1845, the daily maximum temperature at Greenwich was still only 28°F. Other low daily maximum temperatures were 28°F. at Addington on 9 March 1931, and 29°F. at Hampstead on 9 March 1931, and 6 March 1942. The lowest monthly maximum temperature was 52°F. at Addington in March 1919.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN MARCH AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

HIGH		LOW	
Temperature °F.	Occurred in ‘number of years’ out of 80	Temperature °F.	Occurred in ‘number of years’ out of 80
65 and above	16	35 and below	15
66 and above	11	34 and below	11
67 and above	8	33 and below	6
68 and above	5	32 and below	4
69 and above	1		
70 and above	1		
Highest 70·5°F. on 9 March 1948		Lowest 31·3°F. on 9 March 1931	

Minimum temperature. The coldest night was 4/5 March 1909, when the temperature at Epsom fell to 9°F.; on the same night Tottenham recorded a minimum temperature of 13°F. and the temperature at Greenwich and Hampstead fell to 14°F. A daily minimum temperature of 13°F. occurred at Greenwich on the night 13/14 March 1845, and again on the night 3/4 March 1890. The highest daily minimum temperature on record was 52°F. at Greenwich on the night 3/4 March 1846, and at Kew on the nights 24/25 March 1912 and 16/17 March 1957.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN MARCH AT KEW
1883-1962

The following daily minimum temperatures occurred on at least one day per month:

LOW		HIGH	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
25 and below	20	49 and above	22
24 and below	14	50 and above	12
23 and below	11	51 and above	5
22 and below	6	52 and above	1
21 and below	4		
20 and below	3		
19 and below	3		
18 and below	1		
17 and below	1		

Lowest 17.0°F. on 5 March 1909

Highest 52.0°F. on 17 March 1957

Frost. At Kew and Greenwich there were no frosts in March 1896 and March 1959. The greatest numbers of frosty nights in March were:

23 nights at Enfield in 1924.

22 nights at Kew and Greenwich in 1883, at East Ham in 1924, and at Hampstead and Addington in 1962.

20 nights at Greenwich in 1892 and at Croydon in 1924.

19 nights at Kew in 1955.

18 nights at Greenwich in 1845, 1853, 1865, 1886, 1887 and 1888, and at Kew in 1899.

On the average, frost persisted for at least one day in about 1 March in 10. The longest periods of continuous frost were:

3 days at Hampstead in 1947.

2 days at Greenwich in 1845, at Brixton in 1892, and at Greenwich in 1942.

The most severe air frosts (lowest minimum temperatures) recorded in March were:

9°F. at Epsom on 5 March 1909.

13°F. at Greenwich on 14 March 1845 and 4 March 1890, and at Tottenham on 5 March 1909.

14°F. at Greenwich on 5 March 1909.

Ground frost occurred on 29 nights at Hampstead in March 1917. A grass minimum temperature of 4°F. was recorded at Hampstead on the night 4/5 March 1909.

Ten-day average and extreme temperatures at Kew. Averages 1931-60, Extremes 1867-1964.

Period March	Maximum temperatures					Minimum temperatures				
	Average °F.	Highest °F.	Year	Lowest °F.	Year	Average °F.	Lowest °F.	Year	Highest °F.	Year
1st-10th	48.4	70.5	1948	31.3	1931	36.5	17.0	1909	51.0	1896
11th-20th	50.5	68.5	1961	32.7	1928	37.8	22.2	1886	52.0	1957
21st-31st	52.5	68.9	1945	33.7	1879	39.0	22.5	1899	51.6	1912

Monthly, day-to-day and diurnal temperature ranges. The temperature range in March can be more than 45 degF.; in March 1890, the mildest day at Greenwich was 69°F. on the 28th and the coldest night 13°F. on the 4th, a monthly range of 56 degF. Day-to-day temperature changes of 10 degF. or more were fairly common; the maximum temperature at Greenwich on 4 March 1870 was only 39°F. and it was just over 21 degF. lower than the previous day's maximum.

At Camden Square on 16 March 1947, the maximum temperature was 57°F., an increase of 24 degF. on the previous day's maximum. There was a diurnal range of 40 degF. at Croydon on 20 March 1929, when a minimum temperature of 27°F. was followed by a maximum of 67°F. At Kew on 25 March 1953, the diurnal range was 37 degF. with a minimum of 30°F. and a maximum of 67°F.

Precipitation

Rainfall. Plate V shows the variation of March rainfall during the period 1841–1964, compared with the 1916–50 average. Outstanding points are the frequent wet Marches between 1901 and 1920 and the dry spell from 1943 to 1950 broken only by the extremely wet March of 1947. The monthly rainfall in March exceeded 4 in somewhere in London in the six years 1851, 1888, 1909, 1914, 1916 and 1947. The wettest March on record was in 1947 with 6·02 in of rain at Wealdstone, 5·86 in at Southgate, 5·76 in at Camden Square and more than 5 in at practically every other rainfall station in the London area. Other high monthly rainfall totals were 4·73 in at Golders Green in March 1914, and 4·67 in at Camden Square in March 1916. At least one rainfall station in the London area reported a March rainfall of only 0·1 in or less in the four years 1929, 1931, 1944 and 1961. In March 1929, no rain at all fell at Enfield, Stroud Green, Tottenham and St James's Park, while all the other London rainfall stations only had 0·1 in or less. Other low monthly rainfalls were 0·03 in at Regent's Park and Southgate, 0·05 in at Dartford, and 0·08 in at Camden Square and Greenwich, all in March 1961. Another dry month was March 1944 with only 0·04 in of rain at Croydon and only 0·05 in at Addington and Bromley. At Kew there was no rain during the first 25 days of March 1953 and during the first 24 days of March 1929.

During the period 1871 to 1964, there were only eight days in March with a daily rainfall of 1 in or more somewhere in the London area. The heaviest falls were 1·18 in at London (Heathrow) Airport, 1·14 in at Wisley and 1·13 in at Southgate, all on 14 March 1964, 1·11 in at Camden Square on 29 March 1947 and at Greenwich on 13 March 1940, and 1·09 in at Kew on 26 March 1940.

The greatest numbers of 'rain-days' in March were:

- 28 rain-days at Epsom in 1909.
- 27 rain-days at Enfield in 1912.
- 26 rain-days at Kew in 1914 and 1947.
- 25 rain-days at Croydon in 1913, and at St James's Park and Addington in 1916.
- 24 rain-days at Kew in 1905, at Addington in 1919, and at Pinner and Wealdstone in 1951.
- 23 rain-days at Brixton in 1896 and at Hampstead in 1916.

The greatest numbers of 'dry-days' in March were:

- 31 dry-days at Enfield, Stroud Green, Tottenham and St James's Park in 1929.
- 29 dry-days at Enfield, Regent's Park and Bromley in 1943, and at Regent's Park, St James's Park and Camden Square in 1961.
- 28 dry-days at East Ham, Enfield and Kew in 1938, at Enfield, Kensington, Regent's Park, Addington, Croydon and Bromley in 1944, and at Kew in 1953.

27 dry-days at Kew in 1926, at Enfield and Bromley in 1931, at East Ham and Croydon in 1935, at Addington and Croydon in 1948, and at Regent's Park in 1949.

26 dry-days at Regent's Park in 1956.

Snow. On the average, snow or sleet occurred somewhere in London in March in about 9 years out of 10. During the 94 years 1871–1964, there was no snow in March in the London area in 1880, 1884, 1894, 1903, 1938, 1943, 1945, 1948, 1950, 1953 and 1957. The years with the greatest number of days with snow or sleet in March were:

Snow or sleet on 14 days at Norwood in 1883, at Hampstead in 1916 and at St James's Park in 1917.

Snow or sleet on 13 days at Croydon in 1937.

Snow or sleet on 11 days at Kew in 1888, at St James's Park in 1909, and at Enfield in 1915.

Snow or sleet on 10 days at Brixton in 1890, at Hampstead in 1946, 1947 and 1964, at Croydon in 1958, and at Hampstead and Kew in 1962.

Thunderstorms

Thunder is very uncommon during the winter months; the frequency of thunder begins to increase in March but even then it is less than an average of one day per month. The months with the greatest frequency of thunder were March 1927 with thunder on five days at Hampstead and March 1904 with thunder on four days at Brixton.

Sunshine

Plate V gives details of March sunshine at Kew from 1881 to 1964 compared with the 1931–60 average. Sunshine was below or well below average during the nine consecutive years 1884–92, and there were seven consecutive dull Marches from 1911 to 1917. Sunshine was above or well above average during the period 1929–33. The sunniest March at Kew was in 1907 when 183 hours of sunshine were recorded; other sunny months at Kew were March 1933 with 178 hours sunshine and March 1938 with 173 hours sunshine. The dulllest March at Kew was in 1888 with only 57 hours sunshine.

APRIL

‘The uncertain glory of an April day’

(SHAKESPEARE)

Temperature

Monthly mean temperatures for the 124 years ending 1964 are given in Plate VI, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. There was a remarkable series of cool Aprils during the 14 years 1879–92 and there were two periods of successive warm or fairly warm Aprils, one during the nine years 1862–70 and the other during the eight years 1942–49. The warmest April on record was in 1865 with a mean temperature of 53·9°F. at Greenwich; the coldest April on record was in 1917 with a mean temperature of 42·8°F. at Kew.

Maximum temperature. The warmest April day on record was 16 April 1949, when a maximum temperature of 85°F. was recorded at Camden Square. On the same day, the temperature reached 84°F. at Greenwich, Kensington and Wealdstone, 83°F. at St James’s Park, and 82°F. at many other places in London. Other high daily maximum temperatures were 82°F. at Brixton on 20 April 1893, and 81°F. at Greenwich on 27 April 1865 and at Camden Square on 16 April 1945. In April 1865, the temperature at Greenwich reached or exceeded 70°F. on 14 days during the month, including the eight successive days 21st–28th. The lowest daily maximum temperature of 32°F. occurred at Hampstead on 5 April 1911. Another low daily maximum temperature of 35°F. was recorded at Kew on 5 April 1911 and at Hampstead on 3 April 1922. There were several Aprils when the temperature never rose above 60°F. during the month. The lowest monthly maximum temperature was 58°F. at Hampstead in April 1961.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN APRIL AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

HIGH		LOW	
Temperature °F.	Occurred in ‘number of years’ out of 80	Temperature °F.	Occurred in ‘number of years’ out of 80
71 and above	18	43 and below	18
72 and above	15	42 and below	15
73 and above	11	41 and below	10
74 and above	5	40 and below	5
75 and above	3	39 and below	4
76 and above	2	38 and below	2
77 and above	2	37 and below	1
78 and above	1	36 and below	1
79 and above	1	35 and below	1
80 and above	1		

Highest 80·3°F. on 20 April 1893

Lowest 34·5°F. on 5 April 1911

Minimum temperature. The lowest temperature of 21°F. was recorded at Barnet on 19 and 20 April 1903. Other low daily minimum temperatures were 22°F. at Enfield on the night 1/2 April 1922 and at Hampstead on the night 5/6 April 1911, and 23°F. at Greenwich on the night 16/17 April 1847 and at Epsom on the night 2/3 April 1910. The highest daily minimum temperatures recorded were:

- 56°F. at Greenwich on the night 26/27 April 1841.
- 55°F. at Kew on the night 14/15 April 1945.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN APRIL AT KEW
1883-1962

The following daily minimum temperatures occurred on at least one day per month:

LOW		HIGH	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
30 and below	25	50 and above	27
29 and below	15	51 and above	17
28 and below	7	52 and above	10
27 and below	2	53 and above	4
		54 and above	1
		55 and above	1
Lowest 26·2°F. on 2 April 1922		Highest 55·4°F. on 15 April 1945	

Frost. At Kew frost occurred in April in about 6 years out of 10. April 1961 was unique with all stations in the London area reporting no frost during the month. On 5 April 1911, it was freezing all day at Hampstead, the only record of frost persisting throughout the 24 hours in London in April. The greatest numbers of frosty nights in April were:

15 nights at Barnet in 1903.

12 nights at Norwood in 1888.

10 nights at Greenwich in 1852 and 1888, and at Kew in 1888.

The most severe air frosts (lowest minimum temperatures) recorded in April were:

21°F. at Barnet on 19 and 20 April 1903.

22°F. at Enfield on 2 April 1922, and at Hampstead on 6 April 1911.

23°F. at Greenwich on 17 April 1847, and at Epsom on 3 April 1910.

24°F. at Epsom on 15 April 1906, on 9 April 1908 and on 2 April 1909, at East Ham on 2 April 1922, and at Wealdstone on 3 April 1952.

Ground frost occurred on 26 nights at Hampstead in April 1917. A grass minimum temperature of 12°F. was recorded at Greenwich on 27 April 1927.

Ten-day average and extreme temperatures at Kew. Averages 1931-60, Extremes 1867-1964.

Period April	Maximum temperatures					Minimum temperatures				
	Average °F.	Highest °F.	Year	Lowest °F.	Year	Average °F.	Lowest °F.	Year	Highest °F.	Year
1st-10th	54·1	74·5	1946	34·5	1911	40·3	26·2	1922	53·1	1926
11th-20th	55·9	80·3	1893	38·7	1929	41·7	27·4	1887	55·4	1945
21st-30th	57·9	76·3	1874	42·3	1908, 1918	43·2	28·1	1884	53·2	1958

Monthly, day-to-day and diurnal temperature ranges. There were several years in which the temperature range in April was more than 50 degF. At Wealdstone in April 1949, the warmest day was 84°F. on the 16th and the coldest night was 28°F. on the 10th, a monthly range of 56 degF. At Greenwich in April 1946, the highest maximum temperature was 80°F. on the 4th and the lowest minimum temperature was 27°F. on the 11th, a monthly range of 53 degF. Day-to-day temperature changes of 10 degF. or more were frequent. It was fairly common for one day to be 15 degF. colder than its predecessor and there were several instances of falls of 20 degF. At Greenwich in April 1866 a maximum temperature of 75°F. on the 28th was followed by a maximum of 48°F. on the 29th, a fall of 27 degF. On 5 April 1946, the maximum temperature at Greenwich was 54°F. and was 26 degF. lower than the previous day's maximum. Day-to-day

temperature rises of 15 degF. or more were much less frequent but the maximum temperature at Greenwich on 10 April 1869 was 68°F. and was 20 degF. higher than the previous day's maximum. At Greenwich on 11 April 1869, the maximum and minimum temperatures were 78°F. and 38°F. respectively, giving a diurnal range of 40 degF.

Precipitation

Rainfall. Plate VI shows the variation of April rainfall during the period 1841–1964, compared with the 1916–50 average. There were two series of wet Aprils, one of five years from 1876 to 1880 and one of four years from 1917 to 1920. There were several series of dry Aprils including the eight successive dry Aprils 1891–98 and the five successive dry Aprils 1954–58. An April rainfall of 4 in or more in at least one rainfall station in the London area has occurred only in the three years 1878, 1926 and 1931. The wettest April on record was in 1878 when Camden Square recorded 4·97 in, Muswell Hill 4·44 in, and Crossness (Barking Reach) 4·03 in. Other high monthly totals were 4·26 in at Addington and 4·09 in at Croydon in April 1926, and 4·09 in at Addington and 4·07 in at Croydon in April 1931. In April 1912 no rain at all fell at Tottenham and Bromley; in the same month St James's Park had only 0·02 in of rain, South Kensington only 0·03 in, and practically all the other London rainfall stations recorded less than 0·1 in. April 1938 was another dry month with only 0·04 in at Muswell Hill, 0·07 in at St James's Park and 0·09 in at Kew. Other low monthly totals were 0·09 in at Greenwich in April 1855, and 0·10 in at Kew and at Brixton in April 1893. There was a drought of 30 days at Kew from 10 April to 9 May 1942.

A daily rainfall of 1 in or more was recorded somewhere in the London area in about one April in eight on the average. On 10 April 1878, 3·90 in of rain fell at Haverstock Hill (Highgate) in a downpour which lasted for between 20 and 21 hours; on the same day, 21 other stations in the London area recorded more than 2 in of rain including Hampstead 2·91 in, Beckenham 2·69 in, Highgate 2·65 in, Camden Square 2·56 in, and Camden Road 2·54 in. Other heavy falls of rain during 24 hours were 2·51 in at Stoke Newington and 2·23 in at Muswell Hill on 16 April 1910, and 1·69 in (most of which fell as snow) at Hampstead and 1·57 in at Camden Square on 27 April 1919.

The greatest numbers of 'rain-days' in April were:

- 28 rain-days at Addington in 1920.
- 25 rain-days at Hampstead in 1932.
- 24 rain-days at Addington in 1918.
- 23 rain-days at Hampstead in 1930.
- 22 rain-days at Croydon and Enfield in 1913, and at Camden Square in 1935.

The greatest numbers of 'dry-days' in April were:

- 30 dry-days at Tottenham and Bromley in 1912.
- 29 dry-days at St James's Park in 1938.
- 28 dry-days at Muswell Hill in 1893.
- 26 dry-days at Regent's Park, Hampton and Southgate in 1954, at Hampton in 1955, and at Greenwich, London (Heathrow) Airport, Croydon and Bromley in 1957.
- 25 dry-days at Regent's Park in 1956.

Snow. On the average, snow or sleet fell in April in about 6 years out of 10, and occurred on 4 days or more during the month in about 2 years out of 10. In April 1921, snow fell in the London area on the 15th and 17th after a maximum temperature of 73°F. at Greenwich on the 13th. Full details of severe snowstorms in April are given in Chapter 4. The years with the greatest number of days with snow or sleet in April were:

Snow or sleet on 13 days at Hampstead in 1917.

Snow or sleet on 7 days at Hampstead, Enfield and Croydon in 1936.

Snow or sleet on 6 days at Norwood in 1908, and at Croydon, Kew and Greenwich in 1924.

Snow or sleet on 5 days at Kew in 1892, at St James's Park, South Kensington, Greenwich and Norwood in 1911, at Hampton, Kew, Isleworth and St James's Park in 1918, at Hampton in 1919 and 1922, and at Croydon in 1950.

Thunderstorms

On average, thunderstorms occur on one day per month but thunder was reported on six days in April 1926 at Stroud Green, on five days in April 1894 at Kew, and on five days in April 1925 at both Kew and Croydon. As a result of a violent thunderstorm, hail lay 2 in deep in the suburbs on 16 April 1910.

Sunshine

The variation of April sunshine at Kew from 1881 to 1964, compared with the 1931–60 average, is given in Plate VI. Outstanding points are the high frequency of dull Aprils during the period 1918–41, and the high frequency of sunny Aprils during 1945–55. The sunniest April at Kew was in 1909 when 239 hours sunshine were recorded; other sunny months at Kew were April 1912 with 235 hours sunshine and April 1893 with 234 hours sunshine. The dulllest Aprils at Kew were in 1920 when only 79 hours sunshine were recorded and in 1918 when sunshine was only 85 hours.

MAY

‘Wel-come be thou, faire fresshe May.’

(CHAUCER)

Temperature

Monthly mean temperatures for the period 1841–1964 are given in Plate VII, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. Outstanding points are the 7 successive cool Mays from 1850 to 1856, the 12 successive cool or rather cool Mays from 1896 to 1907, and the 7 successive warm or rather warm Mays from 1916 to 1922. The coolest May on record was in 1879 when the mean temperature at Kew was only 48·9°F. The warmest Mays on record were in 1841 and 1848 when the mean temperature at Greenwich was 58·7°F.

Maximum temperature. The highest May temperature on record, 91°F, occurred at Camden Square on 22 May 1922, at Greenwich on 24 May 1922, and at Camden Square and Regent’s Park on 29 May 1944. A daily maximum temperature of 90°F. was recorded at Bexley Heath on 22 May 1922, at East Ham, Kensington and Bromley on 29 May 1944, and at Camden Square on 31 May 1947. In May 1922, a daily maximum temperature of 88°F. was recorded at Kensington Palace on the three successive day 22nd–24 h. At Greenwich in May 1848, the maximum temperature exceeded 70°F. on 23 days during the month and it was 75°F. or above during the 12 consecutive days 6th–17th, except that it was only 74·8°F. on the 9th. However, May is liable to cold snaps and, on average, daily maximum temperatures of 50°F. or below occurred at least once a month in about 5 years out of 10. The lowest daily maximum temperatures recorded were 43·0°F. at Kew and Greenwich on 18 May 1891, and at Greenwich on 1 May 1866, and 44°F. at Greenwich on 7 May 1856. The lowest monthly maximum temperature was 63°F. at Hampstead and Addington in May 1962.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN MAY AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

HIGH		LOW	
Temperature °F.	Occurred in ‘number of years’ out of 80	Temperature °F.	Occurred in ‘number of years’ out of 80
80 and above	15	48 and below	13
81 and above	9	47 and below	8
82 and above	6	46 and below	2
83 and above	5	45 and below	1
84 and above	4	44 and below	1
85 and above	4	43 and below	1
86 and above	4		
Highest 86·5°F. on 24 May 1922		Lowest 43·0°F. on 18 May 1891	

Minimum temperature. The lowest May temperatures occurred at Rickmansworth; 17°F. on 17 May 1935, 24°F. on 29 May 1936, 25°F. on 5 May 1931, and on 6 and 10 May 1932, and 26°F. on 17 May 1934. The lowest daily minimum temperature recorded elsewhere was 27°F. at Croydon on 1 May 1927, and 4 May 1941, and at Enfield on 4 and 11 May 1941, and 8 May 1944. The highest daily minimum temperature recorded was 65°F. at Addington on the night 21/22 May 1922.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN MAY AT KEW
1883-1962

The following daily minimum temperatures occurred on at least one day per month:

LOW		HIGH	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
35 and below	25	57 and above	24
34 and below	18	58 and above	11
33 and below	13	59 and above	5
32 and below	6	60 and above	3
31 and below	3	61 and above	3
		62 and above	2
Lowest 30.2°F. on 17 May 1935		Highest 62.6°F. on 30 May 1944	

Frost. Frost occurred in May at Kew in about 1 year in 10. In May 1874, frost occurred on 10 nights at Winchmore Hill, and in May 1941, Croydon experienced frost on 7 nights during the month. Frost occurred as late as 28 May at Croydon and Dartford in 1961. During a severe cold spell from 12 to 19 May 1935, a grass minimum temperature of 10°F. was recorded at Rickmansworth on the 17th; tremendous damage was done to fruit, vegetables and flowers. Other low grass minimum temperatures were 14°F. at Greenwich on 1 May 1927, and at Hampstead on 17 May 1935, and 18°F. at Kew on 1 May 1929.

The greatest numbers of ground frosts in May were:

Ground frost on 19 nights at Rickmansworth in 1934.

Ground frost on 18 nights at Winchmore Hill in 1874.

Ground frost on 13 nights at Greenwich and Kew in 1909, at Hampstead in 1928, at Greenwich in 1929, and at Enfield, Kew, Greenwich and Regent's Park in 1941.

Ten-day average and extreme temperatures at Kew. Averages 1931-60, Extremes 1867-1964.

Period May	Maximum temperatures					Minimum temperatures				
	Average °F.	Highest °F.	Year	Lowest °F.	Year	Average °F.	Lowest °F.	Year	Highest °F.	Year
1st–10th	60.3	77.9	1923, 1945	46.0	1877	44.8	30.0	1877	58.8	1945
11th–20th	62.8	82.9	1945	43.0	1891	46.6	30.2	1935	58.5	1952
21st–31st	65.1	86.5	1922	46.8	1891	48.6	33.8	1894	62.6	1944

Monthly, day-to-day and diurnal temperature ranges. The monthly temperature range in May can be more than 55 degF. At Rickmansworth in May 1935, the warmest day was 78°F. on the 6th and the coldest night was 17°F. on the 17th, a monthly range of 61 degF. A monthly range of 60 degF. occurred at Enfield in May 1944 with a maximum temperature of 87°F. on the 29th and a minimum temperature of 27°F. on the 8th. Large day-to-day temperature changes occur frequently in May but sudden falls of temperature are much more frequent than sudden rises of temperature. At Greenwich in May 1862, a maximum temperature of 52°F. on the 3rd was followed by a maximum of 76°F. on the 4th, a rise of 24 degF. On 25 May 1884, the maximum temperature at Greenwich was 57°F. and was 24 degF. lower than the previous day's maximum. Diurnal variations of 35 degF. or more can occur in May. At Greenwich on 26 May 1880, the maximum and minimum temperatures were 87°F. and 49°F. respectively giving a diurnal variation of 38 degF.

Precipitation

Rainfall. The variation of May rainfall during the period 1841–1964, compared with the 1916–50 average, is illustrated in Plate VII. Rainfall was above or well above average in 8 of the 10 years 1858–67. There were 6 successive dry Mays during the period 1892–97, and May rainfall was about average or below average during the 10 successive years 1905–14. The wettest May on record in the London area was in 1955 when 5·35 in was recorded at Southgate; most other London rainfall stations had well over 4 in during this month. Other heavy monthly rainfalls were 5·16 in at Muswell Hill in May 1886, and 5·09 in at Rickmansworth in May 1932. There was no record of a completely dry May and there were only three years with May rainfall 0·2 in or less. In May 1896, monthly rainfall was only 0·14 in at Camden Square, 0·16 in at Brixton, and 0·19 in at Kew. May 1956 was also a dry month with only 0·17 in of rain at Hampton and London (Heathrow) Airport. Addington had only 0·14 in of rain during May 1919, and on the 10th of this month a drought, which was to last for 25 days, commenced at Kew.

In May heavy rainfalls during short periods become more frequent and the records include several occasions of a daily rainfall of 2 to 3 in. The heaviest daily rainfall in the London area was 3·59 in at Banstead (Surrey); most of this rain fell during the famous Derby Day thunderstorm of 31 May 1911. On this day, 3·19 in of rain fell at Harrow and 2·86 in at Epsom where 2·44 in of the rain fell in 50 minutes; such intense rain is classified as a ‘very rare fall’. There was a heavy fall of 3·16 in of rain at Hanwell on 26 May 1920. On 6 May 1915, 3·12 in of rain fell at Finsbury, and 3·00 in fell at Holborn but on the same day rainfall in the southern suburbs was negligible. Records of heavy rainfall in short periods include a fall of 2·56 in in 70 minutes during a thunderstorm at Barnes on 26 May 1920, a fall of 0·43 in in 11 minutes at Hampstead on 7 May 1926, and a fall of 1·81 in in 45 minutes at Fulham on 12 May 1954.

The greatest numbers of ‘rain-days’ in May were:

26 rain-days at Rickmansworth in 1932.

25 rain-days at Hampstead in 1932.

24 rain-days at Kew in 1878, at Brixton in 1902, and at Rickmansworth in 1930.

23 rain-days at Kew in 1898.

The greatest numbers of ‘dry-days’ in May were:

28 dry-days at Kew in 1880, at Kew, Muswell Hill, Finchley and Brixton in 1896, at Kensington in 1936, and at Hampstead in 1956.

27 dry-days at Kew in 1888, at Kew, Camden Square and Kensington Palace in 1919, at Bromley in 1944, and at Wealdstone in 1959.

26 dry-days at Brixton in 1895, at East Ham in 1922, and at Southgate and London (Heathrow) Airport in 1961.

Snow. Snow fell in the London area in May in 16 years out of 94 (1871–1964), and there was snow on four days during the month at Enfield in May 1923, at Hampstead in May 1945, and at Kew in May 1955. Snow has occurred late in May; it was reported that sleet fell in London on 30 May 1855, and Bromley reported frequent snow and hail on 22 May 1867. On 17 May 1955, snow fell for about 2 to 3 hours in several places, but it did not lie; such a snowfall had not occurred in London so late in the year for about 100 years.

Thunderstorms

The frequency of thunder begins to increase in May and on average it occurs on two to three days a month. May 1924 was very thundery with thunder being reported on eight days during the month at Enfield, Hampstead, Kew and Croydon. Some notable thunderstorms have occurred during the last week in May. One of the most famous was the Derby Day thunderstorm at Epsom on 31 May 1911, when lightning persisted for several hours and 17 people and four horses were killed; a severe thunderstorm also occurred in London on this day. The intense rain associated with this severe thunderstorm has already been mentioned in the paragraph dealing with rainfall. On 29 May 1944, hailstones as big as marbles were observed at Bermondsey.

Sunshine

Plate VII gives details of May sunshine at Kew from 1881 to 1964, compared with the 1931–60 average. Outstanding points are the small number of Mays with below average sunshine during the 14 years 1909–22 and the lack of May sunshine during the period 1930–39. The sunniest May at Kew was in 1909 when 315 hours of sunshine were recorded. Another sunny month was May 1922 with 291 hours of sunshine. May 1932 was outstandingly dull with only 114 hours of sunshine. At Kew the sunniest day of the year has occurred in May in 17 years out of 84. Daily sunshine of 15 hours or more was recorded at Kew on three occasions; 15·2 hours on 31 May 1881, 15·1 hours on 24 May 1915, and 15·0 hours on 26 May 1957.

JUNE

'It is a good June that brings some rain and some dry weather.'

(WALES—WEATHER LORE)

Temperature

Monthly mean temperatures for the 124 years ending 1964 are given in Plate VIII, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. The outstanding point in Plate VIII is the great preponderance of cool Junes from 1871 to 1929; during this 59-year period, there were only ten Junes with above-average temperature. During the 13-year period 1930–42, there were only two Junes with temperature below average. The warmest June on record was in 1846 with a mean temperature of 67·7°F. at Greenwich and the coldest June on record was in 1916 with a mean temperature of 54·7°F. at Kew.

Maximum temperature. The warmest June day on record was 29 June 1957, when a temperature of 96°F. was recorded at Camden Square; most other London stations had temperatures over 90°F. on this day. Other high daily maximum temperatures were 95°F. at Greenwich on 16 June 1858, and 94°F. at Camden Square on 22 June 1941, and at Kensington and Camden Square on 3 June 1947. In June 1846 the maximum temperature at Greenwich exceeded 80°F. on 16 days during the month, including the 10 consecutive days from the 11th to the 20th. On average the hottest day of the year has occurred in June in one year out of five. The lowest maximum temperatures recorded in June were 49°F. at Greenwich and 50°F. at Fulham and Kew on 19 June 1903, and 50°F. at Kew on 12 June 1903. At Kew the monthly maximum temperature on average failed to reach 75°F. in about 3 Junes out of 20; in the two years 1879 and 1916 the monthly maximum temperature for June was below 70°F. At Addington in June 1916 the monthly maximum temperature was only 67°F. compared with 68°F. at Hampstead and 69°F. at Kew.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN JUNE AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

HIGH		LOW	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
84 and above	20	54 and below	21
85 and above	12	53 and below	11
86 and above	6	52 and below	7
87 and above	4	51 and below	4
88 and above	1		
89 and above	1		
90 and above	1		

Highest 90·9°F. on 3 June 1947

Lowest 50·2°F. on 19 June 1903

Minimum temperature. The only recorded air frosts in June were in the 'frost hollow' at Rickmansworth where the temperature fell to 28°F. on the night 8/9 June 1935, 29°F. on the night 1/2 June 1936, and 32°F. on the night 9/10 June 1932, and at Dartford where the temperature fell to 30°F. on 3 June 1962. A minimum temperature of 35°F. was recorded at Epsom on the night 4/5 June 1906, at Enfield and Greenwich on the night 2/3 June 1923, and at Enfield again on the night 10/11 June 1942. Several stations reported high daily minimum

temperatures in June 1947; Croydon and Camden Square recorded 69°F. on the 27th, Hampstead 68°F. on the 2nd, and St James's Park 68°F. on the 27th.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN JUNE AT KEW
1883-1962

The following daily minimum temperatures occurred on at least one day per month:

LOW		HIGH	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
41 and below	17	61 and above	22
40 and below	9	62 and above	10
39 and below	7	63 and above	7
38 and below	2	64 and above	3
		65 and above	1
Lowest 37.4°F. on 3 June 1923		Highest 65.1°F. on 25 June 1935	

Frost. On average, ground frosts have occurred in June somewhere in the London area in about 14 years out of 20. Ground frost occurred on seven nights at Greenwich in June 1918 and at Southgate in June 1962, and on six nights at Rickmansworth in June in 1932, 1934 and 1936. In June 1915 ground frost was reported on four successive mornings, 18th-21st, at Hampstead. A grass minimum temperature of 22°F. was recorded at Greenwich on 19 June 1921. The latest ground frost on record at Greenwich occurred on the night 26/27 June 1919, with a grass minimum temperature of 24°F.

Ten-day average and extreme temperatures at Kew. Averages 1931-60, Extremes 1867-1964.

Period June	Maximum temperatures					Minimum temperatures				
	Average °F.	Highest °F.	Year	Lowest °F.	Year	Average °F.	Lowest °F.	Year	Highest °F.	Year
1st–10th	67.3	90.9	1947	50.7	1909	50.7	37.4	1880, 1923	64.4	1947
11th–20th	68.9	87.8	1917	50.2	1903	52.9	38.2	1892	63.9	1936
21st–30th	70.0	87.1	1941, 1957	53.6	1925	54.5	41.3	1871	65.1	1935

Monthly, day-to-day and diurnal temperature ranges. In general, monthly temperature ranges in June are not as great as they are in May. However, a monthly range of 58 degF. occurred at Rickmansworth in 1935 and in 1936 with maximum temperatures 86°F. on 22 and 24 June 1935, and 87°F. on 21 June 1936, and minimum temperatures 28°F. on 9 June 1935, and 29°F. on 2 June 1936. At Greenwich in June 1857, the warmest day was 93°F. on the 28th and the coldest night was 39°F. on the 14th, a monthly range of 54 degF. Another monthly range of 54 degF. occurred at London (Heathrow) Airport in June 1957 with a maximum temperature of 94°F. on the 29th and a minimum of 40°F. on the 12th.

Increases of temperature of 15 to 20 degF. from one day to the next are infrequent in June but at Kew in June 1887 the maximum temperature increased from 60°F. on the 26th to 81°F. on the 27th, an increase of 21 degF. Large falls of temperature in 24 hours are about four times as frequent as large increases of temperature. At Greenwich in June 1844 a maximum temperature of 88°F. on the 24th was followed by a maximum of 61°F. on the 25th, a fall of 27 degF., and at the same place the maximum temperature on 20 June 1893 was 24 degF. lower than the previous day's maximum. In June 1947 the maximum temperature at Kensington and Camden Square fell from 94°F. on the

3rd to 64°F. on the 5th. Large diurnal temperature variations can occur in June, and at Greenwich on 21 June 1865, the maximum and minimum temperatures were 85°F. and 43°F. respectively, giving a diurnal range of 42 degF.

Precipitation

Rainfall. Plate VIII shows the variation of June rainfall during the 124 years ending 1964 compared with the 1916–50 average. Noteworthy features are the eight successive wet or fairly wet Junes from 1905–12 and the outstanding wet June in 1903. A June rainfall of 5 in or more has occurred in the London area in only seven years during the period 1841–1964 as follows:

1860 at Greenwich and Camden Square.

1878 at Camden Square.

1903 at Kew, Camden Square, Croydon, Brixton, Fulham and most other London stations.

1917 at Camden Square.

1936 at Rickmansworth.

1948 at East Ham.

1958 at Camden Square, Kensington, Regent's Park, St James's Park, Southgate and Addington.

The wettest June on record by far was in 1903 when 7·21 in of rain fell at Kew (all during the 12 days 9th–20th), 7·20 in fell at Croydon, and more than 6 in fell at many other stations in the London area. At Kew the June 1903 rainfall is the largest fall recorded there for any month of the year during the last 94 years or more. Other heavy monthly rainfalls in June were 6·71 in at Camden Square in 1878, and 6·35 in at Regent's Park in 1958. There was no record of a completely dry June but only 0·04 in of rain, all of which fell on one day, was recorded at Kew in June 1925; during the same month St James's Park had only 0·08 in of rain, and all the other rainfall stations in the London area reported less than 0·20 in. Other low monthly rainfall totals include 0·06 in at East Ham in June 1942 and 0·17 in at Harrow Weald in June 1921. At Kew in 1941, a drought commenced on 11 June and continued up to and including 7 July giving a total of 27 days without rain.

Heavy falls of rain during short periods are frequent in June and a daily rainfall of 2 to 3 in is quite common. The heaviest daily rainfall in the London area was 4·65 in at Cam House, Kensington on 16 June 1917; all this rain fell in 2½ hours—'a very rare fall'. On the same day, more than 4 in fell at Holland House, Kensington (the rain-gauge overflowed so that accurate measurement was impossible), 3·65 in fell at Kensington Gardens, 3·50 in at St Marylebone, and 3·37 in at Hampstead. Other heavy falls of rain during 24 hours include 3·30 in at Thornton Heath, 3·28 in at Camden Square, and 3·10 in at Leyton, all on 23 June 1878, and 3·17 in at Carshalton on 10 June 1903. All the 3·28 in of rain at Camden Square on 23 June 1878 fell in 1½ hours; 2·42 in of this total fell in 40 minutes, and when the storm was at its peak an inch of rain fell in 10 minutes. Other heavy falls of rain in short periods include 2·33 in in 72 minutes at Hampton Waterworks on 2 June 1950, and 2·25 in in 35 minutes at Kensington Palace on 7 June 1963. A daily rainfall of 1 in or more on 2 days a month occurred fairly frequently in June, but June 1903 was exceptional; during the

period 10th–19th, a daily rainfall of 1 in or more was recorded somewhere in London on 5 days as follows :

On 10 June 1903, at Kew and Carshalton.

On 13 June 1903, at Camden Square and Potters Bar.

On 14 June 1903, at Camden Square and Potters Bar.

On 15 June 1903, at Potters Bar.

On 19 June 1903, at Camden Square.

At Camden Square in June 1903, rain began at 1 p.m. on the 13th and continued non-stop until 11.30 p.m. on the 15th. Total rainfall during this period of $58\frac{1}{2}$ hours continuous rain was 3.44 in; this is probably the longest period of continuous rain ever recorded in Britain. After this unprecedented rain, a drought commenced on 21 June 1903, and persisted until 11 July, a period of 21 days without rain.

The greatest numbers of 'rain-days' in June were:

22 rain-days at Golders Green in 1912, and at Hampstead and St James's Park in 1946.

21 rain-days at Stroud Green in 1935, and at Rickmansworth in 1936.

20 rain-days at Brixton in 1902, and at Hampstead and Tottenham in 1935.

The greatest numbers of 'dry-days' in June were:

29 dry-days at East Ham, Enfield, Kew and St James's Park in 1925.

28 dry-days at Tottenham in 1921, at Regent's Park and Croydon in 1932, and at East Ham, Kew and Regent's Park in 1942.

27 dry-days at Brixton in 1887, at Tottenham and St James's Park in 1938, at Regent's Park, Kew and Croydon in 1949, and at Regent's Park and Greenwich in 1962.

Thunderstorms

On average, thunder occurs on about two to three days per month in June. The years with the greatest number of days with thunder in June were:

10 days with thunder at Bovingdon in 1963.

8 days with thunder at Rickmansworth in 1933 and 1936, and at Kew in 1963.

7 days with thunder at Hampstead in 1916, at Rickmansworth in 1935, at Hampstead and Kew in 1946, and at Greenwich in 1947.

There were many reports of large hailstones, including pieces of ice nearly 1 in long at Winchmore Hill (Middlesex) on 24 June 1874, and hailstones $1\frac{1}{2}$ in long at Finchley on 5 June 1884. Severe hailstorms in the London area on 24 June 1897 ruined crops, smashed glass, and did great damage to the decorations set up for Queen Victoria's Diamond Jubilee. London experienced a violent and notable thunderstorm on 14 June 1914; many parts of the District Railway were flooded, large hailstones caused considerable damage, and seven people sheltering under a tree on Wandsworth Common were killed by lightning. During this storm 3.70 in of rain fell in $2\frac{3}{4}$ hours at Richmond Park and 3.48 in were recorded in 5 hours at Staines. The cloud associated with a thunderstorm on 27 June 1947 was so dense and thick, that London was plunged into almost complete darkness at midday.

Sunshine

Plate VIII shows the variation of June sunshine at Kew from 1881 to 1964, compared with the 1931–60 average. The outstanding points in Plate VIII are the large number of dull Junes before 1911, and the four successive sunny Junes 1949–52 followed by the four successive dull Junes 1953–56. The sunniest June was in 1957 when 291 hours of sunshine were recorded at Kew. June 1909 was outstandingly dull with only 105 hours sunshine at Kew. Since 1881 the sunniest day of the year at Kew has occurred in June in about 6 years out of 10 on average. There were 14 years when at least one day in June had 15 hours of sunshine or more; Kew recorded 15·7 hours on 13 June 1887. However, there were five years when no June day produced 13 hours sunshine; in June 1946 the highest daily sunshine at Kew was only 11·2 hours. The six days 1–6 June 1909 were outstandingly dull with total sunshine only 0·7 hours and in contrast the six days 2–7 June 1940 were outstandingly sunny with total sunshine 82·2 hours.

JULY

'Then came hot July, boyling like to fire.'

(SPENSER)

Temperature

Normally July is the warmest month of the year with August a close second. Monthly mean temperatures for the period 1841–1964 are given in Plate IX, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. Outstanding points in Plate IX are the preponderance of cool Julys before 1868 and during the period 1877–98, and the six cool Julys in the eight years 1913–20. The warmest July on record was in 1859 with a mean temperature of 69·5°F. at Greenwich and the coldest Julys on record were in 1888 and 1919 with a mean temperature of 58·3°F. at Kew.

Maximum temperature. The highest temperature recorded in July was 97°F. at Greenwich on 22 July 1868 and 15 July 1881, and at Epsom on 22 July 1868 and 22 July 1911. Other high daily maximum temperatures were 96°F. at Greenwich on 22 July 1911, and at Camden Square on 13 July 1923, and 95°F. at Greenwich on 27 July 1933, and at Isleworth on the two successive days 12 and 13 July 1923. In July 1859 the maximum temperature at Greenwich was 80°F. or over on 21 days during the month, including the 15 consecutive days 6th–20th. July 1868 was another warm month at Greenwich with a maximum temperature of 80°F. or over on 20 days during the month, including the 15 consecutive days 8th–22nd; on 5 of these 20 days the temperature rose to 90°F. or above. At Camden Square a maximum temperature of 80°F. or over was recorded on 20 days in July 1911, including 4 days on which the temperature exceeded 90°F. The maximum temperature reached or exceeded 90°F. at Brixton on five days during July 1876. On average the hottest day of the year has occurred in July in about two years out of five. Among the lowest daily maximum temperatures recorded in July were 54°F. at both Kew and Greenwich on 12 July 1888 and at Kew on 5 July 1920, and 55°F. at both Kew and Greenwich on 11 July 1888. In 8 years out of 94 (1871–1964) the monthly maximum temperature at Kew in July was below 75°F. Low monthly maximum temperatures include 70°F. at Addington in July 1920, and 71°F. at Kew in July 1888 and at Hampstead in July 1960.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN JULY AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

HIGH		LOW	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
86 and above	20	59 and below	22
87 and above	15	58 and below	11
88 and above	13	57 and below	6
89 and above	9	56 and below	3
90 and above	4	55 and below	2
91 and above	2	54 and below	2
92 and above	1		
Highest 92·8°F. on 28 July 1948		Lowest 53·6°F. on 5 July 1920	

Minimum temperature. There is no record of an air frost in July except at Rickmansworth which recorded a minimum temperature of 32°F. on 31 July 1935. Other low daily minimum temperatures were 37°F. at Barnet on 3 July 1907, and 38°F. at Epsom on 11 July 1907. The highest daily minimum temperatures were 74°F. at St James's Park on 29 July 1948, 71°F. at Hampstead on 12 July 1923, and 70°F. at Kensington on 29 July 1948, and at St James's Park on 13 July 1923.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN JULY AT KEW
1883-1962

The following daily minimum temperatures occurred on at least one day per month:

LOW		HIGH	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
46 and below	20	63 and above	25
45 and below	10	64 and above	11
44 and below	6	65 and above	9
		66 and above	6
		67 and above	5
		68 and above	3

Lowest 43.2°F. on 26 July 1884

Highest 68.2°F. on 29 July 1948

Frost. Ground frost was more frequent at Rickmansworth than at other stations and occurred there on four nights in July 1935. Apart from Rickmansworth, ground frost was recorded on two nights at Greenwich in July 1919, and on one night at Brixton in July 1884, at Hampstead in July 1916, at Greenwich and Hampstead in July 1924, at Hampstead in July 1931, at Northolt in July 1952, and at Croydon in July 1954. Low grass minimum temperatures included 29°F. at Greenwich on 16 July 1919, and 31°F. at Croydon on 7 July 1954.

Ten-day average and extreme temperatures at Kew. Averages 1931-60, Extremes 1867-1964.

Period July	Maximum temperatures			Minimum temperatures		
	Average	Highest	Lowest	Average	Lowest	Highest
	°F.	°F. Year	°F. Year	°F.	°F. Year	°F. Year
1st-10th	70.9	91.2 1959	53.6 1920	55.8	42.8 1882	65.1 1957
11th-20th	71.4	90.1 1923	54.0 1888	56.3	43.5 1907	68.0 1923
21st-31st	71.6	92.8 1948	56.7 1917	56.5	43.2 1884	68.2 1948

Monthly, day-to-day and diurnal temperature ranges. A temperature range of 45 to 50 degF. in July is not uncommon. The monthly range was 57 degF. at Rickmansworth in July 1935 with a maximum temperature of 89°F. on the 14th and a minimum temperature of 32°F. on the 31st. A monthly range of 50 degF. occurred at Greenwich in July 1911 (maximum 96°F. on 22nd, minimum 46°F. on 16th), at Epsom in July 1911 (maximum 97°F. on 22nd, minimum 47°F. on 11th and 16th), and at Wealdstone in July 1948 (maximum 93°F. on 28th and 29th, minimum 43°F. on 17th).

Increases of temperature of 15 degF. or more from one day to the next are very rare in July, but at Kew in July 1919 a maximum temperature of 55°F. on the 8th was followed by a maximum temperature of 74°F. on the 9th, an increase of 19 degF. Falls of temperature of 15 degF. or more in 24 hours are much more frequent. The maximum temperature at Greenwich on 29 July 1868, was only 65°F. and was 25 degF. colder than the previous day's maximum. In July 1952 the maximum temperature at London (Heathrow) Airport fell from 92°F. on

the 1st to 60°F. on the 3rd, a fall of 32 degF. in 2 days. Large diurnal temperature variations can occur in July, and at Greenwich on 8 July 1870, the maximum and minimum temperatures were 90° F. and 50° F. respectively, giving a diurnal range of 40 degF.

Precipitation

Rainfall. Plate IX shows the variation of July rainfall during the 124 years ending 1964 compared with the 1916–50 average. Noteworthy points are the preponderance of dry Julys during the period 1896–1914, and the four consecutive wet Julys which preceded and followed the outstandingly dry July of 1921. On average, a monthly rainfall of 5 in or more in July occurred in about 3 years out of 20. The wettest July on record in the London area was in 1918 when 8·31 in of rain fell at Shad Thames Pumping Station (Bermondsey), 8·00 in at Woolwich, 7·39 in at Greenwich, 6·95 in at Poplar, 6·89 in at St James's Park, with several other stations recording a monthly total of over 6 in. Other high monthly rainfalls in July were 7·60 in at Hampstead in 1924, 6·75 in at Greenwich in 1888, 6·59 in at Uxbridge in 1875, and 6·51 in at Regent's Park in 1956. July rainfall was less than $\frac{1}{2}$ in at at least one station in the London area in 10 years during the 124 years ending 1964. There was no record of a completely dry July but only 0·05 in of rain, all of which fell on one day, was recorded at Greenwich in July 1955; during the same month Bromley had only 0·07 in of rain. Other low monthly rainfall totals include 0·08 in at Shad Thames Pumping Station (Bermondsey), and 0·09 in at Belvedere (Kent), both in July 1921. There were two noteworthy droughts at Kew, one of 25 days from 1 to 25 July 1911, and the other of 21 days from 12 July to 1 August 1952.

Heavy falls of rain during short periods are frequent in July and a daily rainfall of 2 to 3 in is quite common. The heaviest daily rainfall in the London area was 4·70 in at West Wickham (Kent) on 22 July 1934. Other heavy falls of rain during 24 hours included 4·41 in at Dartford on 23 July 1903, 4·30 in at Harmondsworth on 18 July 1956, and 4·19 in at Rickmansworth and over 4 in at Hillingdon on 17 July 1890. Heavy rainfall on two or more days a month is not uncommon in July. Among heavy falls in short periods were 1·00 in in 12 minutes at Kensington on 11 July 1927, 1·50 in in 18 minutes at Balham High Road on 11 July 1927, 2·07 in in 30 minutes at Shad Thames Pumping Station (Bermondsey) on 17 July 1918, 1·97 in in 35 minutes at Kew on 26 July 1946, and 3·87 in in 114 minutes at Harmondsworth on 19 July 1956.

The greatest numbers of 'rain-days' in July were:

27 rain-days at Rickmansworth in 1936.

23 rain-days at Brixton in 1880, at Kew and Brixton in 1888, at Kensington Palace in 1922, and at Rickmansworth in 1931.

22 rain-days at Hampstead in 1960.

21 rain-days at Kew in 1879 and 1894, at Addington in 1920, at Hampstead in 1927, at London (Heathrow) Airport, Pinner and Bromley in 1953, and at Kew in 1957.

The greatest numbers of 'dry-days' in July were:

- 30 dry-days at Greenwich in 1953.
- 29 dry-days at Tottenham and Belvedere (Kent) in 1921.
- 28 dry-days at Kew in 1911.
- 27 dry-days at Kew and Brixton in 1885, at East Ham, Regent's Park, St James's Park and Camden Square in 1935, at East Ham in 1947, and at Greenwich, Kensington, Regent's Park, St James's Park, Pinner, Bromley, Wealdstone and Addington in 1952.

Snow. Snow was reported to have fallen at Norwood on 11 July 1888; the report stated that snow was observed on the covers of market carts coming in to London from Norwood. The minimum temperature at Kew on the day in question was 43.6°F., and snow was also reported at Oxford and in the Isle of Wight. Therefore it seems that this isolated report of snow in London in July is probably correct.

Thunderstorms

July is one of the two most thundery months of the year with thunder occurring on an average of three days a month in London. Thunder was reported at Kew on 12 days in July 1880, on 10 days in July 1918, and on 9 days in July 1888. July thunderstorms can be very violent; nearly 7000 lightning flashes were counted during an all-night storm on 9/10 July 1923, and prolonged and brilliant lightning was also associated with a thunderstorm on the night 14/15 July 1945. Lincoln's Inn and the Houses of Parliament were struck by lightning during a severe thunderstorm on 17 July 1890. Lightning caused some deaths at Plumstead and Walthamstow, and Tower Bridge was also struck by lightning during a severe thunderstorm on 16 July 1949. Burlington House, Piccadilly, was struck by lightning during a thunderstorm on 18 July 1953. There were many reports of large hailstones, including one of lumps of clear ice 2½ in × 2 in × 1½ in which fell in Purley on 16 July 1918. During a severe thunderstorm on 22 July 1925, hailstones 'as large as a man's fist and weighing 8 oz' caused considerable damage, especially in the East End of London and in Woolwich and Plumstead. Large hailstones prevented passengers from leaving their aircraft for a time at London (Heathrow) Airport on 18 July 1956.

Sunshine

Plate IX shows the variation of July sunshine at Kew from 1881 to 1964, compared with the 1931–60 average. Outstanding points in Plate IX are the preponderance of sunny Julys from 1896 to 1906, and the lack of sunny Julys during the periods 1888–95 and 1907–20. The sunniest July was in 1911 when 334 hours of sunshine were recorded at Kew. July was outstandingly dull at Kew in 1888 with only 103 hours sunshine, in 1913 with only 105 hours sunshine, and in 1944 with only 107 hours sunshine. Since 1881 the sunniest day of the year at Kew has occurred in July in about 3 years out of 10 on average. There were 8 years when at least one day in July had 15 hours sunshine or more; Kew recorded 15.5 hours on 3 July 1949. However, there were 7 years when no July day produced 12 hours sunshine; in July 1910 the highest daily sunshine at Kew was only 10.1 hours.

AUGUST

*'Dry August and warm
Doth harvest no harm.'*

(WEATHER LORE)

Temperature

Normally August is almost as warm as July. Monthly mean temperatures for the period 1841–1964 are given in Plate X, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. The outstanding point in Plate X is the large number of cool Augusts during the 60 years 1871–1930. The coldest Augusts on record were in 1912 and 1920 when the mean temperature at Kew was only 57·7°F. The warmest August on record was in 1947 with a mean temperature of 68·1°F. at Kew but August 1911 was a close second with a mean temperature of 68·0°F. at Kew.

Maximum temperature. The record temperature of 100°F. was recorded at Greenwich on 9 August 1911; this is the highest temperature ever recorded at any time in London and is also the highest August temperature in the United Kingdom. On the same day the temperature reached 99°F. at Isleworth, 98°F. at Epsom, and 97°F. at Camden Square and South Kensington. Other high daily maximum temperatures were 99°F. at Greenwich, and 97°F. at Camden Square, Enfield, Regent's Park and Tottenham, all on 19 August 1932. In August 1911 the daily maximum temperature at Camden Square reached or exceeded 90°F. on five days—the 8th, 9th and 12th–14th inclusive. Temperature exceeded 90°F. on three consecutive days at Greenwich on 13–15 August 1876 and on 16–18 August 1893, and at Camden Square on 27–29 August 1930. On average the hottest day of the year has occurred in August in about 3 years out of 10. Among the lowest daily maximum temperatures recorded in August were 55°F. at Kew on 7 August 1898 and at Greenwich on 17 August 1879 and 56°F. at Kew on 17 August 1879 and at Greenwich on 23 August 1864. The lowest monthly maximum temperatures recorded were 67°F. at Croydon, 68°F. at Hampton, and 69°F. at Golders Green and Tottenham, all in August 1912, and 70°F. at Addington in August 1922.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN AUGUST AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

Temperature °F.	HIGH Occurred in 'number of years' out of 80	Temperature °F.	LOW Occurred in 'number of years' out of 80
85 and above	16	60 and below	26
86 and above	15	59 and below	15
87 and above	12	58 and below	9
88 and above	8	57 and below	5
89 and above	6	56 and below	1
90 and above	3		
91 and above	2		
92 and above	1		
93 and above	1		

Highest 93·9°F. on 9 August 1911

Lowest 55·3°F. on 7 August 1898

Minimum temperature. There is no record of an air frost in August except at Rickmansworth where the temperature fell to 30°F. on the night 30/31 August 1934, 31°F. on the night 27/28 August 1935, and 32°F. on the night 25/26

August 1931. Other low daily minimum temperatures were 34°F. at Barnet on the night 27/28 August 1907, and 38°F. at Greenwich on 25 and 27 August 1864. The highest daily minimum temperature of 70°F. was recorded at Enfield on the night 26/27 August 1930, at Croydon and Addington on the night 18/19 August 1932, and at St James's Park on the night 19/20 August 1932.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN AUGUST AT KEW
1883-1962

The following daily minimum temperatures occurred on at least one day per month:

Temperature °F.	LOW		Temperature °F.	HIGH	
	Occurred in	'number of years' out of 80		Occurred in	'number of years' out of 80
44 and below		13	63 and above		21
43 and below		6	64 and above		14
42 and below		3	65 and above		7
41 and below		1	66 and above		3
Lowest 40·5°F. on 31 August 1890			Highest 66·9°F. on 13 August 1911		

Frost. As would be expected, ground frost was most frequent at Rickmansworth, and occurred there on seven nights in August 1934, on three nights in August 1936, and on two nights in August 1931 and in August 1933. Apart from this, ground frost in August occurred somewhere in London in about one year out of five on the average. Low grass minimum temperatures included 25°F. at Greenwich on 31 August 1921, 27°F. at Greenwich and 28°F. at Kew both on 24 August 1940, and 28°F. at Hampstead on 28 August 1912.

Ten-day average and extreme temperatures at Kew. Averages 1931-60, Extremes 1867-1964.

Period August	Maximum temperatures					Minimum temperatures				
	Average °F.	Highest °F.	Year	Lowest °F.	Year	Average °F.	Lowest °F.	Year	Highest °F.	Year
1st-10th	71·4	93·9	1911	55·3	1898	56·3	44·1	1886, 1888	66·2	1933
11th-20th	70·7	92·6	1876	55·6	1879	55·6	41·5	1887	66·9	1911
21st-31st	69·4	90·9	1906	56·5	1881	54·7	40·5	1890	65·1	1959

Monthly, day-to-day and diurnal temperature ranges. In August a temperature range of 45degF. occurred fairly frequently and a range of 50 degF. was not uncommon. The following are examples of large monthly temperature ranges:

STATION	YEAR	MAXIMUM TEMPERATURE		MINIMUM TEMPERATURE		MONTHLY RANGE degF.
		°F.	Date	°F.	Date	
Rickmansworth	1935	89	22nd	31	28th	58·
Rickmansworth	1930	93	28th	37	20th	56
Rickmansworth	1933	93	6th	37	17th	56
Greenwich	1876	94	14th	41	26th	53
Greenwich	1893	95	18th	43	29th	52
Greenwich	1911	100	9th	48	31st	52

A rise or fall of temperature of 15 degF. or more from one day to the next is rare in August. At Kew in August 1888 a maximum temperature of 59°F. on the 6th was followed by a maximum temperature of 77°F. on the 7th, an increase of 18 degF. The maximum temperature at Greenwich on 29 August 1869 was only 65°F. and was 24 degF. lower than the previous day's maximum. An exceptionally large diurnal range of 51 degF. was experienced at Rickmansworth on 29 August 1936, when the maximum and minimum temperatures were 85°F. and 34°F. respectively. At Greenwich on 8 August 1887, the maximum and minimum temperatures were 88°F. and 51°F. respectively, giving a diurnal range of 37 degF.

Precipitation

Rainfall. The variation of August rainfall during the period 1841–1964, compared with the 1916–50 average, is illustrated in Plate X. Noteworthy points are the three very wet Augusts in the 4-year period 1878–1881 and the five consecutive dry Augusts from 1882–86. Another interesting point is that the record dry August of 1940 was followed by a very wet August in 1941. The wettest August on record in the London area was in 1878 when 6·72 in of rain fell at Camden Square, 6·52 in at Kew, 6·27 in at Crossness (near Erith, Kent), and 6·13 in at Muswell Hill. Other high monthly totals in August were 6·27 in at Greenwich in 1931 and 6·17 in at St James's Park in 1916. Monthly rainfall during August was only $\frac{1}{2}$ in or less at at least one station in the London area in seven years during the period 1841–1964. No rain fell in August 1940 at Regent's Park; during the same month Camden Square and Addington had only 0·02 in of rain, Tottenham only 0·05 in, Bromley only 0·06 in, and most other stations in Greater London recorded less than $\frac{1}{4}$ in of rain. August 1947 was also exceptionally dry with only 0·03 in of rain at Enfield, 0·07 in at Southgate, 0·08 in at Camden Square, 0·09 in at Greenwich, and less than $\frac{1}{4}$ in of rain at most other London stations. At Kew in 1959, a noteworthy drought of 37 days commenced on 15 August and lasted until 20 September.

Heavy falls of rain during short periods are frequent in August and a daily rainfall of 2 to 3 in is not uncommon. On 12 August 1957, 3·88 in of rain fell at Hampton, 3·86 in at New Malden, 3·72 in at Hampton Hill and over 3 in at Teddington and Kingston. Other heavy falls of rain during 24 hours included 3·58 in at Beddington Corner (near Croydon), 3·12 in at Twickenham, and 3·02 in at Kew Bridge Water Works, all on 13 August 1937, and 3·12 in at Northwood (Middlesex) on 6 August 1952. Among heavy falls of rain in short periods were:

- 3·32 in in 90 minutes at Sudbury on 23 August 1947.
- 2·80 in in 70 minutes at Northwood on 6 August 1952.
- 2·24 in in 45 minutes at Rickmansworth on 12 August 1932.
- 2·10 in in 50 minutes at Tottenham on 5 August 1931.
- 2·05 in in 30 minutes at Acton on 13 August 1937.
- 2·00 in in 30 minutes at Wembley on 6 August 1952.
- 1·25 in in 23 minutes at Kenley on 22 August 1959.
- 1·07 in in 16 minutes at Winchmore Hill (Middlesex) on 4 August 1878.

During the heavy rain on 6 August 1952, traffic on the Bakerloo Line was halted by floods and passengers were marooned in trains for four hours.

The greatest numbers of 'rain-days' in August were:

- 28 rain-days at South Kensington in 1912.
- 25 rain-days at Addington in 1917, and at Camden Square, Regent's Park and Hampstead in 1956.
- 24 rain-days at Hampstead and Rickmansworth in 1931, and at Southgate in 1941.
- 23 rain-days at Camden Square and Kensington in 1924, at Hampstead in 1927, and at Wealdstone in 1958.
- 22 rain-days at Kew in 1891, and at Epsom in 1910.
- 21 rain-days at Kew in 1878, at Hampstead in 1930, at Rickmansworth in 1934, at Pinner and Wealdstone in 1951, and at Hampstead and Addington in 1963.

The numbers of 'dry-days' in August were:

31 dry-days at Regent's Park in 1940.

29 dry-days at Regent's Park in 1947.

28 dry-days at Regent's Park in 1937.

27 dry-days at Kew in 1933, at Bromley in 1936, and at Camden Square, Kensington and Kew in 1955.

26 dry-days at Brixton in 1899, at Tottenham and Dulwich in 1911, and at Bromley in 1949.

25 dry-days at Kew in 1871, at Tottenham in 1914, at Kew in 1921, at Regent's Park in 1932, at Camden Square, Enfield, Regent's Park, Tottenham and Bromley in 1935, and at London (Heathrow) Airport in 1964.

Thunderstorms.

August is one of the most thundery months of the year with thunder occurring on an average of three days per month in London. Thunder was reported on nine days at Hampstead and Kew in August 1915 and at Rickmansworth in August 1930, and on eight days at Golders Green in August 1912, at South Kensington in August 1916, at Rickmansworth in August 1931 and at St James's Park in August 1939. Many outstandingly severe thunderstorms and hailstorms have occurred in August. On 1 August 1846, a violent hailstorm broke about 7000 panes of glass in the Houses of Parliament and smashed completely the glass arcade which covered the Regent Street pavements in those days. The thunderstorm of 3 August 1879, which went on all night and which was accompanied by hailstones about 2 in in diameter, was comparable in intensity with the 1846 storm. The hail caused considerable damage over a wide area between Kingston and Ealing; innumerable windows and even some roofs were smashed; the damage at Kew Gardens was so great that most of the glass-houses had to be closed to the public and the cost of repairs was estimated to have been £2000. During a thunderstorm at Epsom on 6 August 1907, the temperature fell from 71°F. at 4 p.m. to 48°F. at 9 p.m. Severe thunderstorms were experienced in London during the period 3–5 August 1931, a number of houses were struck by lightning and parts of the town were flooded; there was another violent thunderstorm on the 14th of the same month. On 12 August 1932, hail about $\frac{1}{2}$ in in diameter fell at Rickmansworth; some of the hailstones stuck together to make stones 'as big as golf balls'. Wallington reported hailstones $\frac{3}{4}$ in in diameter on 30 August 1937.

Sunshine

Plate X illustrates the variation of August sunshine at Kew from 1881 to 1964, compared with the 1931–60 average. Noteworthy points are the high frequency of sunny or fairly sunny Augusts from 1892 to 1911 and the lack of sunshine in August during the period 1912–22. The sunniest August was in 1947 when 279 hours of sunshine were recorded at Kew, and the dulllest August was in 1912 with only 109 hours of sunshine at Kew. Since 1881 the sunniest day of the year at Kew has never occurred in August. The maximum daily sunshine recorded at Kew during the month of August was 14.1 hours on 3 August 1904. During the record dull month of August 1912 the highest daily sunshine at Kew occurred on the 1st and only amounted to 9.1 hours.

SEPTEMBER

'September blow soft till the fruit's in the loft.'

(WEATHER LORE)

Temperature

On average, September is appreciably cooler than July and August but is not a great deal cooler than June. Monthly mean temperatures for the period 1841–1964 are given in Plate XI, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. The outstanding point in Plate XI is the preponderance of cool Septembers during the period 1871 to 1930. The coldest September on record was in 1877 when the mean temperature at Kew was only 52·9°F. The warmest September on record was in 1865 when the mean temperature at Greenwich was 65·1°F.; September 1949 was also outstandingly warm with a mean temperature of 64·4°F. at Kew.

Maximum temperature. The highest temperature recorded in September was 95°F. at Barnet and Epsom on 2 September 1906 and at New Malden on 1 September 1906. Other high daily maximum temperatures were 94°F. at Camden Square on 2 September 1906 and at Greenwich on 8 September 1911, and 93°F. at Slough, Fulham and Ponders End on 1 September 1906, at Fulham again on 2 September 1906, and at Hampstead on 8 September 1911. In September 1895 the daily maximum temperature at Greenwich exceeded 80°F. on 10 days, including the 6 consecutive days 23rd–28th. In September 1898 the daily maximum temperature at Greenwich again exceeded 80°F. on 10 days, including two periods of 4 consecutive days—the 6th–9th and the 14th–17th. Temperatures of 80°F. or more were recorded somewhere in London as late as the last week in September in 1874, 1895, 1907, 1908, 1938 and 1941. At Epsom the temperature reached 82°F. on 30 September 1908. On average the hottest day of the year has occurred in September in about 1 year out of 10. Among the lowest daily maximum temperatures recorded were 48°F. at Kew on 29 September 1918, 49°F. at Brixton and 50°F. at Kew both on 27 September 1885. The lowest monthly maximum temperatures recorded were 64°F. at Hampstead, 65°F. at Croydon and Tottenham, and 66°F. at Kew and Golders Green, all in September 1912, and 65°F. at Addington in September 1925.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN SEPTEMBER AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

Temperature °F.	HIGH Occurred in 'number of years' out of 80	Temperature °F.	LOW Occurred in 'number of years' out of 80
80 and above	17	55 and below	25
81 and above	11	54 and below	17
82 and above	8	53 and below	5
83 and above	7	52 and below	4
84 and above	6	51 and below	2
85 and above	4	50 and below	2
86 and above	3	49 and below	1
87 and above	3		
88 and above	2		
89 and above	1		

Highest 91·8°F. on 1 Sept. 1906

Lowest 48·4°F. on 29 Sept. 1918

Minimum temperature. The lowest daily minimum temperature, 27°F., occurred at Harrow on 22 September 1872, and at Rickmansworth on 26 September 1935, and 29 September 1936. Other low daily minimum temperatures were 30°F. at Wealdstone on 19 September 1952, and at Enfield on 29 and 30 September 1919. Among high daily minimum temperatures were 71°F. at St James's Park and 70°F. at Croydon, both on 5 September 1949.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN SEPTEMBER AT KEW
1883-1962

The following daily minimum temperatures occurred on at least one day per month:

LOW		HIGH	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
36 and below	11	61 and above	23
35 and below	5	62 and above	11
34 and below	4	63 and above	8
33 and below	2	64 and above	2
32 and below	1		
31 and below	1		
Lowest 30·7°F. on 30 Sept. 1919		Highest 64·8°F. on 5 Sept. 1949	

Frost. Air frost was experienced at Rickmansworth in September in 5 years during the 7-year period 1930-36. Elsewhere in the London area, air frost in September was uncommon; it occurred on an average in about 1 year in 20. Apart from Rickmansworth, where air frost has been experienced in every month of the year, the earliest air frost on record occurred at Wealdstone on the morning of 19 September 1952. At Rickmansworth ground frost occurred in every September during the period 1930-36 and was recorded on 11 nights in September 1934; during this month no other station in the London area reported ground frost. Apart from this, ground frost in September occurred somewhere in London in about four years out of five on the average. Ground frost was experienced on eight nights at Greenwich in September 1928. Low grass minimum temperatures included 19°F. recorded at both Greenwich and Kew on 29 September 1919 and 21°F. at Harrow on 22 September 1872.

Ten-day average and extreme temperatures at Kew. Averages 1931-60, Extremes 1867-1964.

Period September	Maximum temperatures					Minimum temperatures				
	Average °F.	Highest °F.	Year	Lowest °F.	Year	Average °F.	Lowest °F.	Year	Highest °F.	Year
1st-10th	67·6	91·8	1906	53·4	1952	53·4	36·9	1890	64·8	1949
11th-20th	65·5	86·4	1898	52·3	1912	51·6	33·9	1892	63·1	1915
21st-30th	63·0	80·2	1895	48·4	1918	49·5	30·7	1919	61·3	1930

Monthly, day-to-day and diurnal temperature ranges. Monthly temperature ranges of 45 to 50 degF. occurred fairly frequently in September. Among large monthly temperature ranges were:

STATION	YEAR	MAXIMUM TEMPERATURE		MINIMUM TEMPERATURE		MONTHLY RANGE degF.
		°F.	Date	°F.	Date	
Epsom	1906	95	2nd	35	26th	60
Dulwich	1911	92	8th	35	22nd	57
Greenwich	1911	94	8th	38	22nd	56
Brixton	1898	91	8th	36	29th	55
Kew	1906	92	1st	37	29th	55

Large rises of temperature from one day to the next are infrequent in September. At Kew in September 1934 a maximum temperature of 64°F. on the 27th was followed by a maximum of 77°F. on the 28th, an increase of 13 degF. Falls of temperature in 24 hours were greater, and occurred more frequently, than increases of temperature. The maximum temperature at Greenwich on 4 September 1841 was only 51°F. and was 24 degF. lower than the previous day's maximum. On 2 September 1886 the 2 p.m. temperature at Brixton was only 58°F. and was 26 degF. lower than the 2 p.m. temperature on the previous day. Large diurnal temperature variations can occur in September, and at Greenwich on 12 September 1854, the maximum and minimum temperatures were 81°F. and 40°F. giving a diurnal range of 41 degF. On 8 September 1911, the temperature at Kew fell 20 degF. between 6 p.m. and midnight.

Precipitation

Rainfall. Details of September rainfall during the period 1841–1964 are given in Plate XI, and are compared with the 1916–50 average. The outstanding points in Plate XI are the large number of wet Septembers in the 45-year period 1841–85 and the small number of wet Septembers in the 45-year period 1888–1932. The wettest September on record in the London area was in 1896 when 7.45 in of rain fell at Harrow; in the same month Finchley had 6.36 in and Muswell Hill 6.26 in. Other high monthly totals in September were 6.17 in at Hampstead, 5.96 in at Enfield and 5.94 in at Kensington Palace all in 1918. September rainfall was only $\frac{1}{2}$ in or less at at least one station in the London area in 10 years during the period 1841–1964. There was no record of a completely dry September but only 0.03 in of rain was recorded at Hampton and at Southgate in September 1959. During the same month Wealdstone and Regent's Park had only 0.04 in of rain, Dartford had only 0.05 in, several other stations had less than 0.10 in, and no place in London recorded as much as $\frac{1}{4}$ in of rain. Other low monthly rainfall totals were 0.10 in at Bromley, 0.14 in at Croydon, 0.16 in at Kew, and 0.17 in at Greenwich and at St James's Park all in September 1929, and 0.16 in at Greenwich in September 1865. There were two noteworthy droughts at Kew both lasting 37 days, the first from 23 August to 28 September 1929, and the other from 15 August to 20 September 1959.

Heavy falls of rain during short periods are not so frequent in September as in August but daily rainfall may still exceed 2 in. On 2 September 1889, 3.90 in of rain fell at Dartford, and on 14 September 1880, 3.20 in were recorded at Uxbridge. Other heavy falls of rain during 24 hours included 2.99 in at Carshalton, 2.76 in at South Norwood, 2.72 in at Upper Norwood, and 2.71 in at Twickenham, all on 10 September 1902. Among heavy falls of rain in short periods were:

- 2.0 in in 30 minutes at Surbiton on 10 September 1902.
- 1.1 in in 18 minutes at Camden Square on 15 September 1934.
- 0.82 in in 15 minutes at Wimbledon on 6 September 1899.
- 0.24 in in 3 minutes at Epsom on 25 September 1909.

The greatest numbers of 'rain-days' in September were:

- 25 rain-days at Enfield in 1918, and at Hampstead in 1930.
- 24 rain-days at East Ham in 1950.
- 23 rain-days at Rickmansworth in 1932.
- 22 rain-days at Brixton in 1896 and at Rickmansworth in 1934 and 1936.
- 21 rain-days at Kew in 1876 and 1885, at Epsom and Camden Square in 1909, at Kensington in 1924, and at Northolt, Southgate and Wealdstone in 1954.

The greatest numbers of 'dry-days' in September were:

- 29 dry-days at Camden Square, Regent's Park and Tottenham in 1941, and at Southgate, Bromley, Dartford and Regent's Park in 1959.
- 28 dry-days at Kew, Camden Square, Enfield, Hampstead, Kensington, Stroud Green, Tottenham, St James's Park, Croydon and Bromley in 1929.
- 27 dry-days at Brixton in 1895, at Kew, Greenwich and Tottenham in 1910, at Tottenham in 1912, at East Ham in 1921, and at Tottenham and St James's Park in 1928.
- 26 dry-days at Brixton in 1898, at Regent's Park in 1940, and at Greenwich, Waddon, Addington, Bromley and Dartford in 1964.
- 25 dry-days at Camden Square, South Kensington and St James's Park in 1915, at East Ham and Southgate in 1949, and at St James's Park and London (Heathrow) Airport in 1964.

Snow. Snow was reported to have fallen at London and Wallington on the afternoon of 25 September 1885, and at Epsom late on 19 September 1910.

Thunderstorms

The average frequency of thunder in London falls from three days per month in August to about one day per month in September. However, thunder was reported on six days at Kew in September 1899, at Rickmansworth in September 1930 and in September 1936, and at both St James's Park and Hampton in September 1955. Violent thunderstorms were experienced in the London area during the night 29/30 September 1897, on 17 September 1909, and during the night 11/12 September 1921.

Sunshine

Plate XI shows the variation of September sunshine at Kew from 1881 to 1964, compared with the 1931–60 average. The most outstanding point is the lack of sunny Septembers during the periods 1881–89 and 1941–46. The sunniest September was in 1911 when 224 hours of sunshine were recorded at Kew, and the dulllest September was in 1945 with only 64 hours of sunshine at Kew. In seven years the sunniest day in September at Kew had 12 hours sunshine or more, the maximum daily sunshine being 12·4 hours on 1 September 1911 and also on 4 September 1928. During the record dull month of September 1945, the highest daily sunshine at Kew during the month was only 8·1 hours and occurred on the 23rd.

OCTOBER

'This, our golden month, October.'

(YOUNG)

Temperature

Monthly mean temperatures for the period 1841–1964 are given in Plate XII, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. The outstanding points in Plate XII are the absence of cold Octobers during the period 1855–66, and the remarkable preponderance of cold Octobers from 1867 to 1905; during this 39-year period there were only five Octobers with mean temperature above average. The coldest October on record was in 1887 when the mean temperature at Kew was only 45.2°F. October was almost as cold in the years 1905 and 1919 (both 45.3°F.), 1881 and 1888 (both 45.5°F.), 1892 (45.6°F.), and 1895 (45.7°F.). The warmest October on record was in 1921 when the mean temperature was 56.5°F. at Kew.

Maximum temperature. The highest October temperature of 84°F. was recorded at Kensington Palace on 5 and 6 October 1921, at Camden Square on 5 October 1921, and at Greenwich, Hampstead and St James's Park on 6 October 1921. Other high daily maximum temperatures were:

83°F. at Bexley Heath and Croydon on 6 October 1921.

82°F. at Kew on 5 October 1921, at Addington on 6 October 1921, at East Ham on 5 and 6 October 1921, and at Dartford on 3 October 1959.

81°F. at London (Heathrow) Airport and Hampton on 3 October 1959, at Epsom on 2 October 1908, and at Greenwich on 4 October 1859.

In October 1921 the daily maximum temperature at Kew exceeded 70°F. on 12 days during the month, including the 11 consecutive days 1st–11th. Among the lowest daily maximum temperatures recorded were 38°F. at Kew on 29 October 1873, and 39°F. at Greenwich and Brixton on 30 October 1873. There were six Octobers (1885, 1889, 1892, 1905, 1944 and 1952) when the temperature at one or more places in the London area failed to exceed 60°F. The lowest monthly maximum temperature recorded was 58°F. at Epsom in October 1905, at Addington in October 1944, and at Hampstead in October 1952.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN OCTOBER AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

Temperature °F.	HIGH Occurred in 'number of years' out of 80	Temperature °F.	LOW Occurred in 'number of years' out of 80
70 and above	12	45 and below	23
71 and above	7	44 and below	14
72 and above	6	43 and below	9
73 and above	5	42 and below	5
74 and above	4	41 and below	3
75 and above	4	40 and below	2
76 and above	4	39 and below	2
77 and above	2		
78 and above	2		
79 and above	1		
80 and above	1		
81 and above	1		
Highest 81.9°F. on 5 Oct. 1921		Lowest 38.6°F. on 29 Oct. 1896	

Minimum temperature. The lowest temperature recorded was 15°F. at Rickmansworth on 27 and 28 October 1931, and on 21 October 1935. Elsewhere a daily minimum temperature of 23°F. was registered at Epsom on 22 October 1905, at Bromley on 27 October 1931, at Northolt on 28 October 1950, and at Wealdstone on 18 October 1955. The highest daily minimum temperature was 62°F. at Kew on the morning of 3 October 1921.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN OCTOBER AT KEW
1883–1962

The following daily minimum temperatures occurred on at least one day per month:

Temperature °F.	LOW	Temperature °F.	HIGH
	Occurred in 'number of years' out of 80		Occurred in 'number of years' out of 80
30 and below	20	57 and above	21
29 and below	13	58 and above	12
28 and below	7	59 and above	8
27 and below	4	60 and above	4
26 and below	3	61 and above	4
		62 and above	1

Lowest 25.1°F. on 28 Oct. 1895

Highest 62.4°F. on 3 Oct. 1921

Frost. Rickmansworth reported air frost every October during the 7-year period 1930–36. On average Kew experienced air frost in October in about 6 years out of 10 during the period 1871–1920 and in about 4 years out of 10 from 1921 to 1964. Air frost occurred on 10 nights at Brixton and on 9 nights at Kew in October 1888. The most severe air frosts (lowest minimum temperatures) recorded in October were:

15°F. at Rickmansworth on 27 and 28 October 1931, and on 21 October 1935.

23°F. at Epsom on 22 October 1905, at Bromley on 27 October 1931, at Northolt on 28 October 1950, and at Wealdstone on 18 October 1955.

24°F. at Brixton on 28 October 1890, at Greenwich on 26 October 1922, at Greenwich and Croydon on 19 October 1926, at Croydon on 27 October 1931, at Greenwich on 28 October 1931, at Enfield on 30 October 1940, and at London (Heathrow) Airport on 27 October 1948.

25°F. at Brixton on 30 October 1873, at Kew on 17 October 1881 at Greenwich on 13 October 1887, at Brixton on 24 October 1895, and at Kew on 26 and 28 October 1895.

Ground frost has occurred somewhere in the London area in every October since 1908. The greatest numbers of ground frosts in October were:

26 nights at Rickmansworth in 1936.

24 nights at Hampstead in 1912.

22 nights at Rickmansworth in 1932.

21 nights at Greenwich in 1919.

Among low grass minimum temperatures were 13°F. at Greenwich on 19 October 1926, 15°F. at Greenwich on 30 October 1948, and 16°F. at Kew on 19 October 1926, and at Greenwich on 30 October 1947.

Ten-day average and extreme temperatures at Kew. Averages 1931–60, Extremes 1867–1964.

Period October	Maximum temperatures					Minimum temperatures				
	Average °F.	Highest °F.	Year	Lowest °F.	Year	Average °F.	Lowest °F.	Year	Highest °F.	Year
1st–10th	60·3	81·9	1921	43·2	1888	47·3	28·1	1888	62·4	1921
11th–20th	57·4	73·9	1921	40·0	1880	45·1	25·4	1881	60·3	1916
21st–31st	54·7	66·9	1888	37·9	1873	43·3	25·1	1895	58·8	1921

Monthly, day-to-day and diurnal temperature ranges. The monthly temperature range in October may exceed 50 degF.; it was 54 degF. at Greenwich in October 1859 with a maximum temperature of 81°F. on the 4th and a minimum temperature of 27°F. on the 24th. At Epsom in October 1908 a maximum temperature of 81°F. on the 2nd was followed by a minimum temperature of 29°F. on the 25th, giving a monthly range of 52 degF. In October 1889 the daily maximum temperature at Kew varied by less than 10 degF. during the month, the highest being 59·1°F. on the 16th and the lowest 49·5°F. on the 22nd. Changes of temperature of 15 degF. or more from one day to the next are very infrequent in October. At Kew in October 1880 a maximum temperature of 47°F. on the 4th was followed by a maximum of 64°F. on the 5th, an increase of 17 degF. The maximum temperature at Kew on 16 October 1877, was only 50°F. and was 14 degF. lower than the previous day's maximum. Large diurnal temperature variations can occur in October, and at Greenwich on 2 October 1854, the maximum and minimum temperatures were 73°F. and 39°F. giving a diurnal range of 34 degF.

Precipitation

Rainfall. The variation of October rainfall from 1841 to 1964, compared with the 1916–50 average, is illustrated in Plate XII. Outstanding points are the five consecutive wet Octobers from 1891 to 1895, the five consecutive dry Octobers from 1918 to 1922, and the relatively small number of wet Octobers during the last 20 years. In the London area a monthly rainfall of 5 in or more occurred in about one October out of nine on average. October rainfall exceeded 6 in at at least one of the rainfall stations in the London area in the eight years 1880, 1882, 1891, 1903, 1932, 1939, 1949 and 1960. The wettest October on record was in 1880 when 7·65 in of rain fell at Greenwich; in the same month Beckenham recorded 7·17 in of rain. Other high monthly totals in October were 6·90 in at Bromley in 1939, 6·70 in at Addington in 1949, and 6·53 in at Addington in 1960. Monthly rainfall for October was only $\frac{3}{4}$ in or less at at least one rainfall station in the London area in the nine years 1897, 1919, 1921, 1922, 1931, 1941, 1946, 1947 and 1950. There was no record of a completely dry October but only 0·06 in of rain fell at Regent's Park in October 1947. During the same month Camden Square had only 0·07 in of rain, St James's Park and Southgate only 0·09 in, and most other London rainfall stations recorded less than $\frac{1}{2}$ in. Other low monthly rainfall totals were 0·30 in at Croydon, 0·32 in at Southgate, and 0·33 in at Bromley, all in October 1950, 0·44 in at Kew in October 1921, and 0·47 in at Brixton in October 1897. There were two noteworthy droughts at Kew, the first from 9 to 27 October 1931 (19 days) and the other from 29 September to 19 October 1945 (21 days). A daily rainfall of 2 in or more during the month of October was recorded somewhere in the London area in the six years 1865, 1880, 1893, 1894, 1955 and 1956. On 30 October 1894, 3·56 in of rain fell at Sidcup (Kent) and 2·43 in fell at Croydon. Other heavy falls of rain

during 24 hours included 3·11 in at Rickmansworth and 2·36 in at Slough, both on 9 October 1893, 2·60 in at West Wickham on 19 October 1865, and 2·50 in at Edgware on 19 October 1955. St James's Park recorded a daily rainfall of 1·05 in on both 23 and 25 October 1949. Records of heavy falls of rain in short periods included:

0·06 in in 1 minute at Camden Square on 15 October 1891.

0·25 in in 4 minutes at Epsom on 1 October 1910.

The greatest numbers of 'rain-days' in October were:

28 rain-days at Epsom in 1907.

27 rain-days at Brixton in 1903, at Epsom in 1909, and at Greenwich and Hampstead in 1960.

26 rain-days at Hampstead in 1929.

25 rain-days at Addington in 1916 and 1917, at Hampstead in 1928, and at Rickmansworth and Addington in 1932.

24 rain-days at Brixton in 1889, at Kew in 1892 and 1923, at Addington in 1918 and 1923, and at Hampstead in 1930.

23 rain-days at Kew in 1882, at Croydon in 1939, and at Addington in 1944.

The greatest numbers of 'dry-days' in October were:

30 dry-days at East Ham in 1947.

27 dry-days at Tottenham in 1931.

26 dry-days at Pinner in 1950.

25 dry-days at Croydon and Tottenham in 1921.

24 dry-days at Tottenham in 1914 and 1920, at St James's Park in 1919, and at Enfield in 1945.

23 dry-days at Kew in 1888, at Tottenham in 1908 and 1941, at Bromley in 1946, at Regent's Park in 1956, and at London (Heathrow) Airport and Dartford in 1957.

Snow. Snow is rare in October but it was reported to have fallen somewhere in the London area in 12 of the past 87 Octobers. The earliest snowfalls recorded in October occurred on 12 October 1887 and on 19 and 20 October 1880. The snowfall in October 1880 was reported to be so heavy as to cause damage to trees in many places in the London area.

Thunderstorms

Thunder is infrequent in October but it was reported on five days at Hampstead in October 1946, and on five days at Kew and Hampton in October 1956. Thunderstorms were widespread during the evening of 29 October 1898, and a tornado, which was accompanied by a deluge of rain, devastated a part of Camberwell. Although the storm lasted only a few minutes, the damage, which was confined to an area about half a mile square, was considerable and many people were injured. Practically every building in the area was damaged, huge coping stones and slates were torn from roofs and some buildings lost the complete roof. Doors were wrenched from their hinges, street-lamps were twisted like corkscrews and huge trees were up-rooted. A Royal Mail cart and several hansoms were overturned by the wind and the streets were strewn with slates, bricks and glass. In a lighter vein it was reported that the tornado put out the lights in the bar of the Athenaeum. During heavy rain on the evening of 22 October 1928, a sudden squall caused about £15,000 worth of damage in the West End of London.

Sunshine

Plate XII gives details of October sunshine at Kew from 1881 to 1964, compared with the 1931–60 average. Noteworthy points are the comparatively large number of dull Octobers from 1901 to 1915 and the four successive sunny Octobers from 1919 to 1922. The sunniest October was in 1959 when 160 hours sunshine were recorded at Kew; October 1921 was also a sunny month at Kew with 153 hours sunshine. The dulllest October was in 1894 when Kew had only 51 hours sunshine, but October 1915 was almost as dull with only 52 hours sunshine at Kew. There were three occasions when daily sunshine in October at Kew exceeded 10 hours: 10·2 hours on 2 October 1944, and 10·1 hours on both 3 October 1890, and 5 October 1950. At Kew in October 1959 there were 10 days with a daily sunshine of 8 hours or more. On the other hand in October 1924 the highest daily sunshine at Kew during the month was only 5·4 hours and occurred on the 24th. In October 1915 daily sunshine at Kew was less than one hour on 13 days and there was no sun at all on 9 days.

NOVEMBER

*'If there's ice in November that will bear a duck
There'll be nothing after but sludge and muck.'*

(WEATHER LORE)

Temperature

Monthly mean temperatures for the period 1841–1964 are given in Plate XIII, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. Noteworthy points are the preponderance of cold Novembers during the 28-year period 1853–80, and the low frequency of cold Novembers during the last 12 years. The coldest November on record was in 1871 with mean temperatures of 37.9°F. at Greenwich and 38.3°F. at Kew. November 1851 was also very cold with a mean temperature of only 38.3°F. at Greenwich, while the following November (1852) was the second warmest on record with a mean temperature of 49.3°F. at Greenwich. The warmest November was in 1938 when the mean temperature at Kew was 49.7°F.

Maximum temperature. The highest temperature recorded in November was 70°F. at Tottenham on 5 November 1938; on the same day the temperature reached 69°F. at Camden Square, St James's Park and Bromley, and many other places in London recorded 68°F. A daily maximum temperature of 67°F. was recorded at Greenwich on 8 November 1847, and at Kensington on 4 November 1946. At Kew the daily maximum temperature was 60°F. or above on five days in November 1938 and on five days in November 1947. Among the lowest daily maximum temperatures were 25°F. at Kew and 27°F. at Greenwich both on 28 November 1890. However, since 1923 the daily maximum temperatures at Kew in November have always exceeded 32°F. The lowest monthly maximum temperatures included 50°F. at Kew, and 51°F. at Greenwich and Brixton in November 1896, and 51°F. at Greenwich in November 1871.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN NOVEMBER AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

Temperature °F.	HIGH	Temperature °F.	LOW
	Occurred in 'number of years' out of 80		Occurred in 'number of years' out of 80
60 and above	18	36 and below	17
61 and above	9	35 and below	8
62 and above	3	34 and below	6
63 and above	1	33 and below	6
64 and above	1	32 and below	5
65 and above	1	31 and below	4
66 and above	1	30 and below	1
		29 and below	1
		28 and below	1
		27 and below	1
		26 and below	1

Highest 66.2°F. on 5 Nov. 1938

Lowest 25.5°F. on 28 Nov. 1890

Minimum temperature. The lowest temperature, 13°F. was recorded at Rickmansworth on 17 November 1930. The lowest daily minimum temperatures recorded elsewhere were 15°F. at Barnet on 10 November 1908, and 16°F. at Croydon on 26 November 1923. High daily minimum temperatures included: 59°F. at Regent's Park and Camden Square on 22 November 1947.

58°F. at Kew on 5 November 1938, at Croydon, Greenwich and Kensington on 21 and 22 November 1947, and at St James's Park on 22 November 1947.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN NOVEMBER AT KEW
1883-1962

The following daily minimum temperatures occurred on at least one day per month:

Temperature °F.	LOW	Temperature °F.	HIGH
	Occurred in 'number of years' out of 80		Occurred in 'number of years' out of 80
26 and below	20	52 and above	18
25 and below	15	53 and above	10
24 and below	10	54 and above	7
23 and below	6	55 and above	4
22 and below	3	56 and above	2
		57 and above	2
Lowest 21.1°F. on 17 Nov. 1901		Highest 57.9°F. on 5 Nov. 1938	

Frost. Since 1871 there have been only six years (1872, 1888, 1945, 1946, 1951 and 1960) when no air frost was reported at Kew in the month of November. During the last 93 years, frost, lasting for at least 24 hours, occurred at Kew in only five Novembers (1887, 1890, 1901, 1915 and 1923); the frost lasted for at least 48 hours in November 1890 and November 1923. The greatest numbers of frosty nights in November were:

- 17 nights at St James's Park in 1910.
- 16 nights at Greenwich in 1851 and at Camden Square in 1910.
- 15 nights at Greenwich in 1871.
- 14 nights at Greenwich in 1858 and 1879 and at Kew in 1901.

The most severe air frosts (lowest minimum temperatures) recorded in November were:

- 13°F. at Rickmansworth on 17 November 1930.
- 15°F. at Barnet on 10 November 1908, and 16°F. at Croydon on 26 November 1923.
- 18°F. at Greenwich on 28 November 1890.
- 19°F. at Greenwich on 30 November 1856, at Epsom on 21 November 1905, at Wallington on 26 November 1923, and at Dartford and Northolt on 25 November 1952.

Ground frost has occurred somewhere in the London area every November since 1908 when records of ground frost commenced. The greatest numbers of ground frosts in November were:

- 27 nights at Hampstead in 1915.
- 26 nights at Rickmansworth in 1936.
- 25 nights at Rickmansworth in 1933.

A grass minimum temperature of 9°F. was recorded at Hampstead on 28 November 1915, and at Greenwich on one night in the week ending 14 November 1908.

Ten-day average and extreme temperatures at Kew. Averages 1931-60, Extremes 1867-1964.

Period November	Maximum temperatures					Minimum temperatures				
	Average °F.	Highest °F.	Year	Lowest °F.	Year	Average °F.	Lowest °F.	Year	Highest °F.	Year
1st–10th	52.0	66.2	1938	35.3	1901	41.9	22.6	1923	57.9	1938
11th–20th	49.6	62.6	1876	30.6	1887	40.6	20.2	1871	57.6	1938
21st–30th	47.8	60.8	1947	25.5	1890	39.4	21.5	1890	57.4	1947

Monthly, day-to-day and diurnal temperature ranges. The temperature range in November may exceed 40 degF.; it was 47 degF. at Rickmansworth in November 1935 with a maximum temperature of 63°F. on the 3rd and a minimum temperature of 16°F. on the 25th. At Greenwich in November 1847 a maximum temperature of 67°F. on the 8th was followed by a minimum temperature of 25°F. on the 20th, giving a monthly range of 42 degF. In the Novembers of 1896, 1913 and 1953 the daily maximum temperature at Kew varied by only 11 degF. throughout the month. Changes of temperature of 15 degF. or more from one day to the next were infrequent. At Camden Square in November 1947 a maximum temperature of 40°F. on the 19th was followed by a maximum of 60°F. on the 20th, an increase of 20 degF. Large temperature changes were spread over a few days. In November 1858 a maximum temperature of 31°F. at Greenwich on the 24th was followed by a maximum of 58°F. on the 26th, a rise of 27 degF. in two days. At Kew in November 1890 a maximum temperature of 58°F. on the 23rd was followed by a maximum of 25°F. on the 28th, a fall in temperature of 33 degF. in 5 days. This sudden burst of cold weather was followed by the coldest December on record and the severe cold weather persisted until after the middle of January 1891. Large diurnal temperature variations can occur in November, and at Greenwich on 4 November 1946, the maximum and minimum temperatures were 66°F. and 38°F. giving a diurnal range of 28 degF.

Precipitation

Rainfall. Details of monthly rainfall in November during the period 1841–1964 are given in Plate XIII, and are compared with the 1916–50 average. Noteworthy points are the large number of dry Novembers during the period 1845–58 and the seven consecutive dry Novembers from 1917 to 1923. During the last 124 years a November rainfall of 6 in or more was recorded by at least one of the London rainfall stations in 1852, 1926, 1929, 1940, 1950 and 1951; five of these six years were in the last 38 years. The wettest November on record was in 1940 when 7·77 in of rain fell at Croydon; in the same month Addington had 7·62 in, Bromley 7·07 in, Regent's Park 6·91 in, and most of the other London rainfall stations recorded over 6 in of rain. Other high monthly totals in November were 6·39 in at Addington in 1951 and 6·30 in at Croydon in 1929. During the period 1841–1964 November rainfall was only $\frac{1}{2}$ in or less at at least one rainfall station in the London area in the 8 years 1858, 1867, 1871, 1901, 1908, 1945, 1955 and 1956. There was no record of a completely dry November but only 0·05 in of rain fell at Regent's Park in November 1945. During the same month, rainfall was only 0·11 in at East Ham and only 0·15 in at Camden Square and Southgate, and no rainfall station in the London area recorded over $\frac{1}{2}$ in of rain. Other low monthly totals were 0·36 in at Greenwich in November 1955 and 0·38 in at Camden Square and St James's Park in November 1956. Droughts in November are rather uncommon but there were two noteworthy ones at Kew both lasting 14 days, the first from 16 to 29 November 1899, and the other from 10 to 23 November 1953.

On average a daily rainfall of more than 1 in has occurred somewhere in the London area in about one November in eight. On 25 November 1938, 1·65 in of rain fell at Merton Park, 1·57 in at Worcester Park, 1·54 in at Streatham Hill, 1·50 in at Southfields, and most other London rainfall stations recorded more

than 1 in of rain. In November 1940 there were falls of more than 1 in somewhere in the London area on four days during the month as follows:

- 1·04 in at Camden Square on the 3rd.
- 1·05 in at East Ham on the 4th.
- 1·04 in at Camden Square on the 11th.
- 1·08 in at Southgate on the 13th.

At Finchley in November 1899 rainfall exceeded 1 in on two days during the month: 1·26 in on the 3rd, and 1·16 in on the 5th. Records of heavy falls of rain in short periods included 1·1 in in 35 minutes at Stanmore on 3 November 1960, and 0·20 in in 8 minutes at New Malden on 26 November 1912.

The greatest numbers of 'rain-days' in November were:

- 28 rain-days at Addington in 1960.
- 26 rain-days at Addington in 1919 and at Kensington in 1926.
- 25 rain-days at Hampstead, Southgate, Wealdstone and Dartford in 1951.
- 24 rain-days at Kew in 1882 and 1939, at Epsom in 1906, at Rickmansworth in 1935, at East Ham in 1950, and at Hampstead in 1963.
- 23 rain-days at Kew in 1883 and 1911, at Hampstead in 1930, at Rickmansworth in 1933, at St James's Park in 1946, and at Greenwich and Camden Square in 1963.
- 22 rain-days at Kew in 1887, 1910, 1940 and 1944, at Epsom in 1907, at Addington in 1918 and 1944, at Hampstead in 1928 and 1929, at Rickmansworth in 1931, at Kensington and St James's Park in 1944, and at Southgate and Regent's Park in 1963.

The greatest numbers of 'dry-days' in November were:

- 28 dry-days at Regent's Park in 1945.
- 24 dry-days at Tottenham in 1920 and 1922, at East Ham in 1937, and at Kew in 1956.
- 23 dry-days at Tottenham in 1921, at Regent's Park in 1933 and 1957, and at Croydon in 1948.
- 22 dry-days at Kew in 1871, 1889, 1896, 1942 and 1953, at Tottenham in 1908, at Greenwich in 1915, at East Ham in 1934 and 1947, at Regent's Park in 1942 and 1955, and at Northolt and London (Heathrow) Airport in 1953.

Snow. Snow or sleet has fallen in the London area on an average of about one November in two. The snowiest Novembers were:

- Snow or sleet on 10 days at Wallington in 1919, and at Hampstead in 1952.
- Snow or sleet on 8 days at Kew in 1919.
- Snow or sleet on 7 days at London (Heathrow) Airport and Northolt in 1952.

Thunderstorms

Thunder is uncommon in November but it was reported somewhere in the London area in 28 of the past 81 Novembers. Thunder was heard at Kew on three days in November 1940.

Sunshine

Plate XIII shows the variation of November sunshine at Kew from 1881 to 1964, compared with the 1931–60 average. Outstanding points are the preponderance of dull Novembers between 1884 and 1907 and the six successive sunny

Novembers during the period 1947–52. The sunniest November was in 1883 with 82 hours sunshine at Kew, and the dullest November was in 1897 when only 22 hours sunshine were recorded at Kew. There were 19 sunless days at Kew in November 1885 and 15 sunless days at the same place in November 1945.

DECEMBER

*'O dirtie December
For Christmas remember'*

(WEATHER LORE)

Temperature

Monthly mean temperatures for the period 1841–1964 are given in Plate XIV, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. Outstanding points are the preponderance of cold Decembers from 1873 to 1897 and the low frequency of cold Decembers during the periods 1910–22 and 1948–59. The mildest December on record was in 1934 when the mean temperature at Kew was 47·5°F. The coldest December was in 1890 when the mean temperature at Kew was only 29·3°F.

Maximum temperature. The mildest December day was 4 December 1953 with a maximum temperature of 63°F. at Kensington; on the same day the temperature reached 62°F. at Regent's Park and 61°F. at Camden Square, Hampton and Dartford. Greenwich recorded a maximum temperature of 62°F. on 10 December 1848. A daily maximum temperature of 60°F. was recorded somewhere in London in the Decembers of 1918, 1931 and 1932. Among the lowest daily maximum temperatures were 21°F. at Kew and 22°F. at Brixton both on 14 December 1890. The lowest monthly maximum temperatures included 43°F. at Greenwich and 44°F. at Kew both in December 1890, and 43°F. at Hampstead and Rickmansworth in December 1933.

FREQUENCY OF HIGH AND LOW DAILY MAXIMUM TEMPERATURES IN DECEMBER AT KEW
1883–1962

The following daily maximum temperatures occurred on at least one day per month:

Temperature °F.	HIGH	Temperature °F.	LOW
	Occurred in 'number of years' out of 80		Occurred in 'number of years' out of 80
56 and above	19	30 and below	13
57 and above	9	29 and below	10
58 and above	3	28 and below	4
59 and above	2	27 and below	4
		26 and below	3
		25 and below	2
		24 and below	1
		23 and below	1
		22 and below	1

Highest 59·2°F. on 4 Dec. 1931 and
4 Dec. 1953

Lowest 21·5°F. on 14 Dec. 1890

Minimum temperature. The lowest temperature, 4°F., was recorded at Epsom on 30 December 1908. Other low daily minimum temperatures included 7°F. at Rickmansworth on 24 December 1935, and 8°F. at Greenwich on 25 December 1860. The daily minimum temperature was below 20°F. on six nights at Greenwich in December 1890 and on five nights at Greenwich in December 1870 and at Kew in December 1879. The highest daily minimum temperatures on record were:

54°F. at Kensington on 6 December 1898.

53°F. at Kew and Kensington on 5 December 1898, and at Kew on the night 3/4 December 1934.

FREQUENCY OF LOW AND HIGH DAILY MINIMUM TEMPERATURES IN DECEMBER AT KEW
1883-1962

The following daily minimum temperatures occurred on at least one day per month:

LOW		HIGH	
Temperature °F.	Occurred in 'number of years' out of 80	Temperature °F.	Occurred in 'number of years' out of 80
22 and below	14	50 and above	22
21 and below	10	51 and above	11
20 and below	7	52 and above	8
19 and below	5	53 and above	2
18 and below	4		
17 and below	2		
16 and below	2		
15 and below	2		
14 and below	1		
13 and below	1		
12 and below	1		
11 and below	1		

Lowest 10·8°F. on 22 Dec. 1890

Highest 53·4°F. on 4 Dec. 1934

Frost. Many places in London were free of air frost during the month of December 1934, and Enfield, Regent's Park, Tottenham and St James's Park did not even experience a ground frost. There was no air frost at Camden Square, Kensington, Regent's Park and St James's Park in both December 1953 and December 1958. At Kew continuous frost for at least 24 hours occurred in about 5 Decembers out of 10 up to 1910 but only in about 2 Decembers out of 10 during the period 1911-64. In December 1890 the temperature at Greenwich remained below freezing all day on 16 days during the month, including the 10 consecutive days 10th-19th. The greatest numbers of frosty nights in December were:

- 26 nights at Norwood and Kew in 1890.
- 25 nights at Kew in 1879, and at Hampstead in 1933.
- 24 nights at Greenwich in 1846.
- 22 nights at Greenwich in 1874.
- 21 nights at Greenwich in 1878.
- 20 nights at Greenwich in 1844, 1853 and 1867, and at Croydon in 1933.

The longest periods of continuous frost were:

- 10 days at Greenwich in December 1890.
- 6 days at Greenwich in December 1844 and December 1859.
- 5 days at Kew in December 1891.
- 4 days at Greenwich in December 1855 and at Kew in December 1938.

The most severe air frosts (lowest minimum temperatures) were:

- 4°F. at Epsom on 30 December 1908.
- 7 F. at Rickmansworth on 24 December 1935.
- 8°F. at Greenwich on 25 December 1860.
- 10°F. at Greenwich on 29 December 1860, at Greenwich and Uxbridge on 25 December 1870, and at East Ham, Croydon and Wallington on 13 December 1920.

The greatest numbers of ground frosts in December were:

- 31 nights at Rickmansworth in 1933.
- 30 nights at Hampstead in 1933.
- 29 nights at Hampstead in 1917 and 1928.

On the night 29/30 December 1908, a grass minimum temperature of -8°F. was recorded at Epsom.

Ten-day average and extreme temperatures at Kew. Averages 1931–60, Extremes 1867–1964.

Period December	Maximum temperatures					Minimum temperatures				
	Average °F.	Highest °F.	Year	Lowest °F.	Year	Average °F.	Lowest °F.	Year	Highest °F.	Year
1st–10th	46.4	59.2	1931, 1953	28.3	1873	38.3	13.8	1879	53.4	1934
11th–20th	45.5	57.9	1918	21.5	1890	37.4	15.5	1890	52.9	1961
21st–31st	45.0	57.1	1882	24.8	1874	36.5	10.8	1890	51.4	1912

Monthly, day-to-day and diurnal temperature ranges. The monthly temperature range in December may exceed 45 degF.; it was 49 degF. at Epsom in December 1908 with a maximum temperature of 53°F. on the 13th and a minimum temperature of 4°F. on the 30th. At Greenwich in December 1870 a maximum temperature of 57°F. on the 14th was followed by a minimum temperature of 10°F. on the 25th, giving a monthly range of 47 degF. An increase of temperature of 15 degF. or more from one day to the next was uncommon and falls of temperature of this order in 24 hours were very infrequent. At Greenwich in December 1855 a maximum temperature of 24°F. on the 22nd was followed by a maximum of 47°F. on the 23rd, a rise of 23 degF. In December 1938 a maximum temperature of 46°F. at Kew on the 17th was followed by a maximum of 29°F. on the 18th, a fall of 17 degF. However, in December 1911 the daily maximum temperature at Kew varied by only 10 degF. throughout the month. The diurnal temperature variation may exceed 25°F.; for example, the maximum and minimum temperatures at Greenwich on 22 December 1886 were 43°F. and 17°F. giving a diurnal range of 26 degF.

Precipitation

Rainfall. Plate XIV shows the variation of December rainfall during the period 1841–1964 compared with the 1916–50 average. Noteworthy points are the preponderance of dry Decembers during the period 1850–67, the small number of dry Decembers from 1907 to 1929 and the high frequency of dry Decembers in the 17 years 1939–55. A December rainfall of 5 in or more occurred somewhere in London in the 8 years 1868, 1876, 1911, 1914, 1915, 1929, 1934 and 1959. The wettest December on record was in 1914 when Wallington recorded 8.22 in of rain, Croydon 8.03 in, Addington 7.55 in and Enfield 7.04 in. Other high monthly totals were 7.74 in at Bromley and 7.43 in at Croydon in December 1876, and 7.15 in at Addington in December 1929. At least one rainfall station in the London area reported a December rainfall of only $\frac{1}{2}$ in or less in the 8 years 1843, 1844, 1864, 1873, 1926, 1932, 1933 and 1953. There was no record of a completely dry December but only 0.20 in of rain fell at Carshalton in December 1926. During the same month, rainfall was only 0.24 in at Kew, 0.27 in at St James's Park and 0.30 in at Stroud Green, and many other places in London recorded less than $\frac{1}{2}$ in. Other low monthly totals were 0.32 in at Kew, 0.33 in at Regent's Park, and 0.34 in at Tottenham, all in December 1933. Noteworthy droughts included:

15 days at Kew from 14 to 28 December 1961.

14 days at Kew from 8 to 21 December 1879.

14 days at Kew from 30 November to 13 December 1873.

A daily rainfall of more than 1 in was reported somewhere in the London area in about one December in seven on the average. On 26 December 1886,

rain which turned to snow gave a daily rainfall of 2·38 in at Hampstead; on the same day Kensington recorded 1·83 in and Brixton 1·82 in. At Eltham a rainfall of 1·98 in was recorded on 23 December 1876. Heavy falls of rain in short periods are rare in December but 0·16 in of rain fell in three minutes at Epsom on 8 December 1907.

The greatest numbers of 'rain-days' in December were:

30 rain-days at Epsom in 1910.

29 rain-days at Addington in 1918 and 1919.

28 rain-days at Addington in 1920 and at Rickmansworth in 1934.

27 rain-days at Wallington in 1914 and at Hampstead in 1929.

26 rain-days at Wallington in 1915 and at Addington in 1960.

25 rain-days at Hampstead in 1911, 1930 and 1959, at Rickmansworth in 1930 and 1936, and at Wealdstone, Addington and Bromley in 1959.

24 rain-days at Camden Square in 1909, at Wallington in 1912, and at Hampstead and Croydon in 1938.

The greatest numbers of 'dry-days' in December were:

27 dry-days at Tottenham and Stroud Green in 1926 and at Regent's Park in 1933.

26 dry-days at Tottenham in 1932.

25 dry-days at Tottenham in 1913, at Enfield in 1943, and at Southgate in 1954.

24 dry-days at Kew in 1890, at St James's Park in 1905, at Addington in 1931, and at London (Heathrow) Airport in 1953.

23 dry-days at Kew in 1879, at Tottenham in 1917, at Bromley in 1957, and at St James's Park in 1963.

22 dry-days at Kew in 1873 and 1941, at Brixton in 1892, and at Regent's Park in 1963.

Snow. Snow or sleet fell somewhere in the London area in about six Decembers out of seven on the average. The snowiest Decembers were:

Snow or sleet on 14 days at Hampstead and Northolt in 1950.

Snow or sleet on 12 days at Brixton in 1890 and at Hampstead in 1927.

Thunderstorms

Thunder in December is unusual; it was reported somewhere in the London area in about one December out of seven on the average. A tornado was associated with a severe thunderstorm which affected west London on 8 December 1954; the storm produced very heavy rain and violent hail. The tornado travelled at about 40 m.p.h. in a north-easterly to northerly direction across west and north-west London at about 5 p.m. leaving a trail of destruction some 100–400 yd wide. The worst damage occurred in the boroughs of Brentford and Chiswick, Acton, and Willesden. At Gunnersbury station, Chiswick, buildings were unroofed, railway tracks were blocked and six people on the station platform were injured. In Acton the end walls of some houses were blown out and roofs were lifted off other houses; many houses suffered less serious damage and more than 12 people were injured. The trunks of several full-grown trees in the Acton area were twisted off about 5 to 10 ft above the ground. Buildings were damaged in Golders Green and Hampstead and a lorry was overturned at Golders Green.

Sunshine

Plate XIV gives details of December sunshine at Kew from 1881 to 1964, compared with the 1931–60 average. The sunniest and dullest Decembers at Kew occurred within five years of each other; the sunniest with 72 hours sunshine in 1886 and the dullest with only 0·3 hours sunshine in 1890. December 1890 was completely sunless at Westminster and only 0·1 hours sunshine was recorded at Bunhill Row in the City.

CHAPTER 4. SEASONAL WEATHER

*'The spring, the summer,
The chiding autumn, angry winter, change
Their wonted liveries and the mazed world
By their increase, now knows not which is which.'*

(SHAKESPEARE—A MIDSUMMER NIGHT'S DREAM)

Introduction

The following seasonal summaries are based mainly on Greenwich weather records from 1841 to 1870 and on Kew records from 1871 to 1964. The summaries include brief references to noteworthy gales and snowstorms and also deal with late and early frosts.

SPRING (March to May)

*'Spring has come when a maid can set
her foot on seven daisies at once.'*

(WEATHER LORE)

Temperature

Mean spring temperatures for the 124 years ending 1964 are given in Plate XV, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. Outstanding points are the preponderance of cold springs during the period 1871–1932 and the 10 successive cold springs 1883–92. During the 124 years 1841–1964 there was only one period (1959–61) with three successive mild springs. The coldest spring on record was in 1887 with a mean temperature of 44·4°F. at Kew while the mildest spring on record was in 1945 when the mean temperature at Kew was 51·8°F.

Frost

Details of springs with 20 or more frosty nights and springs with 2 or less frosty nights during the period 1841–1964 are given in Table I. Apart from 1955, all the frosty springs occurred during the last 55 years of the 19th century while all the almost frost-free springs, apart from 1880 and 1896, occurred during the first 61 years of the 20th century. There were only 13 frost-free springs during the last 124 years and it is noteworthy that 7 of them occurred during the 17 years 1945–61. The two most frosty springs were in 1852 and 1855, and there were four springs completely free of frost 1896, 1948 and the two consecutive years 1959 and 1960. Table II gives the date of the latest frost at Kew from 1877 to 1964. In most years the latest frost occurred some time during the period 21 March to 29 April; it rarely occurred before 10 March, or after 30 April. At Kew the latest spring frost ever recorded was on 17 May 1935, but it can occur later than this at sheltered places more liable to frost than Kew. For instance, frost has occurred during every month of the year at Rickmansworth.

TABLE I. FROSTY AND FROST-FREE SPRINGS 1841-1964

FROSTY SPRINGS			SPRINGS WITH LITTLE OR NO FROST		
Year	Place	Number of frosty nights in spring	Year	Place	Number of frosty nights in spring
1845	Greenwich	22	1880	Kew	2
1847	Greenwich	20	1896	Kew	Nil
1852	Greenwich	28	1905	Kew	2
1855	Greenwich	28	1912	Kew	1
1870	Greenwich	22	1926	Kew	2
1883	Kew	26	1927	Kew	2
1888	Kew	23	1945	Kew	2
1892	Kew	25	1948	Kew	Nil
1955	Kew	20	1950	Kew	2
			1957	Kew	1
			1959	Kew	Nil
			1960	Kew	Nil
			1961	Kew	1

TABLE II. LATEST FROST AT KEW 1877-1964

1877 5 May	1900 9 April	1923 10 April	1946 11 April
1878 6 April	1901 29 April	1924 10 April	1947 15 March
1879 10 May	1902 23 March	1925 4 April	1948 29 Feb.
1880 29 March	1903 20 April	1926 31 March	1949 20 March
1881 4 May	1904 18 March	1927 27 April	1950 2 March
1882 23 March	1905 4 March	1928 18 April	1951 31 March
1883 4 May	1906 26 April	1929 1 May	1952 1 April
1884 29 April	1907 28 March	1930 21 April	1953 25 March
1885 5 April	1908 24 April	1931 27 March	1954 11 April
1886 1 May	1909 4 April	1932 19 March	1955 2 April
1887 18 April	1910 3 April	1933 19 April	1956 16 April
1888 27 April	1911 12 April	1934 10 April	1957 4 March
1889 28 March	1912 12 April	1935 17 May	1958 3 April
1890 13 April	1913 13 April	1936 23 April	1959 20 Feb.
1891 1 April	1914 28 March	1937 1 April	1960 24 Feb.
1892 7 May	1915 1 April	1938 8 May	1961 5 March
1893 14 April	1916 29 March	1939 8 April	1962 25 March
1894 28 March	1917 13 April	1940 11 April	1963 1 April
1895 1 April	1918 3 April	1941 10 April	1964 6 April
1896 26 Feb.	1919 3 April	1942 25 March	
1897 11 April	1920 9 March	1943 21 March	
1898 24 April	1921 20 April	1944 16 March	
1899 25 March	1922 20 April	1945 12 March	

Precipitation

Rainfall. The variation of spring rainfall during the period 1841-1964 compared with the 1916-50 average, is shown in Plate XV. Outstanding points are the two series of three consecutive wet springs in 1877-79 and 1930-32, the three consecutive dry springs 1873-75, the five dry springs in the nine years 1892-1900, and the marked absence of dry springs during the period 1907-20 and of wet springs during the ten years 1953-62. The wettest springs were in 1862 with 9.2 in of rain at Greenwich and in 1878 when 9.09 in were recorded at Kew. The driest spring was in 1938 when only 1.65 in of rain fell at Kew.

Snow. Details of springs at Kew with snow or sleet (strictly rain or drizzle and snow) on 10 or more days, or with no snow at all, during the period 1871-1964, are given in Table III. There were 12 springs free of snow and the snowiest spring was in 1917 with snow or sleet on 19 days at Kew.

TABLE III. SNOWY SPRINGS AND SNOW-FREE SPRINGS AT KEW 1871-1964

Year	SNOWY SPRINGS	SPRINGS WITH NO SNOW OR SLEET
	Number of days with snow or sleet during the spring	
1888	15	1880
1891	10	1884
1892	13	1894
1906	10	1902
1908	10	1912
1916	10	1927
1917	19	1938
1937	10	1943
1955	11	1944
1958	11	1948
1962	10	1953
		1957

The London area has experienced many severe spring snowstorms and details of some of the most noteworthy are given below:

April 1849. On 19 April the Westerham coach was buried in a snow-drift on Titsey Hill (Surrey) and had to be left there all night.

March 1891. The blizzard which commenced on 9 March 1891, and which lasted a couple of days in some places, was comparable with the great snowstorm of January 1881 which was reputed to be the worst snowstorm of the century in London. The average depth of snow in central London varied from 5 to 6 in, and there were drifts of 11 ft, especially in the suburbs. A man was found dead in the snow near Dorking and a train had to be abandoned near Croydon. Almost 7000 men were employed on snow clearance in Kensington alone and about 40 tons of salt were used in clearing the snow and ice.

April 1892. On 15 and 16 April heavy snowfall dislocated railway traffic and brought down telegraph wires in London and south-east England.

April 1908. Widespread and severe snowstorms on 23 to 25 April affected most of England. Much of the snow thawed rapidly but at 5 a.m. on 24 April there were 6 in of snow at Epsom. Road and rail traffic were seriously delayed, and the rapid melting of the snow caused severe floods in the Thames valley.

March 1909. Heavy snowfall in London and south-east England early in March; 10 in at Epsom on the 3rd and 22 in at Tonbridge on the 3rd and 4th.

March/April 1919. About 8 in of snow fell in London on 28/29 March. Another heavy fall occurred on 27 April; at Hampstead the snow was 15 in deep in places and it was the heaviest fall since the reporting station opened in 1909.

March 1931. Fairly frequent snow during the first half of March; over 3 in at Croydon on 1 March and 2-3 in in London on 9 March.

March 1947. The blizzard of 4 March brought a further 6 in of snow which covered the ice and frozen snow left from previous falls. The thaw commenced about 10 March, and the resulting flood in the Thames valley was the worst since 1894.

April 1950. A severe snowstorm on the night of 25 April gave 6 to 18 in of snow in Surrey and north Kent. The snow, which was moist and sticky, brought down over 1000 telegraph poles in south-east England causing great traffic dislocation. The storm also caused great damage to fruit trees which were

then in full bloom. While the southern outskirts of London felt the full force of the storm, the northern part of the capital only had a few flakes of snow. Southern England has experienced a comparable snowstorm in the last week in April on only two other occasions this century (1908 and 1919).

March 1952. Between 28 and 30 March a north-easterly blizzard gave 12 in of snow, with 15-ft drifts, in the Chilterns and 6 in of snow in north London.

May 1955. On 17 May, snow fell for 2 to 3 hours late at night but it did not lie. In London such a sustained snowfall had not occurred so late in May for about 100 years.

Gales

There is no basis for the belief that gales occur frequently during the spring equinox but the last week in March is often stormy. Details of some noteworthy spring gales follow:

March 1878. On 24 March, a trough, crossing southern England and the English Channel, produced a north-westerly gale with violent squalls of sleet or snow. The training ship H.M.S. *Eurydice* sank off the Isle of Wight with the loss of all hands numbering about 300.

April 1882. A severe gale on 29 April destroyed much of the spring foliage in southern England. It is probable that the sea salt carried inland by the wind was mainly responsible for the damage.

March 1955. The wind reached 37 m.p.h. at Croydon on the 23rd and at Hampton on the 24th, and there were gusts of 70 m.p.h. at Hampton and 58 m.p.h. at Croydon on the 24th and one of 65 m.p.h. at Kew on the 23rd.

May 1955. Most of southern England was affected by a severe and widespread gale on 17 May; gusts of 68 m.p.h. and 53 m.p.h. were recorded at Stevenage and Kew respectively.

April 1962. The wind reached 35 m.p.h. at London (Heathrow) Airport on the 2nd, and there were gusts of 60 m.p.h. at Kingsway and 51 m.p.h. at Heathrow on the 2nd and a gust of 59 m.p.h. at Hampton on the 3rd.

March 1963. On the 9th, the wind increased to 35 m.p.h. at London (Heathrow) Airport and the following gusts were recorded: 63 m.p.h. at Hampton, 62 m.p.h. at Kew, and 56 m.p.h. at Heathrow. There was a gust of 58 m.p.h. at Kingsway on the 25th.

Sunshine

The variation of spring sunshine at Kew from 1881 to 1964, compared with the 1931–60 average, is illustrated in Plate XV. Noteworthy points are the six dull springs during the eight years 1884–91, and the high frequency of dull springs during the period 1923–41 and sunny springs during the period 1942–56. The sunniest spring on record was in 1909 with 621 hours sunshine, and the dullest spring was in 1889 with only 327 hours sunshine.

Comparison with the following summer and preceding winter

The springs during the period 1842–1964 are classified and compared with the following summer and preceding winter in Table IV. For the purpose of this classification the following limits were adopted for all seasons:

Very mild or very warm	—2 deg. F. above average mean temperature
Mild or warm	—1 deg. F. above average mean temperature
Cool or cold	—1 deg. F. below average mean temperature
Very cool or very cold	—2 deg. F. below average mean temperature
Very dry	—rainfall 50 per cent below normal
Dry	—rainfall 25 per cent below normal
Wet	—rainfall 25 per cent above normal
Very wet	—rainfall 50 per cent above normal
Very sunny	—sunshine 20 per cent above average
Sunny	—sunshine 12 per cent above average
Dull	—sunshine 12 per cent below average
Very dull	—sunshine 20 per cent below average.

TABLE IV. SPRING 1842–1964*
Classification and comparison with preceding and following seasons

PREVIOUS WINTER					SPRING		FOLLOWING SUMMER				
No. of years					Classification	No. of years	No. of years				
Very Mild	Mild	About Average	Cold	Very Cold			Very Warm	Warm	About Average	Cool	Very Cool
2	—	2	2	1	Very mild	7	2	1	4	—	—
8	1	4	—	—	Mild	13	3	1	3	3	3
8	9	16	6	15	About average	54	5	5	24	11	9
3	7	10	2	5	Cold	27	—	1	13	7	6
2	3	3	5	9	Very cold	22	1	2	8	4	7
Very Dry	Dry	About Average	Wet	Very Wet			Very Dry	Dry	About Average	Wet	Very Wet
1	2	7	—	—	Very dry	10	—	2	5	1	2
1	5	8	4	—	Dry	18	1	5	10	2	—
3	16	38	9	3	About average	69	5	13	36	9	6
1	2	13	1	4	Wet	21	—	3	8	3	7
1	2	1	1	—	Very wet	5	—	—	3	—	2
Very Sunny	Sunny	About Average	Dull	Very Dull			Very Sunny	Sunny	About Average	Dull	Very Dull
—	—	3	1	1	Very sunny	5	—	—	2	3	—
1	—	1	1	1	Sunny	4	—	1	2	1	—
7	7	22	6	8	About average	50	4	5	28	5	8
1	3	8	2	3	Dull	17	2	2	8	3	2
—	—	4	—	3	Very dull	7	—	—	6	1	—

*Sunshine 1882–1964.

None of the very mild springs were followed by cool summers, but almost half the mild ones were followed by cool or very cool summers. The probability of a cool or very cool summer after a cold or very cold spring was about 50 per cent. More than half the dry or very dry springs were followed by summers with about average rainfall but, after a dry spring, a dry summer was more probable than a wet one. The chances of a dry summer following a wet or very wet spring were small and about half the wet springs were followed by wet or very wet summers. In general, sunny springs were followed by summers with about average or below average sunshine. Most dull or very dull springs were followed by summers with about average sunshine and the remaining ones were more likely to be followed by a dull summer than by a sunny one.

SUMMER (June to August)

*'An English summer, two hot days and
a thunderstorm.'*

(WEATHER LORE)

Temperature

Mean summer temperatures for the period 1841-1964 are given in Plate XVI, and are compared with the 1921-50 average in the case of Greenwich and the 1931-60 average in the case of Kew. Noteworthy features are the 12 cool summers during the 14 years 1879-92 and the 14 cool summers during the 18 years 1907-24. It is obvious that the widely held belief that summers were often warm in the 'good old days' is completely unfounded. Warm summers were more frequent during the period 1931-60 than in any previous 30-year period since 1871; there were only two warm summers in the period 1901-30 and three in the period 1871-1900. The coldest summer on record was in 1888 when the mean temperature at Kew was only 58.3°F. The warmest summer on record was in 1846 with a mean temperature of 66.5°F. at Greenwich.

Frost

There has never been an air frost at Kew in summer but air frost has been recorded at Rickmansworth in all three summer months. Ground frost occurred at Greenwich in June, July and August.

Rainfall

The variation of summer rainfall during the period 1841-1964, compared with the 1916-50 average, is shown in Plate XVI. Outstanding points are the three consecutive wet summers in 1851-53, in 1890-92 and in 1956-58, and the three consecutive dry summers during the period 1885-87. The wettest summer by far was in 1903 when 15.41 in of rain were recorded at Kew and the driest summer was in 1921 when the season's rainfall at Kew only amounted to 1.34 in. The years, since 1871, with the greatest number of 'rain-days' during the summer at Kew were:

1912 — 58 rain-days	1894 — 54 rain-days
1879 — 56 rain-days	1888 — 53 rain-days

The years, since 1871, with the greatest number of 'dry-days' during the summer at Kew were:

1921 — 78 dry-days	1899 — 71 dry-days
1949 — 74 dry-days	1911 — 71 dry-days
1955 — 73 dry-days	

Snow

There is only one report of snow in London during the summer. Snow was reported to have fallen at Norwood on 11 July 1888; it was stated that snow was seen on the covers of market carts coming in to London from Norwood.

Gales

Although there is a tendency for stormy conditions in Britain in early June and late August, the frequency of strong winds and gales in the London area during the summer is very small. Often the most severe squalls and gusts were associated with thunderstorms. The following strong winds and gales are worthy of note:

June 1938. In some places the gale, which affected southern England on the night of 1/2 June, reached a strength which was a record for the summer months. There was considerable damage on the south coast especially at Bournemouth. During this storm Croydon recorded a gust of 67 m.p.h., Kew a gust of 64 m.p.h., and South Kensington a gust of 58 m.p.h. The last few days of June were almost as stormy as the beginning of the month and Croydon reported a gust of 68 m.p.h. on 28 June.

July 1943. A severe line-squall affected London on the evening of 31 July 1943; a gust of 63 m.p.h. was recorded at Kew.

June 1944. Many people will remember the storm of 4 June 1944, which affected the English Channel and southern England and which was mainly responsible for the postponement of the landing of the Allied Armies in northern France. During this gale Kingsway and Kew recorded gusts of 46 m.p.h. and 51 m.p.h. respectively.

July 1956. During the widespread and severe gales of 29 July, gusts of 69 m.p.h. and 67 m.p.h. were recorded at Croydon and Kew respectively.

July 1958. During widespread gales on 13 July, Kew registered a gust of 55 m.p.h., and Hampton one of 50 m.p.h.

Sunshine

The variation of summer sunshine at Kew from 1881 to 1964, compared with the 1931–60 average, is illustrated in Plate XVI. Outstanding points are the four consecutive dull summers from 1888 to 1891, and the 16-year period 1912–27 without a single sunny summer. The sunniest summer was in 1911 when 789 hours sunshine were recorded at Kew but the summer of 1959, with 770 hours sunshine at Kew, was almost as good. The dullest summer on record was in 1888 when only 388 hours sunshine were recorded at Kew.

Comparison with the following autumn and preceding spring

The summers during the period 1841–1964 are classified and compared with the following autumn and the preceding spring in Table V. The majority of warm and very warm summers were followed by autumns with about average temperatures. About half the cool and very cool summers were followed by cold or very cold autumns and the probability of a mild autumn following a cool or very cool summer was only about 1 in 17. Most of the dry and very dry summers were preceded and followed respectively by springs and autumns with rainfall about average. About half the wet and very wet summers were followed by autumns with about average rainfall but after such a summer a wet autumn was more probable than a dry autumn. Half the sunny and very sunny summers were followed by sunny or very sunny autumns, and the probability of a dull autumn after a sunny summer was very small. A sunny autumn very rarely followed a dull summer.

TABLE V. SUMMER 1841–1964*

Classification and comparison with preceding and following seasons

PREVIOUS SPRING <i>No. of years</i>					SUMMER <i>Classification No. of years</i>		FOLLOWING AUTUMN <i>No. of years</i>				
Very Mild	Mild	About Average	Cold	Very Cold			Very Mild	Mild	About Average	Cold	Very Cold
2	3	5	—	1	Very warm	11	2	1	7	1	—
1	1	5	1	2	Warm	10	1	—	7	1	1
4	3	24	13	8	About average	52	1	6	24	10	11
—	3	11	7	4	Cool	25	—	2	13	4	6
1	3	9	6	7	Very cool	26	—	1	10	7	8
Very Dry	Dry	About Average	Wet	Very Wet			Very Dry	Dry	About Average	Wet	Very Wet
—	1	5	—	—	Very dry	6	—	1	5	—	—
2	5	13	3	—	Dry	23	—	2	17	2	2
5	10	36	8	3	About average	62	4	9	33	11	5
1	2	10	3	—	Wet	16	1	2	8	4	1
2	—	6	7	2	Very wet	17	1	3	7	4	2
Very Sunny	Sunny	About Average	Dull	Very Dull			Very Sunny	Sunny	About Average	Dull	Very Dull
—	—	4	2	—	Very sunny	6	2	1	3	—	—
—	1	5	2	—	Sunny	8	1	3	3	—	1
2	2	29	8	6	About average	47	3	7	28	5	4
3	1	5	3	1	Dull	13	—	—	11	—	2
—	—	8	2	—	Very dull	10	—	1	6	2	1

*Sunshine 1881–1964.

AUTUMN (September to November)

*'There is a harmony
In autumn, and a lustre in its sky
Which thro' the summer is not heard nor seen,
As if it could not be, as if it had not been'*

(SHELLEY)

Temperature

Mean autumn temperatures for the period 1841–1964 are given in Plate XVII, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. Outstanding points are the 19 cold autumns in the 21-year period 1877–97, and the increase in the frequency of mild autumns during the last 20 years compared with previous periods of 20 years. The mildest autumn on record was in 1959 when the mean temperature at Kew was 54.4°F.; the autumn of 1949 was almost as mild with a mean temperature of 54.3°F. at Kew. The coldest autumn on record was in 1887 with a mean temperature of only 46.6°F. at Kew.

Frost

Details of autumns with 13 or more frosty nights and autumns with no frost or only one frosty night during the period 1841–1964 are given in Table VI. All the frosty autumns occurred before 1911, most of them during the last 50 years of the 19th century, while all the almost frost-free autumns, apart from 1852 and 1872, occurred during the last 27 years. The most frosty autumn was in 1859 with 17 frosty nights at Greenwich. There were three autumns with no frost at all at Kew, the two consecutive years 1945 and 1946 and 1960. Table VII gives the date of the earliest frost at Kew from 1877–1964. In most years the date of the earliest frost at Kew was between 20 October and 20 November; very rarely was it earlier than 11 October, or later than 29 November. The earliest frost ever recorded at Kew was on 29 September 1919, but it can occur earlier than this at sheltered places more liable to frost than Kew. For instance, the observing station at Rickmansworth is situated in a very well-sheltered valley and frost has occurred there in every month of the year.

TABLE VI. FROSTY AND FROST-FREE AUTUMNS 1841–1964

FROSTY AUTUMNS			AUTUMNS WITH LITTLE OR NO FROST		
Year	Place	Number of frosty nights in autumn	Year	Place	Number of frosty nights in autumn
1851	Greenwich	16	1852	Greenwich	1
1858	Greenwich	14	1872	Kew	1
1859	Greenwich	17	1938	Kew	1
1868	Greenwich	13	1939	Kew	1
1871	Kew	13	1945	Kew	Nil
1880	Kew	14	1946	Kew	Nil
1901	Kew	15	1957	Kew	1
1905	Kew	13	1958	Kew	1
1910	Kew	14	1960	Kew	Nil
			1963	Kew	1

TABLE VII. EARLIEST FROST AT KEW 1877–1964

1877	18 Oct.	1900	10 Nov.	1923	7 Nov.	1946	5 Dec.
1878	31 Oct.	1901	27 Oct.	1924	5 Nov.	1947	21 Oct.
1879	14 Nov.	1902	13 Nov.	1925	9 Nov.	1948	27 Oct.
1880	21 Oct.	1903	20 Nov.	1926	18 Oct.	1949	27 Oct.
1881	16 Oct.	1904	13 Nov.	1927	8 Nov.	1950	28 Oct.
1882	26 Oct.	1905	17 Oct.	1928	14 Oct.	1951	24 Oct.
1883	7 Nov.	1906	11 Nov.	1929	27 Oct.	1952	12 Oct.
1884	23 Nov.	1907	16 Nov.	1930	27 Oct.	1953	4 Nov.
1885	8 Nov.	1908	10 Nov.	1931	22 Oct.	1954	26 Oct.
1886	8 Nov.	1909	30 Oct.	1932	9 Nov.	1955	18 Oct.
1887	12 Oct.	1910	5 Nov.	1933	13 Nov.	1956	22 Nov.
1888	3 Oct.	1911	29 Oct.	1934	31 Oct.	1957	24 Nov.
1889	13 Oct.	1912	5 Oct.	1935	21 Oct.	1958	15 Nov.
1890	27 Oct.	1913	22 Nov.	1936	25 Nov.	1959	7 Nov.
1891	31 Oct.	1914	18 Nov.	1937	13 Nov.	1960	17 Dec.
1892	24 Oct.	1915	14 Nov.	1938	27 Nov.	1961	10 Nov.
1893	31 Oct.	1916	21 Oct.	1939	22 Nov.	1962	1 Nov.
1894	22 Nov.	1917	28 Oct.	1940	29 Oct.	1963	21 Nov.
1895	18 Oct.	1918	7 Nov.	1941	18 Nov.	1964	13 Oct.
1896	19 Oct.	1919	29 Sept.	1942	22 Nov.		
1897	7 Oct.	1920	28 Oct.	1943	8 Nov.		
1898	22 Nov.	1921	7 Nov.	1944	11 Nov.		
1899	14 Oct.	1922	26 Oct.	1945	4 Dec.		

Precipitation

Rainfall. The variation of autumn rainfall during the 124 years ending 1964, compared with the 1916–50 average, is illustrated in Plate XVII. Noteworthy features are the nine wet autumns in the 19 years 1841–59, the six wet autumns in the 14 years 1872–85, and the four dry autumns in the 8 years 1941–48. The wettest autumns were in 1841 when Greenwich recorded 13·6 in of rain and in 1852 with 13·55 in of rain at Greenwich. The driest autumn was in 1947 when only 2·39 in of rain fell at Kew but the autumn of 1858 with only 2·80 in of rain at Greenwich was almost as dry.

Snow. Snow or sleet in autumn was rare; it occurred in about one year out of three on the average but on most occasions the snow or sleet fell on only one or two days during the season. Snow or sleet was most frequent in the autumn of 1919 when it occurred on eight days during the season at Kew. In 1910 snow fell in the London area as early as 19 September, and in 1885 there was a light snow fall in London on 25 September.

Gales

The belief in the autumn ‘equinoctial gales’ is traditional and there is some basis for it since the first storms of the autumn often occur during the second half of September. In England there is a tendency for both October and November to be stormy at the beginning and end of the month. Details of some of the most noteworthy autumn storms are given below:

October 1859. The storm of 25 October 1859 is noteworthy not only because of the damage it produced but also because it led to the establishment of the British meteorological service and to the issue of gale warnings. The storm caused considerable damage; the ship *Royal Charter* was wrecked on the coast of Anglesey and the *Great Eastern* steamship only just escaped disaster. The old Chain Pier at Brighton was also destroyed.

October 1881. The gale of 13–14 October 1881 was reputed to be one of the worst in the second half of the nineteenth century. It caused widespread damage to buildings all over Britain; many trees were blown down, and on one day alone 108 ships were posted as missing at Lloyd’s. At 8 a.m. on 14 October the wind was reported to be west-south-west force 8 in London and force 12 in Oxford.

November 1928. Severe gales were produced by a depression which crossed England on 16 November. The mean wind speed reached 49 m.p.h. at Croydon and a gust of 81 m.p.h., which was a record for the station, was recorded. Kew registered a gust of 65 m.p.h. There was a great deal of damage and numerous telephone lines were blown down.

November 1931. During 3–4 November, a complex depression to the north-west gave widespread gales over the southern half of the country. On the 3rd the mean wind speed at Croydon reached 40 m.p.h. with a gust of 67 m.p.h. Gusts of 62 m.p.h. and 60 m.p.h. were recorded at Kew and South Kensington respectively on the 4th.

September 1935. One of the most noteworthy storms of September occurred on 16–17 September 1935. In southern England the gale was exceptionally severe and was comparable with the worst winter storms experienced in this

part of the country. A great deal of damage and some loss of life was reported both on land and sea. Gusts of 69 m.p.h. were recorded at both Kew and Croydon on the 17th.

November 1957. A small vigorous depression produced widespread gales in southern England on 3 and 4 November; gusts of 70, 68 and 67 m.p.h. were recorded at Croydon, Kew and Hampton respectively on the 4th.

November 1963. On the 18th, the mean wind speed at Hampton reached 38 m.p.h. with a gust of 70 m.p.h., and gusts of 69 and 67 m.p.h. were recorded at London (Heathrow) Airport and Kingsway respectively.

Comparison with the following winter and preceding summer

Autumns during the period 1841–1963 are classified and compared with the following winters and preceding summers in Table VIII. The majority of mild and very mild autumns were followed by mild or very mild winters and rarely did a cold winter follow a mild autumn. A dry or very dry autumn was rarely followed by a wet winter. Most of the wet and very wet autumns were followed by winters with about average precipitation, and the chance of a wet winter after a wet autumn was a little greater than the chance of a dry winter after a wet autumn, which was about one in five. Sunny and very sunny autumns were followed by dull winters more often than by sunny winters. It was rare for a sunny winter to follow a dull or very dull autumn and about half these autumns were followed by dull or very dull winters.

TABLE VIII. AUTUMN 1841–1963*
Classification and comparison with preceding and following seasons

PREVIOUS SUMMER					AUTUMN		FOLLOWING WINTER				
<i>No. of years</i>					<i>Classification</i>	<i>No. of years</i>	<i>No. of years</i>				
Very Warm	Warm	About Average	Cool	Very Cool			Very Mild	Mild	About Average	Cold	Very Cold
2	1	1	—	—	Very mild	4	2	1	1	—	—
1	—	6	2	1	Mild	10	1	4	3	—	2
7	7	23	13	10	About average	60	15	4	17	8	16
1	1	10	4	7	Cold	23	1	7	6	5	4
—	1	11	6	8	Very cold	26	4	4	8	2	8
Very Dry	Dry	About Average	Wet	Very Wet			Very Dry	Dry	About Average	Wet	Very Wet
—	—	3	1	1	Very dry	5	1	1	3	—	—
1	2	9	2	3	Dry	17	1	4	10	1	1
5	17	33	8	7	About average	70	5	16	37	6	6
—	2	11	4	4	Wet	21	—	6	8	7	—
—	2	5	1	2	Very wet	10	—	—	9	1	—
Very Sunny	Sunny	About Average	Dull	Very Dull			Very Sunny	Sunny	About Average	Dull	Very Dull
2	1	2	—	—	Very sunny	5	—	1	2	1	1
1	3	7	—	1	Sunny	12	2	1	5	3	1
3	3	28	11	6	About average	51	7	6	25	4	9
—	—	5	—	2	Dull	7	—	—	1	1	5
—	1	4	2	1	Very dull	8	—	2	5	1	—

*Sunshine 1881–1963.

Sunshine

The variation of autumn sunshine at Kew from 1881 to 1964, compared with the 1931–60 average, is shown in Plate XVII. Among the noteworthy features are the four sunny autumns in the eight years 1893–1900 and in the nine years 1921–29, and the three dull autumns in the five years 1884–88, in the four years 1894–97 and in the six years 1941–46. The sunniest autumn was in 1959 when Kew recorded 430 hours sunshine. The dulllest autumn was in 1945 when only 205 hours sunshine were recorded at Kew; the autumn of 1927 was also very dull with only 215 hours sunshine at Kew.

WINTER (December to February)

*'The English winter—ending in July,
To recommence in August'.*

(BYRON)

Temperature

Mean winter temperatures for the period 1841–1964 are given in Plate XVIII, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. Noteworthy features are the high frequency of cold winters during the periods 1853/54 to 1860/61 and 1885/86 to 1894/95, and the high frequency of mild winters during the 15 years 1911/12 to 1925/26. The winters 1939/40, 1940/41 and 1941/42 were the coldest three successive winters since the winters of 1878/79, 1879/80 and 1880/81, but the three successive winters 1885/86 to 1887/88 were almost as cold. The coldest winter on record was 1962/63 with a mean temperature of 33·0°F. at Kew. Other very cold winters were 1890/91 and 1946/47 with mean temperatures at Kew of 33·8°F. and 34·3°F. respectively. The mildest winter on record was in 1868/69 when the mean temperature at Greenwich was 44·3°F. The winters of 1934/35 and 1876/77 were almost as mild with mean temperatures of 44·1°F. and 43·9°F. respectively at Kew.

Frost

Details of winters with 50 or more frosty nights and winters with only 12 or less frosty nights during the period 1841–1964 are given in Table IX. Most of the frosty winters occurred during the latter part of the 19th century; the three most frosty winters were 1890/91, 1946/47 and 1962/63 all with 61 frosty nights at Kew. Most of the winters with only 12 or less frosty nights in the season occurred during the last 50 years; the winter with least frost was 1956/57 with only 5 frosty nights at Kew.

TABLE IX. FROST IN WINTER 1841-1964

FROSTY WINTERS			WINTERS WITH LITTLE FROST		
Winter	Place	Number of frosty nights in winter	Winter	Place	Number of frosty nights in winter
1844/45	Greenwich	50	1862/63	Greenwich	12
1846/47	Greenwich	60	1868/69	Greenwich	11
1854/55	Greenwich	50	1876/77	Kew	9
1878/79	Kew	54	1883/84	Kew	7
1879/80	Kew	52	1912/13	Kew	12
1890/91	Kew	61	1922/23	Kew	11
1894/95	Kew	51	1924/25	Kew	12
1939/40	Kew	51	1929/30	Kew	11
1941/42	Kew	52	1934/35	Kew	6
1946/47	Kew	61	1937/38	Kew	10
1962/63	Kew	61	1956/57	Kew	5
			1960/61	Kew	6

Glazed frost. Rapid thaws after a period of frost are very occasionally preceded by rain which freezes as it reaches the ground, covering all objects with a coating of clear ice; this is known as glazed frost. Roads become very dangerous and the ice may impede or even stop railway traffic, especially on electrified lines. At times the weight of the accumulated ice may be sufficient to bring down telegraph wires. One of the earliest reports of glazed frost in London was on 17 January 1903; there were numerous accidents on the ice-bound streets and the London hospitals were kept busy dealing with casualties. Glazed frost occurred in south-east England, including the greater London area, on 16 to 18 January 1912; trees were damaged and many telegraph poles and wires were brought down. London and many other parts of England were affected by a glazed frost on 21 December 1927; traffic was greatly impeded and there were numerous street accidents. This was probably the worst glazed frost in London since January 1903. Glazed frost was reported at Hampstead on 26 and 27 January 1940.

Precipitation

Rainfall. The variation of winter rainfall for the period 1841-1964, compared with the 1916-50 average, is shown in Plate XVIII. The outstanding features are the absence of wet winters during the 24 years 1841/42 to 1864/65, the five dry winters during the nine years 1887/88 to 1895/96, the four dry winters during the six years 1853/54 to 1858/59 and during the seven years 1873/74 to 1879/80, and the four wet winters in the six years 1924/25 to 1929/30 and in the five years 1934/35 to 1938/39. The wettest winter by far was 1914/15 with 14.06 in of rain at Kew and the driest winter was 1933/34 when Kew recorded only 1.74 in of rain.

Snow. Details of winters at Kew with snow or sleet on 20 days or more, or on only 2 days or less, during the period 1871-1964 are given in Table X. Most of the snowy winters occurred during the period 1940-63 and only one of the eight winters with little snow occurred during the last 40 years. The winter of 1962/63, which included 48 days with snow or sleet at Kew, was certainly the snowiest winter since 1871 and may have been the snowiest winter since long before then. In the eight snowy winters, February was the snowiest month in four winters and January was the snowiest month in three winters; in the remaining winter January and February had the same number of days with snow

or sleet. Since 1871 there has only been one winter (1922/23) with no snow at all at Kew. However, according to Mossman there was no snow in London during the winter of 1862/63, or during the winter of 1833/34 when the only snowfall during the winter and following spring occurred on 11 April.

TABLE X. SNOWY WINTERS AND WINTERS WITH LITTLE SNOW AT KEW 1871-1964

SNOWY WINTERS		WINTERS WITH LITTLE SNOW	
Winter	Number of days with snow or sleet	Winter	Number of days with snow or sleet
1887-88	21	1873-74	2
1916-17	22	1877-78	2
1940-41	21	1884-85	2
1941-42	27	1898-99	2
1946-47	30	1912-13	2
1954-55	27	1919-20	1
1955-56	24	1922-23	Nil
1962-63	48	1948-49	1

Details of some of the most noteworthy winter snowstorms in the London area are given below:

January 1814. In the second week in January, a violent easterly gale and blizzard swept the country; the London streets were blocked with snow and coal could not be delivered to householders.

December 1836. Snow commenced to fall in London and southern England on Christmas Eve and it continued for five days and nights. It was reputed to be one of the worst snowstorms of the 19th century; the snow-drifts were 12 to 40 ft deep and the obstruction to traffic was reported to be unprecedented. On 27 December the town of St Albans was crowded with coaches which could not move because of the snow.

1866/67. A great snowstorm commenced on 30 December 1866; next morning all traffic was at a standstill and there were 8-ft snow-drifts in Regent Street. Another snowstorm on 10 January 1867 blocked all the roads which had only recently been cleared; this snowstorm also blocked the railways.

January 1881. The great easterly blizzard of 18 and 19 January affected most of England and Wales and was exceptionally severe in the south. It was reputed to be the worst snowstorm of the century in London. The gale was accompanied by a high tide in the Thames, and low-lying districts on the south side of the river were flooded. In London, snow commenced on the morning of the 18th and continued until about midday on the 19th; the snow was about 9 in deep with drifts of 3-4 ft and up to 10 ft in Kent. A newspaper reported a snow-drift of 15 ft at Oxford Circus. Road traffic was at a standstill and practically all the railway lines were blocked for about 24 hours or more. It was about a week before road and rail traffic returned to normal and the task of clearing the snow off the streets was still in operation when the thaw arrived about a fortnight after the blizzard.

January 1886. There was a heavy snowfall in London on 6 January; 9 in of snow fell at Camden Road in 7 hours and snow was reported to be 1 ft deep at Muswell Hill and Pinner Hill.

January 1915. London and south-east England experienced a heavy snowfall on 22 January; the snow was 8-12 in deep in Surrey.

December 1927. The south of England blizzard of Christmas 1927 is comparable with the great snowstorms of January 1881 and March 1891. In the London area snow commenced to fall on Christmas night and movement, even in Central London, soon became difficult. The snowstorm raged all day on Boxing Day and continued locally to 27 December; the depth of snow varied from 1–2 ft but was only about 6 in in central London. However, the fierce easterly gale piled up huge drifts which were 15 ft deep in places. Many roads were completely blocked for days and motor-cars were buried in the snow; 42 cars were abandoned at Westerham, Kent. Railway lines were blocked and passengers were forced to spend the night in snow-bound trains. St Albans was isolated for days and many villages in Hertfordshire, west Essex and west Kent, only a little distance from outer London, were cut off and had to be supplied by aircraft. However, the snow brought pleasure to winter sport enthusiasts who were able to enjoy the very rare experience of skiing on the Chilterns and Dunstable Downs.

December 1938. This was the best example in the 20th century of a traditional White Christmas. Snow commenced to fall on 18 December, and continued practically every day up to and including 26 December, being particularly heavy on the 20th and 21st. Even in central London snow lay to a depth of 5–6 in. The weather was intensely cold so that the snow persisted and the parks and secluded parts of the city presented a typical Christmas card scene with buildings, trees and ground all covered with snow.

January 1939. A north-easterly blizzard on 25/26 January gave 14 in of snow at Hampstead but central London had only about 2–3 in of slush.

January 1940. During the last few days of January most of England and Scotland were affected by one of the worst blizzards of the century. The north of England, where many places had 2 ft of snow, was very badly hit. London was only on the fringe of the blizzard but still had 6 in of snow. Conditions in the Chilterns were comparable with the great blizzard of January 1881.

1941/42. In London snow fell more frequently in the winter of 1941/42 than in any winter since 1916/17. The number of days with snow or sleet at Hampstead during the winter 1941/42 was 48 compared with 61 in the winter 1916/17. The severe snowstorm of 19/20 January, which was almost as severe as the January 1940 blizzard, gave 1–2 ft of snow in Scotland and northern England and about 1 ft in places in the Midlands, but London had only about 6 in of snow. There were further substantial falls of snow in London early in February.

1946/47. One of the coldest and snowiest winters on record. The first snowfalls were in December and early January but the long cold spell which was to last until about mid-March did not set in until 22 January. The cold spell was accompanied by frequent, heavy and protracted snowfalls and by early February there was about 4–5 in of snow in places in central London and about 5–8 in in some of the suburbs; a further 5–6 in of snow fell in some places on 6 March. There was heavy drifting and unprecedented dislocation of road and rail traffic. Over most of the country the ground was snow-covered from 27 January to 13 March. By the end of February the shores of the Thames estuary and the Essex tidal creeks were fast bound with pack ice. In the London area the thaw commenced about 10 March, and it produced the worst flood in the Thames valley since 1894.

February 1948. Heavy snow, with much drifting, fell in the London area during 20–22 February. Biggin Hill had 14 in of snow, Wilmington (Kent) over 11 in and Croydon 10 in, and there were drifts of 3–4 ft in Hampstead. This snowstorm was comparable with any experienced during the severe winter of 1946/47.

January and February 1958. One to three inches of snow fell in London on 21 January; in some places the roads became so dangerous that many cars were abandoned. Further falls occurred on 23 to 25 January, and road and rail traffic over a wide area was affected. Heavy snow fell on 24 to 25 February; Hampstead and Mickleham recorded 6 in with much drifting. There was considerable dislocation of traffic; London Transport reported that 58 of their country buses were stuck all night in snowdrifts in Hertfordshire, Kent and Surrey, and a train had to be left all night near Welwyn Garden City.

December 1961. A depression over France moved north-east and brought heavy falls of snow to London and south-east England. In the Chilterns the snow was 15 in deep with 3 ft drifts, and even in central London there were 3 in of level snow. It was the heaviest fall in central London since the notorious winter of 1946/47.

1962/63. The winter of 1962/63 was the coldest since 1829/30 and was the snowiest for at least 92 years. The snow which fell during the second half of November was a foretaste of the winter to come, but the cold spell, which was to prove so long and severe, did not set in until the last week in December. The snow which commenced to fall on Boxing Day continued for about 24 hours, and by the morning of 27 December, many places in south-east England had about a foot of snow, and all traffic was impeded considerably. A severe blizzard with heavy snow struck south-west England and the south coast on 29 December. These conditions spread steadily north-eastwards, reaching the London area late on 29 December and persisting until well into the afternoon of the following day. All the Greater London area had from 8 to 14 in of level snow with drifts of up to 4 to 6 ft in places; practically all traffic was brought to a standstill until the snow could be cleared. This was the worst blizzard in London since 1927, and it is comparable with the great snowstorms of December 1927 and January 1881. Further snow fell in London in the last week in February, and the long and severe winter did not end until early March.

Gales

December is usually the stormiest month of the year in Britain and both January and February normally end with a stormy period. Details of some of the outstanding winter storms are given below:

February 1861. On 21 February one wing of the Crystal Palace was destroyed by a great storm which also did a great deal of damage in other parts of southern England.

December 1909. The severe gale of 2–3 December affected most of England and caused many shipwrecks including the Manx steamer *Ellen Vannin* which sank with much loss of life. During this storm a westerly wind force 10 was reported in London and a gust of 59 m.p.h. was recorded at Kew.

December 1914. A small secondary depression which moved across southern England on 28 December, gave rise to a severe gale accompanied by heavy clinging snow. Kew recorded a gust of 60 m.p.h.; there was a great deal of structural damage and many trees were blown down. This storm also damaged shipping which was transporting war supplies to Europe.

January 1930. On 12 January most of England and Wales was affected by a violent gale, and in parts of south and south-east England the wind speeds exceeded previous records. At Croydon the mean wind speed reached 51 m.p.h. with a gust of 77 m.p.h., and there were gusts of 70 m.p.h. at South Kensington and 65 m.p.h. at Kew. This is one of the most severe gales on record. There was considerable structural damage, a very large number of trees were blown down and telephone and telegraph services were badly disorganized.

January 1945. A widespread and severe gale affected most of the country during the 18th–19th; Kingsway had a mean wind speed of 33 m.p.h. with a gust of 69 m.p.h., and Croydon recorded a mean wind speed of 37 m.p.h. with a gust of 77 m.p.h.

January 1954. A widespread and severe gale did considerable damage on 15 January, gusts of 70 m.p.h. and 60 m.p.h. being recorded at Croydon and Kew respectively.

December 1961. During a widespread gale on the 5th, the mean wind speed reached 35 m.p.h. at Hampton and 40 m.p.h. at Gatwick; there were gusts of 61 m.p.h. at Kingsway, 71 m.p.h. at Hampton and 74 m.p.h. at Gatwick.

January 1962. During a severe south-westerly gale on the 11th, the mean wind speed increased to 41 m.p.h. at Hampton and London (Heathrow) Airport, and to 43 m.p.h. at Gatwick. There were gusts of 70 m.p.h. at Kingsway, 75 m.p.h. at Hampton and 81 m.p.h. at Gatwick.

February 1962. On the 12th, the mean wind speed increased to 37 m.p.h. at Hampton and London (Heathrow) Airport, and to 36 m.p.h. at Gatwick; there were gusts of 67 m.p.h. at Gatwick and Kew, and one of 71 m.p.h. at Hampton.

Sunshine

The variation of winter sunshine at Kew from 1881 to 1964, compared with the 1931–60 average, is illustrated in Plate XVIII. The most noteworthy features are the 10 dull winters in the 16 years 1881/82 to 1896/97, and the four sunny winters in the five years 1958/59 to 1962/63 and in the six years 1904/05 to 1909/10. The sunniest winter was 1951/52 when 208 hours sunshine were recorded at Kew but the winter of 1948/49 with 206 hours sunshine at Kew was almost as sunny. The dulllest winter was 1916/17 with only 71 hours sunshine at Kew. Records of long sunless periods in winter included:

- 31 sunless days at Westminster, 1 to 31 December 1890.
- 21 sunless days at Kew, 2 to 22 February 1947.
- 17 sunless days at Kew, 8 to 24 December 1890.
- 15 sunless days at Kew, 11 to 25 December 1931.
- 14 sunless days at Kew, 10 to 23 January 1912.

Comparison with the following spring and preceding autumn

Winters during the period 1841–1964 are classified and compared with the following springs and preceding autumns in Table XI. Almost half the cold and very cold winters were followed by cold or very cold springs, and a mild spring rarely followed a cold or very cold winter. Rather more than half the dry and very dry winters were followed by springs with about average rainfall, while about a quarter of these winters were followed by dry or very dry springs. The majority of wet and very wet winters were followed by springs with about average rainfall but a wet spring was more likely than a dry spring. Most of the sunny and very sunny winters were followed by springs with about average sunshine. Rather more than half the dull and very dull winters were also followed by springs with about average sunshine. However, just under a third of the dull and very dull winters were followed by dull or very dull springs.

TABLE XI. WINTER 1841/42–1963/64*

Classification and comparison with preceding and following seasons

PREVIOUS AUTUMN <i>No. of years</i>					WINTER <i>Classification No. of winters</i>		FOLLOWING SPRING <i>No. of years</i>				
Very Mild	Mild	About Average	Cold	Very Cold			Very Mild	Mild	About Average	Cold	Very Cold
2	1	15	1	4	Very mild	23	2	8	8	3	2
1	4	4	7	4	Mild	20	—	1	9	7	3
1	3	17	6	8	About average	35	2	4	16	10	3
—	—	8	5	2	Cold	15	2	—	6	2	5
—	2	16	4	8	Very cold	30	1	—	15	5	9
Very Dry	Dry	About Average	Wet	Very Wet			Very Dry	Dry	About Average	Wet	Very Wet
1	1	5	—	—	Very dry	7	1	1	3	1	1
1	4	16	6	—	Dry	27	2	5	16	2	2
3	10	37	8	9	About average	67	7	8	38	13	1
—	1	6	7	1	Wet	15	—	4	9	1	1
—	1	6	—	—	Very wet	7	—	—	3	4	—
Very Sunny	Sunny	About Average	Dull	Very Dull			Very Sunny	Sunny	About Average	Dull	Very Dull
—	2	7	—	—	Very sunny	9	—	1	7	1	—
1	1	6	—	2	Sunny	10	—	—	7	3	—
2	5	25	1	5	About average	38	3	1	22	8	4
1	3	4	1	1	Dull	10	1	1	6	2	—
1	1	9	5	—	Very dull	16	1	1	8	3	3

*Sunshine 1881/82–1963/64.

CHAPTER 5. ANNUAL WEATHER SUMMARY

*'If the old year goes out like a lion, the
new year will come in like a lamb.'*

(WEATHER LORE)

Temperature

Mean annual temperatures for the period 1841–1964 are given in Plate XIX, and are compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. Years with mean temperature below average predominated from 1841 to 1871 but there were a few warm years, notably 1846 (52·5°F.) which was comparable with the warmest years of the present century. The 20-year period 1873–92 was outstandingly cold and each one of the eight successive years 1885–92 was colder than any year since then. Warm years were more frequent during the period 1933–62 than during any previous 30-year period since 1841. Table XII, which gives 10-year averages of mean annual temperature at Kew, indicates that the warming-up process commenced in the decade 1911–20 and was a marked feature by the period 1931–40. The average mean annual temperature during the period 1931–60 was more than 1 degF. higher than the corresponding temperature during the period 1871–1910. The increase in temperature which commenced in the decade 1911–20 was mainly due to milder winters, and from 1931 onwards this improvement was enhanced by the marked increase in the frequency of warm summers.

The three warmest years at Kew were 1959, 1949 and 1921 with mean annual temperatures 52·7°F., 52·5°F. and 52·5°F. respectively. In 1959, mean temperature was above average during every month of the year except January which was cold. In 1949, March, May and November were rather cold but temperature was above average during the other months of the year and September 1949 was the second warmest September on record. November 1921 was very cold but January and October 1921 were the warmest January and October on record, and July 1921 was also exceptionally warm. During the four months June to September the maximum temperature at Kew exceeded 75°F. on 41 days in 1959, 38 days in 1949, and 37 days in 1921. In all three years the greatest number of warm days occurred in July.

The coldest year was 1879 with a mean annual temperature of 46·5°F. at Kew. During 1879 mean monthly temperature was below average throughout the year; it was particularly cold in January and December, and May 1879 was the coldest May on record. The second-coldest years were 1887 and 1888 with a mean temperature of 47·7°F. at Kew in both years. In both cases monthly mean temperature was below average throughout the year except for July in 1887 and November in 1888. Table XIII lists the hottest and coldest months and the highest and lowest daily maximum and minimum temperatures.

TABLE XII. TEN-YEAR AVERAGES OF MEAN ANNUAL TEMPERATURE AT KEW 1871–1960

<i>Decade</i>	<i>Mean temperature °F.</i>
1871–80	49·7
1881–90	48·8
1891–1900	49·9
1901–10	49·8
1911–20	50·3
1921–30	50·4
1931–40	50·8
1941–50	50·9
1951–60	50·9

TABLE XIII. HOTTEST AND COLDEST MONTHS AND HIGHEST AND LOWEST DAILY MAXIMUM AND MINIMUM TEMPERATURES

HOTTEST MONTHS			COLDEST MONTHS		
Month and Year	Place	Mean Monthly Temp. °F.	Month and Year	Place	Mean Monthly Temp. °F.
July 1859	Greenwich	69·5	Feb. 1895	Kew	29·1
July 1868	Greenwich	68·9	Dec. 1890	Kew	29·3
July 1921	Kew	68·3	Jan. 1963	Kew	29·7
July 1852	Greenwich	68·1	Feb. 1855	Greenwich	29·9
Aug. 1947	Kew	68·1	Feb. 1947	Kew	30·0
Aug. 1911	Kew	68·0	Jan. 1940	Kew	31·4
			Jan. 1879	Greenwich	31·5
			Jan. 1881	Kew	31·7
			Feb. 1956	Kew	31·9

Highest daily maximum temperature	100°F. Greenwich, 9 August 1911
Lowest daily maximum temperature	17°F. Greenwich, 8 January 1841
Lowest daily minimum temperature	1°F. Kew, 3/4 January 1867
Highest daily minimum temperature	74°F. St James's Park, 29 July 1948

Table XIV gives, for each month of the year, the number of occasions when the warmest day and coldest night fell in various pentads and Table XV gives similar information for the annual warmest day and coldest night. The third pentad in July was the most favourable period for the warmest day of the year, while the coldest night of the year occurred most often in the last pentad of December. In one year the coldest night occurred early in April and on another occasion the warmest day of the year occurred as early as the second pentad in May.

TABLE XIV. NUMBER OF OCCASIONS ON WHICH MONTHLY MAXIMUM AND MINIMUM TEMPERATURES OCCURRED IN EACH PENTAD: GREENWICH 1841-70, KEW 1871-1964

MONTH	WARMEST DAY						COLDEST NIGHT					
	PENTAD						PENTAD					
	1-5	6-10	11-15	16-20	21-25	26-(31)	1-5	6-10	11-15	16-20	21-25	26-(31)
Jan.	29	18	17	15	16	31	22	19	19	23	16	25
Feb.	21	14	16	24	18	34	21	21	29	20	24	13
Mar.	15	8	10	22	31	38	31	23	21	16	20	15
Apr.	11	8	21	28	27	32	37	22	24	17	15	10
May	4	12	17	14	30	48	45	28	22	16	7	7
June	17	17	17	20	26	31	48	25	26	16	5	5
July	28	18	23	24	15	18	33	20	24	14	14	26
Aug.	33	22	20	23	9	21	16	9	15	13	25	48
Sept.	42	26	23	14	11	11	8	7	12	21	33	47
Oct.	62	28	17	14	1	5	5	5	17	14	20	64
Nov.	54	24	17	11	12	8	14	13	14	23	32	31
Dec.	30	28	19	14	12	23	12	22	17	14	28	37

TABLE XV. NUMBER OF OCCASIONS ON WHICH ANNUAL MAXIMUM AND MINIMUM TEMPERATURES OCCURRED IN EACH PENTAD: GREENWICH 1841-70, KEW 1871-1964

WARMEST DAY							COLDEST NIGHT						
MONTH	PENTAD						MONTH	PENTAD					
	1-5	6-10	11-15	16-20	21-25	26-(31)		1-5	6-10	11-15	16-20	21-25	26-(31)
May	—	1	—	—	3	4	Nov.	—	2	—	1	4	2
June	3	5	1	7	4	5	Dec.	—	4	7	5	9	15
July	11	7	16	8	7	6	Jan.	11	6	8	9	6	11
Aug.	9	6	9	3	2	4	Feb.	6	5	7	3	2	2
Sept.	4	1	—	—	1	—	Mar.	3	1	—	—	2	1
							Apr.	1	—	—	—	—	—

Rainfall

Plate XIX shows the variation of annual rainfall from 1841 to 1964 compared with the 1916–50 average. It is interesting to note that the wettest year on record, 1903, followed a long dry spell and the driest year on record, 1921, followed a long wet spell. 1903 was the wettest year by far; rainfall during the three months February, November and December was below average but a long wet spell persisted from May to October inclusive, and June 1903 was the wettest June on record in the London area. Heavy summer rainfall is usually associated with thunderstorms but the summer (especially June) of 1903 was exceptional; the heavy rainfall was due to steady rain lasting for long periods at a time, which is more typical of autumn or winter than summer. Apart from 1903, there were five years (1841, 1852, 1879, 1915 and 1927) with annual rainfall over 32 in at either Greenwich or Kew. The heavy rainfall in 1841 and 1852 was mainly due to very wet summers and autumns; the autumn of 1841 was the wettest on record and the autumn of 1852 was the second wettest on record. In 1879 the period April to September was very wet, and the heavy rainfall in 1915 was, to a great extent, due to a very wet winter. In 1927 rainfall was above average during eight months of the year; the months February, August, September and December were particularly wet. The years with the greatest number of ‘rain-days’ at Kew are given in Table XVI.

TABLE XVI. YEARS WITH GREATEST NUMBER OF ‘RAIN-DAYS’ AT KEW 1871–1964

Year	Number of ‘rain-days’	Year	Number of ‘rain-days’
1912	198	1879	186
1882	193	1883	182
1894	193	1907	182
1910	193	1916	182
1960	192	1872	180
1877	190	1903	180
1891	188		

The wettest months in the London area were:

July 1918—8·31 in at Bermondsey, 8·00 in at Woolwich, and 7·39 in at Greenwich.

December 1914—8·22 in at Wallington, 8·03 in at Croydon and 7·55 in at Addington.

November 1940—7·77 in at Croydon and 7·62 in at Addington.

December 1876—7·74 in at Bromley and 7·43 in at Croydon.

October 1880—7·65 in at Greenwich and 7·17 in at Beckenham.

July 1924—7·60 in at Hampstead.

September 1896—7·45 in at Harrow.

February 1951—7·34 in at Addington.

June 1903—7·21 in at Kew and 7·20 in at Croydon.

December 1929—7·15 in at Addington.

Records of heavy daily rainfall in the greater London area included:

4·70 in at West Wickham on 22 July 1934.

4·65 in at Cam House, Kensington, on 16 June 1917.

4·41 in at Dartford on 23 July 1903.

4·3 in at Harmondsworth on 18 July 1956.

The driest year by far was 1921 with rainfall below average during every month of the year; the summer of 1921 was the driest on record at Kew. So far as London is concerned there is no year comparable to 1921 in the rainfall records

going back to 1774, and it seems that 1921 is the driest year for almost 200 years. The years with the greatest number of 'dry-days' at Kew are listed in Table XVII.

TABLE XVII. YEARS WITH GREATEST NUMBER OF 'DRY-DAYS' AT KEW 1871-1964

Year	No. of 'dry-days'	Year	No. of 'dry-days'	Year	No. of 'dry-days'
1921	261	1964	233	1938	225
1949	240	1901	231	1956	223
1955	239	1874	229	1898	221
1933	238	1884	229	1948	221
1959	237	1942	228	1871	220
1953	236	1943	228		
1929	234	1961	227		

The driest months in the London area were:

February 1891—No rain at all at Muswell Hill and Savile Row; only 0.01 in at Kensington, Camden Square and Pinner Hill.

April 1912—No rain at all at Tottenham and Bromley, only 0.02 in at St James's Park, and only 0.03 in at South Kensington.

March 1929—No rain at all at Enfield, Stroud Green, Tottenham and St James's Park.

August 1940—No rain at all at Regent's Park, only 0.02 in at Camden Square and Addington.

August 1947—Only 0.03 in at Enfield.

February 1959—Only 0.03 in at Dartford.

September 1959—Only 0.03 in at Hampton and Southgate.

March 1961—Only 0.03 in at Regent's Park and Southgate.

Sunshine

Plate XIX shows the variation of annual sunshine at Kew from 1881 to 1964 compared with the 1931-60 average. The outstanding features are the high frequency of dull years during the periods 1884-91, 1912-20 and 1930-37, and the increase in the frequency of sunny years during the period 1948-61. The sunniest years were 1959, 1949 and 1933 in that order. The year 1959 included a fine summer, the sunniest autumn on record and the second sunniest January on record. Sunshine was above average throughout 1949 except for March; the summer was fine and sunny and February 1949 was the sunniest February on record. Apart from the month of May, sunshine was above average during the period February to October in 1933; the summer was particularly sunny and March 1933 was the second sunniest March on record. The dullest year on record at Kew was 1888; sunshine was below average throughout the year apart from the months of May and October. March and July 1888 were the dullest March and July on record. Table XVIII gives the sunniest months, the dullest months, and the sunniest days at Kew.

TABLE XVIII. SUNNIEST MONTHS, DULLEST MONTHS AND SUNNIEST DAYS AT KEW 1881-1964

SUNNIEST MONTHS		DULLEST MONTHS		SUNNIEST DAYS	
Month and year	Monthly sunshine in hours	Month and year	Monthly sunshine in hours	Date	Daily sunshine in hours
July 1911	334	December 1890	0.3	13 June 1887	15.7
May 1909	315	December 1956	9	3 July 1949	15.5
May 1922	291	January 1885	19	13 July 1911	15.4
June 1957	291	December 1903	15	11 July 1900	15.3
July 1900	290	December 1933	19	4 June 1939	15.3
July 1928	290	February 1947	19	6 July 1941	15.3
July 1959	290	January 1912	20	17 June 1959	15.3
		December 1916	20		

CHAPTER 6. WEATHER DURING PUBLIC HOLIDAYS

*'A warm Christmas, a cold Easter;
A green Christmas, a white Easter.'*

(GERMAN PROVERB—WEATHER LORE)

Introduction

Bank holidays were established legally by the Bank Holiday Act of 1871 which provided for four bank holidays in England and Wales—Easter Monday, Whit Monday, 1st Monday in August and Boxing Day. To these four days must be added Good Friday and Christmas Day which were already recognized as public holidays on which the banks closed. If Boxing Day fell on a Sunday, the 27th of December became a bank holiday. Soon after the passage of the 1871 Act, the six bank holidays began to be observed as public holidays by most people in England and Wales. The introduction of the five-day week extended most of the holidays to long week-ends and Public Holidays are now regarded as:

- | | |
|---------------------|---|
| Easter | —Good Friday to Easter Monday (4 days) |
| Whitsun | —Whit Saturday to Whit Monday (3 days) |
| August Bank Holiday | —Previous Saturday to 1st Monday in August (3 days) |
| Christmas | —24 to 26 or 27 December (3 or 4 days). |

Easter. The Easter holidays consist of the four days Good Friday to Easter Monday; Easter Sunday can fall on any date from 22 March to 25 April. Plate XX gives the maximum and minimum temperatures, rainfall, sunshine and significant weather on each day of the Easter holidays at Kew from 1871 to 1964; the maximum and minimum temperatures are compared with the appropriate 10-day averages for the period 1931–60. Since it is a movable feast, care must be exercised in comparing the Easter weather of one year with that experienced during another year. The coldest Easter on record was in 1883 with the four days 23 to 26 March being the coldest Good Friday, Easter Saturday, Easter Sunday and Easter Monday at Kew since 1871; there was over nine degrees of frost on the Saturday and almost six degrees of frost on Good Friday but the weather was mainly dry and sunny on all four days. The worst April Easter was in 1879 (11–14 April) but the Easters of 1892 (15–18 April), 1917 (6–9 April) and 1930 (18–21 April) were almost as bad. Easter 1879 was cold and wet, with frost on Friday and Saturday and with snow, which was heavy at times, on the Friday, Saturday and Sunday. Slight sleet or snow fell on all four days during Easter 1892 and frost occurred on Friday, Sunday and Monday but the last two days of the holiday were fairly sunny. In 1917 there was snow on Good Friday and Easter Monday, and frost on Easter Saturday and Sunday. The Easter of 1930 was cold and dull with less than five hours sunshine during the four days, and with thunder and hail on Easter Saturday. The worst Easter in recent years, and the wettest on record, was in 1958 (4–7 April) with over an inch of rain on Easter Saturday. Sleet or snow fell on Good Friday and Easter Saturday; the maximum temperature was below 45°F. on three days and it was only just above 45°F. on Good Friday; there was little sunshine apart from about 5 hours on the Friday. The dulllest Easters were in 1964 (27–30 March) and in 1941 (11–14 April) with a total sunshine during the holiday of only 1.3 and 1.4 hours respectively. During Easter 1931 (3–6 April) there was no sunshine at all on Good Friday, Easter Sunday and Easter Monday but 10 hours

sunshine were recorded on the Saturday. There were several Easters with rain on all four days, including those in 1951, 1943, 1942, 1918 and 1872. Very cold unseasonable weather was experienced on three successive Easters in 1883–85 and again in 1936–38.

One of the best Easters on record was in 1949 (15–18 April); the maximum temperature was well above 70°F. on the three days Friday to Sunday and reached 67°F. on Easter Monday, and all four days were dry and very sunny. The Easter of 1924 (18–21 April) was also dry, sunny and warm but it was rather cold at night on Good Friday; the weather on Easter Monday was particularly fine with almost 12 hours sunshine and with a maximum temperature of 71°F. The weather was dry, sunny and warm, apart from cold nights, during the first three days of Easter 1909 (9–12 April), but the weather on Easter Monday was rather cool with some rain. Very warm weather was experienced during Easter 1926 (2–5 April) but there was no sunshine at all on the Saturday and it was rather dull on the Sunday. The Easter of 1907 (29 March to 1 April) was the best early Easter on record; maximum temperature exceeded or almost reached 65°F. on all four days and the weather was dry and sunny during the whole holiday. There was another good early Easter in 1929 (29 March to 1 April) with warm or rather warm, sunny and dry weather on all four days, apart from a little rain on Easter Monday. The sunniest Easter on record was in 1946 (19–22 April) with over 12 hours sunshine on Friday and on Saturday, and over 10 hours sunshine on Sunday and on Monday, but, although day-time temperatures were about average or above average, it was decidedly cool on Friday and Saturday nights. The best example of two successive fine Easters was in 1948 (26–29 March) and 1949 (15–18 April); during both Easters the weather was dry, warm and sunny except that little sunshine was experienced on Easter Monday 1948. The weather was also dry, sunny and warm or rather warm during the two successive Easters 1893 (31 March to 3 April) and 1894 (23–26 March) but on both occasions it was rather cold at night. The two successive Easters 1906 (13–16 April) and 1907 (29 March to 1 April) followed the same pattern—dry and sunny, warm or rather warm during the day but rather cold at night. The sunniest and warmest Easter days on record at Kew are given in Table XIX.

TABLE XIX. SUNNIEST AND WARMEST EASTER DAYS AT KEW 1871–1964

Day	SUNNIEST DAY		WARMEST DAY		
	Date	Sunshine in hours	Date	Maximum temp. °F.	Minimum temp. °F.
Good Friday	17 April 1908	12·6	15 April 1949	73·2	43·5
Easter Saturday	20 April 1946	12·4	16 April 1949	77·9	47·5
Easter Sunday	17 April 1927	12·1	17 April 1949	73·2	53·1
Easter Monday	16 April 1906	12·0	21 April 1924	71·2	48·9

The proposal that Easter should fall at about the same time each year recurs periodically, especially when bad weather is experienced during an early Easter. In 1928 both Houses of Parliament passed an Act which laid down that Easter Sunday would be the second Sunday in April except that, when 1 April fell on a Sunday, Easter Sunday would be on 15 April. However, the Act included a clause postponing an Order-in-Council to make it law until the Churches had given their official opinion. Some of the Churches concerned have not yet made a decision on this question. In March 1928 the Meteorological Office produced a memorandum on the weather in relation to a fixed date for Easter. The

Easter rainfall in London was compared with the rainfall for the fixed Easter as laid down in the 1928 Act, the comparison being extended over the last 100 years before 1928. In 38 years the actual Easter was drier than the fixed Easter, the reverse was true in 36 years and the rainfall was the same for both periods in 4 years; in the remaining 22 years the actual Easter and the fixed Easter fell on the same dates. The memorandum concluded that:

- (a) On average the later the date of Easter the better the weather.
- (b) If the date of Easter is fixed as laid down in the 1928 Act, the weather on average will be neither better nor worse than if Easter continues to vary as at present.

The actual Easter weather (rainfall, temperature and sunshine) at Kew during the 30 years 1933–62 has been compared with the weather for the fixed Easter as laid down in the 1928 Act. In seven years the fixed Easter weather was better than the actual Easter weather but the reverse was true in six years. The fixed Easter weather was slightly better than the actual Easter weather in four years but the reverse was true in two years. In four years the weather during the two periods was about the same, and in the remaining seven years the actual Easter and the fixed Easter fell on the same dates. During the period 1933–62 good or fairly good weather was experienced on eight actual Easters and ten fixed Easters but the best fixed Easter weather (13–16 April 1945) was not so good as the weather during the actual Easter of 1949 (15–18 April). During the same period very unseasonable weather was experienced on four actual Easters compared with two fixed Easters, and the actual Easter of 1958 (4–7 April) was appreciably colder, wetter and duller than the worst fixed Easter (10–13 April 1936). Incidentally, in 1936 the actual Easter and the fixed Easter fell on the same dates. In general the results of this comparison of the weather during the actual and fixed Easters for the 30 years 1933–62 agree with the conclusions drawn in the Meteorological Office memorandum of March 1928.

Whitsun. Whitsun is always seven weeks after Easter, so Whit Sunday can fall on any date from 10 May to 13 June. Plate XXI gives the maximum and minimum temperatures, rainfall, sunshine and significant weather on each day of the Whitsun week-end (Saturday to Monday) at Kew from 1871 to 1964; the maximum and minimum temperatures are compared with the appropriate 10-day averages for the period 1931–60. Because of the variation in the date of Whitsun, care must be taken when comparing the weather of one Whitsun with that of another. However, it is clear that the coldest Whitsun on record was in 1891 (16–18 May) with maximum temperatures only 48·6°F. on Saturday, 50·1°F. on Sunday and 43·0°F. on Monday; the nights were bitterly cold with temperature falling to about 8 to 14 degF. below normal. There was sleet on Whit Saturday and snow on Sunday; little sunshine was recorded on Saturday and none at all on Whit Monday. The three days 16–18 May 1891 are the coldest Whit Saturday, Sunday and Monday on record but, although the mean temperature on Whit Saturday 1891 is the lowest on record, the record low maximum temperature on a Whit Saturday (45·5°F.) occurred on 18 May 1872. Another very cold Whitsun occurred in 1907 (18–20 May) with maximum temperatures about 11 to 13 degF. below average. The coldest late Whitsun on record was in 1916 (10–12 June); the maximum temperature was only just above 50°F. on Whit Monday and it failed to reach 60°F. on the other two days of the holiday.

The dullest Whitsun on record was in 1889 (8–10 June) with no sunshine at all during the three days of the holiday; day-time temperatures during this period were similar to the ones experienced during the cold late Whitsun of 1916 but the nights were appreciably milder. Another very dull Whitsun occurred in 1887 (28–30 May); there were only a few minutes sunshine on Whit Saturday and none at all on the other two days of the holiday. The wettest Whitsuns were in 1903 (30 May to 1 June) and 1954 (5–7 June) with a total rainfall of 1·16 in and 1·11 in respectively; in 1903 most of the rain fell on Saturday, and Monday was dry, but in 1954 the rainfall was spread over the three days of the holiday. Thunder was heard, on at least one day during the week-end, in about one Whitsun out of four on average; thunderstorms occurred on Whit Saturday and Sunday in both 1903 and 1916 (10–12 June). There were five successive Whitsuns with cool unseasonable weather during the period 1904–08, there were four successive cool Whitsuns from 1884 to 1887, and two successive cool Whitsuns occurred fairly often.

The warmest Whitsuns on record occurred in 1933 (3–5 June) and in 1944 (27–29 May); the daily maximum temperatures during Whitsun 1933 were 79·0°F. on Saturday, 82·7°F. on Sunday and 85·5°F. on Monday, and the comparable figures for Whitsun 1944 were 79·5, 82·2 and 86·4°F. The Whitsun of 1933 was brilliantly sunny with more than 14 hours sunshine on Sunday and on Monday and more than 13 hours sunshine on Saturday, but it was not quite as sunny as the sunniest Whitsun on record which occurred in 1948 (15–17 May) when Whit Saturday had 14·2 hours sunshine, Whit Sunday 13·6 hours and Whit Monday 14·5 hours. The Whitsun of 1948 is also one of the warmest early Whitsuns on record with maximum temperatures of 71·1°F. on Saturday, 74·7°F. on Sunday and 75·2°F. on Monday. Other warm early Whitsuns occurred in 1918 (18–20 May) and in 1964 (16–18 May) when the maximum temperatures on the Saturday, Sunday and Monday were 73·6, 73·8 and 76·1°F. and 70·3, 74·7 and 72·1°F. respectively. The sunniest and warmest Whitsun days on record at Kew are given in Table XX. There were four successive fine and warm Whitsuns during the period 1917–20. Maximum temperature was well above 70°F. on practically all the days and only on Whit Saturday 1920 was it a little below this value. The weather was dry and sunny throughout the four holidays with a daily sunshine of 13 hours or more on two days in Whitsun 1917, on two days in Whitsun 1918, on one day in Whitsun 1919, and on all three days in Whitsun 1920.

TABLE XX. SUNNIEST AND WARMEST WHITSUN DAYS AT KEW 1871–1964

Day	SUNNIEST DAY		WARMEST DAY		
	Date	Sunshine in hours	Date	Maximum temp. °F.	Minimum temp. °F.
Whit Saturday	4 June 1881	14·4	4 June 1960	79·7	56·3
Whit Sunday	2 June 1963	15·0	5 June 1960	83·1	56·8
Whit Monday	24 May 1915	15·1	29 May 1944	86·4	57·9

August Bank Holiday. Plate XXII gives the maximum and minimum temperatures, rainfall, sunshine and significant weather on each day of the August Bank Holiday week-ends at Kew from 1871 to 1964; the maximum and minimum temperatures are compared with the appropriate 10-day averages for the period 1931–60. The coolest August Bank Holiday week-ends occurred in 1900 (4–6 August) with maximum temperatures of 63·5°F. 62·7°F. and 63·1°F. on Saturday, Sunday and Monday respectively and in 1956 (4–6 August) when the

comparable figures were 58·6°F., 65·5°F. and 63·1°F. The last two days of the August Bank Holiday week-end in 1900 were dull and wet with no sunshine at all on Sunday and less than half-an-hour's sunshine on Monday. The week-end was not quite so dull and wet in 1956 but only about half-an-hour's sunshine was experienced on the Saturday. The dullest August Bank Holiday week-end on record was in 1954 (31 July to 2 August) with a total of only 2·7 hours sunshine during the whole week-end. The coolest and dullest August Bank Holiday Saturday, Sunday and Monday on record at Kew are given in Table XXI. The wettest August Bank Holiday week-end on record was in 1878 (3–5 August) with over an inch of rain on Sunday and with heavy thunderstorms on Saturday and Monday. On average, thunder was reported, on at least one day during the week-end, on about one August Bank Holiday out of five. A very severe thunderstorm, which was accompanied by large hail-stones about 2 in in diameter, occurred on August Bank Holiday Sunday (3 August) in 1879. In 1943 there were thunderstorms on August Bank Holiday Saturday (31 July) and Sunday (1 August); a gust of 63 m.p.h. was recorded during the storm on Saturday. The sequence of six successive cool August Bank Holiday week-ends during the period 1958–63 is outstanding.

TABLE XXI. COOLEST AND DULLEST AUGUST BANK HOLIDAY SATURDAY, SUNDAY AND MONDAY AT KEW 1871–1964

August Bank Holiday	DULLEST DAY		COOLEST DAY	
	Date	Sunshine in hours	Date	Maximum temp. °F.
Saturday	3 August 1963	Nil	4 August 1956	58·6
Sunday	31 July 1881	Nil	5 August 1888	62·0
	5 August 1900	Nil		
Monday	4 August 1963	Nil		
	6 August 1888	Nil	6 August 1888	58·8
	1 August 1921	Nil		
	1 August 1927	Nil		
	6 August 1951	Nil		
	6 August 1962	Nil		

The warmest August Bank Holiday week-end on record was in 1933 (5–7 August) with maximum temperatures of 81·9°F., 89·4°F. and 84·2°F. on Saturday, Sunday and Monday respectively; the weather was dry and sunny on all three days. The sunniest August Bank Holiday week-end was in 1908 (1–3 August) with 13·0 hours sunshine on Saturday, 13·6 hours on Sunday, and 12·0 hours on Monday. Dry, sunny and fairly warm August Bank Holiday week-ends were experienced in the years 1887 (30 July to 1 August), 1897 (31 July to 2 August), 1923 (4–6 August), 1940 (3–5 August), 1946 (3–5 August), and 1957 (3–5 August). An August Bank Holiday week-end free of rain was not uncommon and there were three successive dry ones during the periods 1873–75 and 1953–55 and two successive dry and sunny August Bank Holiday week-ends in 1897–98 and again in 1937–38. The sunniest and warmest August Bank Holiday Saturday, Sunday and Monday at Kew are given in Table XXII.

TABLE XXII. SUNNIEST AND WARMEST AUGUST BANK HOLIDAY SATURDAY, SUNDAY AND MONDAY AT KEW 1871–1964

August Bank Holiday	SUNNIEST DAY		WARMEST DAY	
	Date	Sunshine in hours	Date	Maximum temp. °F.
Saturday	30 July 1938	13·6	31 July 1943	90·5
Sunday	2 August 1908	13·6	6 August 1933	89·4
Monday	3 August 1953	13·3	7 August 1933	84·2

Years with bad weather during public holidays. There were several years when Londoners experienced unseasonable or bad weather during the three public holidays Easter, Whitsun and August Bank Holiday; this was certainly so during the years 1879, 1885, 1891, 1905, 1936, 1951 and 1958. In 1891, the weather was cold during the three holidays, some rain fell every day except August Bank Holiday Saturday, and there was snow or sleet on Good Friday, Easter Monday and Whit Saturday and Sunday. Easter was late in 1905 but nevertheless it was cold and rather dull on Friday and Saturday; the following Whitsun was cool and wet with practically no sunshine, and August Bank Holiday Monday was very dull. In 1936 a cold rather dull Easter, with snow or sleet on Sunday and Monday, was followed by a very cold Whitsun and a cool and very dull August Bank Holiday week-end. In 1951 there was little or no sunshine on Good Friday, Easter Monday, Whit Monday, and August Bank Holiday Saturday and Monday. Easter 1958 was very cold with sleet or snow on Friday and Saturday; the following Whitsun was cool with 0.81 in of rain on Whit Monday, and August Bank Holiday Sunday and Monday were dull with only about 2-3 hours sunshine on each day.

Years with good weather during public holidays. The only years when the weather was consistently good during the three holidays Easter, Whitsun and August Bank Holiday were 1911 and 1933. Easter 1911 was dry, fairly mild and mainly sunny, the following Whitsun was dry, sunny and very warm, and the August Bank Holiday week-end was dry, warm and sunny but only a little sunshine was experienced on the Saturday. In 1933 Londoners enjoyed exceptionally fine, sunny and very warm weather during the Whitsun and August Bank Holiday week-ends; the Easter weather was not quite so good, but it was still dry, fairly mild and mainly sunny except that Easter Monday was cold and dull. In 1948, Whitsun was dry, warm and exceptionally sunny, and fine mild weather was also experienced during the other two holidays except that Easter Monday was dull with a little rain and August Bank Holiday Monday was dull and rather wet.

Christmas. Plate XXIII gives the maximum and minimum temperatures, rainfall, sunshine and significant weather on each day of the Christmas holidays (24-27 December) at Kew from 1871 to 1964; the maximum and minimum temperatures are compared with the appropriate 10-day averages for the period 1931-60. The mildest Christmas period, since 1871, was in 1920 with a maximum temperature of over 53°F. on each of the four days; the highest maximum temperatures recorded at Kew were:

53.8°F. on 24 December 1920.

53.6°F. on 25 December 1920.

54.7°F. on 26 December 1955.

57.1°F. on 27 December 1882.

Only one cold Christmas was experienced during the decade 1951-60; all the rest were mild or fairly mild. Dry weather was experienced during the Christmas holidays in 1875, 1892, 1902, 1907, 1942, 1944, 1948, 1954, 1957 and 1961; the Christmas of 1929 was the sunniest on record at Kew.

The coldest Christmas holidays since 1871 occurred in 1890 and 1892 but the coldest Christmas Eve and Day were in 1878, and the coldest Boxing Day occurred in 1948. In 1878 there were 17 degrees of frost on Christmas Eve and 16 degrees of frost on Christmas Day but temperature was about average on

26 and 27 December. The wettest Christmas holidays since 1871 occurred in 1876 and 1927 with total rainfalls of 1·74 in and 1·75 in respectively; on both occasions most of the precipitation fell as snow and Christmas 1927 is one of the snowiest on record. Thunder in December is rare, but thunderstorms occurred in London on Christmas Day 1947 and on Boxing Day 1959. Since 1871, fog has occurred more frequently than snow in London during Christmas. Foggy weather was experienced during the Christmas holidays in the three successive years 1942–44; in 1944, fog persisted in central London from 9 a.m. to 9 p.m. on Christmas Day and from midday on Boxing Day until 6 a.m. on 27 December.

The association of snow with Christmas is a tradition which occurs frequently in Christmas stories and seems to be an essential feature of Christmas cards. So far as London and southern England are concerned, meteorological evidence does not support the tradition, which it is believed was largely fostered by Dickens' description of Christmas at Dingley Dell in 'Pickwick Papers' which was written in about 1836. Table XXIII gives the frequency of snow in London on Christmas Eve, Christmas Day and Boxing Day for 30-year periods from 1752 to 1964; the table is based on Manley's work for the period 1752–1805, on Mossman's work for the period 1806–70, and on the Kew observations for the period 1871–1964. The probability of a white Christmas was greatest during the 30 years 1782–1811 when snow on two or three days during Christmas (24–26 December) occurred on an average of about one year in four. However, during the last 30 years (1935–64) snow on two or three days during the period 24–26 December occurred on an average of only one year in 10, and snow on one day or more during Christmas only occurred once every seven or eight years on average. Several noteworthy snowstorms have occurred during the Christmas holidays. The great blizzard of December 1836, which was claimed to be one of the worst snowstorms of the 19th century, commenced on Christmas Eve and continued for five days. The Christmas blizzard of 1927 is comparable with the severest snowstorms of the last 100 years; snow commenced to fall on Christmas night and the blizzard raged all day on Boxing Day, the wind driving the snow into huge drifts which paralysed road and rail traffic. The best example of a white Christmas in London during the 20th century occurred in 1938, when snow commenced to fall on 18 December and continued almost daily up to and including 26 December. The weather was very cold and the snow persisted, so that London presented a typical Christmas card scene with buildings, trees and much of the ground covered with snow. In 1962, the snow which commenced to fall on Boxing Day continued for about 24 hours, and all forms of traffic were badly affected. A more detailed description of all these snowstorms is included in Chapter 4.

TABLE XXIII. FREQUENCY OF SNOW IN LONDON DURING CHRISTMAS (24–26 DECEMBER) 1752–1964

30-YEAR PERIOD	NUMBER OF YEARS IN WHICH SNOW FELL ON		
	3 Days	2 Days	1 Day
1752–1781	Nil	Nil	2
1782–1811	3	4	5
1812–1841	2	2	2
1842–1871	Nil	1	3
1872–1901	Nil	Nil	8
1902–1931	Nil	1	2
1932–1961	Nil	2	Nil
1935–1964	Nil	3	1

Details of cold Christmases during the period 1836–1964 are given in Table XXIV; for this purpose a cold Christmas is defined as mean daily temperature below 36°F. on all three days 24–26 December, with a mean temperature of 33°F. or below on at least one of these days. The temperatures for the period 1836–70 were recorded at Greenwich and the ones for the period 1871–1964 were observed at Kew. Table XXIV shows that there has been a great decrease in the frequency of cold Christmases during the last 60 years or so; the probability of a cold Christmas during the last 64 years of the 19th century was about 1 in 5 compared with about 1 in 22 during the first 65 years of this century. The Christmas of 1796 is probably the coldest on record in London; it is claimed that around Christmas-time the temperature fell to -6°F. in Marylebone, -2°F. in Mayfair, and 7°F. in the Strand. Another very cold Christmas was the one in 1830; Greenwich had 11 degrees of frost at midday on 24 and 25 December, and the minimum temperature on Christmas Day was down to 11°F. A very cold Christmas was experienced in 1860 and again in 1870; in both years frost persisted all day on Christmas Eve and on Christmas Day. The minimum temperature at Greenwich was only 8.0°F. on Christmas Day 1860 and only 9.8°F. on Christmas Day 1870.

TABLE XXIV. COLD CHRISTMASES—GREENWICH (1836–70), KEW (1871–1964)

YEAR	MEAN TEMPERATURE $^{\circ}\text{F.}$		
	24th	25th	26th
1836	31.5	28.5	29.5
1840	28.5	24.5	24.5
1844	31.1	32.7	33.8
1846	33.2	28.7	31.1
1853	32.0	30.9	27.6
1860	22.3	19.0	30.6
1864	29.8	33.1	33.5
1869	35.3	31.3	27.0
1870	23.3	19.0	27.9
1874	29.1	34.6	30.1
1879	31.5	34.5	30.5
1890	28.1	25.4	29.3
1892	30.2	29.7	28.1
1897	27.9	25.7	33.5
1938	33.1	32.1	33.3
1961	30.7	30.0	33.5
1962	30.7	30.5	29.1

CHAPTER 7. LONDON FOGS

*‘A winter fog
Will freeze a dog.’*

(WEATHER LORE)

Introduction

London fogs, which are similar to the ones that occur in other large industrial cities and towns, are particularly obnoxious because the fog droplets tend to form on minute particles of atmospheric pollution which are usually produced by the combustion of coal, oil and petrol. One of the most dangerous forms of pollution is sulphur dioxide which combines with the moisture and oxygen in the air to produce sulphuric acid which is a menace to health. Even in Tudor times, there was an outcry against burning coal in London. Once fog has formed, the smoke from London’s innumerable chimneys and stacks and the fumes from its countless vehicles mix with the fog to produce the condition aptly described by the word ‘smog’. Smoke and other pollution intensify the fog and also prolong its life. Apart from the fact that London fogs or ‘smogs’ are dirty, they are unhealthy and are particularly dangerous to people with bronchial or chest complaints. The growth of London during the 19th and 20th centuries extended the fog menace. For instance, the great fog of December 1873 hardly affected Croydon, but the fog of December 1952 resulted in a sharp increase in mortality in the town, while places further from London escaped.

Frequency and intensity. The definition of fog was not standardized until the development of aviation after the First World War. Therefore, caution must be exercised in using early observations of fog, although it is fairly safe to assume that reports of dense fog indicate that visibility was bad enough to impede traffic. The variation of fog and dense fog at Greenwich during the period 1811–1890 is given in Table XXV, which was produced by R. C. Mossman in 1897.

TABLE XXV. VARIATION OF FOG AT GREENWICH

DECADE	AVERAGE NUMBER OF DAYS WITH FOG PER YEAR	AVERAGE NUMBER OF DAYS WITH DENSE FOG PER YEAR
1811–20	18·7	2·4
1821–30	19·6	2·5
1831–40	26·3	5·2
1841–50	22·1	3·9
1851–60	33·0	7·6
1861–70	38·8	8·1
1871–80	48·8	9·0
1881–90	54·8	9·3

According to Mossman, the foggiest year was 1873 with 74 fogs, and the greatest number of dense fogs was 19 in 1891. December 1879 was the foggiest month with 17 foggy days, and there were 8 dense fogs in December 1890. Table XXV indicates that, apart from the decade 1841–50, there was a steady increase in the frequency of fog in London during the period 1811–90. This is not surprising since the frequency, persistence and intensity of fog is closely connected with atmospheric pollution which is related to population, and the population of London increased rapidly from 1811 to 1890. Table XXVI, which is due to F. J. Brodie, confirms the increase in the frequency of fog during the period 1871–1890. Brodie’s figures were based on observations at either Brixton or Westminster

but instances when widespread fog prevailed in other parts of London were also included, and this is probably the reason why Brodie's figures are greater than Mossman's. Brodie found that December was the foggiest month with October the second foggiest month and November and January joint third with about the same fog frequency. The foggiest year was 1886 with 86 foggy days and the foggiest winter was 1890/91 when fog was reported on 50 days; the winter of 1879/80 was almost as foggy with fog reported on 43 days. The foggiest months were December 1890 with 20 days with fog, January 1880 with 19 days, and December 1879 with 18 days.

TABLE XXVI. PREVALENCE OF FOG IN LONDON

PERIOD	AVERAGE NUMBER OF DAYS WITH FOG PER YEAR
1871-75	50·8
1876-80	58·4
1881-85	62·2
1886-90	74·2

1871-75	50·8
1876-80	58·4
1881-85	62·2
1886-90	74·2

An investigation of the frequency and distribution of fog in the London area was carried out during the winters 1901/02 and 1902/03. Moderate fog, visibility about 100 to 200 yards, was reported at two or more stations in the London area on 52 days during the period 2 November 1901 to 14 March 1902, and dense fog persisted for almost a week in November 1901. The frequency and intensity of fog was very much less in the winter of 1902/03; only 38 days experienced fog compared with an average of 50. Most of the fog was slight, and there were no reports of dense persistent fog. In a report published in 1918, the average number of days per year with fog was quoted as 20 at Westminster and 63 at Greenwich. The Westminster figure was based on 12 years' observations and the Greenwich one on 37 years' observations. Apart from this, there was no standard definition of fog, so that the Westminster and Greenwich frequencies are not strictly comparable. We cannot therefore assume that the frequency of fog at Greenwich was three times that at Westminster but it seems likely that Greenwich was more liable to fog than Westminster.

Shortly after the end of the First World War, fog was defined as visibility less than 1100 yd; this limit was chosen because aviation and, to a lesser extent, shipping are seriously hindered when visibility falls below 1100 yd. However, fog does not become a major hindrance or nuisance to the public until the visibility falls below 220 yd, and further discussion is therefore confined to thick fog, defined as visibility less than 220 yd, and dense fog, defined as visibility less than 55 yd. Table XXVII gives the average number of days with thick fog in the morning at Kew, Greenwich and Croydon during the seven months September to March; the average being taken over a 10-year period. These 10-year periods are different and therefore the frequencies are not strictly comparable. However, it is fairly safe to conclude that during the 'twenties', the frequency of thick fog in the morning was much greater at Kew than at Greenwich or Croydon.

TABLE XXVII. FREQUENCY OF THICK FOG AT 0700 OR 0900 GMT—SEPTEMBER TO MARCH

STATION	AVERAGE NUMBER OF DAYS WITH THICK FOG
Kew (1920-29)	17·8
Greenwich (1925-34)	8·9
Croydon (1921-30)	8·9

Kew (1920-29)	17·8
Greenwich (1925-34)	8·9
Croydon (1921-30)	8·9

Table XXVIII gives the average number of days a year with thick and dense fog in the morning, afternoon and evening at Kew, Greenwich and Croydon during the 10 years 1927–36. Comparing the three stations, the frequency of thick fog in the morning was greatest at Kew and least at Greenwich, but there was little difference in the frequency of thick fog at other times of the day. Greenwich was subject to rather more dense fog in the morning than the other two places. During the 10 years 1927–36 morning fog was most frequent in November at Kew and Greenwich and in February at Croydon but some of the other winter months were almost as foggy. Afternoon fog was most frequent in December at Greenwich and Croydon and in January at Kew, while fog in the evening occurred most frequently in December at all three places.

TABLE XXVIII. FREQUENCY OF THICK AND DENSE FOG 1927–36

STATION	TIME OF OBSERVATION GMT	AVERAGE NUMBER OF DAYS PER YEAR	
		THICK FOG	DENSE FOG
Kew	0700	16.4	1.8
Greenwich	0900	6.6	2.9
Croydon	0700	9.5	2.2
Kew	1300	4.0	1.5
Greenwich	1500	2.9	0.4
Croydon	1300	4.0	0.7
Kew	1800	4.7	1.5
Greenwich	2100	3.7	1.1
Croydon	1800	3.7	1.5

Table XXIX gives the monthly and annual number of hours of thick and dense fog at London (Kingsway) and London (Heathrow) Airport during the 16 years 1947–62. The figures for Heathrow are based on hourly observations but the Kingsway figures are based on only three-hourly observations, assuming that each observation represents three hours of fog in the same range. Doubts may be expressed about the validity of this assumption, but Kelly has shown that the error introduced by using three-hourly observations to estimate the total number of hours of persistent fog is an over-estimation of only about four per cent, and Shellard has demonstrated that a very good estimate of annual fog frequency can be obtained from six-hourly observations. On average, the foggiest month at both Kingsway and Heathrow was December, with November being the second foggiest month. At Kingsway the foggiest ‘winter’ (October–March) was in 1952/53 with a total of 120 hours thick fog including 78 hours dense fog; the foggiest month was December 1952 with 81 hours thick fog, which included 69 hours dense fog. The ‘winters’ (October–March) of 1960/61 and 1961/62 were comparatively free of fog at Kingsway with a total of only 15 hours thick fog during each season. At Heathrow the foggiest ‘winter’ (October–March) occurred in 1958/59 with a total of 330 hours thick fog including 100 hours dense fog, but the ‘winter’ with most dense fog (105 hours) was in 1952/53. The foggiest month at Heathrow was November 1948 with 123 hours thick fog including 27 hours dense fog, but December 1962 had most dense fogs (73 hours). The ‘winter’ (October–March) with least fog at Heathrow was 1960/61 with 92 hours thick fog including 19 hours dense fog, but the ‘winter’ (October–March) of 1954/55 had only 12 hours dense fog.

TABLE XXIX. NUMBER OF HOURS WITH THICK AND DENSE FOG 1947-62

LONDON (KINGSWAY)

Year	January		February		March		April		May		June		July		August		September		October		November		December		Year	
	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense
1947 ...	12	—	27	—	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27	18	9	6	81	24
1948 ...	—	6	3	—	36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	60	18	21	15	126	36
1949 ...	6	—	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27	6	—	—	51	15
1950 ...	9	—	—	—	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30	18	6	—	57	30
1951 ...	12	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51	12
1952 ...	—	6	—	—	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	6	81	69	99	75
1953 ...	6	—	3	—	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	27	15	69	24
1954 ...	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	3	—	3	—	12	3
1955 ...	15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—	33	6
1956 ...	36	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33	15	90	27
1957 ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21	6	27	9
1958 ...	12	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15	3	—	—	36	9
1959 ...	48	9	15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	18	12	99	21
1960 ...	21	6	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27	6
1961 ...	—	—	—	—	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	27	—
1962 ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63	30	78	30
Average	11.3	2.6	3.6	—	5.8	0.6	0.2	—	—	—	—	—	—	—	0.2	0.2	0.9	0.2	7.1	1.3	11.4	4.3	19.7	11.3	60.2	20.4

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1947 ...	40	6	10	—	15	—	5	—	6	—	—	—	—	—	—	—	—	4	1	47	10	37	21	30	9	195	48
1948 ...	3	—	8	—	41	—	—	—	1	—	—	—	—	—	—	—	—	9	—	34	8	123	27	43	16	263	61
1949 ...	39	24	39	—	—	—	—	—	7	—	—	—	—	—	—	—	—	8	—	33	9	68	28	1	—	206	61
1950 ...	46	9	8	—	34	—	—	—	5	—	—	—	—	—	—	—	—	—	12	3	41	20	9	3	164	52	
1951 ...	25	—	7	—	18	—	—	—	—	—	—	—	—	—	—	—	14	7	61	28	4	—	33	15	163	55	
1952 ...	7	1	23	—	12	—	—	—	—	—	—	—	—	—	—	—	—	—	15	2	15	9	113	61	193	88	
1953 ...	73	10	16	—	44	—	8	—	7	—	—	—	—	—	—	—	29	3	46	19	48	9	66	9	337	77	
1954 ...	3	—	13	—	—	—	—	—	2	—	—	—	—	—	—	—	10	1	4	—	32	4	19	7	96	12	
1955 ...	41	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	—	37	8	24	6	37	11	152	29	
1956 ...	55	42	—	—	—	—	—	—	4	—	—	—	—	—	—	—	9	—	53	31	18	10	63	7	206	68	
1957 ...	10	—	9	—	10	—	4	—	—	—	—	—	—	—	—	—	2	1	31	15	—	52	20	120	40		
1958 ...	34	—	6	—	2	—	—	—	—	—	—	—	—	—	—	—	6	—	39	8	60	30	91	13	243	51	
1959 ...	66	23	62	—	12	—	—	—	—	—	—	—	—	—	—	—	2	—	12	1	63	41	36	7	254	98	
1960 ...	39	14	9	—	2	—	—	—	2	—	—	—	—	—	—	—	7	—	21	4	6	—	24	—	110	21	
1961 ...	3	—	15	—	23	—	—	—	—	—	—	—	—	—	—	—	12	—	43	7	18	1	33	17	147	40	
1962 ...	13	4	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	55	5	10	—	101	73	183	84	
Average	31.1	8.4	14.1	2.9	13.7	4.6	1.1	0.3	2.1	—	1.1	—	0.3	—	—	—	7.4	0.8	33.9	8.5	35.4	12.9	46.9	16.7	189.5	55.3	

Table XXX compares the annual number of hours of thick and dense fog at Kingsway and Heathrow (1947–62) with similar figures for Kew (1947–62) and Croydon (1947–58). The figures for Croydon (1947–56) are based on hourly observations but the figures for Kew (1947–62) and Croydon (1957–58) were obtained from the fog frequencies for the four standard hours 0300, 0900, 1500 and 2100 GMT published in the *Annual Summary to the Monthly Weather Report*, assuming that each observation represented six hours of fog in the same range. The 0300 GMT fog frequencies for Kew, and for Croydon during the year 1958, were not available and had to be estimated by multiplying the appropriate 0900 GMT frequencies by the ratio between the 0300 and 0900 GMT frequencies for Heathrow in the case of Kew, and for South Farnborough in the case of Croydon. It must be pointed out that the frequencies of dense fog at Kew for the period 1949–62 and at Croydon for the years 1957 and 1958 refer to visibility below 44 yd. In 1938 Bilham pointed out that during foggy weather visibility is often better in the centre of a large city than it is in the adjacent suburban and rural districts, and he attributed this effect to the fact that large buildings in a built-up area act as a source of heat and tend to reduce radiation from the ground. Table XXX shows this effect in the Greater London area. In every year from 1947 to 1962 the frequency of thick fog and of dense fog was less at Kingsway than it was at either Heathrow or Kew. During the period 1947–58, the frequency of thick fog at Kingsway was less than it was at Croydon in 11 years out of 12, and Kingsway had less dense fog than Croydon in 8 years out of 12. The lower frequency of thick and dense fog at Croydon compared with Heathrow and Kew is probably due to Croydon's higher altitude. It is interesting to note that, apart from a slight increase in the frequency of dense fog at Kingsway and Heathrow between 1947–50 and 1951–54, the four-year means (Table XXX)

TABLE XXX. ANNUAL NUMBER OF HOURS OF DENSE AND THICK FOG AT KINGSWAY, LONDON (HEATHROW) AIRPORT AND KEW 1947–62, AND AT CROYDON 1947–58

Year	Annual number of hours of fog							
	<i>Kingsway</i>		<i>Heathrow</i>		<i>Kew</i>		<i>Croydon</i>	
	Thick	Dense	Thick	Dense	Thick	Dense	Thick	Dense
1947	81	24	195	48	180	84	61	21
1948	126	36	263	61	300	126	175	90
1949	51	15	206	61	282	156	65	3
1950	57	30	164	52	234	138	65	16
1951	51	12	163	55	234	78	117	40
1952	99	75	193	88	204	102	111	38
1953	69	24	337	77	396	54	177	44
1954	12	3	96	12	102	24	43	16
1955	33	6	152	29	102	42	54	15
1956	90	27	206	68	198	84	122	39
1957	27	9	120	40	126	54	42	18
1958	36	9	243	51	258	54	312	72
1959	99	21	254	98	270	132		
1960	27	6	110	21	132	24		
1961	27	0	147	40	144	24		
1962	78	30	183	84	282	174		
Period	Average annual number of hours of fog							
1947–50	79	26	207	55	249	126	91	33
1951–54	58	29	197	58	234	65	112	35
1955–58	47	13	180	47	171	59	133	36
1959–62	58	14	173	61	207	89		

Note: Heights above mean sea level are: Kingsway 65 feet, Heathrow 80 feet, Kew 18 feet, Croydon 217 feet.

show a continual decrease in the frequency of thick and dense fog at Kingsway, Heathrow and Kew during the period 1947–1958 compared with a steady increase at Croydon.

Table XXXI gives the average annual frequencies of dense and thick fog at Kingsway, Heathrow and Kew for the two 8-year periods 1947–54 and 1955–62. Comparison of these two 8-year means show a decrease in the frequency of thick fog of 24 per cent at Kingsway, 22 per cent at Kew and 12 per cent at Heathrow. However, the decrease in the frequency of dense fog is 52 per cent at Kingsway compared with 23 per cent at Kew and only 5 per cent at Heathrow. The lower frequency of fog in the centre of London, compared with the outskirts, is attributed to the heating effect of the heavily built-up central area, but it is extremely unlikely that an increase in this heating effect was the reason for the marked decrease in the frequency of dense fog at Kingsway for the period 1955–62.

TABLE XXXI. AVERAGE ANNUAL NUMBER OF HOURS OF DENSE AND THICK FOG AT KINGSWAY, HEATHROW AND KEW DURING 1947–54 AND 1955–62 AND THE PERCENTAGE DECREASE

	Average annual number of hours of fog		Decrease
	1947–54	1955–62	per cent
DENSE FOG			
Kingsway	27	13	52
Heathrow	57	54	5
Kew	95	73	23
THICK FOG			
Kingsway	68	52	24
Heathrow	202	177	12
Kew	241	189	22

Comparing the two 8-year periods 1947–54 and 1955–62, Table XXXII shows that there was no change in this heating effect during the winter six months as measured by the difference in mean temperature between St James's Park and Heathrow, while the difference in mean temperature between Kingsway and Heathrow displayed an apparent decrease in the heating effect. However, the Kingsway observation site was moved in September 1959 from the roof of Victory House, where the thermometer screen was located in the centre of a

TABLE XXXII. COMPARISON OF MEAN TEMPERATURES FOR TWO 8-YEAR PERIODS

	Jan.	Feb.	Mar.	Oct.	Nov.	Dec.	Average of the six months
1947–54	<i>degrees Fahrenheit</i>						
Heathrow	39.4	39.2	44.0	52.0	45.2	41.7	43.6
St James's Park	40.6	40.3	44.9	53.3	46.2	43.0	44.7
Kingsway	42.4	41.6	46.0	54.2	48.3	44.9	46.2
Difference (St James's Park—Heathrow)	1.2	1.1	0.9	1.3	1.0	1.3	1.1
Difference (Kingsway— Heathrow)	3.0	2.4	2.0	2.2	3.1	3.2	2.6
1955–62							
Heathrow	39.5	40.1	44.0	52.5	44.8	40.9	43.6
St James's Park	40.6	41.0	45.0	53.6	46.0	42.2	44.7
Kingsway	42.0	42.1	45.6	54.4	47.1	43.7	45.8
Difference (St James's Park—Heathrow)	1.1	0.9	1.0	1.1	1.2	1.3	1.1
Difference (Kingsway— Heathrow)	2.5	2.0	1.6	1.9	2.3	2.8	2.2

cluster of buildings, to the roof of Princes House where the screen was placed on the edge of the building overlooking Kingsway. This change of site may be the main reason for the apparent decrease in the heating effect.

The marked decrease in the frequency of dense fog at Kingsway compared with Kew and Heathrow may be due to a decrease in smoke pollution in the centre of London; 65 per cent of the observations of dense fog at Kingsway during the period 1947–62 were associated with calm conditions, and the wind was only 1 knot or less in 77 per cent of the reports of dense fog, which suggests that locally produced pollution may be more important than drifting pollution from outside the centre of the city. In this connexion, two factors must be considered, namely population changes and smoke control. During the post-war years many people have moved from central to outer London but the estimated decrease in population from 1947 to 1960 was only 4 per cent in the region within 2 miles radius of Kingsway and only 3 per cent in the region within 4 miles. This slight decrease in population would probably have little effect on smoke pollution. The power to control smoke was given to local authorities in the Clean Air Act of 1956, but the City of London already possessed this power under the City of London (Various Powers) Act of 1954.

Table XXXIII gives the date when smoke control commenced, and the percentage number of premises and dwellings covered by smoke control at the end of 1958, 1961 and 1962 for the Local Authorities within a 3-mile radius of Kingsway, Kew and Heathrow.* In the case of Local Authorities who only partly fall within one of these circular areas, a rough indication of the percentage of the borough or district within the area is given in Table XXXIII, but Local Authorities with less than a quarter of their region within one of the circular areas have been excluded. Table XXXIII shows that, in general, smoke control commenced earlier and progressed faster in the regions around Kingsway than it did in the regions around Kew and Heathrow. Kingsway is situated near the boundaries separating the City of London, Westminster and Holborn; the City was a smokeless zone by October 1955 and smoke control commenced in October 1958 in Westminster and in September 1959 in Holborn, so that by the end of 1962 Holborn and about 40 per cent of Westminster were also smokeless zones. Kew is situated in the borough of Richmond close to the boundaries with the boroughs of Twickenham and Heston and Isleworth; in two of these boroughs smoke control commenced in 1960 but in Twickenham it did not commence until May 1961. By the end of 1962, only 25 per cent of Richmond, 14 per cent of Heston and Isleworth, and 6 per cent of Twickenham were covered by smoke control. Heathrow is in Yiewsley and West Drayton close to the boundaries with the urban districts of Hayes and Harlington, and Feltham; smoke control commenced in December 1960 in Yiewsley and West Drayton, in June 1958 in Hayes and Harlington, and in November 1961 in Feltham. By the end of 1962, smoke control applied to 37 per cent of Yiewsley and West Drayton, 51 per cent of Hayes and Harlington and 20 per cent of Feltham. It is clear that progress in smoke abatement has been substantially greater in the Kingsway area than it has been in the regions around Kew and Heathrow, and this may have been a contributory factor to the marked decrease in the frequency of dense fog at Kingsway for the period 1955–62. Figure 1 shows the location of areas mentioned in Table XXXIII.

*The local authority areas are those in existence before the revisions consequent upon formation of the Greater London Council on 1.4.1964.

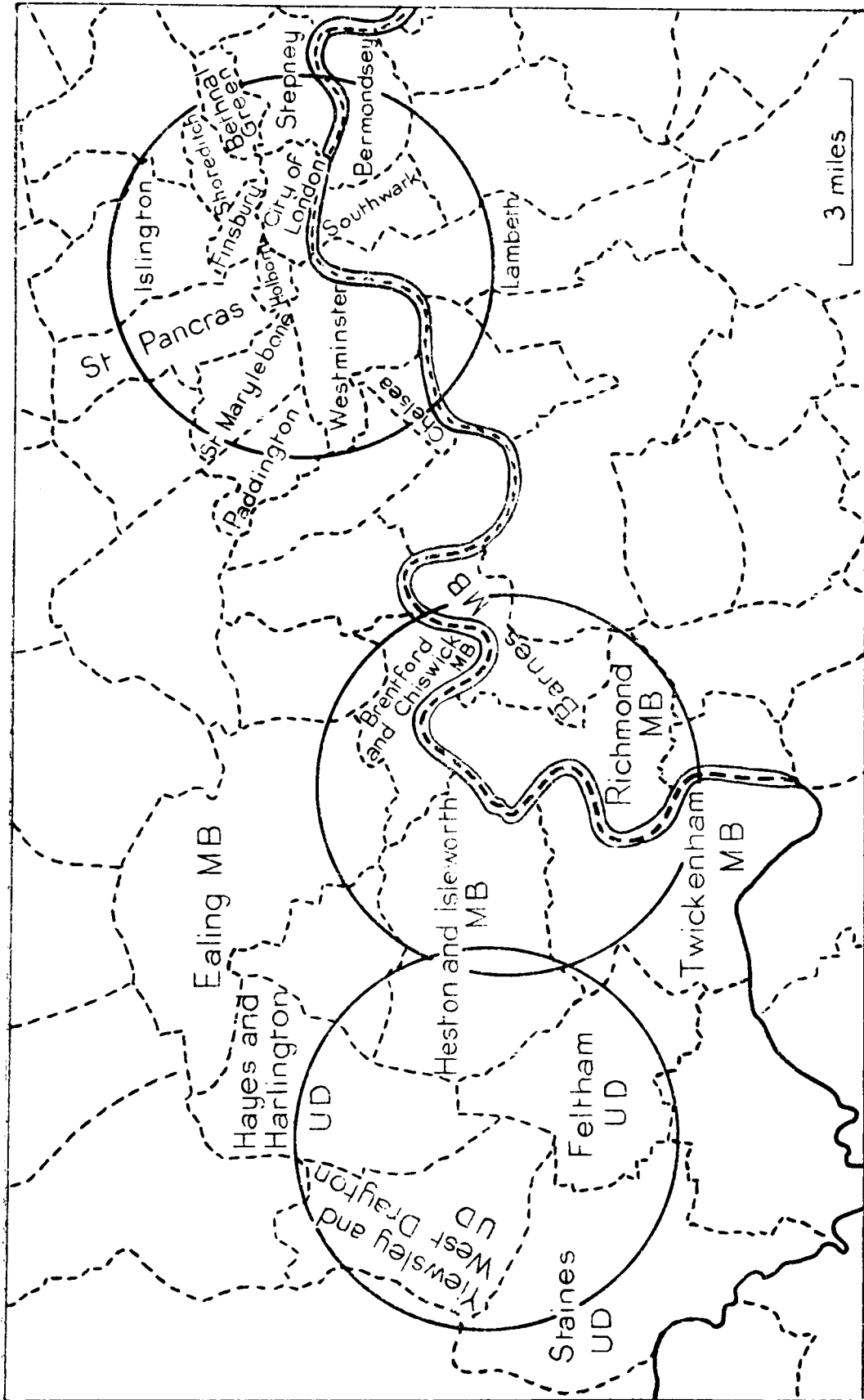


FIGURE 1. CIRCLES SHOWING THE 3-MILE RADIUS AREAS ROUND HEATHROW, KEW AND KINGSWAY.

TABLE XXXIII. PROGRESS OF SMOKE CONTROL IN GREATER LONDON

Local authority	Smoke control commenced date	Percentage number of premises and dwellings covered by smoke control by:		
		end of 1958	end of 1961	end of 1962
<i>3-mile radius of Kingsway</i>				
City of London*	1 Oct. 1955	100	100	100
Holborn	1 Sept. 1959	nil	71	100
Westminster	1 Oct. 1958	1	17	41
Southwark	1 Nov. 1961	nil	5	11
Lambeth (40)†	1 Oct. 1959	nil	3	8
St Marylebone	1 Oct. 1958	8	53	67
St Pancras (70)	1 Sept. 1959	nil	11	11
Finsbury	1 June 1962	nil	nil	9
Shoreditch	1 Sept. 1959	nil	18	37
Bethnal Green (60)	1 Dec. 1960	nil	33	62
Stepney (45)	1 Nov. 1960	nil	9	20
Bermondsey (55)	1 Oct. 1958	1	11	27
Chelsea (70)	1 Nov. 1960	nil	21	41
Paddington (50)	31 Oct. 1959	nil	18	33
Islington (60)	1 Sept. 1960	nil	4	8
<i>3-mile radius of Kew</i>				
Richmond	1960	nil	2	25
Twickenham (45)	9 May 1961	nil	nil	6
Heston and Isleworth (60)	1 Oct. 1960	nil	8	14
Ealing (25)	1 July 1960	nil	11	20
Brentford and Chiswick	1 May 1960	nil	12	12
Barnes (75)	1 Nov. 1961	nil	12	22
<i>3-mile radius of Heathrow</i>				
Feltham (75)	1 Nov. 1961	nil	14	20
Staines (45)	1 Dec. 1960	nil	18	26
Yiewsley and West Drayton (90)	1 Dec. 1960	nil	19	37
Hayes and Harlington (55)	1 June 1958	1	39	51
Heston and Isleworth (45)	1 Oct. 1960	nil	8	14

*The Port of London is not a smokeless zone, but 'The Dark Smoke (Permitted Periods) (Vessels) Regulations' have been applied since 1 June 1958.

†The figures in brackets in the first column are the approximate percentages of the boroughs or districts within the 3-mile radius.

Table XXXIV gives details of persistent thick and dense fogs at Kingsway during the period 1947–62; for this purpose persistent fog is defined as one which lasts for 12 hours or more and the assumption is made that each three-hourly observation of fog represents three hours of fog in the same range. The longest period of persistent fog since 1947 occurred in December 1952 when thick fog persisted for 51 hours and dense fog persisted for 45 of these hours. The second longest persistent fog occurred in December 1962 when thick fog persisted for 45 hours but dense fog persisted for only 12 hours. In view of the progress in smoke abatement in the Kingsway area, it is interesting to compare the frequency of thick and dense fog at Kingsway and Heathrow during December 1962 with similar frequencies for December 1952, and Table XXXV gives the number of hours of thick and dense fog at the two places during these two months. Comparison of the two Decembers shows that at Heathrow there is a decrease of about 11 per cent in the frequency of thick fog, but an increase of about 20 per cent in the frequency of dense fog, while at Kingsway there is a decrease of about 22 per cent in the frequency of thick fog and a marked decrease of about 57 per cent in the frequency of dense fog.

TABLE XXXIV. PERSISTENT THICK AND DENSE FOG AT KINGSWAY 1947-62

YEAR	MONTH	THICK FOG		DENSE FOG	
		Period observed Date/time GMT	Estimated duration in hours	Period observed Date/time GMT	Estimated duration in hours
1947	February	09/1800-10/0900	18		
	November	06/0600-07/0600	27	06/1200-07/0600	21
1948	March	06/1500-07/0001	12		
	November	27/1800-28/0900	18		
	November	28/1500-29/0900	21		
	Nov./Dec.	30/1500-01/2100	24	30/1800-01/1200	21
1950	March	26/1200-27/0600	21		
1951	December	13/2100-14/0900	15		
1952	December	05/0900-05/1800	12		
	December	06/0900-08/0900	51	06/0900-08/0300	45
1953	December	18/0300-18/1500	15		
1956	January	05/0600-06/0900	30		
	December	19/0300-20/0300	27	19/0600-19/1500	12
1957	December	04/0001-04/0900	12		
1959	January	14/0001-14/1500	18		
	January	29/0300-30/0001	24		
1962	December	04/0900-06/0300	45	04/2100-05/0600	12
	December	06/1200-07/0001	15		

TABLE XXXV. NUMBER OF HOURS OF DENSE AND THICK FOG AT KINGSWAY AND HEATHROW IN DECEMBER 1952 AND DECEMBER 1962

	KINGSWAY		HEATHROW	
	DENSE FOG	THICK FOG	DENSE FOG	THICK FOG
	<i>number of hours</i>		<i>number of hours</i>	
December 1952	69	81	61	113
December 1962	30	63	73	101

Noteworthy fogs in London

December 1813. The dense and persistent fog which commenced on 27 December 1813, and lasted until 3 January 1814 has been described in Chapter 1. This fog was associated with the onset of a great frost, and the last Frost Fair on the Thames was held in February 1814.

December 1873. Dense fog which persisted from 7 to 13 December brought traffic to a standstill at times. The menace of fog to health is illustrated by the fact that during this foggy period the death rate in the Administrative County of London was 40 per cent above average. Similar increases in mortality occurred during the fogs of 1880 and 1892.

November 1901. Fog was dense and persistent during the period 2 to 7 November. Traffic was seriously affected and was brought to a halt at times. Buses were abandoned and trains were cancelled.

January/February 1918. The fog, which persisted from 31 January to 1 February, was very dense in western London where visibility was only a few yards in places. Road and rail transport were stopped; there were many accidents, and some people were killed in Earls Court and Hammersmith.

November 1921. This fog, which was one of the thickest and most persistent for some time, lasted for about four days and was particularly dense on 27 and 28 November. There were many accidents; all forms of traffic were seriously delayed and on the evening of 27 November practically all traffic was suspended.

December 1924. On the 10th and 11th, dense persistent fog dislocated traffic which was practically at a standstill in some places. There were many accidents, and football matches and race meetings were abandoned. The fog lasted for 62 hours at Hampstead and on the morning of 11 December visibility in some places was down to five yards.

January 1925. This dense fog, which persisted from 10 to 12 January and which was the worst for many years, extended all over the Greater London area. There were many traffic accidents.

February 1927. Fog persisted almost continuously from the 11th to the 17th but there was some improvement in London on the 15th. In some places, the fog, which was dense at times, persisted all day on 11, 12 and 13 February. The fog was responsible for many serious road and rail accidents, and on 14 February shipping was at a standstill in the Thames with visibility down to a few feet.

December 1930. Road, rail and river traffic were almost paralysed by a dense choking fog on 22 and 23 December. There were many road accidents, some of which proved fatal. In some places the visibility was so bad that people walked into canals and rivers because they were unable to see the banks or edges.

November 1934. Dense persistent fog lasted from the 19th to the 21st. There were many traffic accidents and all rail services were dislocated. The hold-up of shipping in the Thames was the worst for many years.

December 1935. The worst fog of the winter occurred on 23 December. The combination of fog and severe frost seriously delayed road, rail and air traffic, and icy roads caused many accidents. Shipping in the Thames was at a standstill.

November 1936. Fog, which was dense at times, persisted from the 21st to the 25th. There were some fatal accidents and shipping in the Thames was at a standstill on the 22nd.

January 1944. At Kingsway thick fog persisted for about 57 hours and dense fog persisted for about 45 of the 57 hours. This was the longest period of persistent thick fog recorded at Kingsway between 1942 and 1962. Traffic must have been disrupted and the fog probably affected mortality but no details are available since newspapers were not allowed to print items which would give an indication of weather conditions during the war.

December 1944. Fog on the 13th resulted in the cancellation of many trains and Christmas shoppers experienced considerable trouble. Traffic was badly disorganized by a fog which lasted all day on 20 December. Fog persisted from the morning of Christmas Day until the morning of 27 December, apart from a temporary improvement during the night of 25th/26th; serious traffic delays occurred.

November 1947. Fog, which was dense at times, persisted during the period 6–7 November, and visibility was occasionally down to 20 yards. Road, rail, river and air traffic were seriously affected; motorists abandoned their cars, and shipping was at a standstill in the Thames on the 6th. There were several train collisions in which a few people were killed and many more injured.

November 1948. Almost continuous fog from the morning of 27 November to the afternoon of 1 December produced a serious dislocation of traffic; cars were abandoned by their drivers, buses were led by their conductors, and shipping in the Thames was at a standstill. Football matches were cancelled and visibility at times was almost nil. It was estimated that this fog, the most persistent in London for many years, caused between 700 and 800 additional deaths in Greater London.

December 1952. Fog, which was dense for long periods and which was accompanied by frost, persisted almost continuously from the morning of the 5th to the morning of the 8th and did not clear completely until the 9th. Visibility was below 20 yards for lengthy periods and was down to a few yards for quite a time in central London. The effect on transport was chaotic; trains were cancelled, road traffic was at a standstill at times, there were many accidents, air services were suspended, and river traffic was halted. Week-end sport was severely hit by the fog and frost, and many games were cancelled. In London the fog contained a heavy concentration of smoke and pollution which increased steadily from day to day. It was estimated that the amount of sulphur dioxide in the London air increased almost ten-fold during the fog. The effect on the health of the elderly, and people subject to chest complaints, was disastrous. The number of deaths from bronchitis and pneumonia increased to more than seven times the normal, and it was estimated that the fog was responsible for about 4000 deaths in the County of London. This killer fog resulted in an intensification of the campaign for smoke abatement and a Committee on Air Pollution was set up in 1953. As a result of its findings and recommendations, the Clean Air Act of 1956 was introduced.

January 1956. Fog, which was fairly dense at times, persisted from the evening of the 4th until midday on the 6th. The fog was not particularly dense in central London but visibility was below 10 yards at times at Kew. This fog proved to be very harmful to people with chest complaints and resulted in about 1000 deaths in the County of London.

December 1956. The fog, which lasted for over 24 hours during 19 to 20 December, disrupted all forms of traffic. Some trains were cancelled and others were seriously delayed; road traffic was at a standstill at times and there were many accidents, some of which proved fatal; all air services were cancelled and shipping on the Thames and its estuary was halted. A rabbit found wandering in a street in Bayswater and a duck which landed at Liverpool Street station were thought to have lost their way in the fog.

December 1957. Apart from a temporary break during the afternoon of the 4th, fog persisted from about midnight on the 3rd until the early morning of the 5th. It was not particularly dense in central London but visibility was down to 20 yards at times at Kew. This fog will be remembered as the main cause of the Lewisham rail disaster in which 87 people were killed. The fog also proved disastrous to sufferers from chest complaints, and it was estimated to have caused between 800 and 1000 deaths in Greater London.

December 1962. The fog and frost which set in on Monday evening 3 December persisted until Friday morning 7 December, but it did not clear until Friday evening in some parts of north London. It was reckoned to be the worst fog since the notorious one of December 1952. The fog and frost were most severe and persistent in the low-lying areas of the Thames valley and, in general, visibility in central London was better than it was in the suburbs. The fog was most dense on Thursday evening when visibility was less than 5 yards over much of the Greater London area; bus services were suspended and London Transport ordered its 5000 buses to make for the nearest garage. All forms of traffic were seriously dislocated during the fog; rail and road services were curtailed and seriously delayed, and thousands of cars were abandoned by their drivers. After the fog the Automobile Association received over 3000 calls for assistance from drivers who could not start the cars which they had abandoned during the fog. Air traffic was at a standstill from Monday evening to Friday afternoon. During the fog, the smoke and sulphur dioxide in the atmosphere increased to a maximum value of 10 to 14 times the normal concentration. Although the death rate due to bronchitis increased markedly, the mortality due to the fog was much less than it was during the 'killer' fog of December 1952. At times the fog was quite shallow, and many people living higher than 300 ft above mean sea level enjoyed some hazy sunshine while their less fortunate fellow citizens were groping about in the fog.

CHAPTER 8. WARM AND COLD SPELLS

'In the middle of May comes the tail of the winter'

(FRANCE—WEATHER LORE)

Introduction

According to H. H. Lamb, who has done considerable work on the history of our climate, the period between 400 and 1200 A.D. was, in general, warm and dry with the best weather occurring between 800 and 1000 A.D. The vine was cultivated in England during this period and vineyards flourished in the London basin and the Medway valley. This implies freedom from May frosts, mainly good weather in September, and summer temperatures about 2 to 4 degF. higher than at present. Cultivation of the vine in England gradually declined during the period 1200–1400 and, although this decline may have been partly due to closer ties with France and the increased competition from the smoother wines of that country, it is believed that it was mainly due to a deterioration in climate. There is evidence that the weather during this period was remarkably variable with great floods and droughts and with very severe and very mild winters. Table XXXVI gives the number of occasions per century when the Thames in London was completely frozen over and the ice was thick enough to support the weight of people. The Thames was frozen over on three occasions in the 13th century but only on one occasion in the 14th century. There is some evidence that the climate improved somewhat during the period 1400–1550 but the Thames was frozen over five times during this 150 years which suggests that there was no diminution in the frequency of severe winters.

The period 1550 to about 1850 has been called the Little Ice Age. During this 300-year period the frequency of poor summers and severe winters increased, the Thames was completely frozen over on 15 occasions and frost fairs were held on the frozen river. The last time the Thames in London was frozen over completely was in the winter of 1813/14. As explained in Chapter 2 the demolition and replacement of the old London Bridge must have reduced considerably the chances of the river freezing in central London. Other factors which reduced the chances of freezing are:

- (1) The drainage of the marshes at Lambeth and Vauxhall which were then used for building; this decreased the chances of ice forming on the edge of the river.
- (2) The piping of tributaries such as Tyburn, Holborn, and Fleet; this reduced the possibility of ice forming in these streams and flowing into the river.
- (3) The construction of the embankments increased the flow of the river.
- (4) The construction of locks and weirs above Teddington reduced the amount of ice floating down-river.

However, the most important factor nowadays is the heat supplied to the Thames in London in the form of warm water discharged into the river by factories and power-stations along its banks. For instance, recordings made by the Royal Research Ship *Discovery III* on 27 January 1963 showed that the temperature of the river between Tilbury and Tower Bridge varied from 46 to 50°F. compared with 32°F. in the mouth of the river. During the severe winter

of 1962/63 the Thames in London was completely free of ice, but there were ice belts up to a mile wide on the shores of the estuary, and at Hampton Court the ice was thick enough to allow people to walk across the river.

TABLE XXXVI. NUMBER OF OCCASIONS PER CENTURY WHEN THE THAMES ICE WAS STRONG ENOUGH TO SUPPORT THE WEIGHT OF PEOPLE

1100's	1200's	1300's	1400's	1500's	1600's	1700's	1800's	TOTAL
1	3	1	2	4	7	6	1	25

Warm and cold years

Figure 2 shows the variation of the annual mean temperature at Greenwich from 1763 to 1870 and at Kew from 1871 to 1964, compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. The period 1763–1840 is covered by estimated temperatures due to Birkeland who based his calculations of monthly and annual mean temperatures on irregular observations of temperature at Greenwich during the period 1814–1840 and on incomplete temperature records at other places, at varying distances from Greenwich, for the years prior to 1814. The period from 1841 onwards is covered by official temperature records for Greenwich (1841–70) and Kew (1871–1964). Figure 2 indicates that the weather during the first 60 years or so of the present century was appreciably warmer than it was during the 19th century and the latter part of the 18th century. There were no warm spells, even during the present century, but there were several well-marked cold spells during the 18th and 19th centuries including the period 1763–74 and the 10 years 1812–21; the latter period included the two coldest years on record, 1814 and 1816, with estimated mean temperatures of 46°F. and 45·9°F. respectively. Annual mean temperature was below or well below average during the 11 years 1835–45, and there was a long cold spell from 1873 to 1892. Table XXXVII gives the number of warm and cold years in every 20-year period from 1763 to 1964; for this purpose a warm year is defined as one with a mean temperature of 51·6°F. or over and a cold year is defined as one with a mean temperature of 49°F. or below. The high frequency of cold years and the almost complete absence of warm years during the period 1763–1842 is a clear indication of the Little Ice Age. The frequency of cold years decreased during the second half of the last century and the beginning of this century, and there was only one cold year during the last 42 years. The frequency of warm years started to increase in about the middle of the last century but the highest frequency was during the last 22 years.

TABLE XXXVII. FREQUENCY OF WARM AND COLD YEARS 1763–1964

20-year period	No. of warm years	No. of cold years
1763–1782	1	11
1783–1802	0	6
1803–1822	0	12
1823–1842	0	9
1843–1862	3	4
1863–1882	1	2
1883–1902	0	8
1903–1922	2	3
1923–1942	2	0
1943–1964*	6	1

*22-year period.

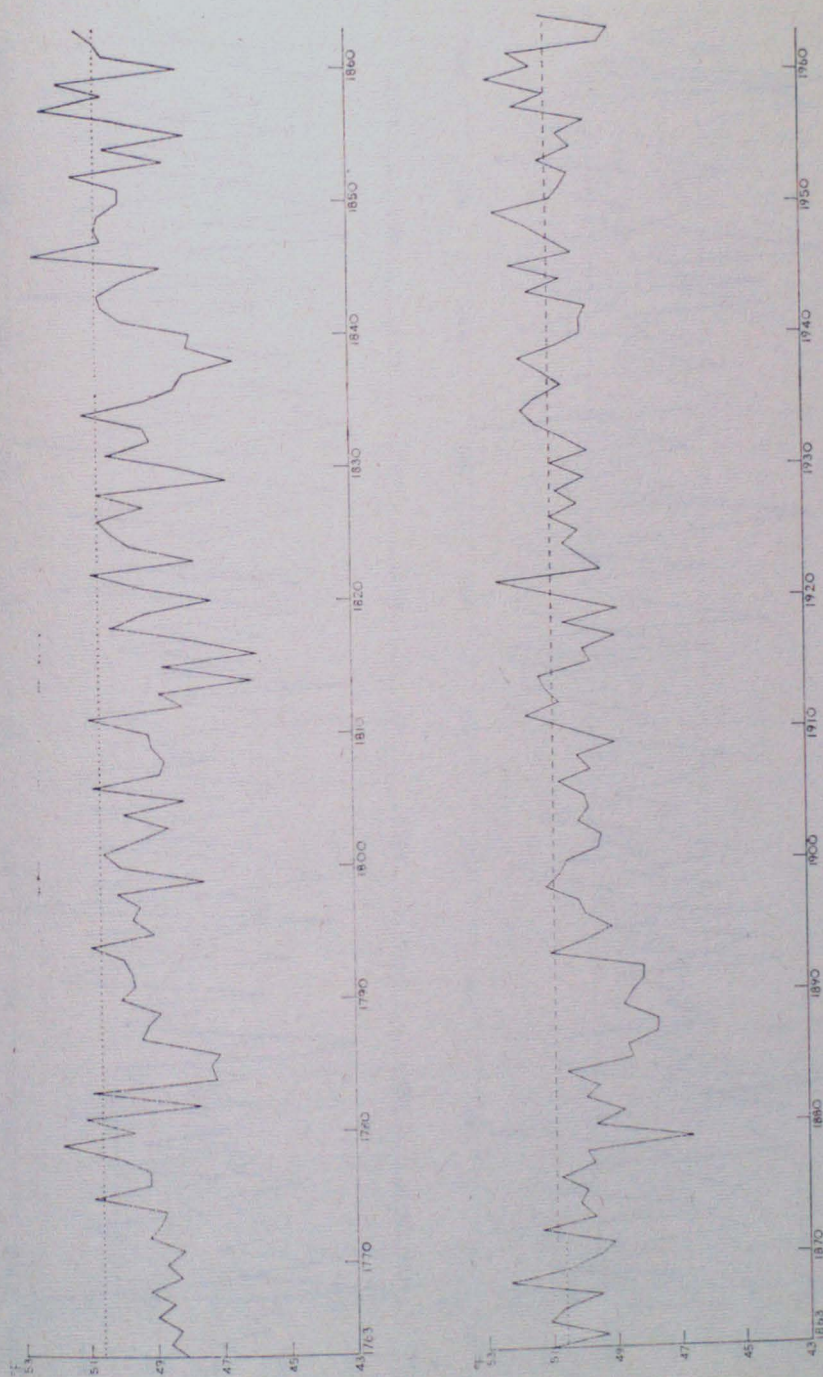


FIGURE 2. MEAN ANNUAL TEMPERATURE, LONDON 1763-1964

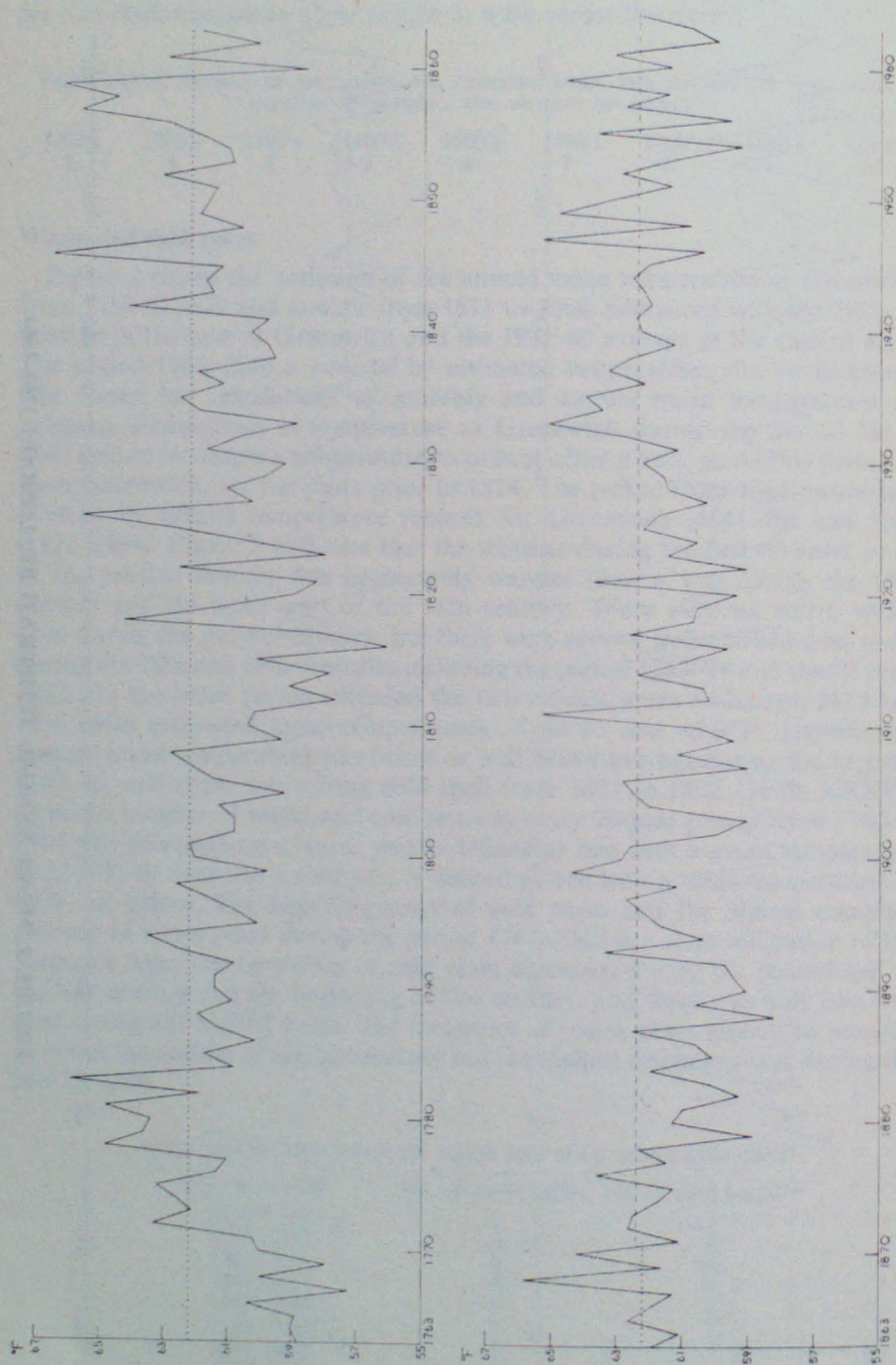


FIGURE 3. MEAN SUMMER TEMPERATURE, LONDON 1763-1964

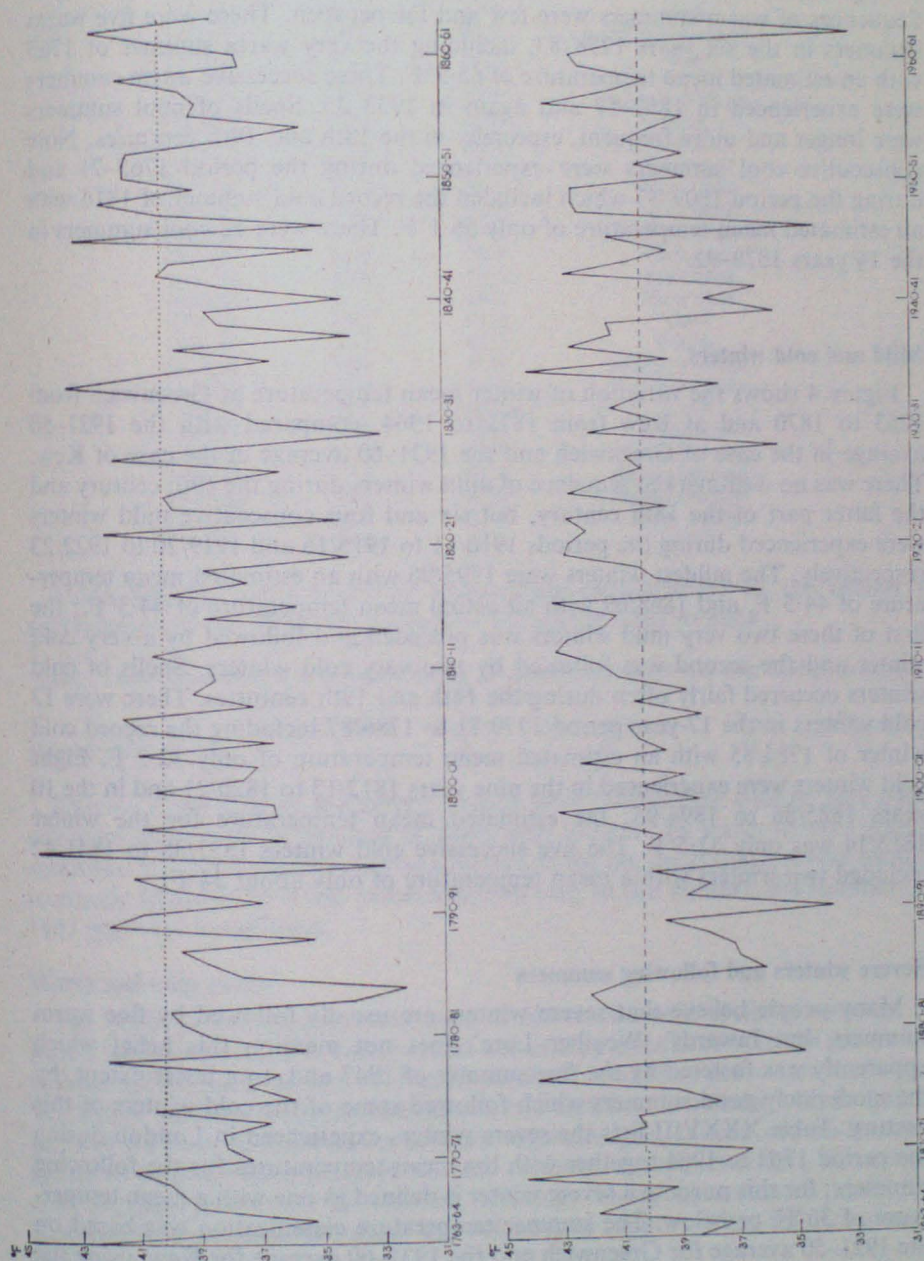


FIGURE 4. MEAN WINTER TEMPERATURE. LONDON 1763-1964

Warm and cool summers

Figure 3 shows the variation of summer mean temperature at Greenwich from 1763 to 1870 and at Kew from 1871 to 1964, compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. Sequences of warm summers were few and far between. There were five warm summers in the six years 1778–83, including the very warm summer of 1783 with an estimated mean temperature of 65.9°F. Three successive warm summers were experienced in 1857–59 and again in 1933–35. Spells of cool summers were longer and more frequent, especially in the 18th and 19th centuries. Nine consecutive cool summers were experienced during the period 1763–71 and during the period 1809–17 which included the record cold summer of 1816 with an estimated mean temperature of only 56.1°F. There were 12 cool summers in the 14 years 1879–92.

Mild and cold winters

Figure 4 shows the variation of winter mean temperature at Greenwich from 1763 to 1870 and at Kew from 1871 to 1964, compared with the 1921–50 average in the case of Greenwich and the 1931–60 average in the case of Kew. There was no well-marked sequence of mild winters during the 19th century and the latter part of the 18th century, but six and four consecutive mild winters were experienced during the periods 1910/11 to 1915/16 and 1919/20 to 1922/23 respectively. The mildest winters were 1795/96 with an estimated mean temperature of 44.5°F. and 1868/69 with an actual mean temperature of 44.3°F.; the first of these two very mild winters was preceded and followed by a very cold winter and the second was followed by two very cold winters. Spells of cold winters occurred fairly often during the 18th and 19th centuries. There were 13 cold winters in the 17-year period 1770/71 to 1786/87 including the record cold winter of 1784/85 with an estimated mean temperature of only 32.3°F. Eight cold winters were experienced in the nine years 1812/13 to 1820/21 and in the 10 years 1885/86 to 1894/95; the estimated mean temperature for the winter 1813/14 was only 32.5°F. The five successive cold winters 1837/38 to 1841/42 included two winters with a mean temperature of only about 34°F.

Severe winters and following summers

Many people believe that severe winters are usually followed by fine warm summers, but Inwards' 'Weather Lore' does not mention this belief which apparently was fostered by the fine summer of 1947 and, to a lesser extent, by the moderately good summers which followed some of the cold winters of this century. Table XXXVIII lists the severe winters experienced in London during the period 1763 to 1964 together with the mean temperatures for the following summers; for this purpose a severe winter is defined as one with a mean temperature of 36°F. or below. The summer temperature classification was based on the 1921–50 average for Greenwich and the 1931–60 average for Kew, using the limits specified in Chapter 4.

TABLE XXXVIII. SEVERE WINTERS AND FOLLOWING SUMMERS—GREENWICH 1763–1870
AND KEW 1871–1964

WINTER	MEAN TEMPERATURE OF		SUMMER TEMPERATURE CLASSIFICATION
	WINTER	SUMMER	
	<i>degrees Fahrenheit</i>		
1765/66	35.3	60.4	Cool
1775/76	36.0	61.4	About average
1779/80	35.6	63.4	Warm
1783/84	34.0	60.8	Cool
1784/85	32.3	61.7	About average
1788/89	35.3	60.9	Cool
1794/95	33.0	60.1	Very cool
1813/14	32.5	57.9	Very cool
1815/16	35.8	56.1	Very cool
1819/20	34.1	59.0	Very cool
1822/23	34.4	58.0	Very cool
1829/30	33.0	59.3	Very cool
1837/38	34.0	59.6	Very cool
1840/41	34.3	59.8	Very cool
1844/45	35.2	61.2	Cool
1846/47	34.8	63.2	Warm
1854/55	35.6	61.8	About average
1878/79	34.8	58.9	Very cool
1879/80	36.0	61.3	Cool
1890/91	33.8	59.4	Very cool
1894/95	34.8	61.7	About average
1928/29	35.6	61.6	About average
1939/40	35.7	62.3	About average
1946/47	34.3	65.3	Very warm
1962/63	33.0	60.8	Cool

Table XXXIX summarizes the temperature classifications of the summers which followed the 25 severe winters of the period 1763 to 1964.

TABLE XXXIX. TEMPERATURE CLASSIFICATION OF SUMMERS FOLLOWING THE SEVERE WINTERS.
1763–1964

	Very warm	Warm	About average	Cool	Very cool
Number of summers	1	2	6	6	10

Sixty-four per cent of the severe winters were followed by cool or very cool summers while only 12 per cent of them were followed by warm or very warm summers. It is clear that there is no foundation for the belief that a severe winter is usually followed by a fine warm summer, and, in this context, the summer of 1947 was very exceptional.

Warm and cold spells

The belief in the regular recurrence of warm and cold spells of weather is widely quoted in folklore. Such periods are usually associated with the names of various saints, such as the cold spell in about mid-May associated with the 'Ice Saints' and the warm spell in about mid-October associated with St Luke. In 1869 Buchan, a well-known Scottish meteorologist, carried out an investigation to discover whether there was any evidence to support certain warm and cold periods mentioned in Scottish folklore. Using observations made in Scotland he concluded that there was evidence in support of the following cold and warm periods:

<i>Cold periods</i>		<i>Warm periods</i>
7–14 Feb.	11–14 April	12–15 July
9–14 May	29 June–4 July	12–15 Aug.
6–11 Aug.	6–13 Nov.	3–14 Dec.

This work attracted little attention until about 1920 when the proposal to assign a fixed date to Easter was under active discussion. It was pointed out that the date proposed for Easter Sunday, between 9 and 15 April, generally fell in Buchan's second cold period. After that, the Buchan periods received considerable publicity, they became known as the Buchan warm and cold spells and, as a result of a few spectacular coincidences, their success in predicting cold or warm weather was widely acclaimed. Probably because they were unaware of the derivation of the periods, many people assumed that the Buchan warm and cold spells applied to the whole of the British Isles and they were often quoted in relation to the weather in London. In 1930 Brooks and Mirrlees decided to test the applicability of Buchan's periods to London by repeating his investigation using London (Kew) temperatures for the period 1871–1929. They concluded that none of Buchan's periods applied to London, but they discovered that during the period 1900–29 there was a tendency for the last 10 days of May to be abnormally warm, but this tendency did not exist between 1871 and 1900.

Comparison of the mean temperature at Kew for the Buchan periods during the 30 years 1934–63 with the appropriate 1931–60 10-day averages, adjusted where necessary, will give a good indication whether the Buchan periods apply to London. The results of such a comparison are given in Table XL; the term 'about average' in this table means that the mean temperature for the Buchan period was within half a degree Fahrenheit of the appropriate 10-day average. So far as the first four Buchan cold periods are concerned, mean temperature was above average more often than it was below average. However, the mean temperature was below average in almost 60 per cent of the years for the Buchan cold period 6–11 August. In the case of the first two Buchan warm periods the mean temperature was below average about twice as often as it was above average. In general the results of this comparison agree with the conclusions given by Brooks and Mirrlees, but the investigation showed that there was a tendency for the last 10 days of May to be cold, rather than warm, during the period 1934–63.

TABLE XL. COMPARISON OF THE MEAN TEMPERATURE DURING BUCHAN PERIODS WITH THE APPROPRIATE 1931–60 10-DAY AVERAGE, KEW 1934–63

BUCHAN COLD PERIOD	NUMBER OF YEARS WITH MEAN TEMPERATURE		
	<i>Above average</i>	<i>Below average</i>	<i>About average</i>
7–14 Feb.	16	12	2
11–14 April	14	13	3
9–14 May	18	11	1
29 June–4 July	17	11	2
6–11 Aug.	8	17	5
6–13 Nov.	9	12	9
BUCHAN WARM PERIOD			
12–15 July	9	21	—
12–15 Aug.	9	18	3
3–14 Dec.	11	16	3

Figure 5 details all the warm spells experienced at Kew during the summer months from 1881 to 1964; for this purpose a warm spell is defined as five or more consecutive days with daily maximum temperature 75°F. or above, except that one day in the spell could have a maximum temperature between 70 and 75°F. The diagram shows that the five consecutive summers 1888–

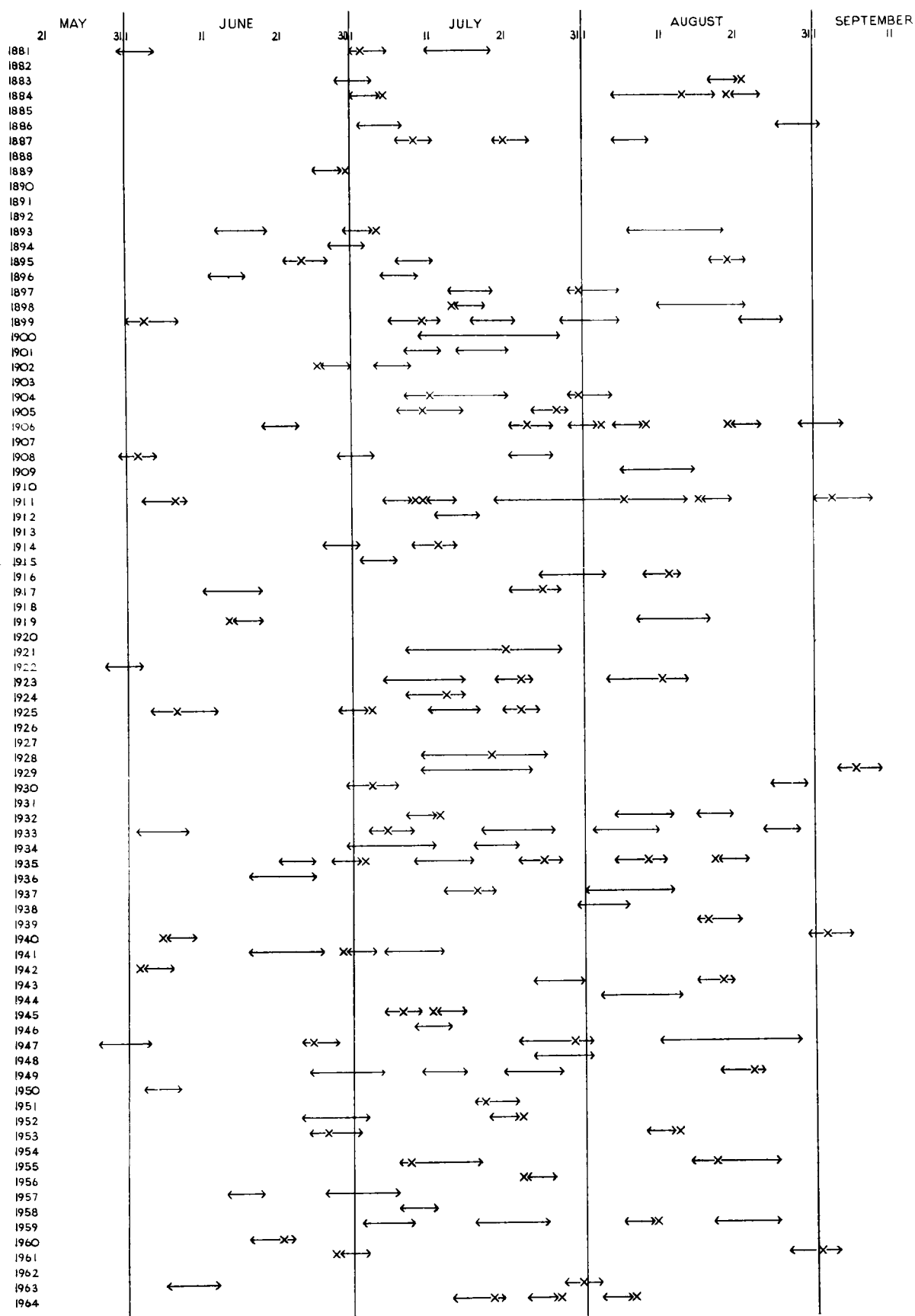


FIGURE 5. WARM SPELLS DURING THE SUMMER. KEW 1881-1964

←→ Daily maximum temperature 75°F. or above
 × Daily maximum temperature between 70°F. and 75°F.

1892 were unique with only one short warm spell in June 1889; warm spells were also infrequent during the nine consecutive summers 1912–1920. Warm spells were fairly frequent during the five consecutive summers 1897–1901 and the four consecutive summers 1932–1935. The longest warm spell of 26 days lasted from 20 July to 14 August 1911. Figure 6 gives the number of years in which each day in the summer during the period 1881–1964 fell in a warm spell of five days or more. Warm spells were most frequent during the period 8–15 July, but even then the frequency was only about 23 to 30 per cent, indicating that there is no evidence for a regular warm spell in the summer. The graph shows that warm spells in June were infrequent, particularly during the five days 9–13 June; the end of July to the beginning of August and mid-August were also unfavourable periods for spells of warm weather.

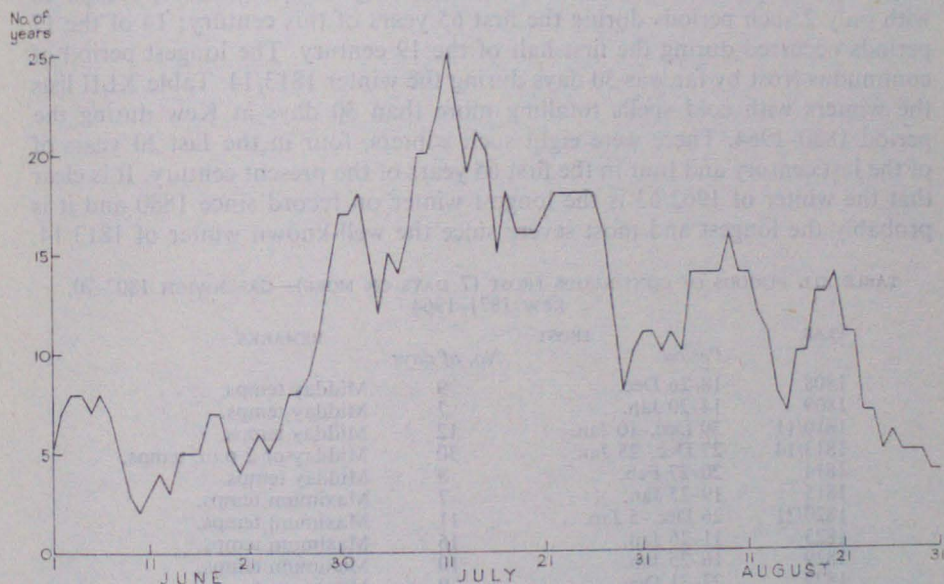


FIGURE 6. NUMBER OF YEARS IN WHICH EACH DAY IN THE SUMMER MONTHS FELL IN A WARM SPELL OF FIVE DAYS OR MORE. KEW 1881–1964

Details of all the cold spells recorded at Kew during the winter months from 1880 to 1964 are given in Figure 7; for this purpose a cold spell is defined as five or more consecutive days with daily maximum temperature 37°F. or below, except that on one day in the spell the maximum temperature could be between 37 and 40°F. Cold spells were most frequent during the periods 1885–95 and 1939–42, and the longest continuous cold spell of 35 days occurred during the winter of 1890/91 (8 December to 11 January), but a continuous cold spell of 34 days was experienced during the winter of 1962/63 (23 December to 25 January). Five consecutive winters without any cold spells occurred between 1956 and 1961, and there were four consecutive winters free of cold spells

during the period 1921–1925. Figure 8 gives the number of years in which each day in the winter during the period 1880–1964 fell in a cold spell of five days or more. The graph displays no evidence for a regular cold spell in winter, but during the winters of 1880–1964 there was a slight tendency for cold spells to occur most frequently in late December and during the period 15–24 January. Table XLI lists the periods of continuous frost, lasting seven days or more, at Greenwich (1807–70) and Kew (1871–1964); the list for the period after 1840 is based on official records of daily maximum temperatures at Greenwich and Kew. Details for the period 1807–40 are based on temperature observations made at Greenwich. Some of these observations refer to maximum temperature but others were made at midday or at 2 p.m.; no information is available regarding the exposure of the thermometers except that they were out of doors. During frosty spells in the winter, maximum temperature usually occurs early in the afternoon, and, therefore, the inaccuracies introduced by basing periods of frost on midday or 2 p.m. temperatures are small. During the last century there were 17 periods of continuous frost, lasting 7 days or more, compared with only 2 such periods during the first 65 years of this century; 14 of the 17 periods occurred during the first half of the 19 century. The longest period of continuous frost by far was 30 days during the winter 1813/14. Table XLII lists the winters with cold spells totalling more than 30 days at Kew during the period 1880–1964. There were eight such winters, four in the last 20 years of the last century and four in the first 65 years of the present century. It is clear that the winter of 1962/63 is the longest winter on record since 1880 and it is probably the longest and most severe since the well-known winter of 1813/14.

TABLE XLI. PERIODS OF CONTINUOUS FROST (7 DAYS OR MORE)—GREENWICH 1807–70, KEW 1871–1964

YEAR	PERIOD	FROST	REMARKS
	<i>Period</i>	<i>No. of days</i>	
1808	18–26 Dec.	9	Midday temps.
1809	14–20 Jan.	7	Midday temps.
1810/11	30 Dec.–10 Jan.	12	Midday temps.
1813/14	27 Dec.–25 Jan.	30	Midday or 2 p.m. temps.
1814	20–27 Feb.	8	Midday temps.
1815	19–25 Jan.	7	Maximum temps.
1820/21	26 Dec.–5 Jan.	11	Maximum temps.
1823	11–26 Jan.	16	Maximum temps.
1829	16–25 Jan.	10	Maximum temps.
1829	23–31 Dec.	9	Maximum temps.
1830	31 Jan.–6 Feb.	7	Maximum temps.
1835	20–26 Dec.	7	Midday temps.
1838	8–20 Jan.	13	Maximum temps.
1841	1–9 Feb.	9	Maximum temps.
1881	14–21 Jan.	8	Maximum temps.
1890	13–19 Dec.	7	Maximum temps.
1895	5–11 Feb.	7	Maximum temps.
1947	16–23 Feb.	8	Maximum temps.
1963	17–25 Jan.	9	Maximum temps.

TABLE XLII. WINTERS WITH COLD SPELLS EXCEEDING 30 DAYS—KEW 1880–1964

WINTER	TOTAL LENGTH OF COLD SPELLS (DAYS)
1885/86	33
1887/88	31
1890/91	45
1894/95	31
1916/17	32
1939/40	39
1946/47	38
1962/63	56

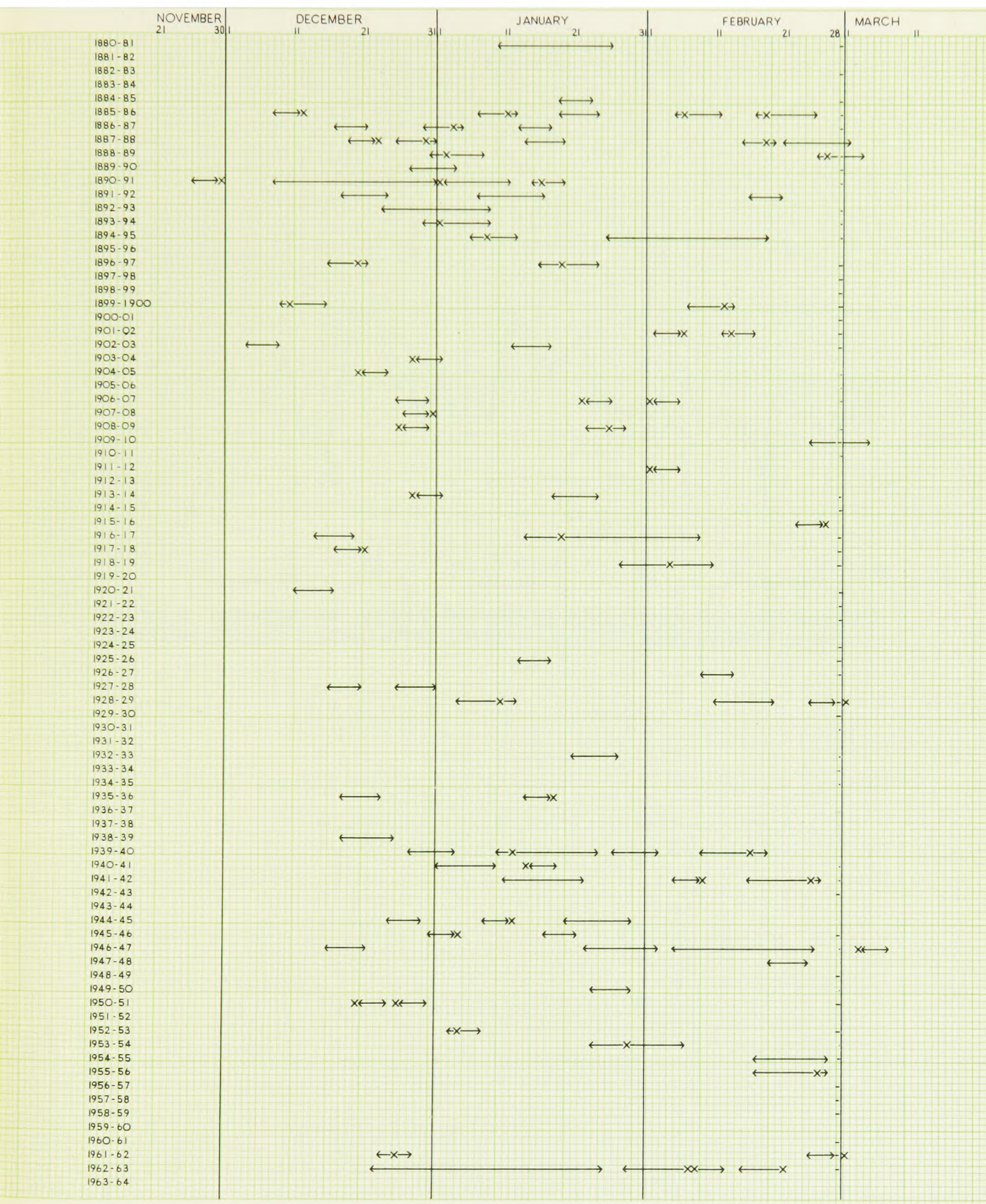


FIGURE 7—COLD SPELLS DURING THE WINTER. KEW 1880-1964.

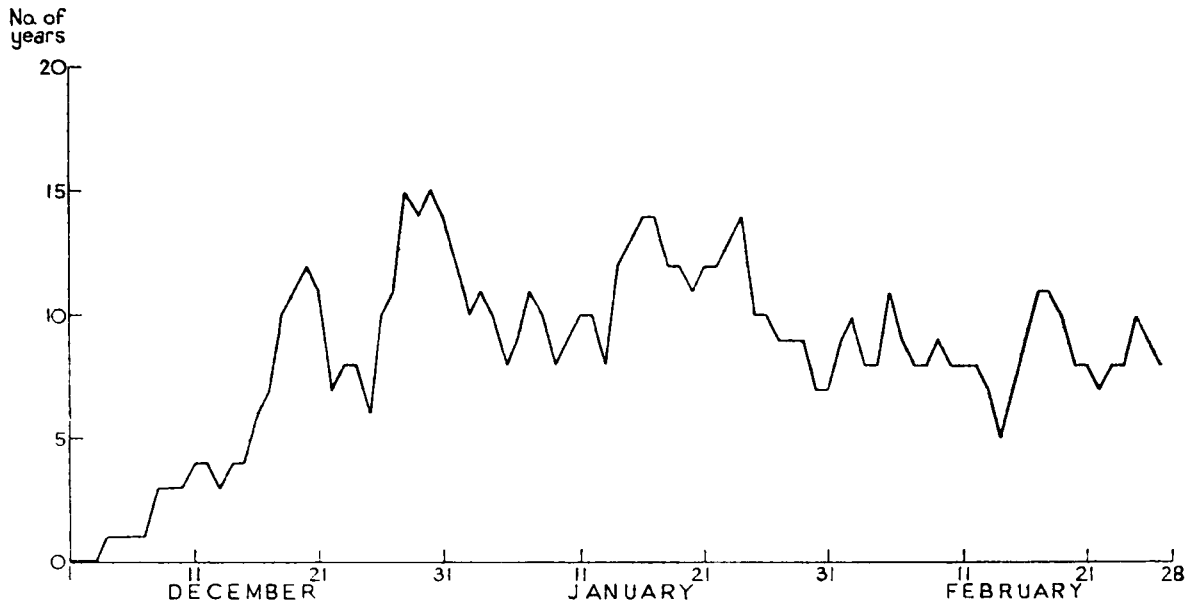


FIGURE 8. NUMBER OF YEARS IN WHICH EACH DAY IN THE WINTER MONTHS FELL IN A COLD SPELL OF FIVE DAYS OR MORE. KEW 1880-1964

CHAPTER 9. WET AND DRY PERIODS—DROUGHTS AND FLOODS

*'No one so surely pays his debt
As wet to dry and dry to wet.'*

(WILTSHIRE—WEATHER LORE)

Wet and dry periods

Figure 9 shows the variation of annual rainfall in London from 1697 to 1964, apart from a break during the period 1717–24; the various rainfall records used to construct the histogram are specified in the diagram. Upminster and Tonbridge records had to be used to cover the periods 1697–1716 and 1736–64 respectively. Although Upminster is drier and Tonbridge is wetter than Greenwich or Kew, it is considered that the records from these two places give a fair indication of the variation of rainfall in London. In order to pick out wet and dry periods the 1916–50 average annual rainfalls for Upminster, Tonbridge, Greenwich and Kew are indicated on the diagram; it is assumed that the Greenwich average may be applied to the other stations included in the histogram. Figure 9 indicates that the period 1785–1815 was markedly dry with only 6 of the 31 years having an annual rainfall greater than the 1916–50 average; this dry period was followed immediately by a wet one which lasted until 1831. There was a further short wet period from 1875 to 1882. Figure 9 shows that the record wet year, 1903, and the record dry year, 1921, were unique in more ways than one. The year 1824 is the only one which is comparable with 1903, but while the year 1824 occurred in the middle of a wet period, the year 1903 was in about the middle of a period (1895–1909) with annual rainfall below the 1916–50 average. The year 1714 is the only one which stands comparison with 1921; however 1714 was in a period when neither wet nor dry years predominated, but 1921 was preceded and followed by wet periods.

Wet and dry years

Table XLIII gives details of wet and dry years in the London area from 1697 to 1964, apart from a break during the period 1717–24; the rainfall records used are specified in Figure 9. The criterion adopted for defining wet and dry years is annual rainfall 20 per cent or more above and below the 1916–50 average respectively; the Greenwich average was used in the case of all stations other than Upminster, Tonbridge and Kew. According to Brooks and Glasspoole (*'British Floods and Droughts'*) the first half of the 18th century was remarkably dry in England, and Table XLIII shows that there were nine dry years compared with only three wet years in the London area during this period. Wet years outnumbered dry years in the ratio of ten to four during the first half of the 19th century, but the number of wet and dry years was about the same during the second half of the 19th century and the first 65 years of the present century. Table XLIV gives the number of wet and dry years during 30-year periods from 1725 to 1964. The outstanding points are the high frequency of wet years during the period 1815–44, and the absence of wet years during the period 1785–1814.

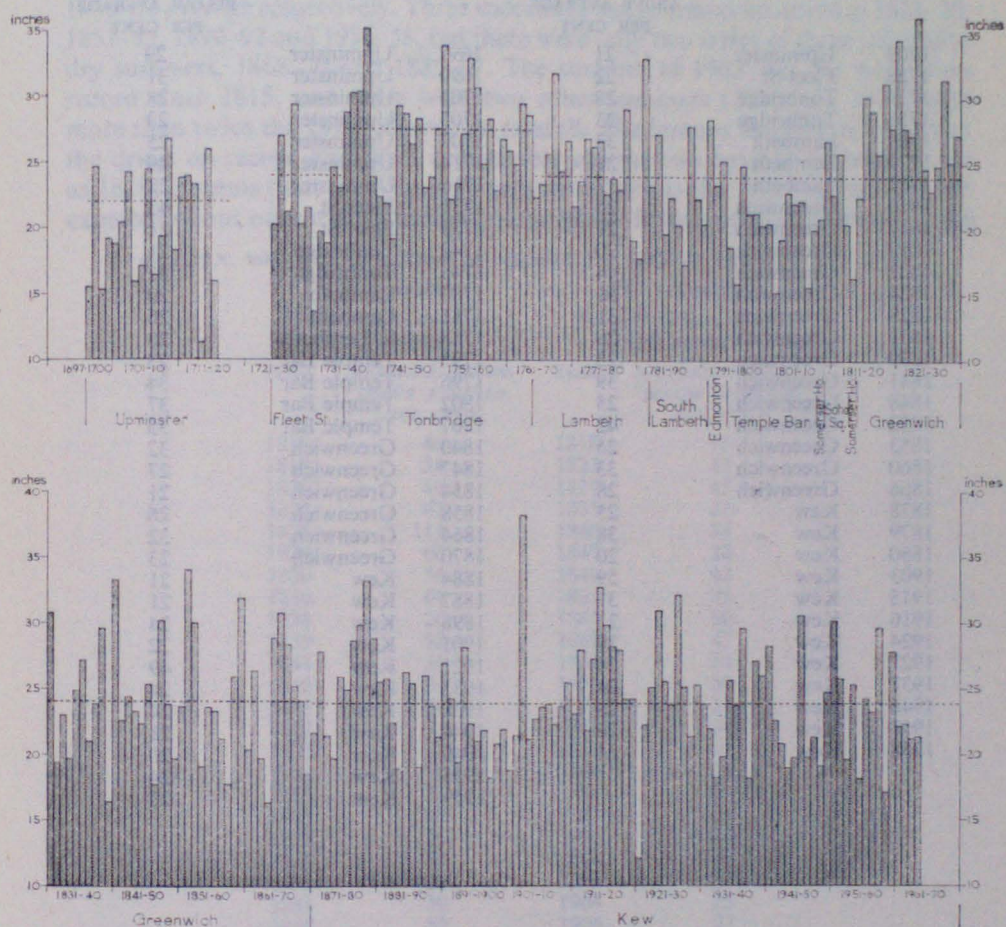


FIGURE 9. ANNUAL RAINFALL LONDON 1697-1716 AND 1725-1964

TABLE XLIII. WET AND DRY YEARS 1697-1716 AND 1725-1964

WET YEARS			DRY YEARS		
<i>Rainfall 20% or more above average</i>			<i>Rainfall 20% or more below average</i>		
YEAR	STATION	RAINFALL EXCESS ABOVE AVERAGE PER CENT	YEAR	STATION	RAINFALL DEFICIT BELOW AVERAGE PER CENT
1709	Upminster	21	1697	Upminster	29
1728	Fleet St	22	1699	Upminster	31
1739	Tonbridge	28	1704	Upminster	28
1751	Tonbridge	23	1705	Upminster	23
1768	Lambeth	33	1707	Upminster	25
1779	Lambeth	21	1714	Upminster	49
1782	Lambeth	37	1716	Upminster	28
1816	Greenwich	25	1731	Fleet St	43
1817	Greenwich	21	1733	Fleet St	21
1819	Greenwich	30	1742	Tonbridge	21
1821	Greenwich	44	1743	Tonbridge	31
1824	Greenwich	51	1780	Lambeth	20
1828	Greenwich	31	1781	Lambeth	26
1831	Greenwich	28	1788	S. Lambeth	28
1839	Greenwich	23	1795	Temple Bar	23
1841	Greenwich	39	1796	Temple Bar	34
1848	Greenwich	25	1802	Temple Bar	37
1852	Greenwich	42	1807	Temple Bar	35
1853	Greenwich	25	1840	Greenwich	32
1860	Greenwich	33	1847	Greenwich	27
1866	Greenwich	28	1854	Greenwich	21
1878	Kew	25	1858	Greenwich	26
1879	Kew	38	1864	Greenwich	32
1880	Kew	20	1870	Greenwich	23
1903	Kew	59	1884	Kew	21
1915	Kew	37	1887	Kew	21
1916	Kew	25	1898	Kew	24
1924	Kew	29	1901	Kew	22
1927	Kew	34	1921	Kew	49
1937	Kew	24	1933	Kew	24
1946	Kew	28	1938	Kew	24
1951	Kew	26	1944	Kew	21
1958	Kew	24	1949	Kew	20
			1955	Kew	24
			1959	Kew	29

TABLE XLIV. NUMBER OF WET AND DRY YEARS DURING 30-YEAR PERIODS FROM 1725 TO 1964

30-YEAR PERIOD	NUMBER OF WET YEARS	NUMBER OF DRY YEARS
1725-1754	3	4
1755-1784	3	2
1785-1814	0	5
1815-1844	9	1
1845-1874	5	5
1875-1904	4	4
1905-1934	4	2
1935-1964	4	5

Wet and dry summers

Table XLV gives details of wet and dry summers at Greenwich from 1815 to 1870 and at Kew from 1871 to 1964. The criterion adopted for defining wet and dry summers is seasonal rainfall 25 per cent or more above and below the 1916–50 average respectively. Three successive wet summers occurred in 1828–30, 1851–53, 1890–92 and 1956–58, but there were only two series of three successive dry summers, 1868–70 and 1885–87. The summer of 1903 was the wettest on record since 1815, and there were two other summers (1828 and 1879) with more than twice the 1916–50 average rainfall. The famous summer of 1921 was the driest on record and for a comparable summer we have to go back as far as 1818; it seems that, on average, a summer as dry as the 1921 one can only be expected about once every hundred years. Many British people believe that the

TABLE XLV. WET AND DRY SUMMERS—GREENWICH 1815–70 AND KEW 1871–1964

WET SUMMERS		DRY SUMMERS	
<i>Rainfall 25% or more above average</i>		<i>Rainfall 25% or more below average</i>	
YEAR	RAINFALL EXCESS ABOVE AVERAGE PER CENT	YEAR	RAINFALL DEFICIT BELOW AVERAGE PER CENT
1816	46	1818	75
1817	34	1825	43
1820	43	1827	47
1824	62	1835	38
1828	113	1840	39
1829	66	1847	34
1830	34	1849	42
1834	61	1861	26
1838	26	1864	60
1839	32	1868	47
1841	35	1869	54
1848	55	1870	30
1851	36	1876	33
1852	78	1883	36
1853	75	1885	47
1860	96	1886	36
1865	38	1887	27
1867	48	1893	33
1875	26	1896	30
1878	82	1898	50
1879	106	1899	58
1881	30	1904	25
1888	52	1906	27
1890	53	1911	43
1891	34	1913	44
1892	27	1921	79
1894	42	1932	39
1902	30	1933	35
1903	141	1938	36
1905	34	1940	38
1912	59	1943	35
1915	26	1949	51
1917	94	1955	49
1920	40	1959	48
1924	52		
1927	50		
1931	47		
1941	86		
1946	50		
1954	48		
1956	79		
1957	26		
1958	57		

weather has been getting progressively worse and that in the ‘good old days’ of their fathers or grandfathers the summers were nearly always dry and warm. Table XLVI, which gives the number of wet and dry summers during 30-year periods from 1815 to 1964, shows that, so far as London is concerned, this belief is unfounded. There has been no change in the average frequency of dry summers during the last 60 years or so; admittedly the frequency of dry summers was higher during the 30 years 1875–1904 but so was the frequency of wet summers.

TABLE XLVI. NUMBER OF WET AND DRY SUMMERS DURING 30-YEAR PERIODS, 1815–1964

30-YEAR PERIOD	NUMBER OF WET SUMMERS	NUMBER OF DRY SUMMERS
1815–1844	11	5
1845–1874	7	7
1875–1904	11	10
1905–1934	8	6
1935–1964	6	6

Droughts

A drought is defined as a period of at least 15 consecutive days to none of which is credited 0·01 in or more of rain. However, it is doubtful whether early reports of drought would satisfy this definition. Table XLVII gives details of droughts at Kew in spring, summer, autumn and winter during the period 1871–1964. Droughts were most frequent in spring and summer and least frequent in autumn and winter. November was the only month completely free of drought, but there was only one drought in December and, although two droughts commenced in January, there was no occasion of 15 consecutive dry days at Kew during this month. The longest drought at Kew lasted 37 days, and it occurred twice, both in the period late summer to early autumn (23 August to 28 September 1929 and 15 August to 20 September 1959). The summer of 1911 was noteworthy with three droughts at Kew, one in each of the three months June, July and August. The late summer and early autumn of 1959 were also outstanding; at Kew a drought of 37 days lasted from 15 August to 20 September and after an interval of only 2 days a further drought commenced on 23 September and lasted for 17 days. Details of some long droughts in other parts of London are given in Table XLVIII.

TABLE XLVII. DROUGHTS AT KEW—1871–1964

SPRING					
YEAR	PERIOD (DATES INCLUSIVE)	NO. OF DAYS	YEAR	PERIOD (DATES INCLUSIVE)	NO. OF DAYS
1874	19 April–7 May	19	1926	7–26 March	20
1876	2–21 May	20	1929	27 Feb.–24 March	26
1880	12–26 May	15	1934	17 May–5 June	20
1881	26 March–11 April	17	1936	27 April–16 May	20
1884	19 May–3 June	16	1938	2–24 March	23
1887	7–21 April	15	1938	4–23 April	20
1892	29 March–12 April	15	1939	18 May–10 June	24
1893	17 March–16 April	31	1942	10 April–9 May	30
1894	16–31 March	16	1943	26 Feb.–23 March	26
1896	2–19 May	18	1943	3–18 April	16
1901	11–25 May	15	1948	23 Feb.–15 March	22
1906	30 March–21 April	23	1950	26 Feb.–13 March	16
1910	20 March–3 April	15	1953	20 Feb.–25 March	34
1912	11 April–3 May	23	1954	6–30 April	25
1917	22 April–16 May	25	1955	9–25 April	17
1919	10 May–3 June	25	1959	4–19 May	16
1924	7–22 March	16	1961	2–17 March	16
			1961	7–26 May	20

TABLE XLVII—*contd.*

SUMMER					
YEAR	PERIOD (DATES INCLUSIVE)	NO. OF DAYS	YEAR	PERIOD (DATES INCLUSIVE)	NO. OF DAYS
1872	11–25 Aug.	15	1915	10–26 June	17
1880	9–25 Aug.	17	1916	23 July–11 Aug.	20
1885	20 July–4 Aug.	16	1919	3–18 Aug.	16
1886	23 June–11 July	19	1921	4–19 June	16
1887	9 June–4 July	26	1925	1–23 June	23
1889	17 June–7 July	21	1932	12–29 June	18
1895	4–18 June	15	1935	21 July–11 Aug.	22
1899	25 May–17 June	24	1937	24 July–9 Aug.	17
1899	7–27 Aug.	21	1937	17 Aug.–1 Sept.	16
1900	7–26 July	20	1940	24 Aug.–7 Sept.	15
1901	7–22 July	16	1941	11 June–7 July	27
1903	21 June–11 July	21	1942	13–29 June	17
1904	4–18 July	15	1943	19 June–5 July	17
1908	18 June–3 July	16	1947	6–22 Aug.	17
1908	20 July–4 Aug.	16	1947	24 Aug.–7 Sept.	15
1911	1–15 June	15	1949	15 June–3 July	19
1911	1–25 July	25	1952	12 July–1 Aug.	21
1911	2–18 Aug.	17	1953	1–17 Aug.	17
1913	23 July–6 Aug.	15	1955	15 Aug.–1 Sept.	18
			1964	21 June–6 July	16

AUTUMN					
YEAR	PERIOD (DATES INCLUSIVE)	NO. OF DAYS	YEAR	PERIOD (DATES INCLUSIVE)	NO. OF DAYS
1873	16 Sept.–6 Oct.	21	1931	9–27 Oct.	19
1902	17 Sept.–1 Oct.	15	1936	29 Sept.–13 Oct.	15
1914	21 Sept.–12 Oct.	22	1941	30 Aug.–25 Sept.	27
1921	25 Aug.–9 Sept.	16	1945	29 Sept.–19 Oct.	21
1921	14 Sept.–9 Oct.	26	1959	15 Aug.–20 Sept.	37
1926	9–23 Sept.	15	1959	23 Sept.–9 Oct.	17
1929	23 Aug.–28 Sept.	37	1962	2–24 Oct.	23

WINTER					
YEAR	PERIOD (DATES INCLUSIVE)	NO. OF DAYS	YEAR	PERIOD (DATES INCLUSIVE)	NO. OF DAYS
1887	3–17 Feb.	15	1934	3–24 Feb.	22
1891	1–15 Feb.	15	1942	10 Feb.–3 March	22
1895	3–23 Feb.	21	1959	24 Jan.–11 Feb.	19
1899	17 Feb.–3 March	15	1961	9–23 Feb.	15
1930	18 Feb.–5 March	16	1961	14–28 Dec.	15
1932	23 Jan.–9 Feb.	18	1963	21 Feb.–7 March	15

TABLE XLVIII. LONG DROUGHTS—LONDON

YEAR	PERIOD (DATES INCLUSIVE)	NO. OF DAYS	LOCALITY
1929	27 Feb.–31 March	33	Westminster
1940	28 July–11 Sept.	46	Regent's Park
1941	11 June–11 July	31	Westminster
1941	30 Aug.–27 Sept.	29	Camden Square
1942	10 April–9 May	30	Camden Square and Croydon
1947	5 Aug.–6 Sept.	33	Greenwich
1947	24 Sept.–21 Oct.	28	Kingsway
1953	20 Feb.–25 March	34	Kingsway
1959	24 Jan.–20 Feb.	28	Kingsway

Floods

Serious floods in the London area are usually due to the Thames overflowing or bursting its banks but local flooding is sometimes produced by heavy rain. Thames floods may be due to heavy prolonged rain or rapid thawing of heavy snowfall or they may be tidal. The situation is most dangerous when a fresh water flood occurs at a time when conditions are favourable for tidal flooding. In their book 'British Floods and Droughts', Brooks and Glasspoole point out that the removal of the old London Bridge in 1831 increased the liability of London to tidal floods. The old bridge, with its broad pillars and comparatively narrow arches, acted as a barrier to the incoming tides, and the tidal rise and fall up-river were much smaller than at the present time. The removal of the old bridge led to a much freer flow of the river and tides, and it also lowered the water level at low tide to such an extent that it became necessary to dredge the river bed. The dredging and increased flushing action of the tides soon produced a deep channel up which the tidal water could run freely and, as a result, the average level of high tide at Battersea increased by more than a foot above that experienced before the removal of the old London Bridge. Probably the rebuilding of Westminster Bridge in 1862 and Blackfriars Bridge in 1869 further increased the risk of tidal flooding and may have been one of the reasons for the building of the Thames embankment in 1869–74. The highest tide on record, before the rebuilding of the old bridges, occurred on 7 December 1663, when Whitehall was flooded. This record stood for over 200 years, but was exceeded on six occasions during the period 1874–82.

Serious tidal flooding is usually associated with strong winds or gales. The North Sea tide enters the North Sea from the Atlantic twice a day through the channel between north Scotland and Norway. As the tide moves south along the east coast of Britain, the time of high water becomes progressively later; thus high tide at Tower Bridge, London is about two hours later than at Harwich. A strong wind will pile up and drive before it a considerable portion of the surface sea water and this effect is known as a 'surge'. The intensity of the 'surge' depends on the strength of the wind, the fetch of the wind and the duration of the strong wind. The direction of the 'surge' depends on the wind direction, the depth of the sea and the direction of the tidal stream; because it is effected by the rotation of the earth, a 'surge' in the northern hemisphere would be deflected to the right of the wind's direction. Therefore, the wind conditions favourable for the development of 'surges' along the east coast of Britain would be north to north-westerly gales blowing over the North Sea as occurred during the floods of November 1703, January 1928 and February 1953. A 'surge' can be regarded as having a life of its own, more or less independent of the normal tide, and it may be compared with a bore or a tidal wave. If the peak of a 'surge' occurs near the time of low water, it will probably be harmless but if it occurs at or near the time of high water during spring tides, the results may be disastrous. Another important effect of wind on flooding is that a strong east wind will drive a rising tide rapidly into the narrowing Thames estuary, leading to a funnelling effect and, if the tide is high enough, to flooding. Fortunately this rarely happens but the wind was easterly for a time during the inundation of January 1877 and undoubtedly intensified the flood.

Noteworthy floods. Details of some of the noteworthy floods since 1841 are given below.

November 1852. One of the highest Thames floods on record; it reached its peak on the 17th. During the Duke of Wellington's funeral, the hearse was upset in the flooded Bath Road at Maidenhead, and the inundation became known as the 'Duke of Wellington's Flood'. At Putney the tow-path was six feet under water and four miles of the Great Western Railway between Paddington and Hanwell were flooded.

November 1875. Heavy rain during the period 10–14 November caused the Thames to rise rapidly and serious flooding took place at Maidenhead, Datchet, Eton and Windsor where the water rose to within one foot of the record flood of November 1852. Many houses were flooded and the Windsor racecourse was completely under water, the grandstand alone being visible. On the 16th, a high tide caused the river to overflow its banks in many places from Gravesend to Teddington. Hundreds of houses were flooded and Battersea, Lambeth, Wandsworth, Putney and Fulham were particularly badly hit.

January 1877. The Thames, already swollen by heavy rain, was affected by a high tide on 2 January and serious flooding occurred at Southwark, Lambeth and Wandsworth. Considerable damage was done and hundreds of houses were flooded.

January 1881. The combination of a high tide, the break-up of a severe frost and an easterly gale in the Thames estuary resulted in serious flooding on 18 January. Floating ice in the river added to the flood damage; at high water the ice floes were within one foot of the top of the terrace balcony of the House of Commons. The high tide broke down 3 miles of the sea wall on Canvey Island and caused much damage.

November 1894. This Thames flood, which reached its peak about the 17th–18th, was due to heavy prolonged rain. It was not serious below Richmond but a large part of the region up-river was flooded, and in many places it was the worst flood for 70 years; Kingston, Thames Ditton, Chertsey, Eton and Windsor were badly hit. It was estimated that at least 600 families were forced by the floods to live in the upstairs rooms of their houses. Many roads were impassable, some of them being under 6 feet of water. At Windsor it was the highest flood on record and was 4 inches higher than the 'Wellington Flood' of November 1852. It was the highest flood at Eton since 1774.

June 1903. During the week ending 16 June, almost 5 in of rain fell in London (Brixton). This unprecedented rainfall caused the Thames, the Lea and the Colne to overflow their banks in many places, and many houses and factories were flooded. The main road between London and Essex via Lea Bridge was under water for some distance and about half a mile of the Great Eastern main line at Tottenham was submerged.

February 1926. Prolonged rain caused the river Lea to overflow its banks on the 8th, flooding parts of Hackney, Tottenham, Walthamstow and Clapton. At Hackney, flood water forced families to evacuate ground floors.

July 1927. A period of close warm weather ended in a terrific thunderstorm which plunged London into darkness on the afternoon of 11 July. The torrential rain flooded hundreds of houses and shops in the west and south-west, and Balham and Tooting were badly hit. Many roads were under water

which in some places rose to cover motor-car engines; traffic was seriously impeded and in some places was brought to a halt. Traffic on the Underground Central Line from Wood Lane to Shepherds Bush was suspended and part of this line between Shepherds Bush and Ealing Broadway was still under water on the following day.

January 1928. The blizzard which struck southern England on 25–26 December 1927 and continued in the south-east until 27 December has been described in Chapter 4. It was one of the worst in living memory; the snow depth was about a foot over a wide area and the strong north-easterly winds piled up huge drifts. The snow commenced to melt on 31 December and the thaw was general by 2 January 1928. In addition, the rainfall in the London area during the first week in January was nearly twice the normal. The Thames and its tributaries rose quickly and by 3 January thousands of acres in the Thames valley were under water. Flooding also occurred at Willesden, Greenford, Ealing, Watford and Golders Green, and hundreds of people were marooned in the upper rooms of their houses. On 4 January it was reported that nearly 1000 houses were affected by the flood in the Lea valley and that many of the main highways there were under water. At Clapton, two policemen covered their beat by boat. On 5 January some reports suggested that the floods might be past their peak but the worst blow was still to come. A high spring tide was expected on the morning of 7 January. During 6 January a deep depression moved rapidly in an east-south-easterly direction across Scotland and the North Sea, and by the evening a north to north-westerly gale was blowing over the North Sea. Thus all the necessary conditions for severe tidal flooding in the Thames were present—a river already at flood level, a high tide and north to north-westerly gales over the North Sea. Early on 7 January the water rose nearly six feet above the expected level; the highest tide in the Thames for at least 50 years. The river overflowed or broke its banks in London as far west as Putney and Hammersmith. Fourteen people were drowned and flood damage was extensive; Westminster, Vauxhall and Lambeth were badly hit. Woolwich Arsenal was flooded, and there was considerable damage in the Tate Gallery and in the lower library of the Tower of London. The Grand Theatre, Fulham, had 10 ft of water in the pit and 2 ft on the stage.

June 1930. Severe thunderstorms on the 17th and 18th gave rise to local flooding in Ealing, Wembley, Tottenham, Edmonton and Greenwich.

August 1932. Torrential rain associated with a severe thunderstorm on the 12th caused local flooding in Holloway, Uxbridge and Wallington.

March 1947. The Thames, swollen by heavy rain and thawing snow, caused widespread flooding from Reading to Shepperton during the period 13–18 March. Troops in tanks and amphibious vehicles assisted the police in rescue operations. In Maidenhead alone, 2000 homes were flooded and 1000 families were evacuated.

January/February 1953. Although London itself just escaped, people living along the estuary and the lower reaches of the Thames, as far up-river as West Ham, suffered considerably during the disastrous East Coast floods of 31 January to 1 February 1953. A depression, which formed over the central Atlantic on Thursday 29 January, intensified rapidly and moved north-eastwards, reaching the Faeroes by the evening of Friday 30 January. During the next 24 hours this vigorous depression continued to intensify, but the

direction of its movement changed to south-east and by Saturday night, 31 January, it was near Heligoland. In the meantime an elongated high-pressure system had built up from Iceland to just west of the British Isles. The net result was that by Saturday a violent north to north-westerly gale, which reached hurricane force at times and which produced a gust of 125 m.p.h. at Orkney, was blowing from the Norwegian Sea to the British Isles and the North Sea. This was the gale which sank the British Railways Ferry m.v. *Princess Victoria* on Saturday 31 January in the Irish Sea with the loss of 132 lives, and also flattened thousands of acres of forest in Scotland.

Although the tide on the night Saturday 31 January/Sunday 1 February, was a full-moon spring tide, it was not expected to be unduly high. The predicted high water at Tilbury Dock was only 9·6 ft (Ordnance Datum Newlyn) as against an average value of about 10·3 ft (O.D.N.) for spring tides at Tilbury. However, it was later estimated that the gale had forced some 15 billion cubic feet of water from the Atlantic into the North Sea, raising its mean level by about 2 ft. In addition, the rapid fall of pressure over the centre of the North Sea from about 992 millibars at midnight on Friday to about 968 millibars at noon on Saturday may have resulted in a further rise in sea level, since when atmospheric pressure falls, sea level rises and vice versa. The 'surge', produced and driven forward by this tremendous gale, occurred a little before the normal time for high tide, with the result that the sea rose 6–8 ft higher than expected. The automatic tide gauge at Southend showed that the sea was 6 ft above the predicted height for a continuous period of 15 hours, and was 8 ft above the predicted height about 2 hours before the expected time of high water.

The sea and river defences were breached or overtopped in numerous places, and widespread and disastrous flooding occurred from the Tees to Dover. Flooding commenced in Yorkshire and Lincolnshire on Saturday afternoon and the disaster spread southwards as the tide and 'surge' moved south along the east coast of England. On the Thames estuary, sea defences began to give way very early on Sunday morning and by 1 a.m. the tide amplified by the 'surge' was forcing its way up the lower reaches of the river. At London Bridge, high tide occurred at about 2 a.m. and, fortunately for London, the water only rose to the top of the river defences, although there was some local over-spilling between Greenwich and London Bridge and on both banks of the river between London and Teddington. However, there was widespread and disastrous flooding along the estuary and lower reaches of the Thames as far up-river as West Ham; Foulness and Canvey Islands and Tilbury were particularly badly hit. The total death roll in this terrible disaster exceeded 300; 119 people living in Essex lost their lives, almost half of them at Canvey Island, but it could have been even worse. If the level of the Thames and its tributaries had been raised by heavy rainfall or snowfall when the 'surge' occurred, as they were in 1928, then London would not have escaped and the flooding elsewhere would have been even more disastrous. Moreover, if the expected height of the spring tide had been above average, instead of below average, and if the peak of the 'surge' had coincided more closely with normal high tide, then the disaster would have been greater, and it is fairly certain that the tide would have topped London's river defences.

August 1957. On the 12th, heavy thundery rain caused widespread flooding in west and north London and traffic was brought to a standstill in some places. The London Fire Brigade received 100 calls in half-an-hour to deal with floods in Putney and Wandsworth. At Plaistow, customers were marooned in a public house after closing time; the road outside was under nine inches of water. Further heavy rain caused widespread flooding in west and south London on 13 August.

CHAPTER 10. WEATHER TRENDS AND PERSISTENCE

*'January, freeze the pot by the fire,
February, fill dyke.'*

(WEATHER LORE)

Trends and persistence

There is a widespread and deep-rooted belief that weather follows certain trends, and that the weather during a particular season or month depends to a great extent on the weather experienced during the preceding season or month. For instance, many old sayings such as 'Clear autumn, windy winter'; 'Warm autumn, long winter' are based on this supposition, and many people firmly believe that a severe winter is usually followed by a good summer. There is no foundation for most of these beliefs but there is evidence for a degree of persistence of certain weather types.

Table XLIX illustrates the degree of persistence of wet weather from one month to the next at Greenwich and Kew; a wet month being defined as one with rainfall 25 per cent or more above average. The last column in the table gives the percentage number of occasions when a wet month was followed by a 'wetter' month, i.e. a month with a greater percentage of average rainfall. Only in July and August were more than half the wet months followed by months with above average rainfall. During the other months of the year, the trend was for wet months to be followed by months with below average rainfall, and this tendency was marked in the months April, October and November. Table L shows the degree of persistence of dry weather from one month to the next at Greenwich and Kew; a dry month being defined as one with rainfall 25 per cent or more below average. The last column in the table gives the percentage number of occasions when a dry month was followed by a 'drier' month, i.e. a month with a smaller percentage of average rainfall. In May, August and September dry months were followed by months with rainfall above or below average in about equal proportions. During the other nine months of the year the majority of the dry months were followed by months with below average rainfall; this tendency was very well marked in January, March, October and December when almost half the dry months were followed by a further dry month.

TABLE XLIX. PERSISTENCE OF WET WEATHER—GREENWICH 1841–70, KEW 1871–1964

Month	No. of wet months	Percentage of wet months followed by months with above average rainfall	Percentage of wet months followed by another wet month	Percentage of wet months followed by a 'wetter' month
January	33	39	24	21
February	37	43	38	22
March	38	37	21	Nil
April	25	32	20	12
May	33	39	30	18
June	45	38	27	11
July	34	56	35	18
August	39	59	33	15
September	38	42	34	26
October	44	34	20	9
November	27	30	11	11
December	31	42	26	3

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TABLE L. PERSISTENCE OF DRY WEATHER—GREENWICH 1841–70, KEW 1871–1964

Month	No. of dry months	Percentage of dry months followed by months with below average rainfall	Percentage of dry months followed by another dry month	Percentage of dry months followed by a 'drier' month
January	55	64	47	25
February	54	54	35	19
March	49	59	47	22
April	50	56	34	16
May	39	49	33	15
June	40	53	35	15
July	48	54	37	15
August	43	51	30	19
September	38	50	29	11
October	37	59	46	19
November	53	55	34	21
December	48	58	46	19

Table LI illustrates the degree of persistence of cold weather from one month to the next at Greenwich and Kew, a cold month being defined as one with mean monthly temperature 2 degF. or more below average. The last column in the table gives the percentage number of occasions when a cold month was followed by a 'colder' month, i.e. a month with a greater negative departure from normal temperature. During all months of the year there was a decided trend for cold weather to persist from one month to the next, and this tendency was very high in February, June, July and August. Eighty-five per cent of the cold Augusts, and 75 per cent or more of the cold Februarys, Junes and Julys were followed by months with below average temperature. Fifty per cent of the cold Novembers, and almost 50 per cent of the cold Februarys and Augusts were followed by further cold months. Table LII indicates the degree of persistence of warm weather from one month to the next at Greenwich and Kew, a warm month being defined as one with mean monthly temperature 2 degF. or more above average. The last column in the table gives the percentage number of occasions when a warm month was followed by a 'warmer' month, i.e. a month with a greater positive departure from normal temperature. During the six months January, February, July, September, October and December there was a tendency for above average temperature to persist from one month to the next, but only in January, October and December was the tendency

TABLE LI. PERSISTENCE OF COLD WEATHER—GREENWICH 1841–70, KEW 1871–1964

Month	No. of cold months	Percentage of cold months followed by months with below average temperature	Percentage of cold months followed by another cold month	Percentage of cold months followed by a 'colder' month
January	38	58	39	26
February	35	77	49	26
March	45	69	31	13
April	35	57	26	14
May	31	71	32	16
June	33	76	45	27
July	36	75	44	19
August	34	85	47	15
September	39	69	38	23
October	38	68	39	16
November	40	65	50	25
December	45	64	42	18

substantial. During the five months April to June, August and November, more than half the warm months were followed by months with below average temperature.

TABLE LII. PERSISTENCE OF WARM WEATHER—GREENWICH 1841–70, KEW 1871–1964

Month	No. of warm months	Percentage of warm months followed by months with above average temperature	Percentage of warm months followed by another warm month	Percentage of warm months followed by a 'warmer' month
January	34	71	38	26
February	45	62	20	4
March	18	50	17	Nil
April	19	47	21	5
May	22	45	23	9
June	15	40	33	20
July	24	54	33	21
August	17	47	35	18
September	16	63	25	13
October	13	69	23	8
November	15	47	20	20
December	31	68	35	19

CHAPTER 11. WEATHER LORE

'In the reign of Henry VIII a proclamation was made against the almanacks which transmitted the belief in saints ruling the weather.'

(WEATHER LORE)

Introduction

The folklore of many nations includes a large number of weather sayings and saws, and as the British people have a reputation for being weather conscious, it is not surprising that British folklore contains a wealth of weather maxims of all kinds. Weather lore can be divided into three main groups:

- (i) Sayings which are obviously based on observations made by people whose occupation enabled them to keep a close watch on the weather.
- (ii) Weather maxims which are based on the behaviour of animals and plants.
- (iii) Characteristic weather associated with saints' days.

Only a few examples of each type of weather lore can be considered in this publication. For a complete catalogue of weather sayings and saws, the reader is referred to Richard Inwards' unique book *'Weather Lore'*.

Weather sayings based on observation

Some of these sayings suffer from a tendency to base firm conclusions on a too limited series of observations. However, many of them were based on long and careful observation by people such as shepherds, farmers and seamen whose livelihood, and sometimes their very lives, depended upon a fore-knowledge of the weather, and these sayings usually have a sound scientific basis. Probably the most familiar of these sayings is:

'Sky red in the morning
Is a sailor's sure warning;
Sky red at night
Is the sailor's delight.'

When the sun's rays pass through an atmosphere which contains a very large number of minute particles of matter, the blue and, to a lesser extent, the green and yellow components of sunlight are scattered by the particles, with the result that the direct light reaching the earth is reddish in colour. These particles are normally confined to the lower layers of the atmosphere so that this effect is usually only apparent around sunset and sunrise. Rain usually removes the particles from the atmosphere and even in a moist atmosphere the particles tend to grow into cloud droplets which are too large to scatter light, so that it is only in dry weather that there are sufficient of these particles to scatter the blue end of the sun's spectrum. Therefore when the sky is red at sunset, it can be assumed that the air to the west is dry, and that there is little if any cloud in the west. In general, weather travels from west to east, and red sky at sunset is therefore a good indication of fine weather the following day. During disturbed weather, travelling depressions are often separated by a ridge of high pressure which usually gives about 24 hours fine weather. When the rising sun is red in colour, there must be a large area of fine weather to the east. Therefore it is natural to assume that most of the ridge of high pressure has passed over the country, and that the next depression moving in from the west is not far away. Moreover, the red sky in the morning is often observed in the form of a high

cloud to the west, illuminated from below. This increases the chances of the saying being correct, since the high cloud may very well be the leading edge of the warm front of the next depression. However, sometimes the normal pattern breaks down and weather travels from east to west and, when this happens, the 'red sky' would be misleading.

Another well-known weather saying is:

'The moon with a circle brings water in her beak'.

The belief in this saying is world-wide and the Greeks, over 2000 years ago, were aware that a halo or luminous ring around the sun or moon was a warning of rain or storm. Haloes are produced by refraction of light through ice crystals, and cirrostratus cloud, which marks the leading edge of warm fronts, consists of ice crystals. Warm fronts normally produce rain, so there is a good scientific basis for the 'ring around the moon' saying. However, haloes are very common and are not always followed by stormy or rainy weather.

Weather sayings based on the behaviour of plants and animals

Many people believe that the behaviour of certain plants gives an indication of future weather, but the plants actually react to present weather, and they may even give a completely misleading indication of the weather to come. One of the most widespread beliefs concerns seaweed—the chestnut among jokes about weather forecasting. To quote from *Weather Lore*:

'A piece of kelp or seaweed hung up will become damp previous to rain'.

The truth is that seaweed reacts to the actual humidity of the atmosphere and becomes damp as the humidity increases, but a high humidity does not necessarily mean rain. For instance the relative humidity approaches 100 per cent in mist or fog, but fine weather often follows the clearance of the mist or fog. On the other hand, seaweed will remain dry during cool north-westerly weather in the summer, but such conditions often lead to heavy showers during the afternoon and evening. There is a similar belief about the flower called the scarlet pimpernel which is known as the ploughman's or poor man's weather-glass.

The following verse is taken from *Weather Lore*:

'Now, look! Our weather-glass is spread—
The pimpernel, whose flower
Closes its leaves of spotted red
Against a rainy hour.'

N. L. Silvester, who investigated the reaction of certain plants to weather changes, found that the scarlet pimpernel closed its petals as the relative humidity of the atmosphere reached 80 per cent. Sometimes approaching rain is preceded by increasing humidity but, as shown above, the indications given by seaweed and the scarlet pimpernel can be very misleading.

A good harvest of hips and haws is reckoned to be a sign of a severe winter, as stated by the following weather proverb from Scotland:

'Mony hips and haws,
Mony frosts and snaws.'

This saw originated in the belief that kindly nature would always provide a plentiful supply of food for the birds and other wild animals, if the winter was going to be severe. Of course, the truth is that the good harvest is a reflection of the weather during the spring, summer and autumn, and is in no way connected with the approaching winter.

Many countrymen are convinced that animals are aware of approaching changes in the weather, and that they behave accordingly, but there seems to be no scientific basis for this belief. In the *Complete Weather Guide* 1814, Joseph Taylor wrote:

‘In general the senses of men, who in their way of life deviate from the simplicity of nature, are coarse, dull, and void of energy But animals—which retain their natural instinct, which have their organs better constituted, and their senses in a more perfect state, and besides are not changed by vicious and depraved habits—perceive sooner, and are more susceptible of the impressions produced in them by variations in the atmosphere, and sooner exhibit signs of them.’

Perhaps the subject can be best summed up by this quote from *Weather Lore*: ‘Cats with their tails up and hair apparently electrified indicate approaching wind—or a dog’.

Weather and Saints’ Days

It is possible that a few of the weather sayings connected with saints’ days may be true singularities for some place or other but, in general, superstition, faulty observations, the failure to keep accurate records, and the natural tendency to base definite conclusions on a few coincidences are the main reasons for attributing characteristic weather to these days or periods. The quotation at the head of this chapter shows that, even as early as the 16th century, it was recognized that the weather sayings associated with saints’ days were misleading. Even in our own days, this tendency to attribute too much to a few coincidences was the reason why so much attention was paid to the Buchan periods during the late twenties and the thirties. According to Brooks the public placed such touching faith in these periods, that it was ironically suggested that ‘St Buchan’ should join St Swithin, St Martin, St Luke etc.

The best-known weather saying associated with a saint’s day is the one concerning St Swithin:

‘In this month is St Swithin’s Day.
On which if that it rain they say,
Full forty days after it will
Or more or less some rain distil’.

POOR ROBIN’S ALMANACK, 1697

Similar sayings are associated with other saints in other parts of Europe:

France	St Benoît	21 March
France	St Medard	8 June
France	St Protase	19 June
Northern Scotland	St Martin Bullion	4 July
Belgium	St Godelieve	6 July
France	St Anne	26 July
Germany	Seven Sleepers of Ephesus	27 July
Italy	St Bartholomew	24 August

Although the dates differ, the period of 40 days is common to all the saints’ days, which suggests that all the sayings may have had a common origin in the world-wide tradition of Noah’s flood.

Swithin was a monk who rose to be Bishop of Winchester; he was renowned for his piety, humility and his zeal in building and restoring churches. Before his death in 862 he directed that he should be buried outside the church 'in a vile and unworthy place, under the drip of the eaves, where the sweet rain of heaven might fall upon his grave'. It is recorded that on 15 July 971, his remains were transferred to a tomb within a new church at Winchester, which was dedicated to Bishop Swithin. All the chronicles agree that this transfer took place with impressive ceremonial, and there is no mention that the weather was unfavourable in any way. Bishop Swithin was never formally canonized and he is not officially a saint of the Church, but belongs to a number of those on whom the prefix was conferred by popular acclaim. The origin of the legend connecting St Swithin with the weather remains a mystery. It has been suggested that the heavy rain and flooding which took place during the summer of 1315 may have originated the legend, but the earliest known mention of 40 days rain was by Ben Jonson about 1600. However, the story explaining the legend is probably not older than the 18th century and does not agree with the historical facts. According to this story a terrific storm raged on 15 July 971, the day appointed for the transfer of St Swithin's remains to a tomb within the cathedral at Winchester, and the rain continued for a further 40 days. This was interpreted as a warning not to disturb his remains, so a new church was built over his grave.

In 1929 Mirrlees investigated the application of the St Swithin saying to London rainfall, using the daily rainfall recorded at Brixton during the period 1871–1910. As usual, a 'rain-day' is defined as a period of 24 hours with a rainfall of 0.01 in or more, and a 'dry-day' is defined as a period of 24 hours with a rainfall less than 0.01 in. During the forty years 1871–1910, 15 July was a 'dry-day' in 23 years and a 'rain-day' in 17 years. On average, the St Swithin 'dry-day' was followed by 23 'dry-days' and 17 'rain-days', and the St Swithin 'rain-day' was followed by 24 'dry-days' and 16 'rain-days'. The longest continuous spell of 'rain-days' immediately after a St Swithin 'rain-day' was only five. Table LIII gives the rainfall at Kew on St Swithin's day (15 July) and the number of 'rain-days' during the following 40-day period during the 30 years 1933–62. During this period St Swithin fell on a 'rain-day' in 15 years and on a 'dry-day' in the other 15 years. The average number of 'rain-days' after a St Swithin 'rain-day' was 14.3 compared with 15.4 after a St Swithin 'dry-day'. Considering only the wettest St Swithin days (daily rainfall 0.20 in or more), the average number of 'rain-days' in the following 40-day periods fell to 13.6. Three St Swithin 'rain-days' were followed by 20 or more 'rain-days', but three St Swithin 'dry-days' were also followed by 20 or more 'rain-days', and the greatest number of 'rain-days', 24, followed a St Swithin 'dry-day'. Only eight 'rain-days' followed the wettest St Swithin's day (1933), but 17 'rain-days' occurred after the second-wettest St Swithin's day (1936). The longest spell of consecutive 'rain-days' immediately after 15 July was nine, and this spell followed a St Swithin 'dry-day' (1939), but the longest spell immediately after a St Swithin 'rain-day' was only four (1946). Obviously there is no basis at all for the St Swithin legend.

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TABLE LIII. RAINFALL ON ST. SWITHIN'S DAY (15 JULY) AND NUMBER OF 'RAIN-DAYS' IN THE FOLLOWING 40 DAYS—KEW 1933-62

Year	Rainfall 15 July <i>inches</i>	No. of 'Rain-days' in the following 40 days
1933	0.53	8
1934	Nil	15
1935	Nil	7
1936	0.48	17
1937	0.10	8
1938	0.23	11
1939	Nil	24
1940	0.32	11
1941	0.31	23
1942	Nil	16
1943	0.09	11
1944	0.09	14
1945	0.35	16
1946	0.03	23
1947	Nil	9
1948	Nil	15
1949	0.02	10
1950	0.03	16
1951	Nil	15
1952	Nil	14
1953	0.02	16
1954	Nil	18
1955	Nil	6
1956	Nil	17
1957	Trace	22
1958	Nil	23
1959	Nil	13
1960	0.04	21
1961	0.20	9
1962	Trace	17

A fine warm spell in late September, October or even November is often called an Indian Summer. The introduction of the phrase into this country is comparatively recent; it is believed to have originated with the North American Indians who used to rely on a fine spell in late autumn for harvesting and storing late crops and making their houses ready for winter. A short period about 18 October is known as St Luke's little summer and according to folklore there is often a spell of fine dry weather about this time. In order to test this belief, the Kew daily maximum temperatures for the five days 16-20 October during the period 1881-1960 were compared with the appropriate 10-day average over the period 1931-60. The maximum temperatures on the 16th and 17th tended to be below average during the first 40 years of the period 1881-1960 and to be above average during the second 40 years, but there was a marked tendency for maximum temperatures on the 18th, 19th and 20th to be below average during the whole period.

St Martin's day, which falls on 11 November, is traditionally associated with fine warm weather, and, according to a French proverb, 'St Martin's summer lasts for three days and a bit'. The legend runs that, on a chilly morning in early November, St Martin, who was the Bishop of Tours, gave half his cloak to a poor man who was suffering from the cold. Observing this act of charity, God set the sun shining warmly until St Martin could get himself another cloak.

To commemorate the saint's deed, the weather is always mild for a short spell around St Martin's day. The application of this legend to London was investigated by comparing the Kew daily maximum temperatures for the five days 11–15 November over the 80-year period 1881–1960 with the appropriate 1931–60 10-day average. There was a tendency for maximum temperatures on the 11th, 12th and 13th to be above average but there was an almost equal tendency for them to be below average on the 14th and 15th.

APPENDIX I

A CHRONOLOGY OF WEATHER IN LONDON TO A.D. 1840

WET WEATHER AND FLOODS

- A.D.
 4 A rain of blood in London lasting five hours (1*).
- 7 or 9 Thames flood with heavy casualties. First recorded Thames flood (1).
- 48 Thames flooded four counties (1).
- 69 London partially destroyed by lightning (1).
- 479 Thames flood, extending 10 miles above and below London (1).
- c630 Thames flood (3).
- 685 Bloody rain in Britain. Different sources give dates varying from 684 to 689 (3).
- 973 Thames flood (1).
- 1086 A wet year with many thunderstorms; 1087 may also have been a wet year (3).
- 1092 A very wet year (3).
- 1098 A wet year in England (3).
- 1099 Tidal flooding in the Thames estuary and in Kent on 11 November. According to legend, this flood produced the Goodwin sands (3).
- 1193 A wet and thundery year (3).
- 1201 A wet year with violent thunder and hailstones in the summer (3)
- 1202 A wet year (3).
- 1209 Bermondsey flooded by the Thames (3).
- 1218 Man killed by lightning at Stepney on 2 February. Severe thunderstorm with heavy rain on 29 November (3).
- 1223 A very wet year with much flooding (3).
- 1230 St Paul's damaged by lightning (3).
- 1232 Thundery weather on 15 days in November in London (3).
- 1233 A wet summer with much flooding. Severe thunderstorm on 10 February. Thunder on several days in November (3).
- 1236 Very heavy rain January to March; Thames flooded Westminster Palace. High Thames tide flooded Woolwich area on 12 November (3), (4).
- 1237 Heavy rains in February; the Thames flooded great stretches of the country (3).
- 1242 Heavy rain and thunderstorms on 19 November and on many days afterwards; the Thames flooded Westminster and Lambeth (3).
- 1251 Violent thunderstorms destroyed houses at Windsor on 19 May (3).
- 1252 Heavy rains and flooding in October (3).
- 1253 Thames in flood in October, probably tidal (3).
- 1256 A wet year (3).
- 1257 A wet year (3).
- 1258 A wet year (3).
- 1260 Frequent and heavy thunderstorms during the summer produced hailstones with a diameter of about 2 in (3).
- 1270 Heavy rain caused the Thames to flood in February (3).
- 1283 Wet summer and autumn (3).
- 1283 Thunderstorm in London on 26 December (3).
- 1288 Tidal flooding in the Thames in January (3).
- 1290 Wet summer and autumn (3).
- 1291 Thunderstorm in London on February 8 (3).
- 1294 The Thames flooded Rotherhithe, Bermondsey, Tothill and Westminster on 18 October (3).
- 1314 A wet year (3).
- 1315 A wet year. Very heavy rain on St Swithin's day caused widespread flooding; this may be the origin of the St Swithin legend (3).
- 1316 A wet year (3).
- 1334 Tidal flood in the Thames on 22 November (3).
- 1335 A 15th century chronicle states that 1335 was a wet year; this may be correct or may be due to confusion with the floods of 1334 (3).
- 1338 Very wet from October to December (3).
- 1342 Thunderstorm in London on 16 January (3).
- 1348 Wet autumn and winter (3).
- 1362 A wet year (3).
- 1368 A wet year. There is some doubt about the year; it may be 1369 (3).
- 1382 Heavy rain from 18 to 20 December; Thames in flood between Westminster and Windsor (3).

*The figures in brackets refer to the bibliography on pp. 242-243.

- 1392 Severe thunderstorm in London on 3 September (3).
- 1423 A wet year (3).
- 1424 Thunderstorm during the night on 29 December (3).
- 1428 A wet year (3).
- 1439 A wet year (3).
- 1440 Thunderstorm in London on 12 August (3).
- 1444 Thunderstorm in London on 1 February; belfry of St Paul's struck by lightning (3).
- 1448 Thames flooded Poplar, Stepney and other places during March (3).
- 1460 A wet summer; reputed to be one of the worst for 100 years (1).
- 1527 and 1528 Two very wet years; may be the wettest pair of consecutive years (5).
- 1529 Thames in flood on 2 October (1).
- 1537 A wet summer (1).
- 1542 A wet summer (5).
- 1551 Tidal flooding in the Thames, as far up-river as Millwall, in December (4).
- 1555 A wet year. Thames flooded Westminster Hall on 21 September (1), (6).
- 1561 Thunderstorm in London on St Matthias day (24 February). St Paul's struck by lightning in June (7).
- 1564 Tidal flood in the Thames on 20 September (1), (4), (6).
- 1565 Thames flood, probably tidal, on 24 December (1), (4).
- 1570 Tidal flood, aggravated by heavy rainfall, in the Thames as far up-river as Erith on 5 October (4).
- 1579 Snow followed by a thaw and heavy rain caused the Thames to flood Westminster in February (1), (5).
- 1594 Wet and unseasonable summer, probably the year referred to in 'A Midsummer Night's Dream' (5), (7), (8).
- 1648 Very wet year; very cold wet summer (1), (5), (8).
- 1660 Great floods in Thames valley on 11 November (6).
- 1663 High Thames tide flooded Whitehall on 7 December (4).
- 1664 Much thunder and lightning during the year (8).
- 1675 Wet summer (1).
- 1682 Thames flood (5).
- 1692 Wet summer (7), (8).
- 1696 Wet summer (1), (8).
- 1702 Waterspout caused damage at Hatfield on 21 June (7).
- 1703 Very wet from April to July. Tidal flood in the Thames on 28 November (5), (7).
- 1709 A wet year (9).
- 1715 A wet summer (9).
- 1724 Severe thunderstorm with hail on 10 June (10).
- 1726 On 8 March, Thames four inches higher than had been known for 40 years. Very thundery from end of May to mid-June (7), (10), (11).
- 1728 A wet year; a wet summer (9).
- 1735 Flooding at Kingston on 19 July (7).
- 1736 Highest tide for 50 years in the Thames on 16 February. Another high tide on 24 December caused the Thames to flood Westminster Hall (4), (7).
- 1737 A wet summer (9).
- 1738 Violent thunderstorms with hailstones bigger than walnuts on 25 July; several people injured (7).
- 1739 A wet year. Violent thunderstorm on 10 September (7), (9).
- 1741 Heavy thunderstorm with hail on 25 January (10), (11).
- 1743 Hailstones as big as nutmegs at Enfield on 15 July (7).
- 1744 Violent thunderstorm on 14 August (7).
- 1745 A wet summer (9).
- 1747 Thames in flood (7).
- 1748 Violent thunderstorms with hailstones about 2 inches in diameter on 12 June (7).
- 1749 Thunderstorms on 11 January and 1 August (7).
- 1750 Thunderstorms on 8 February, 8 March and 10 and 26 June. Thunderstorms with hail caused flooding on 11 and 24 July (7).
- 1751 A wet year. A wet March with continual rain from the 1st to the 11th. Heavy rain during the first 18 days of May. Thunderstorm with snow and hail caused flooding on 21 November (7), (9).
- 1752 Cool and damp summer. The thunderstorm of 20 July was the only one in London during the year (7).
- 1753 Whitehall flooded on 22 March (7).
- 1755 A wet summer (9).
- 1756 A wet summer (9).
- 1758 A wet summer (9).
- 1762 Great flood in Thames valley (6).
- 1763 Thames flooded (6).
- 1764 A wet summer (9).

- 1766 A wet summer (9).
 1767 A wet summer (9).
 1768 A wet year. A wet summer but the heaviest rain fell in the autumn. Thames flood on 1 December (5), (6).
 1771 A wet summer (9).
 1773 A wet summer (9).
 1774 The Thames flood of 12 March was partly tidal but was mainly due to heavy rain. Henley bridge was carried away (6).
 1775 Very heavy thunderstorm with hail on 30 April (10), (11).
 1779 A wet year; a wet summer (9).
 1781 Heavy thunderstorm on 17 February (10), (11).
 1782 A wet year; a wet summer (8), (9).
 1784 A wet summer (9).
 1789 A wet summer (9).
 1790 Thunderstorms with hail on 22 and 23 December (10), (11).
 1791 High Thames tide flooded Westminster (5).
 1792 A wet summer (9).
 1795 Thames flood in mid-February (6).
 1796 Thunderstorm on 29 January (10), (11).
 1797 A wet summer (9).
 1805 A wet summer (9).
 1809 Thames in flood at Windsor at end of January and on 26 April (6).
 1811 Thunderstorms on 9 days in May (11).
 1815 Thunderstorms daily from 2 to 5 May (11).
 1816 A wet year; a wet summer (9).
 1817 A wet year; a wet summer (9).
 1819 A wet year (9).
 1820 A wet summer (9).
 1821 A wet year (9).
 1821/22 December to January, Thames in flood at Henley, Maidenhead and Kingston (6).
 1823 Thames in flood at Windsor at the beginning of November (6).
 1824 A wet year; a wet summer (9).
 1828 A wet year; a wet summer (9).
 1829 A wet summer (9).
 1830 A wet summer (9).
 1831 A wet year. During a severe storm 1 in of rain fell in about 30 minutes. Thunderstorms daily from 2 to 5 August (9), (11), (12).
 1834 A wet summer (9).
 1838 Thunderstorms on 2 and 3 December (11).
 1839 A wet year; a wet summer (9).

WARM AND DRY WEATHER AND DROUGHTS

A.D.

- 139 Thames dried up for two days (1).
 362 Severe drought (1).
 374 Drought (1).
 439 Drought (3).
 605 Drought with great heat (1).
 681 Drought in southern England. There is a doubt about the year but this is probably the famous St Wilfrid's drought in Sussex (3).
 737 Great drought (1).
 741 Great drought (1).
 764 'Long and terrible drought with heat' followed the severe winter of 763/64 (3).
 1102 Drought with excessive heat (1).
 1114 As a result of a low tide and severe drought, men were able to wade across the Thames at London Bridge on 10 October; the water barely reached their knees. This year is regarded as one of the driest on record (3), (5).
 1136 An exceptionally dry year with a hot summer. 1135 and 1137 may also have been dry years (3), (5).
 1158 Because of an earthquake (?), the Thames at London was waterless and it was crossed dry-shod. Some chronicles give the year as 1157 (3).

- 1222 Dry year; hot and dry summer (3).
- 1224 A great drought in winter (3).
- 1236 Dry and hot summer (3).
- 1240 Dry from January to March (3).
- 1241 Drought, dry and hot from 25 March to 28 October (3).
- 1244 Dry autumn (3).
- 1252 Drought; very hot and dry spring and summer (3).
- 1253 Prolonged drought in spring and summer (1252 and 1253 are reckoned to be the driest two consecutive years in history) (3), (5).
- 1255 Drought in spring and summer (3), (5).
- 1259 Dry autumn (3), (5).
- 1260 Drought in the summer (3), (5).
- 1276 Dry from April to July (3), (5).
- 1285 Dry and hot summer (3), (5).
- 1288 Dry and hot summer (3), (5).
- 1291 Dry summer (3), (5).
- 1305 A hot, dry summer (3).
- 1321 Hot, dry summer (1).
- 1324 Drought in summer (3), (13).
- 1325 Drought; rivers and streams dry. Because of lack of fresh water the Thames was salty. Hot and dry summer (3), (13).
- 1326 Drought; great shortage of water; river Thames salty for nearly the whole year. Dry summer (3), (13).
- 1331 Spring drought; no rain for 15 weeks (3).
- 1352 Drought, exceedingly dry summer. There is some doubt whether this occurred in 1352 or 1353 (3).
- 1356 Dry spring (3).
- 1375 Exceptionally warm year (3).
- 1426 Dry year (3).
- 1473 Drought, very hot summer (1), (13).
- 1474 Drought, very hot summer (1), (13).
- 1475 Drought with hot weather (1), (13).
- 1477 Drought with great heat (1), (13).
- 1479 Drought with great heat (13).
- 1490 Drought (1), (13).
- 1498 A dry year (1), (13).
- 1503 Dry summer (1), (13).
- 1516 Hot and dry (1), (13).
- 1517 A very hot summer (1).
- 1538 Drought, dry hot summer (7).
- 1539 Drought, dry and hot summer (7).
- 1540 Dry and warm from February to September; rain on only six occasions. Thames so low that salt water flowed above London Bridge (1), (7).
- 1541 Drought; Thames so low that even at ebb, sea water extended beyond London Bridge (7).
- 1552 Drought (13).
- 1556 Drought so great that the springs failed (7).
- 1558 Very hot summer (1).
- 1566 Drought all summer and harvest (1), (13).
- 1567 Dry summer (1), (13).
- 1568 Excessively hot with drought (1), (13).
- 1583 Drought, very hot and dry summer (1), (13).
- 1590 A dry year (1), (13).
- 1591 (or 1592) Drought; the Thames so low that a man on horseback could ride across it near London Bridge. Doubt whether this occurred in 1591 or 1592 (1), (7).
- 1598 Great drought and very hot (1), (13).
- 1602 Drought in autumn and winter (1), (13).
- 1607 Dry and hot summer (1), (13).
- 1610 Hot dry summer (1), (13).
- 1612 Drought January to May (1), (13).
- 1616 Hot summer with drought (1), (13).
- 1626 Dry and hot summer (1), (13).
- 1636 Very hot and dry summer, not a drop of rain from March to August (1), (8).
- 1637 Very hot and dry summer (1), (13).
- 1638 Very hot and dry summer (1), (13).
- 1643 Hot summer (1).
- 1645 Hot and dry summer (1), (13).
- 1651 Dry year, hot summer (1), (13).

- 1652 Dry year, hot summer (1), (13).
 1653 Dry year, hot summer (1), (13).
 1654 Dry year, hot summer (1), (13).
 1666 Hot with drought in August and September. Great fire of London started on 2 September (1), (13).
 1669 Dry year, hot summer (1), (13).
 1681 Drought, scarcely any rain from Christmas 1680 to mid-June (1), (13).
 1684 Drought, dry and hot spring and summer (1), (13).
 1685 Drought, no rain for many months before June (13).
 1686 Hot dry summer (1), (13).
 1691 Hot and dry during late summer and autumn; dry winter (5), (13).
 1697 A dry year (9).
 1699 A dry year; a dry summer; the first of several hot summers after nine successive cold summers (1), (9).
 1700 A dry summer (9).
 1701 Little rain for several months before May; warm summer (7), (13).
 1704 A dry year; a warm summer (1), (9).
 1705 A dry year; a dry summer (9).
 1707 A dry year (9).
 1714 Outstandingly dry year (5), (9).
 1716 A dry year; a dry summer. Thames so low that people walked under the arches of London Bridge (7), (9).
 1718 Hot dry summer; good crop of grapes at Richmond (14).
 1719 A dry year. One of the hottest summers; a good crop of grapes at Richmond (13), (14).
 1723 Long fine summer but a wet July (14).
 1725 Dry mid-January to mid-April (7), (9).
 1727 A dry summer (9).
 1731 Very dry year. Warm summer (9), (14).
 1732 Dry summer (9).
 1733 Dry year. Hot July (7), (9).
 1740-43 Dry spell in England (5).
 1742 A dry year (9).
 1743 A dry year (9).
 1744 Temperature at 8 a.m. on 20 April 65°F.; maximum temperature for the month 75°F. on 21 April (7).
 1746 Hottest day on 18 July, temperature in the shade 85°F. (7).
 1748 Hot days in June and July; temperature at 1 p.m. on 23 July was 85°F. (7).
 1749 A dry summer. Shade temperature at about mid-day on 2 July was 88°F. (7), (9).
 1752 Dry and warm in October (7).
 1765 A dry summer (9), (13).
 1772 A dry warm summer (9), (10).
 1778 A fine warm summer but a wet July (8), (9), (10).
 1779 A fine and warm August (9), (10).
 1780 A dry year; a dry warm summer (9).
 1781 A dry year; a warm summer (9), (18).
 1783 A warm summer (8), (10).
 1786 A dry summer (9).
 1788 A dry year (9).
 1790 Temperature of 91°F. on 22 June (11).
 1793 A dry summer (9).
 1794 A dry, warm summer (9).
 1795 A dry year. Hot and dry in September (9), (10), (13).
 1796 A dry year; a dry summer (9).
 1800 A dry summer (9), (10), (13).
 1802 A dry year (9).
 1807 A dry year; a dry summer (9).
 1818 A long, dry, hot summer (9), (12), (13).
 1825 A dry summer. Three days with maximum temperature 90°F. or above between 15 and 19 July (9), (12).
 1826 A warm summer (12).
 1827 A dry summer (9).
 1834 A dry spell from February to June (9), (13).
 1835 A dry summer (9), (13).
 1840 A dry year; a dry summer (9).

COLD WEATHER, SNOW AND FROST

A.D.

- c80 Severe winter; various chronicles quote a year between 77 and 84 (3).
- 134 Thames frozen over for two months (1).
- 153 Severe frost for nearly three months; Thames frozen (1).
- 173 Frost for three months (1).
- 220 Severe frost lasting for five months (1).
- 250 Severe winter; Thames frozen for nine weeks. Some doubt about the year, some chronicles quote 230, others quote 250 to 252 (1).
- 291 Most rivers in Britain frozen for nine weeks; date uncertain (1).
- 329 Severe winter, most rivers frozen for six weeks. Year may be 359 (7).
- 474 Four months frost with great snow (1).
- 508 Rivers frozen for two months. Year also quoted as 507 or 509 (1).
- 525 Thames frozen for six weeks (1).
- 545 Intensely cold winter (7).
- 554 Severe winter. There may be confusion between 545 and 554 (3).
- 604 Severe frost in England (1).
- 695 Severe winter. Thames frozen for six weeks and booths were built on it (1).
- 763/64 Great snow with intense frost lasting from the beginning of winter till the middle of spring. One of the severest winters known to history (3).
- 827 Thames frozen for nine weeks (1).
- c859/60 Severe winter in England (3).
- 908 Most English rivers frozen for two months (1).
- 923 Thames frozen for 13 weeks. Year may be 929 (1).
- 974/75 Severe winter in Britain (1), (3).
- 998 Severe frost; Thames frozen for five weeks (1).
- 1020 Severe frost (1).
- 1047 Severe winter with frost and heavy snow (3).
- 1061 Thames frozen for seven weeks (1).
- 1063 Severe winter (3).
- 1076/77 Severe winter in Britain (3).
- 1085 or 1086 Severe winter (3), (15).
- 1092/93 Severe frost; English rivers frozen so hard that horsemen and wagons could travel on them. When the thaw came, drifting ice destroyed bridges (3).
- 1110/11 Long and hard winter (3).
- 1114/15 Severest winter in living memory in England. Rivers frozen, and weight of ice broke many bridges (3).
- 1125 Exceptionally severe winter in France and Netherlands may also have affected Britain (3).
- 1128 Severe winter, with heavy snow at Easter. May be confusion with 1125 (1).
- 1141 Very cold weather with snow in December (3).
- 1149/50 or 1150/51 Severe winter; the Thames was frozen and was crossed on foot and on horseback (3).
- 1175/76 Severe winter; frost and snow 25 December to 2 February in Normandy and possibly in England (3).
- 1204/05 One of the severest winters of history. Continuous frost January to March 1205. Thames frozen and crossed on foot (3).
- 1210 Severe frost in January and early February (3).
- 1225/26 Severe winter (1).
- 1233/34 Long and severe frost from Christmas to 2 February (3).
- 1254 Severe frost January to March (3).
- 1261 Frost and snow during February (3).
- 1269/70 Long severe winter; Thames frozen; men and beasts crossed from Lambeth to Westminster (3).
- 1280 Heavy snow on 9 October (3).
- 1281/82 Very severe winter from Christmas to March. Thames frozen; five arches of London Bridge collapsed owing to the force of the ice. People walked across the river between Lambeth and Westminster (3).
- 1288/89 Severe winter (3).
- 1294 Heavy snow on 14 May (3).
- 1305/06 Severe winter (3).
- 1309/10 Severe winter; Thames frozen; London Bridge damaged by ice. People walked across the frozen river (3).
- 1338/39 Hard frost started in December and lasted for 12 weeks (3).
- 1353/54 Long, cold, hard winter lasting from early December to mid-March (3).
- 1363/64 Severe winter; frost from December to March (3).

- 1407/08 Severe winter, one of the most rigorous on record. Frost lasted for 15 weeks (December to March); Thames frozen and crossed on foot (3).
- 1413 Snow-storm on 9 April, Henry V's coronation day (3).
- 1433/34 Very severe winter; Thames frozen from December to February, and horse and carriage could be driven over it. (Date uncertain; may be 1434/35) (3), (15).
- 1488 Great snow and frost (1).
- 1506 Great frost; Thames frozen throughout January; horse and cart could cross the frozen river (7), (15).
- 1514 Intense frost; Thames frozen during January, and carts crossed from Lambeth to Westminster. (Probably 1514 but may be 1515) (7), (15).
- 1534/35 Frost lasting from November to February; Thames frozen below Gravesend (7).
- 1536/37 Thames frozen during December and January; the King drove on the ice from London to Greenwich. (Some authorities give the date as 1537/38) (8).
- 1547 Intense frost at the end of the year (7).
- 1564/65 Severe frost; Thames frozen solid from Christmas Day to 3 January; people walked and played on the frozen river (7), (15).
- 1567 Severe winter (1).
- 1572/73 Hard frost from early November to about mid-January (1).
- 1607/08 Severe frost mid-December to early February. Frost fair held on the Thames (7), (15).
- 1609/10 Great Frost commenced in October and lasted four months. Thames frozen and heavy carriages driven over it. (This may be a reference to the winter of 1607/08) (8), (15).
- 1620/21 Frost fair held on the Thames (8), (15).
- 1635 Severe winter; Thames frozen (16).
- 1648/49 Great frost; Thames frozen (8), (15).
- 1658 Very cold winter with snow cover most of the time (1).
- 1662/63 Severe frost; Thames frozen, skating introduced into England (7), (15).
- 1664/65 Severe frost from 28 December to 7 February. 6 February reputed to be one of the coldest days ever in England (15).
- 1666/67 Cold weather, hard frost in London on 31 December and Thames covered with ice on 1 January (7), (8).
- 1669 Colder in London on 26 December than for past 5 or 6 years; freezing quickly for some days. Much colder than 1665 or 1666 (7).
- 1677 Thames frozen; huts to sell brandy built on the river (16).
- 1680/81 Severe winter (17).
- 1683/84 Severe winter; Thames frozen from beginning of December to about 5 February. The longest frost on record. Frost fair held on the river during the second half of January. (The winter described in 'Lorna Doone') (7), (15), (17).
- 1688/89 Great frost lasting from 20 December to 6 February. Frost fair held on the Thames (15).
- 1691/92 Severe winter (17).
- 1692 Cold year (17).
- 1694/95 Severe winter. Frost lasted for seven weeks (7), (17).
- 1694 Cold year (17).
- 1695 One of the coldest years ever known (17).
- 1696 Intense frost on 26 January, temperature 9 degrees below zero in London (7).
- 1696/97 Severe winter (17).
- 1697/98 Severe winter (17).
- 1698 Reputed to be the coldest year between 1695 and 1742. Frequent heavy frost, hail and snow from January to May, a great deep snow all over England on 3 May. The most backward spring for the past 47 years (7).
- 1708 The coldest summer, spring and autumn for 47 years, apart from 1698 (1).
- 1708/09 Severe frost December to March; Thames frozen and crossed on foot. The cold of 1709 was greater, more destructive and continued longer than in any year since 1698 (1), (7).
- 1715/16 Severe frost from 24 November to 9 February. Frost fair held on the Thames (7), (15).
- 1725 Cold summer, no grapes at Richmond (14).
- 1725/26 Severe winter (10).
- 1728/29 Severe winter. Frost and snow from mid-December to end of January. Very backward spring in 1729 (7), (10), (14).
- 1731 Much snow and frost from January to mid-February. As cold as in December 1708, temperature in London 0°F. (7), (14).
- 1739/40 Severe winter. Frost from about 24 December to about 17 February. Frost fair held on the Thames which was completely frozen above London Bridge. Severest frost since winter of 1715/16. Temperature in London at 1 p.m. on 29 December was only 5°F. (7), (10), (15).
- 1740 Stormy with snow and rain on 1 October (14).
- 1742 Severe frost for about three weeks in December; much ice in the Thames (7), (14), (15).
- 1748 Severe frost 11 to 14 November (7).

- 1749 Sharp frost on 15 November (7).
 1762 Snow on 28 October (10).
 1762/63 Intense frost with easterly winds from 25 December to the end of January (15).
 1765/66 Severe winter (18).
 1767 Severe frost in January; navigation on the Thames suspended. Snow on 5 May (10), (11), (15).
 1768 Severe frost and deep snow in January (15).
 1770 Snow on 2 to 4 May (10).
 1775/76 Severe winter. Severe frost with snow from 7 January to 1 February. Thames frozen (8), (18).
 1779/80 Severe winter (18).
 1783/84 Severe winter. Almost continuous frost late December to late February. Thames completely frozen in February and traffic crossed on the ice (15), (18).
 1784 Cold year. Heavy snow on 25 October (10), (11), (18).
 1784/85 Severe winter. Frost and snow from early December to early January, most of February and during first half of March. Thames frozen solid at times and traffic crossed on the ice (8), (18).
 1785 Cold year. Snow on 26 and 29 October (10), (11), (18).
 1786 Cold year (18).
 1788/89 Severe winter. Hard frost from 25 November to 14 January. Thames frozen below London Bridge; Frost Fair held on the river (15), (18).
 1794/95 Severe winter. Hard frost 24 December to 8 February (8), (18).
 1796 Temperature down to -6°F . in London on 24 December. Intense cold on Christmas Day, mean temperature about 10°F . Thames frozen (8), (10), (15).
 1798/99 Severe frost late December to early January (8), (10).
 1810 Snow on 30 October (11).
 1811 Thames frozen over in January (15).
 1813/14 Severe winter. One of the greatest frosts of the century set in on 27 December and heavy snow fell from the 3rd to about the 5th of January. The snow was followed by a thaw which only lasted one day, then the frost returned and persisted until 5 February. By 31 January, the Thames was completely frozen, and a Frost Fair was held on the river. The thaw on 5 to 7 February caused great damage (15), (18).
 1814 A cold year (18).
 1815/16 Severe winter (18).
 1816 A cold year which was called 'the year without a summer'. Heavy snow all day on 14 April (Easter Day). Snow on 12 May (11), (18).
 1819 Snow on 21 and 22 October (2 in) (11).
 1819/20 Severe winter. Shipping held up by ice in the Thames on 6 January (12), (18).
 1821 Snowed for about 5 minutes on 27 May (12).
 1822/23 Severe winter. Much ice in the Thames at Greenwich on 30 December (12), (18).
 1825 Snow on 20 and 21 October (12).
 1826 A great deal of ice in the Thames at Greenwich on 13 January. Thames nearly frozen at Deptford on 17 January (12).
 1829 Cold year. Continuous frost 16 to 24 January; ice in the Thames on 23 January. Heavy snow (1 to $1\frac{1}{2}$ in) on 7 October. Six inches of snow on 25 November (12), (18).
 1829/30 Severe winter. Almost continuous frost 23 to 31 December, 12 to 19 January, and 31 January to 6 February. Much ice in the Thames on 29 December and 22 January. Thames at Greenwich blocked by ice on 3 February, but all the ice had drifted out to sea by 10 February (12), (18).
 1830 Minimum temperature at Greenwich on 25 December was only 11°F . (12).
 1836 Heavy snow on 29 October, 6 in deep at 8 a.m. and 12 in deep by 2 p.m. (12).
 1837 Snow or sleet showers on 10 and 22 May (12).
 1837/38 Severe winter. A hard frost set in on 8 January and, apart from a few days temporary thaw, it lasted for about a month. The temperature fell to 3°F . at Greenwich on 20 January. The Thames at Greenwich was completely covered with ice at high water on 27 January (12), (15), (18).
 1838 Cold year. Snow showers on 13 October (12), (18).
 1839 Showers of snow, sleet and hail on 14 and 15 May (12).
 1840/41 Severe winter (18), (19).

GALES AND STORMS

A.D.

- 18 Hurricane destroyed Westminster (1).
- 253 900 houses blown down in London (1).
- 277 Storm in London; several people killed (1).
- 548 Storm in London; many houses damaged and many people killed (1).
- 944 Storm in London; many houses destroyed (1).
- 1091 Great gale damaged many houses, churches and the Tower of London on 17 October (3).
- 1221 Violent north-east gale did much damage in London on 18 October. (May have occurred in 1220) (3).
- 1233 Gale on 10 February (3).
- 1249 Gale on 28 October (3).
- 1264 Gale on 13 May (3).
- 1271 Gale; no date given. The bell tower of the church of St Mary-le-Bow was blown down and killed several people (3).
- 1342 The gale on 16 January destroyed the tower of the Church of the Friars Minor in London (3).
- 1362 Severe gale on 15 January caused great damage on land and sea. Probably the severest gale on record, apart from the great storm of 26 November 1703 (3).
- 1438 Gale on 23 November did much damage in London (3).
- 1601 Storm in London on 1 February (1).
- 1658 Gale during the night unroofed houses, blew down chimneys and uprooted trees on 3 September. Cromwell died on this night (7).
- 1703 Dreadful storm from 26 November to 1 December. The most disastrous storm on record; twelve warships with 1300 men on board were lost in sight of land, and Eddystone lighthouse was destroyed. In the resulting floods in the Thames and Severn valleys and in Holland, 8000 people lost their lives. Damage in London estimated at £2,000,000 (7), (20).
- 1735 Westerly gale on 8 January was the most violent since the great storm of November 1703, and it did great damage in London. Severe storm on 24 August damaged houses and trees (7), (14).
- 1737 Violent gale on 3 August; innumerable trees uprooted, chimneys blown down and ships sunk in the Thames. A violent gale on 1 December did much damage (7).
- 1739 Gale on 11 September did much damage in London. On 29 and 30 December severe easterly gale and ice in the Thames damaged shipping considerably (7).
- 1740 Southerly gales in London on 4 and 7 September; much damage to shipping on the 7th. Gale on 1 November caused much damage and blew down one of the spires of Westminster Abbey (7).
- 1743 Great gale in London on 3 February. Gale on 27 April held the King up at Sheerness (7).
- 1745 Gales from 18 to 20 November (7).
- 1751 Severe gale did much damage on 26 February (7).
- 1818 Very severe gales did much damage on 4, 7 and 8 March (12).
- 1822 Severe gale did a great deal of damage on 5 February (12).
- 1823 Gales on 31 October and 17 December did a lot of damage (12).
- 1824 Serious damage caused by gale on 3 March (12).
- 1825 Violent gales did much damage on 5 August and 3 November (12).
- 1828 Gale damaged houses and trees on the night 9/10 August (12).
- 1836 Severe gale blew down trees, and unroofed houses on 29 November (12).

FOG

A.D.

- 1663 Fog in London in August (7).
 1671 'The thickest and darkest fog ever known in the memory of man' in London in December (7).
 1705 Mild and dark with fogs and close weather during the period 1 to 15 March (1).
 1708 Very foggy 15 to 24 December (1).
 1710 Foggy 19 to 24 January, and in February (1).
 1713 A lot of fog in December (1).
 1716 Much fog 24–28 January. Some fog in February (1).
 1717 Some foggy days in January and February (1).
 1722 Fog on 9 days in October (11).
 1725 Fog on about 10 days in February (11).
 1728 Fog on 6 days in September (10), (11).
 1729 Thick fog all day in Richmond on 12 and 19 December (14).
 1730 Great fog in London on 1 January; many lives lost. Thick fog 5 to 7 January (7), (10), (11).
 1736 Fog 12–19 October (10), (11).
 1741 Foggy from 26 August to 1 September. Very foggy from 27 November to 6 December (10), (11).
 1743 Rather foggy September and October (10), (11).
 1746 Freezing fog 3 to 6 and 11 to 16 January. Thick fog on 13 and 14 January (10).
 1758 Thick fog on 2 and 3 December (10).
 1765 Foggy 21–26 August (10), (11).
 1767 Foggy 19–25 September; thick fog on 20 and 21 September (10), (11).
 1769 Foggy 10–13 October (10), (11).
 1771 Foggy 18–24 February. Thick fog 3, 11 and 12 May (10), (11).
 1776 Fog on 14 days in October, 11 days in November and 18 days in December (10), (11).
 1780 Fog on 10 days in August (10).
 1783 Foggy 26 September to 6 October (10), (11).
 1790 Fog on 22 days in January (10).
 1797 Fog daily 16–28 February (10).
 1807 Fog daily 17–21 December (11).
 1808 Fog daily 24 December to 2 January (11).
 1809 Fog on 7 days in January and 11 days in October. Thick fog on 28, 29 and 30 October (11).
 1810 Fog on 10 days in January and 5 days in October (11).
 1811 Fog on 7 days in September (11).
 1813/14 Foggy December. Dense fog persisted in London and neighbourhood from 27 December to 3 January; traffic almost at a standstill. On 28 December the Maidenhead coach lost its way and overturned, and on 29 December the Birmingham mail took nearly seven hours to go from London to just past Uxbridge (11), (15).
 1817 Fog on 7 days in September (11).
 1825 Fog on 6 days in February (11).
 1832 Thick fog 22–25 February (11).
 1834 Fog from 30 September to 6 October (11).
 1838 Fog on 11 days in September (11).
 1839 Fog 1 to 7 December (11).
 1840 Thick fog 27, 28 and 29 November (11).

APPENDIX II
EARLY RAINFALL RECORDS LONDON AREA
1695-1716 AND 1725-1840

1. This appendix consists of early rainfall records for the undermentioned stations in or near London:
- | | |
|---------------------------|--------------------------------------|
| Gresham College, London | Sept. 1695 to July 1696 |
| Upminster (Essex) | 1697 to 1716 |
| Crane Court, Fleet Street | 1725 to 1735 |
| Tonbridge (Kent) | 1728 to 1765 |
| Chelmsford (Essex) | 1737 to 1742 |
| Lambeth | 1765 to 1782 |
| South Lambeth | 1782 to 1792 |
| Somerset House | 1787 to 1840 |
| Edmonton | 1792 to 1796, 1811, and 1817 to 1839 |
| Temple Bar | 1795 to 1808 |
| Soho Square | 1810 to 1813 |
| Greenwich Observatory | 1815 to 1840 |
2. Little information is available about the exposure of the various rain-gauges but it is known that the gauge at Somerset House was on the roof and it is suspected that the gauge at Greenwich was above ground level during the earlier years of the record. Only annual rainfall is available for some of the years in the Upminster record. Some of the Somerset House monthly totals do not agree with the daily rainfall published in *Philosophical Transactions*; in these cases the monthly totals obtained by adding the daily rainfalls are given in a footnote on the appropriate page.

MONTHLY AND ANNUAL RAINFALL (Inches)
GRESHAM COLLEGE, LONDON 1695-1696

Year	1695	1696
January ..		1.85
February ..		2.79
March ..		1.54
April ..		1.36
May ..		4.49
June ..		3.49
July		5.36
August ..		
September ..	4.04	
October ..	0.58	
November ..	0.87	
December ..	2.54	
Total ..	—	

MONTHLY AND ANNUAL RAINFALL (Inches)

UPMINSTER 1697-1716

Year		1697	1698	1699	1700	1701	1702	1703	1704	1705	1706	1707
January	..	0.72	2.20	1.79	0.79	3.00	1.97	1.79	0.82	0.22		
February	..	0.36	0.26	1.22	1.54	1.77	1.47	1.29	0.44	1.11		
March	..	0.54	1.88	1.13	0.31	0.79	0.48	0.95	3.22	1.12		
April	..	1.51	1.62	0.69	1.53	0.29	2.19	2.51		1.04		
May	..	0.64	2.42	0.54	1.39	1.83	1.30	4.17		0.41		1.05
June	..	0.99	1.76	0.88	1.53	1.16	2.71	2.92		0.66		1.34
July ..	..	1.24	3.42	1.33	0.85	1.91	0.88	3.00		1.12		1.27
August	..	2.81	1.41	1.72	1.63	1.32	1.38	0.68		2.17		2.18
September	..	2.10	2.43	1.62	2.98	1.13	1.62	2.99		0.41		2.90
October	..	1.69	2.63	2.71	3.45	2.05	1.59	1.92		3.22		1.32
November	..	1.13	3.38	0.39	1.05	1.65	2.82	1.46		1.17		1.18
December	..	1.87	1.18	1.17	2.07	1.88	2.07	0.43		4.36		2.43
Total	..	15.60	24.59	15.19	19.12	18.78	20.48	24.11	15.88	17.01	24.41	16.39

Year		1708	1709	1710	1711	1712	1713	1714	1715	1716
January	..	2.88							0.87	1.73
February	..	0.46							0.62	0.35
March	..	2.03							2.52	0.39
April	..	0.96							2.65	1.01
May	..	2.02							0.94	1.91
June	..	2.32							3.28	1.66
July ..	..	1.11							4.02	0.90
August	..	2.94							4.12	0.42
September	..	1.46							1.84	1.98
October	..	0.23							2.83	3.17
November	..	0.86							1.72	0.89
December	..	1.97							0.51	1.44
Total	..	19.24	26.69	18.46	23.72	23.88	23.28	11.25	25.92	15.85

LONDON WEATHER

MONTHLY AND ANNUAL RAINFALL (Inches)

CRANE COURT, FLEET STREET 1725-1735

Year		1725	1726	1727	1728	1729	1730	1731	1732	1733	1734	1735
January	..	0·65	3·92	2·41	3·09	0·74	0·45	0·13	0·53	0·69	1·01	2·36
February	..	0·10	0·64	2·06	0·63	0·79	1·23	0·82	1·90	1·16	1·93	1·78
March	..	0·38	1·46	2·10	2·49	1·13	3·59	0·05	1·15	2·15	1·79	2·24
April	..	1·97	0·68	0·53	3·47	1·60	0·67	1·26	2·77	1·70	0·45	1·16
May	..	2·76	1·78	3·84	1·62	1·51	1·75	0·39	3·20	0·55	4·17	2·04
June	..	4·05	3·39	2·85	4·61	1·20	3·75	2·30	1·05	2·65	3·21	2·08
July	..	0·75	4·19	0·80	4·61	1·04	2·39	2·09	1·13	1·54	1·11	3·14
August	..	2·70	0·08	0·07	1·67	3·04	0·02	1·73	1·50	3·23	1·76	1·49
September	..	2·66	4·95	1·75	1·68	3·51	2·10	0·55	1·14	1·37	1·00	1·56
October	..	1·23	0·98	1·72	2·29	1·42	2·46	1·36	2·39	0·91	2·10	0·98
November	..	1·17	1·31	0·40	2·16	2·43	1·57	1·53	1·20	0·52	1·77	2·69
December	..	1·65	3·61	2·57	1·00	1·95	1·50	1·40	1·71	2·44	4·27	1·50
Total	..	20·07	26·99	21·10	29·32	20·36	21·48	13·61	19·67	18·91	24·57	23·02

TONBRIDGE 1728-1765

Year		1728	1729	1730	1731	1732	1733	1734	1735	1736	1737	1738
January	..		0·50	0·62	0·77	0·54	1·24	1·64	3·32	4·04	0·65	2·12
February	..		1·07	2·05	1·09	2·28	1·92	2·43	1·04	2·95	3·24	1·10
March	..		1·29	4·07	0·03	1·21	2·16	1·98	2·03	2·36	3·52	3·15
April	..		2·20	0·99	1·43	1·31	1·82	0·60	1·65	0·77	1·15	1·95
May	..		2·22	1·81	0·27	3·49	0·22	3·89	2·00	1·57	1·86	1·84
June	..		0·73	2·88	2·65	0·80	1·74	2·14	2·56	3·10	1·79	4·28
July	..		2·15	2·60	1·56	1·53	0·98	1·40	3·70	1·48	1·06	0·85
August	..		2·53	0·14	0·98	0·93	3·35	2·16	1·51	2·17	5·96	2·29
September	..	1·04	2·34	2·04	0·59	0·83	1·50	1·59	2·10	1·65	5·22	3·61
October	..	2·71	2·22	2·42	1·40	3·29	0·79	3·13	2·78	3·59	3·29	5·12
November	..	2·22	4·33	2·06	1·36	1·27	1·08	1·50	3·54	1·09	0·98	2·29
December	..	1·20	1·95	1·32	2·17	1·47	3·20	7·26	2·85	3·97	1·60	1·78
Total	..	—	23·53	23·00	14·30	18·95	20·00	29·72	29·08	28·74	30·32	30·38

MONTHLY AND ANNUAL RAINFALL (Inches)

TONBRIDGE (*continued*)

Year		1739	1740	1741	1742	1743	1744	1745	1746	1747	1748	1749
January	..	4.29	0.30	1.16	2.87	0.93	0.58	0.66	2.83	2.82	0.64	6.14
February	..	3.24	0.48	1.33	1.49	0.89	1.83	0.62	2.72	2.76	1.22	1.48
March	..	1.76	1.16	0.64	0.11	2.08	1.77	3.22	2.20	1.34	2.84	2.00
April	..	3.48	2.45	0.69	1.76	2.46	5.02	2.76	1.61	1.29	2.87	1.64
May	..	2.80	1.66	2.90	1.71	1.19	0.61	1.21	1.91	0.69	1.04	1.25
June	..	1.05	1.22	2.04	2.37	1.01	1.95	4.81	4.25	4.11	2.57	1.69
July ..	..	2.80	1.56	2.24	2.24	3.22	1.07	1.54	2.12	1.48	1.05	1.25
August	..	2.76	3.60	0.93	0.11	1.93	2.31	3.21	0.93	0.40	1.99	0.91
September	..	4.32	1.74	3.36	2.77	0.15	3.91	1.33	1.92	2.83	1.19	2.52
October	..	1.41	1.13	3.57	2.39	2.08	7.64	3.59	1.95	0.85	1.72	2.65
November	..	4.66	3.73	2.56	3.19	1.30	1.91	3.07	1.83	2.10	0.67	0.31
December	..	2.51	4.74	0.96	0.76	1.86	0.60	2.62	2.12	7.62	5.21	1.95
Total	..	35.08	23.77	22.38	21.77	19.10	29.20	28.64	26.39	28.29	23.01	23.79
Year ..	..	1750	1751	1752	1753	1754	1755	1756	1757	1758	1759	1760
January	..	2.90	3.35	2.23	2.50	2.63	1.28	2.52	3.19	2.01	1.66	2.50
February	..	2.64	1.60	2.29	2.16	1.70	0.79	2.13	1.04	2.63	0.79	3.31
March	..	1.20	3.94	1.40	1.48	2.33	1.48	2.89	1.87	1.81	2.70	0.64
April	..	3.11	2.46	1.13	2.62	1.22	3.09	4.39	3.07	1.24	1.83	0.30
May	..	1.59	2.66	2.04	1.72	1.36	2.13	0.56	1.38	1.39	1.27	1.36
June	..	1.36	1.89	2.50	0.92	2.39	2.05	2.76	0.29	2.17	3.33	2.86
July ..	..	2.33	4.24	2.68	1.61	1.66	2.51	2.41	2.03	5.83	1.12	2.28
August	..	0.97	1.75	1.73	2.91	3.21	3.51	4.40	4.04	3.82	1.96	2.62
September	..	2.02	3.02	1.44*	0.68	0.08	2.28	1.37	1.40	1.35	1.51	3.30
October	..	2.36	1.88	0.42	1.37	2.55	1.80	3.56	1.70	1.64	3.05	3.67
November	..	3.81	4.66	1.42	2.78	3.04	8.49	1.49	2.44	2.61	1.33	1.68
December	..	3.24	2.38	2.86	2.68	4.93	3.58	2.20	2.41	1.83	2.23	2.23
Total	..	27.53	33.83	22.14	23.43	27.10	32.99	30.68	24.86	28.33	22.78	26.75

*September 1752. Total for 19 days only (11 days 3rd-13th dropped with change of calendar).

MONTHLY AND ANNUAL RAINFALL (Inches)

TONBRIDGE (*continued*)

Year		1761	1762	1763	1764	1765
January	..	0.37	2.81	0.33	5.29	2.54
February	..	1.73	1.48	5.41	2.23	2.00
March	..	0.80	2.34	1.58	1.12	5.22
April	..	0.80	0.31	1.33	1.99	2.87
May	..	3.54	0.56	1.12	1.60	0.73
June	..	2.94	1.90	1.45	1.36	0.81
July	.. ..	0.75	0.95	3.49	3.14	*
August	..	3.73	3.82	2.47	3.76	
September	..	3.22	2.12	2.63	1.48	
October	..	3.02	6.33	1.84	1.85	
November	..	2.19	1.92	3.31	2.00	
December	..	2.80	0.13	4.54	2.73	
Total	..	25.89	24.67	29.50	28.55	

*0.28 in up to 22 July.

CHELMSFORD 1737-1742

Year		1737	1738	1739	1740	1741	1742
January	..	0.62	1.08	3.07	0.00	0.65	1.02
February	..	1.44	0.81	4.26	0.15	0.91	0.43
March	..	2.59	2.16	1.16	0.69	0.33	0.00
April	..	1.28	1.53	3.35	1.66	0.39	0.95
May	..	1.53	0.92	1.92	0.79	3.17	0.21
June	..	0.62	2.83	2.36	0.79	1.50	2.19
July	.. ..	4.90	1.38	2.27	1.33	1.25	0.83
August	..	3.86	1.75	2.13	1.63	1.60	
September	..	3.65	1.80	2.26	1.74	2.22	
October	..	2.50	2.76	0.16	0.38	1.88	
November	..	—	2.02	1.83	2.26	2.01	
December	..	1.97	1.83	1.56	2.79	1.30	
Total	..	24.96*	20.87	26.33	14.21	17.21	

*1737 total for 11 months.

MONTHLY AND ANNUAL RAINFALL (Inches)

LAMBETH 1765-1782

Year		1765	1766	1767	1768	1769	1770	1771	1772	1773	1774	1775
January	..	2.26	0.12	2.09	1.67	1.70	0.96	1.79	3.23	1.36	2.72	1.85
February	..	1.72	2.27	2.69	2.14	1.71	1.13	0.81	3.11	1.42	2.68	2.36
March	..	3.34	2.31	1.83	0.10	0.84	1.50	0.92	1.90	0.23	2.31	2.12
April	..	2.13	1.32	1.41	3.16	1.41	2.14	0.99	1.91	1.40	1.05	0.88
May	..	1.26	3.26	2.68	1.05	2.09	1.49	1.31	1.51	3.63	2.20	1.04
June	..	0.93	2.79	2.27	4.57	3.35	4.05	2.55	0.67	2.85	1.31	1.36
July	..	0.48	5.27	3.81	2.55	1.81	1.69	1.47	0.73	1.27	2.16	4.86
August	..	1.90	0.86	3.22	3.71	2.21	0.94	4.21	1.94	3.96	3.23	1.11
September	..	1.11	0.44	1.67	5.33	4.70	2.51	1.21	2.39	2.73	3.75	5.49
October	..	4.34	2.23	2.15	3.06	1.17	2.24	3.06	2.36	1.85	1.18	2.34
November	..	2.06	0.99	1.32	2.29	1.54	4.69	0.76	2.75	4.30	1.82	2.57
December	..	0.87	1.63	0.50	2.20	1.94	3.30	2.55	1.05	1.83	1.85	0.71
Total	..	22.40	23.49	25.64	31.83	24.47	26.64	21.63	23.55	26.83	26.26	26.69

Year		1776	1777	1778	1779	1780	1781	1782
January	..	5.54	0.97	2.31	0.25	0.77	1.95	3.11
February	..		1.54	0.70	0.28	0.80	1.93	0.54
March	..	1.49	1.39	1.43	0.52	1.41	0.08	2.91
April	..	0.34	1.07	0.83	1.34	2.64	0.45	2.42
May	..	1.64	5.54	1.17	2.18	1.00	0.72	4.16
June	..	1.85	3.23	1.38	2.71	0.99	1.16	1.09
July	..	2.12	3.23	4.81	6.50	1.28	1.08	6.86
August	..	2.46	0.97	0.14	1.25	0.63	3.16	4.96
September	..	3.13	0.74	0.75	2.68	3.15	1.95	2.61
October	..	0.71	3.25	2.77	2.98	3.50	0.32	2.36
November	..	1.76	1.11	3.70	3.12	2.57	3.44	0.82
December	..	1.53	0.79	3.00	5.32	0.39	1.54	1.15
Total	..	22.57	23.83	22.99	29.13	19.13	17.78	32.99

MONTHLY AND ANNUAL RAINFALL (Inches)
SOUTH LAMBETH 1782-1792

Year		1782	1783	1784	1785	1786	1787	1788	1789	1790	1791	1792
January	..	2.23	1.51	2.54	1.78	2.48	0.60	0.68	2.41	1.49	2.91	2.51
February	..	0.56	2.98	1.49	1.20	1.08	1.68	2.09	2.51	0.20	2.29	1.05
March	..	2.49	0.93	2.63	0.35	1.11	1.62	0.64	2.32	0.24	0.92	2.13
April	..	2.14	0.59	2.56	0.34	1.22	0.93	0.47	1.24	2.54	1.57	2.04
May	..	4.10	2.36	1.36	0.81	0.97	1.60	0.81	2.80	3.70	0.76	1.49
June	..	0.49	4.00	3.45	2.04	2.24	0.68	1.94	3.66	0.64	0.60	1.45
July	..	6.88	0.78	2.26	1.73	0.86	4.12	1.84	2.77	2.42	2.67	3.98
August	..	7.80	2.23	2.84	3.05	1.19	0.60	4.30	1.91	2.26	1.26	2.86
September	..		4.30	1.65	2.75	8.22	0.78	3.81	1.87	0.52	0.27	2.66
October	..		0.72	0.83	4.04		2.41	0.08	3.54	1.72	2.33	
November	..	1.24	1.63	5.60			1.51	0.62	1.24	3.40	3.44	
December	..	0.72	1.22	1.53		3.06	3.87	0.00	1.51	3.18	1.44	
Total	..	28.65	23.25	27.21	19.62	22.43	20.40	17.28	27.78	22.31	20.46	

SOMERSET HOUSE 1787-1840

Year		1787	1788	1789	1790	1791	1792	1793	1794	1795	1796	1797
January	..	0.36	0.44	1.35	0.97	1.96	1.81	1.57	0.40	0.48	2.13	0.96
February	..	1.04	1.46	1.61	0.11	0.87	0.71	1.58	0.65	1.25	1.14	0.22
March	..	1.28	0.34	1.55	0.12	0.72	1.79	1.16	1.08	1.74	0.07	0.78
April	..	0.92	0.61	0.96	1.47	1.46	1.55	1.09	1.40	0.50	0.30	1.86
May	..	1.14	0.50	1.10	2.90	0.79	1.62	0.87	2.21	0.28	2.30	1.44
June	..	0.66	3.27	3.24	0.71	0.33	1.62	0.43	0.39	3.34	0.54	4.22
July	..	3.25	1.62	2.47	1.70	2.19	2.30	1.62	0.51	1.40	1.90	1.29
August	..	1.17	2.70	1.86	1.99	0.82	2.07	1.31	1.61	1.86	0.53	2.79
September	..	0.99	3.35	2.15	0.37	0.48	1.91	2.45	3.01	0.08	1.54	4.06
October	..	1.82	0.10	3.25	1.11	2.03	1.88	1.14	2.84	2.54	1.80	2.00
November	..	1.34	0.51	1.24	2.51	2.53	0.45	2.10	3.34	2.43	1.21	1.47
December	..	3.00	0.00	1.19	2.09	1.12*	1.77	1.81	1.02	0.97	1.31	1.61
Total	..	16.97	14.90	21.97	16.05	15.30	19.48	17.13	18.46	16.87	14.77	22.70

*December 1791. Daily totals given in *Phil. Trans.* amount to 1.93 in.

MONTHLY AND ANNUAL RAINFALL (Inches)

SOMERSET HOUSE (*continued*)

Year		1798	1799	1800	1801	1802	1803	1804	1805	1806	1807	1808
January	..	1.11	0.95	2.46	1.23	0.15	1.54	1.67	1.51	1.84	0.49	1.06
February	..	0.69	2.24	0.26	0.54	1.50	0.74	1.34	1.05	0.53	1.11	0.71
March	..	0.33	0.43	0.31	1.11	0.40	(d) 0.45	1.54	0.88	1.33	0.19	0.17
April	..	0.52	1.67	2.89	0.38	(c) 0.99	1.09	1.60	1.58	0.25	0.45	1.65
May	..	1.62	1.75	1.09	1.51	1.20	1.69	1.25	0.85	1.02	2.87	1.12
June	..	0.96	0.55	1.00	(b) 0.79	1.86	3.36	0.52	3.31	0.51	1.35	0.64
July	..	2.88	2.91	0.00	3.52	2.82	1.37	3.71	2.17	4.89	0.33	2.46
August	..	1.53	2.21	1.47	1.57	0.52	(e) 0.75	2.80	(f) 3.53	2.09	1.76	1.21
September	..	2.44	2.82	2.71	1.26	0.67	0.92	0.00	1.53	1.92	1.94	3.78
October	..	3.43	(a) 2.19	1.29	1.47	1.64	0.47	2.05	1.38	0.79	0.77	3.20
November	..	3.06	1.59	3.80	3.29	1.01	2.44	3.99	0.79	2.55	2.45	1.75
December	..	0.86	0.35	1.67	2.52	1.20	3.09	0.51	1.80	2.72	0.48	0.73
Total	..	19.43	19.66	18.95	19.19	13.96	17.91	20.98	20.38	20.44	14.19	18.48

(a) October 1799. Daily totals given in *Phil. Trans.* amount to 2.28 in.

(b) June 1801. Daily totals given in *Phil. Trans.* amount to 0.43 in.

(c) April 1802. Daily totals given in *Phil. Trans.* amount to 1.00 in.

(d) March 1803. Daily totals given in *Phil. Trans.* amount to 0.52 in.

(e) August 1803. Daily totals given in *Phil. Trans.* amount to 0.79 in.

(f) August 1805. Daily totals given in *Phil. Trans.* amount to 3.54 in.

MONTHLY AND ANNUAL RAINFALL (Inches)

SOMERSET HOUSE (*continued*)

Year		1809	1810	1811	1812	1813	1814	1815	1816	1817	1818	1819
January	..	3.23			0.78	0.34	1.12	0.43	0.73	2.15	1.46	0.79
		(a)							(l)			
February	..	1.60			1.70	1.79	0.53	0.67	1.63	0.87	0.73	1.64
March	..	0.73			1.87	0.56	0.72	1.33	0.43	1.06	0.99	1.01
							(e)	(h)				(n)
April	..	2.97			1.06	1.10	1.30	1.66	1.02	0.12	1.79	1.69
May	..	0.81			1.93	2.63	1.78	0.67	0.90	1.70	1.60	1.40
		(b)						(i)				
June	..	1.11			1.76	1.35	1.56	1.75	0.93	1.86	0.41	1.02
								(j)				
July	..	2.76			1.95	2.09	0.68	1.58	2.79	1.41	0.36	0.75
August	..	1.43			1.48	0.57	2.00	0.22	1.18	1.46	0.28	0.25
September	..	2.50			0.63	0.86	0.97	0.78	0.82	0.30	0.97	1.32
October	..	0.14			3.14	3.39	1.61	1.89	0.89	0.55	1.17	1.07
November	..	1.09			1.85	0.95	1.80	1.34	2.12	1.11	1.08	0.92
							(f)	(k)			(m)	
December	..	2.33			0.19	0.33	2.25	0.65	1.74	2.70	0.81	1.87
							(g)					
Total	..	20.70	(c)	(d)	18.34	15.96	16.32	12.97	15.18	15.29	11.65	13.73

(a) February 1809. Daily totals given in *Phil. Trans.* amount to 1.56 in.

(b) June 1809. Daily totals given in *Phil. Trans.* amount to 1.01 in.

(c) Rainfall was not recorded during 1810.

(d) Rainfall during the period 25 May to 31 December 1811 was 10.65 in.

(e) April 1814. Daily totals given in *Phil. Trans.* amount to 1.24 in.

(f) December 1814. Daily totals given in *Phil. Trans.* amount to 0.86 in.

(g) The annual rainfall for 1814 recorded by another rain-gauge a few feet away and 11 ft 6 in lower appears to have been 20.72 in.

(h) April 1815. Daily totals given in *Phil. Trans.* amount to 1.86 in.

(i) June 1815. Daily totals given in *Phil. Trans.* amount to 0.75 in.

(j) July 1815. Daily totals given in *Phil. Trans.* amount to 0.58 in.

(k) December 1815. Daily totals given in *Phil. Trans.* amount to 0.86 in.

(l) February 1816. Daily totals given in *Phil. Trans.* amount to 1.67 in.

(m) December 1818. Daily totals given in *Phil. Trans.* amount to 0.72 in.

(n) April 1819. Daily totals given in *Phil. Trans.* amount to 1.01 in.

MONTHLY AND ANNUAL RAINFALL (Inches)

SOMERSET HOUSE (*continued*)

Year		1820	1821	1822	1823	1824	1825	1826	1827	1828	1829	1830
January	..	0.44	1.85	0.21	0.61	0.52	0.47	0.13	1.08	3.18	0.29	^(c) 1.79
February	..	1.43	0.28	0.56	1.98	1.48	0.39	0.83	0.00	0.90	0.74	1.01
March	..	1.33	1.92	1.27	0.94	0.85	0.60	0.54	1.28	0.75	0.59	0.19
April	..	1.51	1.14	1.62	1.04	1.18	1.15	*	0.04	2.03	2.29	2.02
May	..	1.39	1.09	1.02	0.54	2.39	2.07	*	0.27	1.31	0.31	2.10
June	..	2.33	1.83	1.21	0.98	2.18	0.69	*	0.27	2.37	1.40	2.09
July	..	2.81	2.24	2.79	1.15	1.03	0.05	2.36	0.15	4.15	2.91	1.31
August	..	1.31	2.10	0.97	1.05	2.09	1.25	0.55	0.52	2.94	2.84	2.69
September	..	2.06	1.81	0.70	0.80	2.37	1.86	0.42	0.83	2.07	^(b) 2.70	2.37
October	..	1.58	1.93	3.05	2.51	1.46	2.00	1.87	2.27	0.78	1.55	0.88
November	..	1.00	3.45	3.61	1.16	3.15	1.66	0.46	0.98	0.81	0.69	1.70
December	..	1.19	3.94	1.04	1.10	^(a) 1.97	1.74	0.10	2.29	0.89	0.10	0.88
Total	..	18.38	23.58	18.05	13.86	20.67	13.93	*	9.98	22.18	16.41	19.03

*Rain-gauge being repaired April to June.

(a) December 1824. Daily totals given in *Phil. Trans.* amount to 1.86 in.

(b) September 1829. Measurements between 7th and 12th doubtful.

(c) January 1830. Daily totals given in *Phil. Trans.* amount to 1.92 in.

Year		1831	1832	1833	1834	1835	1836	1837	1838	1839	1840
January	..	0.54	0.67	0.27	0.35	0.18	1.60	2.31	0.07	1.43	2.63
February	..	1.45	0.07	1.24	0.00	0.41	2.06	1.58	1.68	1.34	1.22
March	..	0.88	0.30	0.59	0.31	0.14	2.43	0.43	0.93	1.55	0.21
April	..	1.07	0.34	1.54	0.03	1.07	2.49	0.90	0.66	1.38	0.25
May	..	1.05	1.17	0.38	0.43	2.48	0.81	1.67	0.63	1.27	2.33
June	..	1.15	2.84	1.91	0.93	2.20	0.90	0.89	4.37	1.52	1.76
July	..	2.82	0.97	1.68	3.36	0.51	1.89	1.43	2.26	2.58	1.82
August	..	1.70	2.03	0.57	1.69	0.32	0.99	3.60	1.05	1.97	1.27
September	..	2.81	0.35	0.48	0.58	3.75	2.77	0.89	2.25	2.98	1.85
October	..	2.11	2.03	0.18	0.19	3.82	3.06	1.82	1.36	1.96	1.47
November	..	0.86	1.07	0.81	0.03	1.72	2.11	1.42	2.73	4.21	2.94
December	..	0.51	0.74	1.72	0.11	0.38	1.65	0.98	1.60	2.33	0.41
Total	..	16.95	12.58	11.37	8.01	16.98	22.76	17.92	19.59	24.52	18.16

MONTHLY AND ANNUAL RAINFALL (Inches)

EDMONTON 1792-1796, 1811 and 1817-1839

Year		1792	1793	1794	1795	1796	1811	1817	1818	1819	1820	1821
January	..	3.00	2.00	0.80	(a) 0.56	2.10	1.80	2.75	1.65	2.17	2.05	2.80
February	..	0.60	1.80	0.90	1.70	1.00	(c) 2.60	0.99	2.03	2.62	1.00	0.10
March	..	2.50	2.50	1.80	1.93	0.10	0.90	2.07	3.40	1.25	0.28	3.00
April	..	3.80	1.10	1.90	(b) 1.00	0.60	1.70	0.05	3.25	2.05	1.44	2.12
May	..	2.20	1.00	2.20	0.30	3.00	3.30	3.03	2.76	2.73	3.22	2.15
June	..	2.00	0.80	0.00	4.30	0.90	2.30	1.62	0.40	2.28	1.56	1.23
July	..	1.60	1.70	0.20	0.80	0.30	3.50	1.83	0.55	1.93	2.47	2.26
August	..	2.70	1.70	1.30	1.70	0.50	1.90	2.50	0.10	(d) 0.43	1.12	1.58
September	..	3.50	3.00	4.70	0.10	1.80	1.30	0.12	1.57	2.70	2.83	2.26
October	..	3.20	1.20	4.00	4.20	2.40	2.70	1.10	1.25	1.35	2.30	2.90
November	..	0.60	3.50	4.90	2.40	1.60	3.00	1.85	1.83	1.75	1.75	4.58
December	..	2.70	3.10	2.50	1.90	1.90	2.90	2.80	0.65	2.13	0.50	4.52
Total	..	28.40	23.40	25.20	20.89	16.20	27.90	20.71	19.44	23.39	20.52	29.50

(a) The rain-gauge burst in January 1795 and rainfall for that month was interpolated. The rain-gauge was 'still faulty' in February, and was 'leaky' in March.

(b) Rainfall for period 7 to 30 April.

(c) The gauge was blown down and monthly rainfall for February 1811 was greater than recorded.

(d) The rainfall for August 1819 is quoted as 0.13 in in another table. Probably a copying error, but it is impossible to say which is correct.

Year		1822	1823	1824	1825	1826	1827	1828	1829	1830	1831	1832
January	..	0.73	1.12	1.25	1.10	0.20	0.30	3.72	0.60	1.38	1.28	1.30
February	..	1.12	3.15	1.90	0.75	1.73	0.22	1.73	1.43	1.55	2.95	0.22
March	..	0.79	1.00	1.80	1.27	2.07	2.63	0.52	0.65	0.22	1.65	1.23
April	..	2.55	1.63	1.73	1.58	0.98	0.85	2.84	3.80	2.68	1.82	0.75
May	..	1.22	0.85	4.00	3.97	2.27	1.98	2.07	0.57	2.60	1.65	2.15
June	..	1.30	1.72	4.35	1.35	0.80	1.00	1.85	1.65	3.13	1.51	3.08
July	..	2.40	2.33	1.98	0.16	2.45	1.35	4.25	4.85	1.40	2.62	1.00
August	..	1.75	1.93	1.27	2.93	1.58	1.50	3.05	5.00	2.65	1.50	3.03
September	..	0.88	0.78	3.68	2.47	2.92	3.22	2.00	4.20	3.00	3.68	1.35
October	..	4.10	4.28	3.01	2.68	2.35	3.38	1.25	2.08	0.65	4.40	2.92
November	..	3.75	1.95	3.67	3.65	3.03	1.45	1.85	1.77	3.28	1.60	1.95
December	..	1.70	2.58	4.15	3.22	1.75	4.32	2.45	0.15	1.32	2.15	1.98
Total	..	22.29	23.32	32.79	25.13	22.13	22.20	27.58	26.75	23.86	26.81	20.96

MONTHLY AND ANNUAL RAINFALL (Inches)

EDMONTON (*continued*)

Year		1833	1834	1835	1836	1837	1838	1839
January	..	0.40	3.00	0.98	1.88	2.25	0.18	1.51
February	..	4.27	0.55	2.90	1.87	2.44	1.62	1.68
March	.	0.78	0.45	2.62	3.12	0.27	1.21	1.74
April	..	1.85	0.87	1.20	2.48	0.96	0.95	1.46
May	..	0.85	1.28	2.63	0.79	0.75	0.45	1.29
June	..	1.63	1.55	2.27	1.30	1.40	2.85	2.24
July	..	1.40	4.35	0.45	1.97	1.08	2.19	2.73
August	..	0.90	2.77	0.19	1.56	3.93	0.91	1.19
September	..	2.98	1.35	3.63	3.03	0.73	2.09	3.39
October	.	2.12	0.48	4.78	3.29	1.75	1.88	1.56
November	..	2.58	1.53	2.35	3.22	1.84	3.72	4.84
December	..	3.87	1.02	0.22	1.68	1.46	1.68	2.69
Total	..	23.63	19.20	24.22	26.19	18.86	19.73	26.32

TEMPLE BAR 1795-1808

Year		1795	1796	1797	1798	1799	1800	1801	1802	1803	1804	1805
January	..	0.56	2.24	1.05	1.18	1.02	2.66	1.11	0.23	1.66	1.81	1.63
February	..	1.39	1.26	0.24	0.76	2.41	0.19	0.59	1.62	0.81	1.47	1.13
March	..	1.93	0.08	0.85	0.56	0.47	0.32	1.19	0.43	0.48	1.66	0.95
April	..	0.52	0.34	2.04	0.57	1.83	3.11	0.41	1.08	1.18	1.73	1.71
May	..	0.31	2.33	1.58	1.78	1.89	1.17	1.74	1.28	1.81	1.35	0.92
June	..	3.67	0.59	4.64	1.05	0.59	1.07	0.86	2.01	3.61	0.57	3.57
July	..	1.52	2.09	1.42	3.08	3.14	—	3.81	3.04	1.47	3.99	2.34
August	..	2.04	0.58	3.06	1.64	2.32	1.58	1.69	0.56	0.81	3.02	3.81
September	..	0.11	1.69	4.46	2.64	3.05	2.92	1.37	0.73	0.99	0.07	1.64
October	..	2.78	1.98	2.18	3.69	2.37	1.39	1.59	1.77	0.51	2.21	1.49
November	..	2.67	1.33	1.62	3.31	1.71	4.09	3.33	1.09	2.63	4.32	0.86
December	..	1.07	1.43	1.77	0.92	0.38	1.81	2.72	1.28	3.31	0.55	1.94
Total	..	18.57	15.94	24.91	21.18	21.18	20.31*	20.41	15.12	19.27	22.75	21.99

*Total for 11 months.

LONDON WEATHER

MONTHLY AND ANNUAL RAINFALL (Inches)

TEMPLE BAR (*continued*)

SOHO SQUARE 1810-1813

Year	1806	1807	1808	1810	1811	1812	1813
January ..	1.98	0.53	1.14	0.26	1.08	1.54	0.40
February ..	0.58	1.19	0.78	1.44	1.26	3.70	2.42
March ..	1.43	0.43	0.19	2.54	0.80	2.42	0.62
April ..	0.27	0.48	1.78	1.70	1.12	1.34	1.44
May ..	1.11	3.09	1.21	1.04	2.58	2.34	3.16
June ..	0.55	1.46	0.70	0.56	1.82	2.54	1.12
July ..	5.30	0.36	2.66	3.78	3.22	2.46	2.82
August ..	2.25	1.91	1.34	2.46	2.26	1.92	0.88
September ..	2.08	2.09	4.08	1.98	1.54	0.64	1.04
October ..	0.86	0.83	3.46	1.92	2.52	3.86	4.74
November ..	2.75	2.65	1.88	6.08	2.42	2.34	1.10
December ..	2.95	0.52	0.79	2.94	2.04	0.70	0.72
Total ..	22.11	15.54	20.01	26.70	22.66	25.80	20.46

GREENWICH OBSERVATORY 1815-1840

Year	1815	1816	1817	1818	1819	1820	1821	1822	1823	1824	1825
January ..	0.9	2.1	3.2	1.9	2.3	1.9	2.4	0.6	1.5	1.0	1.1
February ..	1.3	1.6	1.3	2.0	3.0	0.6	0.0	1.1	3.5	2.5	1.0
March ..	2.2	1.9	2.1	3.8	1.8	1.5	3.9	1.5	1.5	1.9	1.4
April ..	2.7	2.1	0.1	3.3	3.1	1.6	2.0	2.9	2.0	2.1	2.0
May ..	2.3	2.2	4.6	2.7	3.3	4.0	2.4	2.1	0.8	4.2	3.3
June ..	1.9	2.4	1.4	0.7	2.5	2.3	2.4	0.9	1.2	3.8	0.8
July ..	1.8	4.3	4.3	0.8	2.2	4.8	3.1	4.5	3.6	2.0	0.1
August ..	1.8	2.5	2.7	0.1	0.4	1.9	2.1	2.0	3.0	4.4	2.7
September ..	1.2	2.1	0.9	4.2	3.4	2.4	3.7	1.5	1.0	3.5	2.8
October ..	2.6	2.8	2.6	2.1	2.3	2.9	2.6	4.0	4.4	2.6	3.0
November ..	1.5	3.0	2.0	2.7	3.0	2.0	4.7	4.1	1.8	4.3	3.2
December ..	2.3	3.1	3.8	1.4	3.8	1.8	5.2	2.5	2.8	4.0	3.2
Total ..	22.5	30.1	29.0	25.7	31.1	27.7	34.5	27.7	27.1	36.3	24.6

REMARKS:

'I find the early years of Greenwich excessively queer. I allude particularly to 1817, 1819, 1820, 1822, 1823, 1824, 1825 and 1831. But I think there is a key to it to be found—if you look at the daily tables in the proceedings of the Meteorological Society and compare them with Hawksley's tables in the blue book—a 10 per cent roughly seems to have been added to the former to make up the latter—this applies to the early years—it seems to have been assumed that the old gauge was placed above the ground—whether it was or not or at what height I suppose no one can now tell.'

Extract from a letter from G. Dines, Esq., dated 12 April 1873.

MONTHLY AND ANNUAL RAINFALL (Inches)

GREENWICH OBSERVATORY (*continued*)

Year		1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836
January	..	0.3	1.2	4.3	0.4	1.7	1.1	1.3	1.1	3.2	0.7	1.9
February	..	1.9	0.7	1.1	1.3	2.5	3.0	1.6	3.6	0.4	2.6	1.8
March	..	1.9	2.6	1.0	0.7	0.3	2.2	1.4	1.0	0.7	2.5	2.2
April	..	1.1	1.3	2.4	4.8	3.2	3.4	0.4	1.2	0.5	1.2	2.7
May	..	2.7	2.6	1.7	0.6	2.2	1.7	1.5	0.2	1.0	3.0	1.3
June	..	1.1	0.7	2.2	1.7	2.6	2.1	3.3	2.2	1.5	2.4	1.1
July	..	2.6	1.4	7.0	4.2	1.9	3.4	0.7	1.6	5.3	0.3	1.9
August	..	1.9	1.2	4.2	4.5	3.9	2.0	3.4	1.8	3.3	1.2	2.6
September	..	3.4	3.9	2.6	3.6	3.5	2.2	0.4	1.9	0.9	4.2	3.2
October	..	1.9	4.4	1.5	1.9	0.8	5.5	2.5	1.3	0.4	4.2	4.2
November	..	2.8	1.3	1.0	1.4	3.4	2.1	1.6	2.3	1.3	2.2	2.4
December	..	1.4	3.6	2.5	0.1	1.2	2.1	1.2	4.8	1.1	0.4	1.8
Total	..	23.0	24.9	31.5	25.2	27.2	30.8	19.3	23.0	19.6	24.9	27.1

Year		1837	1838	1839	1840
January	.	2.6	0.9	1.2	2.16
February	..	1.7	2.0	1.5	1.09
March	..	0.5	1.0	1.8	0.25
April	..	1.3	0.5	1.5	0.09
May	..	1.0	1.5	1.6	1.87
June	..	1.0	5.1	1.9	1.37
July	..	1.5	2.0	3.7	1.50
August	..	4.6	0.9	2.7	0.99
September	..	1.2	2.9	5.0	2.60
October	..	2.5	2.0	1.9	1.48
November	..	1.7	3.2	4.4	2.62
December	..	1.4	1.8	2.4	0.41
Total	..	21.0	23.8	29.6	16.43

APPENDIX III

SUMMARIES OF TEMPERATURE, RAINFALL AND SUNSHINE
FOR EACH MONTH AND YEAR 1841–1964
GREENWICH OBSERVATORY 1841–80
KEW OBSERVATORY 1871–1964

Introduction

The climatological tables in this appendix cover the period 1841–1964 and, in order to provide an overlap, tables for both Greenwich and Kew are included for the ten years 1871–80. The tables include mean temperature, mean maximum and minimum temperatures, highest and lowest maximum temperature, highest and lowest minimum temperature and rainfall for each month and year. The tables for Kew also include number of dry days and details of the wettest day for each month and year, and from 1881 onwards, monthly and annual sunshine and details of the sunniest day in each month and year. The errors which were discovered in section 5 of 'A Century of London Weather' have been corrected.

Temperature. The temperatures, which are given in degrees Fahrenheit, refer to the daily period midnight to midnight, unless otherwise stated. The Greenwich values and the Kew values up to 1910 were recorded in degrees Fahrenheit; from 1911 onwards Kew temperatures were in degrees Absolute and had to be converted to the Fahrenheit scale. The Greenwich records are based on readings of thermometers exposed in a Glaisher stand, but the Kew ones are based on readings of thermometers situated in a north-wall screen. In 'A Century of London Weather' the mean monthly and annual temperatures for Greenwich were based on the daily means of hourly temperatures, while those for Kew were based on daily maximum and minimum temperatures. The monthly mean obtained from one method can be more than 1 degF. different from the one obtained by using the other method. To remove this inconsistency and to secure uniformity, the monthly mean temperatures for both Greenwich and Kew were taken as the arithmetic mean of the maximum and minimum values. Any slight discrepancy between the annual mean temperature and the sum of the monthly means divided by twelve is because the annual mean temperature was obtained from the annual mean maximum and minimum temperatures. There are many discrepancies between the Kew temperatures given in this appendix and the ones published in 'A Century of London Weather'. Some of these are due to correction of errors or the use sometimes of 9 a.m. to 9 a.m. temperatures in the earlier publication, but most of them have been caused by a variation in processing the data. All the temperatures are given to the first decimal place; in this publication the normal practice of throwing 0.05 to the odd has been adopted, but in 'A Century of London Weather' 0.05 was thrown up during the earlier years and to the odd in the later years.

The sources of the temperature records are:

Greenwich

1841–80. Part III of *Reduction of Greenwich Meteorological Observations*.

Kew

1871–Feb. 1872. Kew tabulations, but records for July 1871 (minimum read at 10 a.m. and maximum at 10 p.m.) taken from Kew Observation Books.

March 1872–Feb. 1877. Kew Observation Books. (Minimum read at 10 a.m. and maximum at 10 p.m., but, after 29 Dec. 1874, both read at 10 p.m.).

March 1877–86. Kew tabulations.

1887–99 *Hourly Readings at the Observatories*.

1900–03 *Observations at stations of the Second Order*.

1904–11 *Hourly Readings at the Observatories*.

1912–21 *British Meteorological and Magnetic Year Book*.

1922–56 *The Observatories' Year Book*

1957–64 Kew Decennium Sheets.

The average temperatures used for comparison and for computing difference from average are given below:

AVERAGE TEMPERATURE
GREENWICH 1921-50, KEW 1931-60

	GREENWICH			KEW		
	Mean (0-24)	Max. (0-24)	Min. (0-24)	Mean (0-24)	Max. (0-24)	Min. (0-24)
	<i>degrees Fahrenheit</i>					
Jan.	39·8	44·3	35·4	39·5	43·7	35·3
Feb.	40·3	45·5	34·9	39·9	44·6	35·1
Mar.	43·7	51·0	36·5	43·8	50·1	37·5
Apr.	48·1	56·2	40·1	48·7	55·8	41·5
May	53·9	62·9	44·8	54·4	62·4	46·4
June	59·9	69·1	50·6	60·5	68·5	52·5
July	63·7	72·9	54·6	63·7	71·2	56·1
Aug.	63·0	72·1	54·0	63·0	70·6	55·5
Sept.	58·6	66·7	50·5	58·5	65·4	51·7
Oct.	51·3	58·1	44·3	51·5	57·5	45·4
Nov.	44·3	49·4	39·2	45·2	49·9	40·6
Dec.	40·4	44·7	36·1	41·5	45·6	37·4
Year	50·6	57·7	43·4	50·9	57·1	44·6

Rainfall. These records are based on a daily rainfall for the 24-hour period midnight to midnight except where a different period is quoted. The amounts are given in inches to the second decimal place; the original records were in inches up to 1910 and in millimetres from 1911 onwards. The records were extracted from:

Greenwich

1841-80. 'One hundred years Greenwich Rainfall'—*British Rainfall* 1915.

Kew

Jan.-March 1871. Kew Observation Books (24 hours ending 10 a.m.).

April 1871-Feb. 1872. Kew Decennium Sheets and tabulations.

March 1872-Dec. 1873. Kew Decennium Sheets.

1874-1911 *Hourly readings at the Observatories*.

1912-13 *British Meteorological and Magnetic Year Book*.

1914-17 Kew Decennium Sheets.

1918-21 *British Meteorological and Magnetic Year Book*.

1922-56 *The Observatories' Year Book*.

1957-64 Kew Decennium Sheets.

Most of the discrepancies between the rainfall amounts given in this appendix and the ones given in 'A Century of London Weather' are due to the values in the latter publication being rounded-off to the nearest millimetre. However, many of the rainfall amounts given in 'A Century of London Weather' are for the 24-hour period ending at 9 a.m. Conversion from millimetres to inches is the reason why the annual totals for Kew after 1910 may differ slightly from the sum of the rainfall for each month. The average rainfalls used for comparison and for calculating percentage of average are given below:

AVERAGE RAINFALL 1916-50

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
	<i>inches</i>												
Greenwich	2·07	1·60	1·54	1·90	1·83	1·66	2·34	2·28	1·93	2·24	2·53	2·08	24·00
Kew	2·14	1·55	1·46	1·81	1·81	1·72	2·44	2·24	1·98	2·25	2·49	2·06	23·95

Sunshine. Records of sunshine were not available before 1881 and the Kew sunshine records were extracted from:

- 1881–1949 Kew tabulations (revised).
- 1950–56 *The Observatories' Year Book*.
- 1956–64 Kew tabulations.

The difference between the annual totals and the sum of the monthly totals is because the monthly totals were rounded off to the nearest whole hour, while the annual totals are the sums of the monthly totals to the nearest tenth of an hour.

There were many errors in the sunshine figures given in 'A Century of London Weather', especially for the period 1881 to 1905; these mistakes have been corrected. The sunshine cards for the period 1942–48 have been re-measured and the revised values have been included in this publication. This explains the large number of discrepancies between 'A Century of London Weather' and this appendix.

The average sunshine values used for comparison and for calculating percentage of average are given below:

AVERAGE SUNSHINE KEW 1931–60												
Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
<i>hours</i>												
46	64	113	160	199	213	198	188	142	98	53	40	1514

GREENWICH 1841

Month	TEMPERATURE										RAINFALL			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum		Lowest maximum		Highest minimum	Lowest minimum	Total	Per cent of average
							Date	Temp.	Date	Temp.				
JAN	33.9	degF -5.9	39.4	degF -4.9	28.5	degF -6.9	27th	8th	18th	9th	45.0	4.0	in	102
FEB	36.3	degF -4.0	41.0	degF -4.5	31.6	degF -3.3	20th	7th	14th	4th	44.0	12.4	2.11	83
MAR	47.5	degF +3.8	56.3	degF +5.3	38.7	degF +2.2	26th	4th	22nd	2nd	48.5	29.5	1.32	88
APR	48.3	degF +0.2	56.6	degF +0.4	39.9	degF -0.2	27th	10th	27th	11th	56.3	31.8	1.92	101
MAY	58.7	degF +4.8	69.2	degF +6.3	48.3	degF +3.5	27th	19th	28th	14th	61.5	41.2	2.06	113
JUNE	57.7	degF -2.2	67.2	degF -1.9	48.1	degF -2.5	18th	11th	26th	16th	55.1	40.3	2.70	153
JULY	59.4	degF -4.3	67.3	degF -5.6	51.5	degF -3.1	3rd	11th	3rd	13th	59.1	44.3	3.60	154
AUG	62.3	degF -0.7	70.8	degF -1.3	53.8	degF -0.2	27th	25th	27th	13th	63.3	45.5	2.20	96
SEPT	59.5	degF +0.9	67.4	degF +0.7	51.6	degF +1.1	12th	4th	60.3	6th	60.3	36.6	3.95	205
OCT	50.0	degF -1.3	55.8	degF -2.3	44.2	degF -0.1	1st	21st	52.4	22nd	52.4	32.2	5.95	266
NOV	43.5	degF -0.8	48.9	degF -0.5	38.2	degF -1.0	29th	16th	33.0	17th	53.0	22.6	3.70	176
DEC	40.5	degF +0.1	45.0	degF +0.3	36.0	degF -0.1	10th	19th	50.5	19th	50.5	24.3	2.40	115
YEAR	49.8	-0.8	57.1	-0.6	42.5	-0.9	May 27	Jan. 8	Aug. 27	Jan. 9	63.3	4.0	33.26	139

GREENWICH 1842

Month	TEMPERATURE						RAINFALL					
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp.	Lowest maximum Temp.	Highest minimum Temp.	Lowest minimum Temp.	Total	Percent of average
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	
JAN	32.9	-6.9	36.6	-7.7	29.3	-6.1	46.8	28.0	35.3	23.2	1.02	49
FEB	41.1	+0.8	46.6	+1.0	35.5	+0.6	53.2	35.2	47.4	26.4	1.05	66
MAR	45.5	+1.8	52.0	+1.0	38.9	+2.4	60.5	44.5	48.5	29.9	1.90	123
APR	46.1	-2.0	54.6	-1.6	37.5	-2.6	73.7	42.3	45.2	28.0	0.43	23
MAY	54.7	+0.8	64.4	+1.5	44.9	+0.1	74.7	55.2	51.2	36.4	2.09	114
JUNE	63.7	+3.8	75.2	+6.1	52.1	+1.5	87.4	67.9	57.0	44.7	0.95	57
JULY	61.5	-2.2	70.9	-2.0	52.0	-2.6	78.8	61.3	59.1	45.5	2.96	126
AUG	67.2	+4.2	78.1	+6.0	56.3	+2.3	90.5	62.5	64.4	47.5	1.78	78
SEPT	57.4	-1.2	64.3	-2.4	50.5	0.0	75.8	58.3	58.8	41.1	3.99	207
OCT	46.5	-4.8	53.4	-4.7	39.5	-4.8	60.9	43.7	49.2	28.3	1.41	63
NOV	43.6	-0.7	48.1	-1.3	39.1	-0.1	55.9	38.5	48.8	31.1	4.25	168
DEC	44.9	+4.5	49.5	+4.8	40.3	+4.2	58.2	37.9	50.5	30.8	0.74	36
YEAR	50.4	-0.2	57.8	+0.1	43.0	-0.4	90.5	28.0	64.4	23.2	22.57	94

GREENWICH 1843

Month	TEMPERATURE										RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum		Lowest maximum		Total	Per cent of average			
							Date	Temp.	Date	Temp.					
	°F	degF	°F	degF	°F	degF	Date	°F	Date	°F	in				
JAN	39.8	0.0	44.5	+0.2	35.1	-0.3	28th	57.0	2nd	36.4	28th	50.6	1.35	65	
FEB	36.2	-4.1	40.1	-5.4	32.3	-2.6	21st	51.9	15th	26.1	15th	46.8	2.39	149	
MAR	43.7	0.0	50.5	-0.5	37.0	+0.5	18th	63.7	9th	39.2	22, 23	48.9	0.51	33	
APR	49.3	+1.2	57.9	+1.7	40.7	+0.6	20th	70.8	12th	44.9	2nd	50.1	1.72	91	
MAY	54.4	+0.5	63.3	+0.4	45.5	+0.7	12th	69.5	8th	48.4	24th	52.6	3.75	205	
JUNE	58.1	-1.8	67.0	-2.1	49.2	-1.4	27th	77.3	6th	58.0	15th	57.0	1.30	78	
JULY	62.7	-1.0	71.8	-1.1	53.6	-1.0	5th	89.8	23rd	61.7	4th	59.1	2.42	103	
AUG	63.7	+0.7	72.5	+0.4	55.0	+1.0	19th	82.8	22nd	63.3	20, 29	62.0	3.62	159	
SEPT	61.3	+2.7	70.4	+3.7	52.3	+1.8	17th	79.9	27th	52.4	9th	61.6	0.46	24	
OCT	48.9	-2.4	55.5	-2.6	42.4	-1.9	1st	70.4	16th	42.6	8th	58.0	4.25	190	
NOV	44.2	-0.1	50.0	+0.6	38.4	-0.8	7th	57.5	14th	39.9	22nd	52.6	2.30	91	
DEC	44.5	+4.1	48.2	+3.5	40.7	+4.6	23rd	54.7	12th	37.0	24th	49.8	0.40	19	
YEAR	50.5	-0.1	57.6	-0.1	43.5	+0.1	July 5	89.8	Feb. 15	26.1	Aug. 20, 29	62.0	20.3	24.47	102

GREENWICH 1844

Month	TEMPERATURE							RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp.	Lowest maximum Temp.	Highest minimum Temp.	Lowest minimum Temp.	Total	Per cent of average
JAN	39.1	degF -0.7	44.0	degF -0.3	34.2	degF -1.2	53.7	34.3	45.8	18.8	in	117
FEB	36.1	-4.2	41.4	-4.1	30.9	-4.0	50.4	30.9	48.9	20.0	2.32	145
MAR	42.3	-1.4	48.9	-2.1	35.8	-0.7	60.2	38.9	46.1	24.1	2.30	149
APR	52.7	+4.6	63.6	+7.4	41.7	+1.6	74.9	54.3	51.1	33.4	0.35	18
MAY	55.3	+1.4	65.9	+3.0	44.6	-0.2	77.4	56.2	51.7	33.9	0.30	16
JUNE	62.6	+2.7	73.9	+4.8	51.3	+0.7	87.6	60.9	63.1	43.4	1.56	94
JULY	63.5	-0.2	72.8	-0.1	54.2	-0.4	87.4	65.1	62.0	47.1	2.18	93
AUG	59.1	-3.9	67.9	-4.2	50.4	-3.6	75.4	60.7	57.8	42.8	1.71	75
SEPT	58.9	+0.3	67.6	+0.9	50.3	-0.2	78.0	57.2	61.4	34.8	1.19	62
OCT	50.5	-0.8	56.7	-1.4	44.3	0.0	67.4	47.4	56.7	30.8	4.01	179
NOV	44.0	-0.3	48.1	-1.3	39.9	+0.7	58.1	40.8	49.5	27.4	4.50	178
DEC	33.5	-6.9	36.8	-7.9	30.3	-5.8	49.3	28.2	40.5	21.1	0.36	17
YEAR	49.8	-0.8	57.3	-0.4	42.3	-1.1	87.6	28.2	63.1	18.8	23.20	97

GREENWICH 1845

Month	TEMPERATURE						RAINFALL			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum
	°F	degF	°F	degF	°F	degF	Date	Date	Date	Date
JAN	39.1	-0.7	43.3	-1.0	34.9	-0.5	6th	29th	12th	30th
FEB	33.1	-7.2	38.4	-7.1	27.8	-7.1	26th	11th	27th	12th
MAR	36.7	-7.0	42.7	-8.3	30.8	-5.7	27th	13th	28th	14th
APR	48.1	0.0	57.4	+1.2	38.7	-1.4	24th	15th	26th	7th
MAY	51.1	-2.8	59.3	-3.6	42.8	-2.0	27th	7th	1st	11th
JUNE	62.1	+2.2	72.5	+3.4	51.7	+1.1	13th	8th	50.7	34.4
JULY	62.2	+1.5	71.0	-1.9	53.4	+1.2	7th	23rd	14th	29th
AUG	59.3	-3.7	67.7	-4.4	50.9	-3.1	31st	14th	7th	30th
SEPT	55.6	-3.0	63.9	-2.8	47.3	-3.2	9th	23rd	17.18	22nd
OCT	50.8	-0.5	57.5	-0.6	44.1	-0.2	3rd	26th	33.4	24th
NOV	45.9	+1.6	51.8	+2.4	39.9	+0.7	6th	41.0	59.2	26th
DEC	41.5	+1.1	47.4	+2.7	35.7	-0.4	30th	13th	45.0	13th
YEAR	48.8	-1.8	56.1	-1.6	41.5	-1.9	June 13	Mar 13	July 7	Feb. 12
								24.8	63.9	7.7
										22.34
										93

GREENWICH 1846

Month	TEMPERATURE						RAINFALL			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum
	°F	degF	°F	degF	°F	degF	Date	Date	Date	Date
JAN	43.7	+3.9	48.1	+3.8	39.4	+4.0	25th	2nd	22nd	5th
FEB	44.1	+3.8	49.0	+3.5	39.3	+4.4	28th	10th	25th	11th
MAR	44.9	+1.2	51.6	+0.6	38.1	+1.6	31st	20th	4th	21st
APR	48.9	+0.8	56.4	+0.2	41.4	+1.3	12th	26th	16th	21st
MAY	56.9	+3.0	66.7	+3.8	47.2	+2.4	31st	17th	26th	21st
JUNE	67.7	+7.8	80.4	+11.3	55.0	+4.4	20th	23rd	26th	16th
JULY	66.7	+3.0	77.3	+4.4	56.2	+4.6	5th	7th	21st	2nd
AUG	65.1	+2.1	74.0	+1.9	56.3	+2.3	1st	20th	28th	26th
SEPT	61.9	+3.3	72.1	+5.4	51.8	+1.7	6th	28th	1st	14th
OCT	51.7	+0.4	58.4	+0.3	45.0	+0.7	4th	31st	11th	30th
NOV	45.5	+1.2	50.5	+1.1	40.5	+1.3	31st	30th	29th	29th
DEC	32.7	-7.7	37.5	-1.2	28.0	-8.1	21st	13th	21st	15, 31
YEAR	52.5	+1.9	60.2	+2.5	44.9	+1.5	July 5	Dec. 13	Aug. 1	Dec. 15, 31
								29.5	64.3	18.8
										25.29
										105

GREENWICH 1847

Month	TEMPERATURE							RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	35.7	-4.1	40.0	-4.3	31.4	-4.0	24th 52.7	17th 29.4	28th 44.4	1st 20.0	in 1.38	67
FEB	36.1	-4.2	41.9	-3.6	30.3	-4.6	17, 18 55.0	9th 29.6	18th 45.5	12th 11.2	1.39	87
MAR	42.1	-1.6	50.1	-0.9	34.2	-2.3	17th 64.2	10th 38.0	20th 45.6	11th 16.9	0.77	50
APR	45.7	-2.4	54.9	-1.3	36.5	-3.6	12th 63.8	3rd 42.6	12th 45.1	17th 23.0	0.99	52
MAY	57.5	+3.6	68.1	+5.2	46.9	+2.1	28th 86.2	4th 52.2	24th 61.3	1st 34.6	1.40	77
JUNE	59.3	-0.6	69.2	+0.1	49.4	-1.2	2nd 80.4	10, 18 61.5	28th 55.5	9th 41.4	1.50	90
JULY	66.5	+2.8	78.2	+5.3	54.7	+0.1	12th 89.4	2nd 68.5	12th 61.3	24th 45.4	0.67	29
AUG	63.7	+0.4	74.2	+2.1	53.1	-0.9	1st 87.7	23rd 62.1	12th 63.3	4th 42.3	1.95	85
SEPT	55.4	-3.2	64.9	-1.8	45.9	-4.6	11th 72.5	18th 58.9	13th 58.4	28th 33.1	1.56	81
OCT	54.1	+2.8	61.7	+3.6	46.5	+2.2	12th 74.4	25th 51.7	26th 54.7	30th 24.5	2.00	89
NOV	46.7	+2.4	52.5	+3.1	41.0	+1.8	8th 67.3	19th 38.0	8th 53.9	20th 24.5	2.00	79
DEC	42.0	+1.6	46.2	+1.5	37.8	+1.7	9th 56.5	22nd 34.8	10th 51.0	29th 26.4	2.00	96
YEAR	50.4	-0.2	58.5	+0.8	42.3	-1.1	July 89.4	Jan. 17 29.4	Aug. 12 63.3	Feb. 12 11.2	17.61	73

GREENWICH 1848

Month	TEMPERATURE							RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	34.9	degF -4.9	38.8	degF -5.5	30.9	degF -4.5	3rd 50.4	26th 30.2	3rd 45.5	28th 16.8	in 1.20	58
FEB	44.0	+3.7	49.3	+3.8	38.7	+3.8	24th 55.0	1st 37.0	5th 49.2	18th 30.2	2.60	163
MAR	44.3	+0.6	51.4	+0.4	37.3	+0.8	31st 71.5	21st 42.4	31st 48.6	4th 28.0	3.10	201
APR	48.4	+0.3	56.8	+0.6	40.0	-0.1	3rd 74.6	8th 43.3	12th 49.0	27th 30.3	3.44	181
MAY	58.7	+4.8	73.3	+10.4	44.2	-0.6	15th 83.0	1st 58.0	22nd 54.5	1st 34.5	0.40	22
JUNE	59.7	-0.2	68.8	-0.3	50.6	0.0	15th 79.0	1st 61.6	17th 57.8	3rd 39.7	3.50	211
JULY	62.5	-1.2	72.9	0.0	52.0	-2.6	14th 84.5	9th 60.7	7th 58.2	1st 42.7	1.98	85
AUG	59.6	-3.4	68.2	-3.9	51.0	-3.0	3rd 74.7	14th 57.8	27th 62.8	9th 43.1	4.25	186
SEPT	56.7	-1.9	67.0	+0.3	46.4	-4.1	22nd 80.5	29th 56.5	8th 55.8	13th 33.2	2.38	123
OCT	51.5	+0.2	58.6	+0.5	44.4	+0.1	6th 73.6	18th 41.3	6th 55.8	31st 33.1	3.50	156
NOV	43.6	-0.7	50.3	+0.9	36.9	-2.3	21st 57.3	4th 42.0	29th 51.2	5th 25.9	1.20	47
DEC	43.4	+3.0	48.6	+3.9	38.2	+2.1	10th 62.4	23rd 32.4	8th 51.2	23rd 22.4	2.55	123
YEAR	50.6	0.0	58.7	+1.0	42.5	-0.9	July 84.5	Jan. 26 30.2	Aug. 27 62.8	Jan. 28 16.8	30.10	125

GREENWICH 1849

Month	TEMPERATURE						RAINFALL									
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum		Lowest maximum		Highest minimum		Lowest minimum	Total	Per cent of average	
							Date	Temp.	Date	Temp.	Date	Temp.				Date	Temp.
JAN	40.1	+0.3	45.5	+1.2	34.6	-0.8	degF	14th	56.4	28.0	25th	48.8	3rd	19.9	1.50	72
FEB	43.1	+2.8	49.7	+4.2	36.4	+1.5	degF	22nd	58.0	44.2	22nd	44.7	13th	23.5	2.30	144
MAR	43.2	-0.5	50.1	-0.9	36.3	-0.2	degF	17th	60.7	38.1	16th	46.5	25th	27.7	0.60	39
APR	44.7	-3.4	52.5	-3.7	36.8	-3.3	degF	30th	64.3	36.3	30th	45.3	18th	26.8	1.98	104
MAY	55.3	+1.4	63.8	+0.9	46.7	+1.9	degF	5th	75.0	48.6	31st	54.6	12th	36.4	3.70	202
JUNE	58.8	-1.1	69.1	0.0	48.5	-2.1	degF	5th	80.7	58.1	5th	56.6	14th	38.6	0.30	18
JULY	62.8	-0.9	74.2	+1.3	51.4	-3.2	degF	8th	84.1	59.0	8th	59.0	1st	39.5	2.90	124
AUG	64.1	+1.1	74.2	+2.1	54.0	0.0	degF	9th	82.5	65.5	12th	61.4	5th	42.4	0.45	20
SEPT	60.0	+1.4	68.7	+2.0	51.3	+0.8	degF	6th	79.0	58.5	2nd	60.9	18th	42.7	3.25	168
OCT	51.7	+0.4	59.2	+1.1	44.1	-0.2	degF	19th	69.7	48.6	23rd	55.5	10th	31.5	2.70	121
NOV	43.9	-0.4	49.8	+0.4	38.1	-1.1	degF	11th	61.7	29.7	8th	54.5	28th	23.5	1.50	59
DEC	38.7	-1.7	43.2	-1.5	34.1	-2.0	degF	15th	56.3	33.0	15th	50.0	29th	18.8	2.40	115

GREENWICH 1850

Month	TEMPERATURE						RAINFALL					
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp.	Lowest maximum Temp.	Highest minimum Temp.	Lowest minimum Temp.	Total	Per cent of average
	°F	degF	°F	degF	°F	degF	Date	Date	Date	Date	in	
JAN	33.7	-6.1	38.0	-6.3	29.5	-5.9	25th	15th	4th	8th	1.20	58
FEB	44.9	+4.6	50.6	+5.1	39.1	+4.2	15th	28th	15th	14th	1.40	87
MAR	40.3	-3.4	48.6	-2.4	32.1	-4.4	31st	26th	2nd	26th	0.40	26
APR	50.5	+2.4	58.5	+2.3	42.5	+2.4	7th	16th	2nd	29th	2.25	118
MAY	52.7	-1.2	62.1	-0.8	43.2	-1.6	31st	6th	22nd	3rd	2.30	126
JUNE	61.1	+1.2	74.1	+5.0	48.2	-2.4	23rd	15th	24th	16th	1.00	60
JULY	62.9	-0.8	72.9	0.0	52.9	-1.7	16th	25th	16th	10th	2.82	121
AUG	61.1	-1.9	70.3	-1.8	51.9	-2.1	5th	21st	3rd	22nd	1.70	75
SEPT	56.9	-1.7	65.7	-1.0	48.2	-2.3	2nd	9th	20th	7th	1.35	70
OCT	47.7	-3.6	54.8	-3.3	40.6	-3.7	7th	24th	19th	27th	1.58	71
NOV	46.7	+2.4	52.4	+3.0	41.0	+1.8	2nd	30th	2nd	15th	2.18	86
DEC	40.5	+0.1	44.8	+0.1	36.1	0.0	15th	10th	5th	21st	1.35	65
YEAR	49.9	-0.7	57.7	0.0	42.1	-1.3	July 16	Jan. 15	July 16	Mar. 26	19.53	81

GREENWICH 1851

Month	TEMPERATURE							RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	43.1	degF +3.3	48.1	degF +3.8	38.1	degF +2.7	1st	24th	1st	24th	in 2.70	130
FEB	40.7	+0.4	47.4	+1.9	34.1	-0.8	18th	2nd	19th	17th	1.25	78
MAR	43.1	-0.6	49.5	-1.5	36.7	+0.2	20th	10th	28th	9th	4.05	263
APR	46.1	-2.0	54.1	-2.1	38.0	-2.1	17th	9th	21st	6th	2.30	121
MAY	51.3	-2.6	61.4	-1.5	41.1	-3.7	29th	4th	25th	5th	0.80	44
JUNE	59.7	-0.2	70.8	-1.7	48.7	-1.9	27th	10th	8th	1st	1.75	105
JULY	61.1	-2.6	71.2	-1.7	51.0	-3.6	2nd	24th	2nd	5th	4.20	179
AUG	63.4	+0.4	73.4	+1.3	53.4	-0.6	12th	29th	13th	31st	2.60	114
SEPT	57.6	+1.0	67.9	+1.2	47.3	-3.2	1st	26th	3rd	10th	0.50	26
OCT	53.2	+1.9	59.7	+1.6	46.7	+2.4	10th	31st	10th	17th	2.18	97
NOV	38.3	-6.0	44.3	-5.1	32.4	-6.8	1st	26th	9th	19th	0.65	26
DEC	40.4	0.0	44.4	-0.3	36.4	+0.3	10th	31st	10th	27th	0.55	26
YEAR	49.9	-0.7	57.7	0.0	42.0	-1.4	June 27	Dec. 31	Aug. 13	Feb. 17	23.53	98

GREENWICH 1852

Month	TEMPERATURE										RAINFALL					
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum		Lowest maximum		Highest minimum	Lowest minimum	Total	Per cent of average		
							Date	Temp.	Date	Temp.					Date	Temp.
JAN	42.2	+2.4	47.9	+3.6	36.5	+1.1	16th	55.5	1st	34.1	14th	44.7	5th	28.1	in 3.60	174
FEB	41.5	+1.2	47.5	+2.0	35.4	+0.5	2, 17	57.4	20th	37.9	5th	50.9	21st	24.9	0.90	56
MAR	41.5	-2.2	50.7	-0.3	32.2	-4.3	23rd	68.4	18th	43.8	30th	44.7	5th	21.3	0.17	11
APR	46.2	-1.9	58.2	+2.0	34.2	-5.9	14th	74.7	18th	49.8	30th	49.7	10th	26.7	0.49	26
MAY	52.5	-1.4	61.8	-1.1	43.3	-1.5	16th	73.4	2nd	50.9	17th	49.9	3rd	29.3	1.90	104
JUNE	57.9	-2.0	66.5	-2.6	49.4	-1.2	25th	72.7	11th	57.5	29th	56.0	1st	41.0	4.60	277
JULY	68.1	+4.4	80.6	+7.7	55.7	+1.1	5th	90.3	1st	68.4	17th	62.0	23rd	49.2	2.25	96
AUG	63.7	+0.7	72.6	+0.5	54.7	+0.7	1st	81.5	12th	60.0	17th	61.3	4th	49.9	4.35	191
SEPT	57.9	-0.7	66.6	-0.1	49.1	-1.4	4th	77.5	21st	59.0	10th	57.7	17th	37.9	3.80	197
OCT	48.4	-2.9	55.7	-2.4	41.1	-3.2	2nd	64.0	8th	46.0	31st	50.5	17th	31.0	3.75	167
NOV	49.3	+5.0	54.5	+5.1	44.1	+4.9	5th	63.8	29th	41.0	7th	53.8	25th	32.6	6.00	237
DEC	47.2	+6.8	52.0	+7.3	42.4	+6.3	11th	57.1	23rd	45.7	5th	51.3	1st	31.7	2.20	106
YEAR	51.3	+0.7	59.5	+1.8	43.2	-0.2	July 5	90.3	Jan. 1	34.1	July 17	62.0	Mar. 5	21.3	34.01	142

GREENWICH 1855

TEMPERATURE										RAINFALL	
Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Per cent of average
	°F	degF	°F	degF	°F	degF	Date	Date	Date	Date	
JAN	35.2	-4.6	39.1	-5.2	31.3	-4.1	2nd	21st	6th	19th	71
FEB	29.9	-10.4	35.7	-9.8	24.2	-10.7	25th	2nd	28th	19th	63
MAR	39.1	-4.6	46.2	-4.8	31.9	-4.6	20th	10th	33.8	10, 11	129
APR	47.1	-1.0	57.6	+1.4	36.7	-3.4	16th	2nd	45.7	2nd	5
MAY	50.3	-3.6	60.0	-2.9	40.5	-4.3	26th	13th	55.0	5th	98
JUNE	58.3	-1.6	68.5	-0.6	48.1	-2.5	6th	1st	58.2	3rd	51
JULY	63.7	0.0	73.3	+0.4	54.1	-0.5	10th	11th	59.7	5th	224
AUG	63.3	+0.3	72.9	+0.8	53.7	-0.3	28th	20th	59.3	14, 30	61
SEPT	58.1	-0.5	68.5	+1.8	47.7	-2.8	23rd	14th	58.7	27th	101
OCT	52.0	+0.7	58.8	+0.7	45.2	+0.9	1st	31st	53.5	28th	232
NOV	41.7	-2.6	46.5	-2.9	36.8	-2.4	6th	21st	45.7	16th	59
DEC	35.7	-4.7	40.7	-4.0	30.6	-5.5	28th	21st	42.5	22nd	53
YEAR	47.9	-2.7	55.7	-2.0	40.1	-3.3	June 6	Dec. 21	July 10	Feb. 19	98

GREENWICH 1856

TEMPERATURE										RAINFALL	
Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Per cent of average
	°F	degF	°F	degF	°F	degF	Date	Date	Date	Date	
JAN	39.5	-0.3	43.8	-0.5	35.2	-0.2	24th	11th	43.1	15th	127
FEB	42.5	+2.2	47.4	+1.9	37.6	+2.7	9th	2nd	47.5	1st	69
MAR	49.5	-4.2	45.7	-5.3	33.3	-3.2	31st	15th	44.5	30, 31	71
APR	47.9	-0.2	57.4	-1.8	38.3	-1.8	25th	27th	46.8	21st	120
MAY	50.9	-3.0	59.1	-3.7	42.6	-2.2	11th	7th	52.0	5th	189
JUNE	60.4	+0.5	70.8	+1.7	50.0	-0.6	27th	19th	61.8	6th	96
JULY	62.9	-0.8	73.3	+0.4	52.4	-2.2	31st	8th	61.0	3, 10	38
AUG	65.3	+2.3	75.9	+3.8	54.7	+0.7	2nd	23rd	61.6	23rd	106
SEPT	56.5	-2.1	65.5	-1.2	47.6	-2.9	10th	27th	57.0	20, 21	145
OCT	52.9	+1.6	59.9	+1.8	45.8	+1.5	22nd	29th	57.0	29th	85
NOV	41.1	-3.2	47.1	-2.3	35.1	-4.1	23rd	30th	47.0	30th	49
DEC	40.2	-0.2	45.1	+0.4	35.3	-0.8	7th	25th	52.0	28th	88
YEAR	49.9	-0.7	57.6	-0.1	42.3	-1.1	Aug. 2	Dec. 25	June 27	Dec. 28	97

GREENWICH 1857

TEMPERATURE										RAINFALL		
Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date	Highest minimum Date	Lowest maximum Date	Lowest minimum Date	Total	Per cent of average
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	
JAN	36.9	-2.9	41.8	-2.5	32.1	-3.3	2nd	1st	29th	30th	2.60	126
FEB	39.9	-0.4	47.2	+1.7	32.5	-2.4	28th	10th	1st	1st	0.20	13
MAR	43.1	-0.6	50.2	-0.5	35.9	-0.6	18th	19th	11th	22nd	0.83	54
APR	47.3	-0.8	55.8	-0.4	38.8	-1.3	19th	16th	26th	24th	1.40	74
MAY	55.5	+1.6	67.1	+4.2	44.0	-0.8	16th	5th	5th	4th	0.33	18
JUNE	63.3	+3.4	76.0	+6.9	50.5	-0.1	28th	92.7	10th	14th	2.70	163
JULY	66.1	+2.4	77.8	+4.9	54.3	-0.3	15th	89.7	7th	8th	1.10	47
AUG	67.3	+4.3	78.1	+6.0	56.4	+2.4	3rd	88.0	8th	28th	2.50	110
SEPT	61.1	+2.5	70.2	+3.5	52.1	+1.6	17th	80.7	11th	21st	3.40	176
OCT	54.3	+3.0	61.6	+3.5	47.1	+2.8	1st	69.0	22nd	31st	4.20	187
NOV	46.3	+2.0	51.9	+2.5	40.6	+1.4	3rd	64.3	13th	12th	1.35	53
DEC	44.9	+4.5	50.3	+5.6	39.6	+3.5	17th	57.0	28th	31st	0.55	26
YEAR	52.2	+1.6	60.7	+3.0	43.7	+0.3	June 28	92.7	Feb. 1	Jan. 30 Feb. 1	21.16	88

GREENWICH 1858

TEMPERATURE										RAINFALL		
Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date	Highest minimum Date	Lowest maximum Date	Lowest minimum Date	Total	Per cent of average
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	
JAN	37.7	-2.1	43.6	-0.7	31.7	-3.7	9th	30th	29.0	6th	0.75	36
FEB	35.8	-4.5	41.8	-3.7	29.8	-5.1	5th	4th	34.2	26th	1.70	106
MAR	42.1	-1.6	50.7	-0.3	33.6	-2.9	24th	17th	33.7	11th	0.80	52
APR	47.8	-0.3	57.6	+1.4	38.0	-2.1	16th	16th	43.2	2nd	2.25	118
MAY	53.2	-0.7	63.7	+0.8	42.7	-2.1	31st	31st	53.2	7th	2.00	109
JUNE	66.7	+6.8	79.5	+10.4	53.9	+3.3	16th	16th	70.1	28th	1.20	72
JULY	62.9	-0.8	73.9	+1.0	51.9	-2.7	15th	16th	62.7	29th	3.00	128
AUG	63.9	+0.9	75.6	+3.5	52.1	-1.9	21st	18th	60.5	29th	1.50	66
SEPT	61.7	+3.1	70.9	+4.2	52.5	+2.0	28th	4th	60.2	25th	0.86	45
OCT	51.9	+0.6	59.9	+1.8	43.9	-0.4	29th	4, 14	48.2	30th	1.44	64
NOV	39.9	-4.4	46.1	-3.3	33.6	-5.6	26th	26th	30.5	24th	0.50	20
DEC	40.9	+0.5	45.2	+0.5	36.6	+0.5	6th	4th	37.0	7th	1.70	82
YEAR	50.3	-0.3	59.0	+1.3	41.7	-1.7	June 16	June 16	29.0	Nov. 24	17.70	74

GREENWICH 1861

TEMPERATURE										RAINFALL		
Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	34.2	degF -5.6	39.7	degF -4.6	28.7	degF -6.7	27, 29	15th	27th	8th	in 0.55	27
FEB	42.5	+2.2	48.2	+2.7	36.9	+2.0	17th	12th	21st	12th	1.80	113
MAR	44.9	+1.2	52.7	+1.7	37.1	+0.6	24th	17th	6th	14th	2.15	140
APR	45.5	-2.6	55.0	-1.2	36.0	-4.1	12th	27th	14th	21st	0.83	44
MAY	53.3	-0.6	63.5	+0.6	43.0	-1.8	23rd	8th	22nd	9th	1.79	98
JUNE	61.1	+1.2	70.8	+0.7	51.3	+0.7	19th	6th	53.7	33.4	1.90	114
JULY	62.9	-0.8	72.3	-0.6	53.4	-1.2	1.8	19th	58.8	42.9	2.20	94
AUG	64.7	+1.7	75.6	+3.5	53.8	-0.2	12th	16th	59.5	11th	0.57	25
SEPT	58.3	-0.3	68.3	+1.6	48.2	-2.3	1st	25th	60.8	31st	1.46	76
OCT	55.9	+4.6	64.1	+6.0	47.7	+3.4	8th	30th	57.5	27th	0.88	39
NOV	40.7	-3.6	47.3	-2.1	34.1	-5.1	26th	18th	48.8	19th	5.07	200
DEC	40.9	+0.5	45.9	+1.2	36.0	-0.1	9th	29th	48.0	27, 30	1.25	60
YEAR	50.4	-0.2	58.6	+0.9	42.2	-1.2	Aug. 12	Jan. 15	Aug. 13	Jan. 8	20.45	85

GREENWICH 1862

TEMPERATURE										RAINFALL		
Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date	Lowest maximum Date	Highest minimum Date	Lowest minimum Date	Total	Per cent of average
JAN	39.1	degF -0.7	43.9	degF -0.4	34.3	degF +1.1	31st	19th	31st	19th	in	86
FEB	41.6	+1.3	46.5	+1.0	36.7	+1.8	20th	8th	1st	8th	1.79	29
MAR	44.2	+0.5	50.0	+1.0	38.4	+1.9	24th	21st	25th	4th	0.46	230
APR	49.6	+1.5	57.5	+1.3	41.7	+1.6	25th	11th	25, 26	13th	3.54	148
MAY	57.1	+3.2	66.4	+3.5	47.9	+3.1	6th	15th	30th	3rd	2.82	155
JUNE	58.2	-1.7	67.1	-2.0	49.3	-1.3	2nd	12th	7th	10th	2.84	116
JULY	60.8	-2.9	70.8	-2.1	50.8	-3.8	26th	3rd	21st	22nd	1.93	71
AUG	61.2	-1.8	71.0	-1.1	51.4	-2.6	1st	17th	5th	24th	1.66	132
SEPT	58.9	+0.3	67.6	+0.9	50.1	-0.4	15th	22nd	29th	23rd	3.01	83
OCT	53.1	+1.8	60.5	+2.4	45.6	+1.3	3rd	29th	3rd	30th	1.61	182
NOV	40.1	-4.2	45.8	-3.6	34.3	-4.9	3, 4	23rd	1, 2	23rd	4.07	39
DEC	43.3	+2.9	48.0	+3.3	38.5	+2.4	7th	22nd	6th	22nd	1.59	76
YEAR	50.6	0.0	57.9	+0.2	43.3	-0.1	May 6	Jan. 19	Sept. 29	Jan. 19	26.32	110

GREENWICH 1863

Month	TEMPERATURE							RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date
JAN	41.7	degF +1.9	46.9	degF +2.6	36.6	degF +1.2	29th 55.2	30th 46.0	12th 27.7
FEB	42.6	+2.3	49.5	+4.0	35.7	+0.8	28th 55.7	7th 44.9	18th 27.2
MAR	44.7	+1.0	53.7	+2.7	35.6	-0.9	3rd 64.0	29th 46.0	18th 28.1
APR	50.7	+2.6	61.2	+5.0	40.1	0.0	20th 69.3	10th 49.8	1st 24
MAY	53.5	-0.4	64.4	+1.5	42.7	-2.1	29th 79.7	30th 53.7	1st 31.4
JUNE	60.1	+0.2	70.1	+1.0	50.1	-0.5	3rd 84.0	25th 57.8	1st 42.1
JULY	61.9	-1.8	74.3	+1.4	49.4	-5.2	15th 86.0	13th 56.0	19th 38.7
AUG	63.7	+0.7	73.8	+1.7	53.7	-0.3	9th 84.9	8th 62.0	21st 38
SEPT	54.7	-3.9	63.5	-3.2	45.8	-4.7	19th 71.8	3rd 53.7	21st 46.0
OCT	52.5	+1.2	58.8	+1.8	46.1	+1.8	4th 66.5	8, 19 54.8	30th 35.0
NOV	45.7	+1.4	51.2	+1.8	40.3	+1.1	4th 60.8	5th 52.2	24th 34.0
DEC	42.7	+2.3	48.6	+3.9	36.9	+0.8	3rd 54.2	12th 47.7	10th 28.1
YEAR	51.2	+0.6	59.7	+2.0	42.7	+0.7	July 15 86.0	Aug. 8 62.7	Dec. 23 26.5

GREENWICH 1864

Month	TEMPERATURE							RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date
JAN	36.5	degF -3.3	41.4	degF -2.9	31.7	degF -3.7	27th 54.0	23rd 45.9	7th 14.3
FEB	36.3	-4.0	41.5	-4.0	31.2	-3.7	13th 53.8	13th 43.4	10th 20.1
MAR	42.1	-1.6	49.8	-1.2	34.3	-2.2	4th 58.0	14th 44.4	24th 26.9
APR	49.1	+1.0	58.3	+2.1	40.0	-0.1	20th 73.8	4th 47.9	13th 33.4
MAY	54.9	+1.0	64.8	+1.9	44.9	+0.1	18th 81.0	15th 52.6	30th 33.4
JUNE	59.3	-0.6	69.5	+0.4	49.1	-1.5	7th 78.4	18th 56.3	2nd 42.3
JULY	63.3	-0.4	75.3	+0.4	51.2	-3.4	20th 85.6	61.2 56.2	8, 15 45.8
AUG	60.7	-2.3	72.8	-0.7	48.5	-5.5	5th 88.6	8th 60.7	27th 38.1
SEPT	58.2	-0.4	67.3	+0.6	49.1	-1.4	16th 75.5	27th 51.7	12th 40.9
OCT	51.2	-0.1	58.2	+0.1	44.2	-0.1	19th 67.2	20th 43.0	6th 37.5
NOV	42.0	-2.3	48.5	-0.9	35.5	-3.7	28th 54.4	11th 41.2	10th 25.9
DEC	38.1	-2.3	42.5	-2.2	33.7	-2.4	5th 53.7	5th 43.2	18th 17.3
YEAR	49.3	-1.3	57.5	-0.2	41.1	-2.3	Aug. 5 88.6	Sept. 7 62.2	Jan. 7 14.3

GREENWICH 1865

Month	TEMPERATURE							RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average
	°F	degF	°F	degF	°F	degF	Date	Date	Date	Date		
JAN	36.3	-3.5	40.9	-3.4	31.8	-3.6	10th	21st	10th	22nd	in	160
FEB	37.2	-3.1	42.2	-3.3	32.2	-2.7	28th	13th	2nd	15th	1.75	109
MAR	37.5	-6.2	44.0	-7.0	31.1	-5.4	31st	20th	1st	21st	0.85	55
APR	53.9	+5.8	66.3	+10.1	41.5	+1.4	27th	30th	18th	2nd	0.40	21
MAY	57.1	+3.2	67.9	+5.0	46.3	+1.5	21st	11th	30th	1st	4.37	239
JUNE	61.7	+1.8	73.5	+4.4	49.9	-0.7	23rd	2nd	6th	12th	2.45	148
JULY	65.0	+1.3	75.7	+2.8	54.3	-0.3	15, 27	1st	16th	12th	2.27	97
AUG	61.2	-1.8	70.9	-1.2	51.5	-2.5	27th	2nd	11th	3rd	3.97	174
SEPT	65.1	+6.5	76.4	+9.7	53.7	+3.2	8th	21st	11th	23rd	0.16	8
OCT	51.9	+0.6	60.0	+1.9	43.7	-0.6	2nd	28th	9th	20th	5.90	263
NOV	44.7	+0.4	50.8	+1.4	38.7	-0.5	24th	1, 7	20th	5th	2.39	94
DEC	42.4	+2.0	46.7	+2.0	38.1	+2.0	7th	24th	7th	24th	0.87	42
YEAR	51.1	+0.5	59.6	+1.9	42.7	-0.7	June 23	Feb. 13	Sept. 11	Feb. 15	28.70	120

GREENWICH 1866

Month	TEMPERATURE							RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	°F 42.3	degF +2.5	°F 47.8	degF +3.5	°F 36.7	degF +1.3	22nd 54.3	12th 36.1	14th 46.0	13th 23.7	in 3.68	178
FEB	°F 40.9	+0.6	47.1	+1.6	34.7	-0.2	1st 57.0	28th 36.8	1st 45.3	18th 24.2	4.03	252
MAR	°F 41.5	-2.2	48.4	-2.6	34.5	-2.0	30th 64.0	1st 34.1	30th 50.1	1st 22.5	1.63	106
APR	°F 49.5	+1.4	58.2	+2.0	40.8	+0.7	27th 79.0	9th 46.0	27th 49.4	5, 30 34.2	2.44	128
MAY	°F 51.1	-2.8	61.4	-1.5	40.8	-4.0	28th 73.1	1st 43.2	31st 49.3	4th 32.6	1.94	106
JUNE	°F 62.6	+2.7	73.2	+4.1	52.0	+1.4	27th 86.5	18th 59.2	28th 61.7	17th 42.2	3.64	219
JULY	°F 62.5	-1.2	72.6	-0.3	52.5	-2.1	13th 87.2	31st 58.8	13th 59.1	31st 46.0	1.62	69
AUG	°F 60.9	-2.1	69.4	-2.7	52.3	-1.7	26th 78.5	29th 59.0	27th 57.7	19th 45.0	2.42	106
SEPT	°F 57.9	-0.7	65.1	-1.6	50.6	+0.1	28th 71.0	22nd 55.0	5th 58.8	25th 41.3	3.90	220
OCT	°F 51.9	+0.6	58.2	+0.1	45.7	+1.4	3rd 68.1	25th 50.9	3rd 57.2	31.0 27th	2.09	93
NOV	°F 44.3	0.0	50.5	+1.1	38.0	-1.2	5th 59.6	20th 37.8	2nd 49.8	21st 26.5	1.48	58
DEC	°F 42.5	+2.1	47.6	+2.9	37.4	+1.3	6th 56.3	31st 34.7	4th 50.7	31st 27.7	1.85	89
YEAR	50.7	+0.1	58.3	+0.6	43.0	-0.4	July 13 87.2	Mar. 1 34.1	June 28 61.7	Mar. 1 22.5	30.72	128

GREENWICH 1867

Month	TEMPERATURE						RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest minimum Temp. Date
JAN	34.0	degF -5.8	39.5	degF -4.8	28.5	degF -6.9	27th 55.0	5th 6.6
FEB	45.1	+4.8	50.7	+5.2	39.5	+4.6	16th 57.1	3rd 32.9
MAR	50.5	+5.0	55.5	+6.5	44.5	+3.5	24th 59.1	16th 24.5
APR	58.7	+2.4	61.1	+2.5	55.3	+2.2	19.23 64.8	1st 30.5
MAY	64.7	+0.8	65.5	+1.8	64.7	+0.1	7th 83.6	24th 31.9
JUNE	69.9	-0.2	70.2	+1.1	69.1	-1.5	12th 82.1	29th 40.5
JULY	71.1	-2.8	71.1	-1.8	70.8	-3.8	1st 81.5	30th 43.3
AUG	63.3	+0.3	73.3	+1.2	53.4	-0.6	14th 89.0	3rd 40.9
SEPT	59.1	+0.5	68.0	+1.3	50.3	-0.2	1st 79.9	25th 35.5
OCT	49.6	-1.7	57.2	-0.9	42.0	-2.3	14th 64.8	5th 30.8
NOV	41.5	-2.8	47.8	-1.6	35.3	-3.9	1st 64.0	27th 27.5
DEC	37.1	-3.3	42.2	-2.5	32.1	-4.0	1st 55.2	9th 21.2
YEAR	49.5	-1.1	57.3	-0.4	41.7	-1.7	Aug. 14 89.0	Jan. 5 6.6

GREENWICH 1868

Month	TEMPERATURE						RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest minimum Temp. Date
JAN	37.1	degF -2.7	41.4	degF -2.9	32.8	degF -2.6	14, 17 51.9	3rd 22.8
FEB	43.3	+3.0	49.9	+4.4	36.8	+1.9	25th 61.7	9th 26.7
MAR	44.9	+1.2	52.9	+1.9	36.8	+0.3	27th 61.7	30th 28.1
APR	49.5	+1.4	58.8	+2.6	40.1	0.0	30th 68.9	12th 28.9
MAY	58.3	+4.4	70.5	+7.6	46.1	+1.3	19th 87.0	7th 33.9
JUNE	63.5	+3.6	76.3	+7.2	50.8	+0.2	20, 27 88.0	1st 44.7
JULY	68.9	+5.2	82.0	+9.1	55.7	+1.1	22nd 96.6	5th 48.2
AUG	65.1	+2.1	75.1	+3.0	55.0	+1.0	5th 90.5	26th 47.8
SEPT	61.4	+2.8	71.7	+5.0	51.1	+0.6	7th 92.1	11th 43.6
OCT	48.5	-2.8	56.9	-1.2	40.1	-4.2	12th 66.6	20th 29.3
NOV	41.5	-2.8	46.9	-2.5	36.1	-3.1	1st 57.1	6th 26.1
DEC	45.8	+5.4	50.5	+5.8	41.1	+5.0	6th 57.8	31st 31.5
YEAR	52.3	+1.7	61.1	+3.4	43.5	+0.1	July 22 96.6	Jan. 3 22.8

GREENWICH

1869

Month	TEMPERATURE										RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average
JAN	41.3	degF +1.5	46.0	degF +1.7	36.5	degF +1.1	31st 55.9	23rd 32.0	9th 46.8	24th 26.3	in 2.92	141
FEB	45.7	+5.4	51.8	+6.3	39.7	+4.8	5th 61.6	22nd 40.5	4th 47.8	13th 31.7	2.34	146
MAR	38.5	-5.2	44.8	-6.2	32.3	-4.2	5th 53.6	16th 39.0	1st 38.7	8th 27.3	1.41	91
APR	51.7	+3.6	61.6	+5.4	41.8	+1.7	14th 79.1	4th 47.4	12th 51.1	2nd 29.3	1.01	53
MAY	52.2	-1.7	60.7	-2.2	43.7	-1.1	26th 70.5	28th 45.8	7th 52.1	2nd 33.3	3.43	187
JUNE	56.7	-3.2	67.4	-1.7	46.0	-4.6	7th 87.5	21st 54.9	7th 56.4	1st 35.6	1.15	69
JULY	65.7	+2.0	77.0	+4.1	54.5	-0.1	22nd 90.9	28th 62.1	31st 62.6	5th 49.1	0.55	23
AUG	62.3	-0.7	72.3	+0.2	52.4	-1.6	28th 89.0	19th 62.2	9th 60.0	31st 42.1	1.21	53
SEPT	60.5	+1.9	68.6	+1.9	52.4	+1.9	5th 80.0	20th 60.3	8th 61.5	1st 41.2	3.08	160
OCT	49.7	-1.6	57.5	-0.6	42.0	-2.3	9th 73.9	27th 39.8	2nd 53.5	28th 27.9	1.77	79
NOV	43.3	-1.0	49.1	-0.3	37.4	-1.8	15th 58.8	30th 39.2	14th 51.3	21st 26.8	2.38	94
DEC	37.7	-2.7	42.0	-2.7	33.4	-2.7	16, 18 55.8	26th 30.0	18th 42.4	28th 21.3	2.77	133
YEAR	50.5	-0.1	58.2	+0.5	42.7	-0.7	July 22 90.9	Dec. 26 30.0	July 31 62.6	Dec. 28 21.3	24.02	100

GREENWICH

1870

Month	TEMPERATURE										RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average
JAN	38.3	degF -1.5	42.7	degF -1.6	34.0	degF -1.4	8, 14 50.9	20th 32.9	4th 44.5	28th 19.6	in 1.49	72
FEB	36.7	-3.6	41.4	-4.1	31.9	-3.0	28th 55.6	12th 27.7	28th 44.5	11th 19.4	0.54	34
MAR	40.5	-3.2	46.9	-4.1	34.0	-2.5	2nd 61.1	28th 37.9	17th 47.1	14th 23.1	2.05	133
APR	50.2	+2.1	62.0	+5.8	38.4	-1.7	20th 78.7	1st 48.7	21st 49.3	4th 26.0	0.28	15
MAY	54.5	+0.6	66.9	+4.0	42.0	-2.8	21st 85.4	3rd 50.9	21st 51.4	9th 29.8	0.47	26
JUNE	62.7	+2.8	74.8	+5.7	50.7	+0.1	22nd 90.2	24th 64.0	22nd 57.8	6th 41.4	0.39	23
JULY	67.1	+3.4	78.1	+5.2	56.0	+1.4	8th 89.7	28th 64.9	9th 62.0	2nd 44.8	2.01	86
AUG	62.9	-0.1	72.6	+0.5	53.1	-0.9	1, 6 81.0	30th 65.1	1st 62.8	31st 41.0	2.02	89
SEPT	56.6	-2.0	66.8	+0.1	46.4	-4.1	1st 72.6	7th 57.9	2nd 56.5	25th 37.4	1.63	84
OCT	50.5	-0.8	58.2	+0.1	42.8	-1.5	3rd 68.6	26th 47.9	8th 52.1	32.4	3.34	149
NOV	41.6	-2.7	47.8	-1.6	35.4	-3.8	24th 58.9	15th 38.9	24th 46.3	19th 24.3	1.20	47
DEC	33.5	-6.9	38.0	-6.7	28.9	-7.2	14th 57.4	22nd 26.3	14th 46.4	25th 9.8	3.13	150
YEAR	49.5	-1.1	58.0	+0.3	41.1	-2.3	June 22 90.2	Dec. 22 26.3	Aug. 1 62.8	Dec. 25 9.8	18.55	77

GREENWICH 1871

Month	TEMPERATURE										RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	33.3	degF -6.5	37.4	degF -6.9	29.3	degF -6.1	16th 46.7	2nd 27.2	14th 36.0	13th 18.3	in 2.05	99
FEB	42.9	+2.6	48.3	+2.8	37.5	+2.6	27th 57.0	11th 31.5	27th 47.9	11th 25.0	1.09	68
MAR	45.9	+2.2	55.0	+4.0	36.7	+0.2	24th 70.9	16th 42.0	6th 48.1	15th 28.9	1.10	71
APR	49.5	+1.4	57.8	+1.6	41.2	+1.1	12th 66.5	6th 49.8	12th 49.0	7th 29.1	3.03	159
MAY	53.3	-0.6	64.4	+1.5	42.1	-2.7	25th 79.5	13th 51.3	25th 58.4	12th 34.0	0.68	37
JUNE	57.1	-2.8	66.3	-2.8	47.9	-2.7	15th 77.2	8th 56.0	15th 60.0	5th 38.7	2.95	178
JULY	63.3	-0.4	72.6	-0.3	54.0	-0.6	17th 82.6	11th 58.1	14th 61.9	31st 46.8	3.25	139
AUG	65.9	+2.9	78.1	+6.0	53.8	-0.2	13th 89.2	24th 67.9	21st 63.0	28th 46.1	0.86	38
SEPT	58.9	+0.3	67.5	+0.8	50.3	-0.2	1st 82.0	24th 53.7	3rd 59.0	23rd 39.0	4.12	213
OCT	50.3	-1.0	58.6	+0.5	41.9	-2.4	18th 68.4	30th 52.3	19th 55.7	13th 31.2	1.37	61
NOV	37.9	-6.4	43.2	-6.2	32.7	-6.5	3, 15 51.0	18th 34.6	1st 45.2	19th 20.3	0.57	23
DEC	38.2	-2.2	42.2	-2.5	34.2	-1.9	19th 48.8	8th 28.7	28th 44.3	8th 18.6	1.23	59
YEAR	49.7	-0.9	57.6	-0.1	41.8	-1.6	Aug. 13 89.2	Jan. 2 27.2	Aug. 21 63.0	Jan. 13 18.3	22.30	93

GREENWICH 1872

Month	TEMPERATURE							RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	41.7	degF +1.9	46.3	degF +2.0	37.0	degF +1.6	31st 52.7	10th 39.7	13th 45.3	15th 28.3	in 3.63	175
FEB	45.5	+5.2	51.7	+6.2	39.2	+4.3	9th 57.9	16th 44.1	6th 46.0	28th 32.4	0.77	48
MAR	45.6	+1.9	53.5	+2.5	37.7	+1.2	7th 60.8	21st 37.2	29th 51.1	26th 26.1	2.13	138
APR	49.7	+1.6	59.3	+3.1	40.1	0.0	12th 69.9	6th 47.8	27th 50.0	20th 29.6	0.98	51
MAY	52.3	-1.6	62.1	-0.8	42.5	-2.3	28th 73.2	18th 46.5	27th 54.0	20th 32.6	3.09	169
JUNE	60.6	+0.7	71.3	+2.2	49.9	-0.7	17th 86.0	8th 59.3	25th 58.3	7th 40.6	1.64	99
JULY	66.5	+2.8	78.2	+5.3	54.8	+0.2	25th 90.9	15th 63.2	26th 66.1	18th 47.0	2.36	101
AUG	62.7	-0.3	72.9	+0.8	52.5	-1.5	17th 81.7	4th 62.4	22nd 59.1	28th 45.0	2.70	118
SEPT	58.7	+0.1	68.2	+1.5	49.1	-1.4	3rd 81.4	24th 50.8	4th 62.2	23rd 34.5	1.39	72
OCT	48.9	-2.4	56.7	-1.4	41.1	-3.2	2nd 66.6	15th 49.2	2nd 52.0	14th 29.1	4.34	194
NOV	45.8	+1.5	50.8	+1.4	40.8	+1.6	5th 61.8	14th 40.5	5th 51.0	18th 32.3	2.92	115
DEC	42.9	+2.5	47.0	+2.3	38.7	+2.6	22nd 55.4	12th 36.3	25th 45.8	12th 27.1	4.07	196
YEAR	51.7	+1.1	59.8	+2.1	43.6	+0.2	July 25 90.9	Dec. 12 36.3	July 26 66.1	Mar. 26 26.1	30.02	125

GREENWICH 1873

Month	TEMPERATURE										RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	42.4	+2.6	46.8	+2.5	38.0	+2.6	10th 53.8	30th 35.0	11th 48.5	25th 26.0	in 2.45	118
FEB	35.0	-5.3	39.2	-6.3	30.8	-4.1	26th 50.1	21st 31.9	26th 43.8	24, 25 25.0	1.93	121
MAR	43.3	-0.4	51.3	+0.3	35.2	-1.3	29th 64.6	19th 41.5	4th 45.7	14th 27.2	1.33	86
APR	47.7	-0.4	57.4	+1.2	37.9	-2.2	15th 76.8	12th 47.8	16th 47.0	26th 28.7	0.61	32
MAY	52.4	-1.5	62.3	-0.6	42.5	-2.3	26th 81.2	18th 51.4	1st 50.5	20th 34.0	1.49	81
JUNE	60.6	+0.7	70.2	+1.1	51.0	+0.4	27th 88.7	1st 56.1	22nd 61.3	7th 42.0	2.56	154
JULY	65.3	+1.6	76.6	+3.7	53.9	-0.7	22nd 88.7	5th 66.6	23rd 63.0	19th 46.4	1.85	79
AUG	64.5	+1.5	74.7	+2.6	54.4	+0.4	8th 87.3	29th 63.3	13th 60.8	29th 47.9	3.18	139
SEPT	55.7	-2.9	65.2	-1.5	46.1	-4.4	27th 72.5	5th 60.0	1st 54.5	22nd 38.2	2.52	131
OCT	48.8	-2.5	57.0	-1.1	40.6	-3.7	3rd 75.1	30th 39.0	11th 56.9	29th 26.7	2.55	114
NOV	44.5	+0.2	50.1	+0.7	38.8	-0.4	23rd 57.0	13th 44.5	25th 48.2	13th 25.8	2.58	102
DEC	40.4	0.0	45.6	+0.9	35.2	-0.9	16th 56.3	10th 28.7	18th 47.1	10, 29 22.1	0.31	15
YEAR	50.0	-0.6	58.0	+0.3	42.0	-1.4	July 22 88.7	Dec. 10 28.7	July 23 63.0	Dec. 10, 29 22.1	23.36	97

GREENWICH 1874

Month	TEMPERATURE										RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	°F 41.7	degF +1.9	°F 47.3	degF +3.0	°F 36.2	degF +0.8	20th 55.0	5th 39.7	15th 45.2	25th 28.1	in 1.00	48
FEB	39.3	-1.0	45.0	-0.5	33.5	-1.4	28th 55.9	6th 30.9	14th 46.1	11th 21.0	0.94	59
MAR	44.7	+1.0	52.8	+1.8	36.6	+0.1	23rd 65.4	10th 36.3	29th 48.0	11th 22.6	0.45	29
APR	51.4	+3.3	61.5	+5.3	41.3	+1.2	23rd 79.7	4th 47.0	25th 52.0	30th 30.5	1.35	71
MAY	51.9	-2.0	63.2	+0.3	40.7	-4.1	22nd 77.6	3rd 51.9	24th 53.0	10th 31.1	0.42	23
JUNE	59.7	-0.2	71.1	+2.0	48.3	-2.3	2nd 83.7	20th 59.7	30th 57.0	13th 37.5	2.42	146
JULY	66.3	+2.6	79.0	+6.1	53.6	-1.0	9th 92.0	28th 67.3	10th 63.6	18th 46.2	2.59	111
AUG	61.8	-1.2	72.1	0.0	51.5	-2.5	19th 81.2	5th 62.4	2nd 59.7	24th 44.0	1.44	63
SEPT	59.3	+0.7	68.4	+1.7	50.3	-0.2	25th 78.1	17th 59.4	1st 58.8	19th 43.4	2.22	115
OCT	52.6	+1.3	59.5	+1.4	45.7	+1.4	1st 69.6	23rd 51.1	15th 55.7	23rd 36.0	3.58	160
NOV	42.5	-1.8	48.4	-1.0	36.6	-2.6	6th 62.6	26th 34.5	6th 49.9	25th 25.0	1.85	73
DEC	33.3	-7.1	37.9	-6.8	28.6	-7.5	6th 53.3	31st 24.5	5, 6 37.0	31st 18.5	1.69	81
YEAR	50.4	-0.2	58.9	+1.2	41.9	-1.5	July 9 92.0	Dec. 31 24.5	July 10 63.6	Dec. 31 18.5	19.95	83

GREENWICH 1875

Month	TEMPERATURE										RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	°F 43.3	degF +3.5	°F 47.8	degF +3.5	°F 38.8	degF +3.4	20th 53.7	1st 35.0	19th 46.8	1st 18.2	in 2.99	144
FEB	35.5	-4.8	40.4	-5.1	30.6	-4.3	15th 51.3	28th 32.4	14th 43.1	24th 23.3	0.82	51
MAR	40.8	-2.9	47.1	-3.9	34.5	-2.0	8th 57.4	1st 32.6	8th 50.3	5th 25.5	0.56	36
APR	47.5	-0.6	47.5	+1.3	37.4	-2.7	30th 71.5	22nd 43.3	28th 45.2	25th 27.8	1.55	81
MAY	56.1	+2.2	66.7	+3.8	45.6	+0.8	15th 81.9	29th 54.3	15th 52.5	31st 36.6	1.46	80
JUNE	60.9	+1.0	71.9	+2.8	49.8	-0.8	4th 83.3	21st 58.8	29th 55.9	1st 41.0	2.28	137
JULY	60.2	-3.5	69.0	-3.9	51.4	-3.2	29th 77.5	15th 59.5	18th 56.7	13th 42.5	5.28	226
AUG	64.3	+1.3	74.3	+2.2	54.4	+0.4	16th 85.4	4. 29 67.2	17th 61.6	2nd 43.6	2.28	100
SEPT	61.1	+2.5	70.6	+3.9	51.7	+1.2	18th 81.0	23rd 59.3	22nd 58.6	1st 44.6	2.66	138
OCT	48.9	-2.4	55.8	-2.3	42.1	-2.2	5th 68.8	30th 43.2	4th 52.2	13. 17 33.5	4.13	184
NOV	42.5	-1.8	47.6	-1.8	37.5	-1.7	4th 58.5	30th 33.2	18th 52.5	30th 28.3	2.90	115
DEC	38.6	-1.8	42.7	-2.0	34.5	-1.6	22nd 54.5	4th 31.0	22nd 44.3	5th 23.3	1.06	51
YEAR	50.0	-0.6	57.6	-0.1	42.4	-1.1	Aug. 16 85.4	Dec. 4 31.0	Aug. 17 61.6	Jan. 1 18.2	27.97	117

GREENWICH 1876

Month	TEMPERATURE							RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	36.9	degF -2.9	42.7	degF -1.6	31.1	degF -4.3	31st 56.1	8th 27.6	3rd 45.0	8th 17.4	1.11	54
FEB	41.4	+1.1	46.6	+1.1	36.2	+1.3	18th 59.0	11th 28.9	18th 46.4	13th 21.8	1.50	94
MAR	42.1	-1.6	49.1	-1.9	35.0	-1.5	31st 64.7	19th 37.0	3rd 46.0	19th 25.5	2.32	151
APR	48.7	+0.6	57.7	+1.5	39.6	-0.5	8th 70.2	13th 44.1	6th 49.0	12th 29.2	1.27	67
MAY	50.4	-3.5	61.6	-1.3	39.2	-5.6	21. 30 73.6	2nd 53.0	27th 49.4	3. 5 31.5	1.13	62
JUNE	60.0	+0.1	71.2	+2.1	48.8	-1.8	21st 83.9	17th 61.0	22nd 59.5	11th 40.1	1.08	65
JULY	67.5	+3.8	80.0	+7.1	55.1	+0.5	17th 94.0	11th 70.0	7th 59.7	12th 44.7	0.67	29
AUG	65.1	+2.1	76.8	+4.7	53.4	-0.6	14th 93.8	31st 60.0	18th 63.1	26th 41.1	2.01	88
SEPT	57.1	-1.5	65.7	-1.0	48.6	-1.9	21st 72.5	13th 55.1	5. 6 56.8	13. 21 41.6	2.58	134
OCT	53.3	+2.0	59.7	+1.6	47.0	+2.7	6th 72.2	31st 46.2	7th 58.9	31st 34.5	1.61	72
NOV	44.0	-0.3	49.3	-0.1	38.7	-0.5	14th 63.3	10th 37.0	16th 49.9	10th 25.5	3.06	121
DEC	43.9	+3.5	47.7	+3.0	40.2	+4.1	3rd 56.2	26th 35.0	28th 50.3	23rd 28.3	5.67	277
YEAR	50.9	+0.3	59.0	+1.3	42.7	-0.7	July 17 94.0	Jan. 8 27.6	Aug. 18 63.1	Jan. 8 17.4	24.10	100

GREENWICH 1877

Month	TEMPERATURE							RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	°F 42.5	degF +2.7	°F 48.1	degF +3.8	°F 36.8	degF +1.4	19th 56.1	12th 36.4	19th 47.4	21st 27.7	in 4.35	210
FEB	43.7	+3.4	49.2	+3.7	38.3	+3.4	7th 59.1	28th 39.2	7th 47.0	28th 24.7	1.71	107
MAR	41.5	-2.2	48.5	-2.5	34.5	-2.0	29th 59.4	10th 39.0	3rd 45.3	1st 23.5	2.23	145
APR	46.9	-1.2	54.3	-1.9	39.5	-0.6	4th 66.0	18th 42.0	9th 46.0	20th 32.1	3.35	176
MAY	50.5	-3.4	59.3	-3.6	41.7	-3.1	26th 67.6	1st 48.0	28th 50.7	4th 28.1	1.38	75
JUNE	62.7	+2.8	74.9	+5.8	50.5	-0.1	29th 85.5	1st 60.0	12, 22 57.1	7, 25 44.2	0.68	41
JULY	62.5	-1.2	72.8	-0.1	52.1	-2.5	31st 88.2	16th 62.8	29th 59.8	8th 42.6	2.46	105
AUG	63.5	+0.5	72.9	+0.8	54.0	0.0	20th 83.3	25th 63.2	20th 61.3	24th 40.5	2.90	127
SEPT	54.3	-4.3	63.3	-3.4	45.2	-5.3	11th 73.4	20th 52.4	14th 59.1	25th 33.3	1.15	60
OCT	49.2	-2.1	58.0	-0.1	40.4	-3.9	14th 68.8	16th 50.2	14th 52.3	18th 28.2	1.78	79
NOV	45.5	+1.2	51.8	+2.4	39.1	-0.1	8th 58.7	25th 42.7	7th 49.5	17, 26 31.9	3.53	139
DEC	40.5	+0.1	45.5	+0.8	35.5	-0.6	6th 55.0	27th 37.4	30th 45.7	28.7 28.7	1.76	85
YEAR	50.3	-0.3	58.2	+0.5	42.3	-1.1	July 31 88.2	Jan. 12 36.4	Aug. 20 61.3	Mar. 1 23.5	27.28	114

GREENWICH 1878

Month	TEMPERATURE							RAINFALL				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp. Date	Lowest maximum Temp. Date	Highest minimum Temp. Date	Lowest minimum Temp. Date	Total	Per cent of average
JAN	40.1	+0.3	44.7	+0.4	35.6	+0.2	21, 22	12th	22nd	11th	in	42
FEB	42.3	+2.0	47.1	+1.6	37.4	+2.5	17th	9th	28th	8th	0.87	69
MAR	42.7	-1.0	49.5	-1.5	35.9	-0.6	3rd	29th	1st	24th	1.10	69
APR	49.1	+1.0	57.9	+1.7	40.4	+0.3	30th	3rd	30th	1st	1.06	227
MAY	56.3	+2.4	65.3	+2.4	47.4	+2.6	12th	30th	17th	21st	4.31	234
JUNE	61.1	+1.2	71.3	+2.2	50.8	+0.2	26th	14th	25th	2nd	4.29	275
JULY	64.1	+0.4	73.9	+1.0	54.2	-0.4	19th	2nd	19th	4th	4.57	13
AUG	64.1	+1.1	72.9	+0.8	55.4	+1.4	9th	24th	10th	17th	0.31	236
SEPT	57.7	-0.9	66.9	+0.2	48.6	-1.9	8th	23rd	5th	24th	5.38	42
OCT	52.0	+0.7	59.0	+0.9	45.0	+0.7	5th	30th	7th	30th	0.82	74
NOV	39.6	-4.7	44.2	-5.2	35.0	-4.2	25th	30th	25th	29th	1.66	136
DEC	33.2	-7.2	37.4	-7.3	29.0	-7.1	30th	24th	31st	25th	3.45	56
YEAR	50.2	-0.4	57.5	-0.2	42.9	-0.5	June 26	Dec. 24	June 25	Dec. 25	28.98	121

GREENWICH 1879

Month	TEMPERATURE						RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Total	Per cent of average
JAN	31.5	degF -8.3	35.1	degF -9.2	28.0	degF -7.4	in 2.59	125
FEB	38.5	-1.8	42.6	-2.9	34.3	-0.6	3.82	239
MAR	41.9	-1.8	49.0	-2.0	34.8	-1.7	0.60	39
APR	44.5	-3.6	52.6	-3.6	36.3	-3.8	2.60	137
MAY	49.3	-4.6	58.4	-4.5	40.1	-4.7	3.36	184
JUNE	58.3	-1.6	67.0	-2.1	49.6	-1.0	4.29	258
JULY	59.5	-4.2	67.2	-5.7	51.7	-2.9	3.72	159
AUG	61.2	-1.8	69.4	-2.7	53.0	-1.0	5.19	228
SEPT	57.4	-1.2	65.5	-1.2	49.3	-1.2	2.87	149
OCT	49.3	-2.0	55.6	-2.5	43.0	-1.3	0.76	34
NOV	38.4	-5.9	43.5	-5.9	33.3	-6.2	0.91	36
DEC	32.1	-8.3	37.4	-7.3	26.8	-9.3	0.65	31
YEAR	46.8	-3.8	53.6	-4.1	40.0	-3.4	31.36	131

GREENWICH 1880

Month	TEMPERATURE						RAINFALL	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Total	Per cent of average
JAN	32.9	degF -6.9	37.7	degF -6.5	28.1	degF -7.3	in 0.26	13
FEB	42.3	+2.0	48.0	+2.5	36.6	+1.7	2.36	147
MAR	45.0	+1.3	53.1	+2.1	36.9	+0.4	0.60	39
APR	47.9	-0.2	55.9	-0.3	39.9	+0.2	2.20	116
MAY	53.1	-0.8	64.0	+1.1	42.2	+2.6	0.50	27
JUNE	58.8	-1.1	68.1	+1.0	49.5	-1.1	2.26	136
JULY	63.3	-0.4	72.9	0.0	53.8	-0.8	3.81	163
AUG	64.3	+1.3	72.9	+0.8	55.8	+1.8	0.98	43
SEPT	60.9	+2.3	69.6	+2.9	52.1	+1.6	4.00	207
OCT	46.7	-4.6	53.3	-4.8	40.2	-4.1	7.65	341
NOV	42.5	-1.8	48.5	-0.9	36.5	-2.7	2.06	81
DEC	42.8	+2.4	47.7	+3.0	37.9	+1.8	3.00	144
YEAR	50.1	-0.5	57.6	-0.1	42.5	-0.9	29.68	124

KEW 1871

Month	TEMPERATURE										RAINFALL		SUNSHINE	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Per cent of average	Wettest day	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	Total in	Date	Total in	Date
JAN	33.4	-6.1	37.0	-6.7	29.8	+3.0	44.6	28.0	36.6	17.1	1.76	17th	0.48	16
FEB	42.9	+3.0	47.6	+3.0	38.1	+0.3	56.0	32.4	48.7	25.6	0.97	7th	0.28	16
MAR	45.3	+1.5	52.9	+2.8	37.8	+0.3	66.6	40.6	47.8	30.8	0.99	16th	0.43	19
APR	49.1	+0.4	55.9	+0.1	42.4	+0.9	77.7	49.1	50.0	34.0	2.83	18th	0.51	13
MAY	52.1	-2.3	61.4	-1.0	42.7	-3.7	77.7	49.1	57.6	34.0	0.81	8th	0.24	24
JUNE	56.1	-4.4	63.6	-4.9	48.7	-3.8	73.1	54.0	58.1	39.2	3.20	15th	0.84	14
JULY	62.7	-1.0	70.6	-0.6	54.7	-1.2	79.9	62.2	61.6	47.5	3.31	11th	0.89	15
AUG	64.4	+1.4	74.5	+3.9	54.3	-1.4	85.4	53.4	62.6	46.4	0.96	13th	0.62	25
SEPT	57.7	-0.8	64.7	-0.7	50.6	-1.1	78.6	53.4	59.1	37.4	3.91	24th	0.63	15
OCT	49.5	-2.0	57.1	-0.4	41.9	-3.5	65.4	43.6	57.5	30.6	1.31	1st	0.46	21
NOV	38.3	-6.9	43.3	-6.6	33.3	-7.3	53.0	37.7	45.9	20.2	0.49	14th	0.13	22
DEC	38.3	-3.2	42.4	-3.2	34.2	-3.2	49.5	31.2	45.1	21.8	1.10	26th	0.35	20
YEAR	49.1	-1.8	55.9	-1.2	42.4	-2.2	85.4	28.0	62.6	17.1	21.65	July 11	0.89	220

KEW 1872

Month	TEMPERATURE										RAINFALL		SUNSHINE	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Per cent of average	Wettest day	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	Total in	Date	Total in	Date
JAN	41.7	+2.2	45.9	+2.2	37.4	+2.1	52.6	39.2	44.8	26.0	3.45	24th	0.45	11
FEB	45.1	+5.2	50.4	+5.8	39.7	+4.6	56.0	44.0	46.6	32.3	0.79	23rd	0.19	15
MAR	45.5	+1.7	52.1	+2.0	38.9	+1.4	60.4	35.9	50.9	26.5	1.74	28th	0.55	19
APR	49.1	+0.4	57.3	+1.5	41.0	-0.5	77th	47.1	52.0	28.6	1.59	21st	0.35	16
MAY	51.5	-2.9	59.8	-2.6	43.4	-3.0	71.9	45.5	55.4	32.3	2.85	13th	0.69	18
JUNE	60.1	-0.4	69.1	+0.6	51.0	-1.5	84.1	57.5	59.6	41.6	1.42	2nd	0.25	18
JULY	65.9	+2.2	76.1	+4.9	55.7	-0.4	89.4	63.4	67.4	46.6	2.00	26th	0.31	17
AUG	61.9	-1.1	71.0	+0.4	52.9	-2.6	81.9	53.8	59.2	45.2	1.58	26th	0.47	20
SEPT	58.3	-0.2	66.1	+0.7	50.5	-1.2	73rd	50.6	61.4	33.5	1.37	24th	0.41	20
OCT	48.5	-3.0	55.1	-2.4	41.8	-3.6	60.5	40.4	50.6	32.4	4.36	26th	0.77	11
NOV	45.9	+0.7	50.3	+0.4	41.5	+0.9	53.6	36.7	47.9	29.2	2.81	18th	0.32	10
DEC	43.1	+1.6	46.8	+1.2	39.4	+2.0	53.6	36.7	47.9	29.2	3.74	17th	0.49	11
YEAR	51.3	+0.4	58.3	+1.2	44.4	-0.2	89.4	35.9	67.4	26.0	27.71	Oct. 26	0.77	186

KEW 1873

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	h	h	h	h
JAN	42.5	+3.0	45.9	+2.2	39.1	+3.8	4th	25th	14th	26th	2.17	2.19	18	2.17	101	0.33
FEB	35.3	-4.6	38.9	-5.7	31.8	-3.3	26th	24th	27th	25th	1.55	0.44	20	1.55	100	0.24
MAR	43.0	-0.8	50.2	+0.1	35.8	-1.7	29th	21st	31st	14th	1.35	0.24	13	1.35	92	0.24
APR	47.2	-1.5	55.3	-0.5	39.1	-2.4	16th	24th	5th	26th	0.39	0.07	18	0.39	21	0.07
MAY	51.9	-2.5	60.2	-2.2	43.6	-2.8	26th	18th	5th	20th	1.35	0.37	19	1.35	75	0.37
JUNE	59.8	-0.7	68.5	-0.0	51.1	-1.4	29th	1st	22nd	7th	2.99	1.02	18	2.99	174	1.02
JULY	64.2	+0.5	73.6	+2.4	54.8	-1.3	22nd	13th	23rd	19th	2.07	1.06	21	2.07	85	1.06
AUG	63.5	+0.5	71.8	+1.2	55.3	-0.2	8th	29th	6, 13	29th	2.06	0.62	14	2.06	92	0.62
SEPT	55.5	-3.0	63.4	-2.0	47.6	-4.1	27th	6th	11th	30th	2.35	0.82	20	2.35	119	0.82
OCT	48.3	-3.2	55.5	-2.0	41.2	-4.2	3rd	29th	11th	13th	2.86	1.33	17	2.86	127	1.33
NOV	44.7	-0.5	49.6	-0.3	39.7	-0.9	23rd	10th	19th	10th	1.93	0.45	18	1.93	77	0.45
DEC	40.5	-1.0	45.2	-0.4	35.9	-1.5	16th	10th	28.3	20.4	0.40	0.19	22	0.40	19	0.19
YEAR	49.7	-1.2	56.5	-0.6	42.9	-1.7	July 22	Dec. 10	July 23	Dec. 10	21.46	1.33	218	21.46	90	1.33

KEW 1874

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	h	h	h	h
JAN	41.6	+2.1	46.6	+2.9	36.6	+1.3	20th	5th	15th	6th	0.98	19th	20	0.98	46	0.25
FEB	39.3	-0.6	44.5	-0.1	34.1	-1.0	28th	6th	15th	11th	1.11	26th	20	1.11	72	0.53
MAR	44.7	+0.9	51.9	+1.8	37.4	-0.1	23rd	11th	25th	11th	0.43	12th	18	0.43	29	0.09
APR	51.1	+2.4	59.7	+3.9	42.4	+0.9	3rd	4th	29th	30th	1.27	9th	20	1.27	70	0.35
MAY	51.2	-3.2	59.7	-2.7	42.7	-3.7	25, 27	4th	50.3	11th	0.60	25th	24	0.60	33	0.25
JUNE	58.5	-2.0	67.8	-0.7	49.3	-3.2	9th	18th	6th	13th	2.54	24th	18	2.54	148	0.86
JULY	65.3	+1.6	75.9	+4.7	54.8	-1.3	9th	28th	11th	25th	1.26	28th	21	1.26	52	0.66
AUG	61.3	-1.7	69.9	-0.7	52.8	-2.7	20th	5th	1, 2	19th	1.29	10th	19	1.29	57	0.35
SEPT	58.9	+0.4	66.4	+1.0	51.3	-0.4	26, 27	6th	1st	41.6	2.80	30th	16	2.80	141	0.73
OCT	52.8	+1.3	58.6	+1.1	47.0	+1.6	1st	23rd	1st	6th	3.73	1st	14	3.73	166	0.85
NOV	42.4	-2.8	47.9	-2.0	36.9	-3.7	6th	22nd	6, 10	24th	2.17	29th	18	2.17	87	0.61
DEC	33.7	-7.8	37.7	-7.9	29.6	-7.8	6th	23rd	9th	31st	1.51	11th	21	1.51	73	0.32
YEAR	50.1	-0.8	57.2	+0.1	42.9	-1.7	July 9	Dec. 23	July 11	Dec. 31	19.68	0.86	229	19.68	82	0.86

KLEW 1875

Month	TEMPERATURE										RAINFALL			SUNSHINE							
	Mean average	Diff. from average	Max. °F	Diff. from average	Mean min. °F	Diff. from average	Highest maximum Date	Temp. °F	Lowest maximum Date	Temp. °F	Highest minimum Date	Temp. °F	Total	Per cent of average	Wettest day Date	Amount	No. of dry days	Total	Per cent of Average	Sunniest day Date	Durn.
JAN	43.7	+4.2	48.2	+4.5	39.2	+3.9	20th	53.6	1st	33.4	19th	47.2	1st	19.9	3.43	160	25th	in	0.70	12	
FEB	35.7	-4.2	40.1	-4.5	31.4	-3.7	14th	49.8	20th	32.7	14th	43.5	6th	24.9	0.93	60	24th	0.17	14		
MAR	41.3	-2.5	47.1	-3.0	35.5	-2.0	8th	56.7	1st	33.6	8th	50.3	5th	28.5	0.61	42	8th	0.30	25		
APR	47.2	-1.5	56.0	+0.2	38.4	-3.1	20th	72.8	9th	43.2	4th	44.9	25th	30.1	1.61	89	8th	0.54	21		
MAY	55.5	+1.1	64.3	+1.9	46.7	+0.3	15th	78.8	29th	55.7	21st	52.9	31st	38.9	1.47	81	7th	0.57	19		
JUNE	60.3	-0.2	69.2	+0.7	51.3	-1.2	3rd	81.0	21st	60.3	30th	56.5	22nd	43.4	2.31	134	11th	0.63	15		
JULY	59.9	-3.8	67.3	-3.9	52.5	+3.8	29th	76.4	15th	60.0	1st	58.6	11th	43.9	5.11	209	15th	1.15	13		
AUG	63.7	+0.7	72.3	+1.7	55.1	-0.4	16th	82.8	4th	65.8	18th	62.9	2nd	45.8	0.65	29	28th	0.25	22		
SEPT	61.1	-2.6	69.5	+4.1	52.8	+1.1	18th	79.8	23rd	60.3	2nd	59.5	1st	46.4	1.99	101	22nd	0.43	20		
OCT	49.2	-2.3	55.0	-2.5	43.4	-2.0	5th	68.9	30th	43.8	4th	53.2	13th	32.4	3.83	170	20th	0.86	11		
NOV	43.1	-2.1	47.9	-2.0	38.2	-2.4	18th	58.5	30th	33.5	18th	52.8	27th	27.0	2.93	118	13th	0.69	17		
DEC	38.8	-2.7	42.5	-3.1	35.1	-2.3	22nd	54.7	5th	31.3	22nd	45.0	4th	21.7	0.94	46	3rd	0.23	19		
YEAR	49.9	-1.0	56.6	-0.5	43.3	-1.3	Aug. 16	82.8	Dec. 5	31.3	Aug. 18	62.9	Jan. 1	19.9	25.82	108	July 15	1.15	208		

Kew 1876

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean	Diff. from average	Highest maximum Date	Lowest maximum Date	Highest minimum Date	Lowest minimum Date	Total	Per cent average	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day	
																°F
JAN	36.8	-2.7	41.8	-1.9	54.7	8th	28.9	3rd	45.8	12th	21.2	22	0.82	38	21st	in
FEB	41.7	+1.8	46.1	+1.5	58.3	11th	31.8	18th	47.9	12th	21.9	10	1.76	113	25th	0.25
MAR	42.0	-1.8	47.5	-2.6	61.0	19th	34.3	31st	45.3	21st	28.0	12	2.76	189	12th	0.79
APR	48.2	-0.5	55.4	-0.4	70.4	13th	38.8	6th	51.3	14th	31.6	16	2.05	113	14th	0.51
MAY	49.9	-4.5	58.6	-3.8	71.8	2nd	48.3	27th	51.7	5th	32.2	15	0.78	43	24th	0.43
JUNE	59.8	-0.7	68.8	-0.3	84.2	5th	59.1	21st	59.7	11th	40.8	19	1.47	85	23rd	0.26
JULY	66.6	+2.9	76.2	+5.0	88.1	11th	64.0	17th	61.8	12th	47.8	24	0.90	37	8th	0.32
AUG	64.3	+1.3	73.7	+3.1	82.6	31st	58.7	16th	64.5	25th	44.6	20	1.93	86	4th	0.45
SEPT	57.1	-1.4	64.1	-1.3	72.6	13th	54.6	5th	59.6	21st	42.1	9	2.45	124	5th	0.40
OCT	53.3	+1.8	58.8	+1.3	69.2	31st	45.0	9th	57.7	31st	35.1	16	1.50	67	10th	0.40
NOV	44.0	-1.2	49.1	-0.8	62.6	10th	37.7	16th	51.5	10th	25.6	12	2.65	106	12th	0.77
DEC	44.3	+2.8	47.6	+2.0	55.8	26th	35.3	2nd	51.4	23rd	27.4	9	5.77	280	24th	1.35
YEAR	50.7	-0.2	57.3	+0.2	92.6	Jan. 8	28.9	Aug. 16	64.5	Jan. 12	21.2	194	24.85	104	Dec. 24	1.35

KEW 1877

Month	TEMPERATURE							RAINFALL			SUNSHINE	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total Per cent of average	Wettest day Amount
	°F	deg F	°F	deg F	°F	deg F	°F	°F	°F	°F	in	in
JAN	43.1	+3.6	48.1	+4.4	38.0	+2.7	19th 55.2	12th 38.0	19th 48.4	21st 27.0	235	7th 0.55
FEB	44.3	+4.4	48.6	+4.0	39.9	+4.8	7th 57.2	28th 38.6	10th 48.3	28th 27.0	113	13th 0.35
MAR	41.5	-2.3	47.5	-2.6	35.5	-2.0	29th 56.7	8th 39.6	3rd 44.7	23rd 23.0	151	29th 0.51
APR	46.7	-2.0	52.5	-3.3	40.8	-0.7	4th 63.1	18th 42.0	9th 46.9	20th 33.2	149	10th 0.37
MAY	49.6	-4.8	57.0	-5.4	42.2	-4.2	8th 64.4	1st 46.0	28th 49.1	5th 30.0	97	17th 0.27
JUNE	61.7	+1.2	71.4	+2.9	51.9	-0.6	11th 81.2	1.2 58.0	12th 58.9	7th 45.0	1.75	21st 0.95
JULY	60.9	-2.8	68.7	-2.5	53.2	-2.9	31st 82.6	8th 60.9	23rd 60.5	8th 44.7	131	5th 0.57
AUG	61.8	-1.2	69.0	-1.6	54.6	-0.9	20th 79.0	25th 62.3	20th 63.0	24th 42.0	126	25th 0.82
SEPT	52.9	-5.6	60.3	-5.1	45.5	-6.2	11th 69.4	20th 53.0	14th 60.7	25th 34.8	35	3rd 0.27
OCT	48.7	-2.8	56.6	-0.9	40.7	-4.7	14th 65.0	18th 49.5	14th 53.9	18th 29.0	88	25th 0.45
NOV	45.0	-0.2	51.4	+1.5	38.6	-2.0	16th 58.0	24th 42.9	7th 50.2	4th 29.0	138	11th 0.73
DEC	40.7	-0.8	45.5	-0.1	36.0	-1.4	6th 53.3	27, 28 38.1	22nd 43.5	28th 27.9	65	28th 0.34
YEAR	49.7	-1.2	56.4	-0.7	43.1	-1.5	July 82.6	Jan. 12 38.0	Aug. 20 63.0	Mar. 23 23.0	119	June 21 0.95

KEW 1878

Month	TEMPERATURE							RAINFALL			SUNSHINE	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total Per cent of average	Wettest day Amount
	°F	deg F	°F	deg F	°F	deg F	°F	°F	°F	°F	in	in
JAN	40.7	+1.2	44.7	+1.0	36.7	+1.4	21, 22 54.7	12th 34.8	21st 48.2	11th 26.4	1.19	4th 0.29
FEB	42.3	+2.4	46.5	+1.9	38.2	+3.1	17th 57.5	8th 32.7	28th 48.8	8th 25.9	1.11	14th 0.42
MAR	43.1	-0.7	48.8	-1.3	37.3	-0.2	7th 57.1	29th 37.2	1st 50.8	24th 26.9	1.12	29th 0.43
APR	48.9	+0.2	56.4	+0.6	41.5	0.0	30th 64.6	3rd 43.7	30th 50.0	1st 29.0	3.87	11th 1.34
MAY	55.5	+1.1	62.8	+0.4	48.1	+1.7	10th 71.2	30th 55.0	17th 57.0	21st 39.1	4.10	28th 0.98
JUNE	60.5	0.0	69.1	+0.6	52.0	-0.5	26th 85.1	1st 56.4	27th 63.6	2nd 44.0	2.75	18th 0.79
JULY	63.5	-0.2	71.1	-0.1	55.9	-0.2	19th 81.8	3rd 61.3	21st 62.9	4th 47.1	2.35	24th 1.16
AUG	62.9	-0.1	69.6	-1.0	56.3	+0.8	5th 77.1	3rd 64.8	10th 61.5	26th 51.9	6.52	4th 1.13
SEPT	56.4	-2.1	64.1	-1.3	48.7	-3.0	5, 7 71.7	22nd 57.4	5th 58.9	24th 37.0	99	18th 0.30
OCT	51.3	-0.2	57.8	+0.3	44.7	-0.7	5th 70.8	31st 44.3	7th 58.2	31st 31.3	2.10	24th 0.59
NOV	40.1	-5.1	44.3	-5.6	35.8	-4.8	25th 52.4	30th 38.0	10th 41.0	29th 29.3	2.45	10th 0.68
DEC	33.6	-7.9	37.5	-8.1	29.7	-7.7	30th 53.6	10th 28.7	31st 49.0	24th 14.7	1.30	26th 0.27
YEAR	49.9	-1.0	56.1	-1.0	43.7	-0.9	June 85.1	Dec. 10 28.7	June 27 63.6	Dec. 24 14.7	125	April 11 1.34

KEW 1879

Month	TEMPERATURE										RAINFALL		SUNSHINE							
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day			
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	Date	Amount	h.	h.	Date			
JAN	32.1	-7.4	35.5	-8.2	28.8	-6.5	51.1	11th	14th	12th	26.6	34.5	1st	0.80	23	2.71	127	1st	0.80	h
FEB	38.8	-1.1	42.5	-2.1	35.1	0.0	52.5	1st	9th	24th	32.2	47.1	25th	0.86	7	4.11	265	21st	0.86	h
MAR	41.5	-2.3	47.9	-2.2	35.2	-2.3	62.9	19th	5th	2nd	33.7	44.9	30th	0.34	16	0.97	66	30th	0.34	h
APR	44.3	-4.4	51.2	-4.6	37.4	-4.1	60.0	11th	7th	12th	41.0	46.8	7th	0.50	13	3.05	169	7th	0.50	h
MAY	48.9	-5.5	56.6	-5.8	41.1	-5.3	66.0	21st	21st	10th	46.1	49.6	10th	0.75	10	3.93	217	28th	1.09	h
JUNE	57.3	-3.2	64.4	-4.1	50.3	-2.2	69.7	5th	15th	4.5	57.0	57.0	4.5	0.49	12	3.79	220	7.25	0.49	h
JULY	58.9	-4.8	65.2	-6.0	52.7	-3.4	77.0	3rd	31st	11th	58.0	60.9	11th	0.75	10	4.37	179	19th	0.75	h
AUG	60.4	-2.6	67.0	-3.6	53.8	-1.7	74.7	17th	14th	31st	55.6	58.7	31st	0.79	14	5.05	225	23rd	0.79	h
SEPT	56.3	-2.2	62.9	-2.5	49.6	-2.1	68.1	29th	12, 17	26th	57.7	56.9	26th	0.82	14	2.63	133	24th	0.82	h
OCT	49.0	-2.5	54.8	-2.7	43.2	-2.2	64.4	15th	6th	26th	47.9	52.1	6th	0.25	14	0.97	43	1st	0.25	h
NOV	38.8	-6.4	43.5	-6.4	34.1	-6.5	54.9	22nd	9th	16th	33.8	44.5	22nd	0.26	20	0.77	31	21st	0.26	h
DEC	32.5	-9.0	37.6	-8.0	27.4	-10.0	53.9	17th	28th	7th	29.0	40.6	28th	0.30	23	0.76	37	30th	0.30	h
YEAR	46.5	-4.4	52.4	-4.7	40.7	-3.9	77.0	July 29	July 31	Dec. 7	26.6	60.9	May 28	1.09	179	33.11	138	May 28	1.09	h

KEW 1880

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	Date	Amount	h	h	h
JAN	33.3	-6.2	37.6	-6.1	29.1	-6.2	55.0	27th	25.0	1st	27, 28	0.44	21	16th	0.28	26	
FEB	42.1	+2.2	47.3	+2.7	37.0	+1.9	53.0	24th	40.4	19th	2nd	2.19	141	16th	0.30	10	
MAR	45.1	+1.3	52.2	+2.1	38.0	+0.5	60.6	22nd	43.1	5th	29th	0.69	47	31st	0.23	23	
APR	47.5	-1.2	54.2	-1.6	40.7	-0.8	64.6	10th	46.8	19th	8th	34.7	2.01	14th	0.53	15	
MAY	52.1	-2.3	61.1	-1.2	43.0	-3.4	81.0	5th	49.1	24th	5th	32.2	0.29	31st	0.23	28	
JUNE	58.3	-2.2	66.2	-2.3	50.3	-2.2	75.6	3rd	55.7	28th	2nd	37.4	2.13	15th	0.28	13	
JULY	62.1	-1.6	69.4	-1.8	54.7	-1.4	76.2	7th	64.0	28th	31st	48.6	4.84	26th	0.80	10	
AUG	63.5	+0.5	70.4	-0.2	56.5	+1.0	77.6	1st	64.7	20th	3rd	49.7	0.69	31	0.25	24	
SEPT	60.0	+1.5	67.8	+2.4	52.2	+0.5	84.0	19th	57.9	5th	20th	44.0	4.43	11th	1.43	16	
OCT	46.5	-5.0	52.3	-5.2	40.7	-4.7	64.1	20th	40.0	1st	30th	30.8	5.95	9th	0.73	13	
NOV	42.3	-2.9	48.3	-1.6	36.3	-4.3	57.5	22nd	33.9	14th	22nd	25.2	1.79	18th	0.39	16	
DEC	42.9	+1.4	47.9	+2.3	38.0	+0.6	55.5	31st	36.3	28th	22nd	26.0	3.29	20th	0.72	14	
YEAR	49.6	-1.3	56.2	-0.9	43.0	-1.6	84.0	Jan. 27	25.0	Sept. 5	Jan. 27, 28	28.74	120	Sept. 11	1.43	208	

KEW 1881

Month	TEMPERATURE										RAINFALL			SUNSHINE				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day	
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		in		h		h	
JAN	31.7	-7.8	36.1	-7.6	27.2	-8.1	48.8	15th	29th	41.8	17th	9.4	1.16	54	18, 19	34	74	31st
FEB	38.0	-1.9	42.1	-2.4	33.9	-1.2	52.3	21st	3rd	46.9	7th	26.4	2.55	165	21st	28	44	6th
MAR	42.9	-0.9	49.9	-0.2	36.0	-1.5	59.2	3rd	10th	50.6	1st	25.1	1.98	136	5th	114	101	29th
APR	46.3	-2.4	54.2	-1.6	38.3	-3.2	66.8	20th	13th	48.1	21st	25.9	0.77	43	12th	135	84	18th
MAY	53.7	-0.7	63.3	+0.9	44.0	-2.4	76.1	3rd	27th	57.0	4th	31.5	1.13	62	28th	231	116	31st
JUNE	59.1	-1.4	67.7	-0.8	50.5	-2.0	78.2	9th	17th	57.9	9th	38.5	1.62	94	5, 6	217	102	4th
JULY	64.8	+1.1	74.5	+3.3	55.1	-1.0	90.0	22nd	4th	63.3	28th	44.1	1.93	79	6th	254	128	18th
AUG	59.1	-3.9	66.6	-4.0	51.6	-3.9	80.7	31st	5th	57.6	28th	43.1	4.77	213	12th	163	87	5, 28
SEPT	55.9	-2.6	63.1	-2.3	48.8	-2.9	71.3	1st	24th	55.0	30th	39.4	2.21	112	21st	97	68	6th
OCT	45.5	-6.0	51.5	-6.0	39.5	-5.9	61.7	31st	11th	49.3	17th	25.4	2.41	107	23rd	111	113	19th
NOV	48.3	+3.1	54.0	+4.1	42.7	+2.1	61.5	1st	5th	54.0	29th	29.3	2.36	95	25th	64	121	17th
DEC	39.3	-2.2	44.1	-1.5	34.4	-3.0	53.5	10th	26th	41.7	23rd	23.7	2.65	129	17th	43	107	18th
YEAR	48.7	-2.2	55.6	-1.5	41.8	-2.8	90.0	Jan. 15	July 4	63.3	Jan. 17	9.4	25.53	107	Aug. 12	1490	98	31
																		15.2
																		*Snow

Aug. 12
1.37
*Snow

KEW 1882

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	60	9th	17	h	67	7th
JAN	40.2	+0.7	44.7	+1.0	35.7	+0.4	52.8	18th	11th	25th	1.28	60	0.38	17	31	67	6.2
FEB	42.5	+2.6	47.7	+3.1	37.4	+2.3	55.1	5th	14th	2nd	1.32	85	0.38	18	44	69	8.2
MAR	46.1	+2.3	53.9	+3.8	38.2	+0.7	61.7	22nd	10th	23rd	1.23	84	0.31	15	156	138	9.7
APR	48.5	-0.2	56.1	+0.3	41.0	-0.5	62.7	5th	22nd	16th	2.59	143	0.72	17	168	105	11.2
MAY	54.7	+0.3	63.4	+1.0	45.9	-0.5	71.9	15th	23rd	17th	1.31	72	0.31	17	264	133	14.1
JUNE	56.7	-3.8	64.2	-4.3	49.3	-3.2	72.2	13th	29th	17th	2.03	118	0.33	15	147	69	13.7
JULY	61.0	-2.7	68.7	-2.5	53.3	-2.8	75.5	6th	14th	1st	2.21	91	0.39	12	206	104	12.0
AUG	60.3	-2.7	68.2	-2.4	52.5	-3.0	80.0	24th	13th	31st	1.13	50	0.29	18	153	81	13.0
SEPT	54.5	-4.0	62.4	-3.0	46.7	-5.0	68.0	29th	2nd	15th	2.36	119	0.29	16	126	89	10.6
OCT	50.6	-0.9	56.8	-0.7	44.4	-1.0	68.6	16, 29	1st	26th	5.79	257	1.09	8	81	83	8.7
NOV	43.7	-1.5	48.5	-1.4	38.8	-1.8	59.8	16th	23rd	18th	2.35	94	0.39	6	77	145	6.3
DEC	40.1	-1.4	44.1	-1.5	36.0	-1.4	57.1	11th	28, 29	11th	1.98	96	0.42	13	23	57	5.0
YEAR	49.9	-1.0	56.6	-0.5	43.3	-1.3	80.0	Dec. 11	Aug. 13	Dec. 11	25.58	107	Oct. 16	172	1476	97	May 14

Oct. 16

TEMPERATURE

RAINFALL

SUNSHINE

Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	Date	Date	Date	Date	in		Date	days	h		Date
JAN	41.5	+2.0	45.7	+2.0	37.2	+1.9	1st	24th	1st	31st	2.33	109	15th	11	46	100	23, 26
FEB	43.2	+3.3	48.5	+3.9	37.9	+2.8	22nd	1st	21st	17th	3.33	215	10th	11	73	114	23rd
MAR	36.5	-7.3	42.9	-7.4	30.1	-7.4	5th	1st	1st	24th	1.02	70	19th	18	144	127	25th
APR	47.3	-1.4	56.0	+0.2	38.5	-3.0	5th	23rd	28th	1st	1.61	89	19th	19	158	99	17th
MAY	52.7	-1.7	61.1	-1.3	44.2	-2.2	24th	9th	13, 14	4th	1.83	101	8th	22	206	103	23rd
JUNE	58.6	-1.9	67.7	-0.8	49.5	-3.0	29th	7th	51.4	31.8	1.17	68	26th	18	193	91	3rd
JULY	60.0	-3.7	68.0	-3.2	52.0	-4.1	2nd	21st	60.0	44.1	2.03	83	14th	15	175	88	1st
AUG	62.1	-0.9	70.8	+0.2	53.4	-2.1	21st	8th	59.5	46.0	0.91	41	31st	20	188	100	10th
SEPT	57.5	-1.0	64.9	-0.5	50.1	-1.6	19th	30th	57.3	40.0	3.27	165	30th	13	131	92	9th
OCT	50.6	-0.9	56.4	-1.1	44.8	-0.6	14th	22nd	55.3	38.4	1.76	78	16th	16	88	90	2nd
NOV	43.3	-1.9	49.1	-0.8	37.5	-3.1	6th	15th	47.7	29.3	2.51	101	24th	7	82	155	12th
DEC	40.4	-1.1	44.3	-1.3	36.5	-0.9	3, 13	6th	42.1	29.4	0.69	33	10th	13	33	83	4th
YEAR	49.5	-1.4	56.3	-0.8	42.6	-2.0	June 29	Mar. 8	60.0	22.6	22.46	94	April 19	183	1516	100	June 3

APPENDIX III

TEMPERATURE

RAINFALL

SUNSHINE

Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	Date	Date	Date	Date	in		Date	days	h		Date
JAN	43.7	+4.2	47.6	+3.9	39.7	+4.4	23rd	1st	46.1	32.1	2.11	99	26th	16	29	63	28th
FEB	42.3	+2.4	47.0	+2.4	37.5	+2.4	13th	28th	45.4	29.5	1.58	102	1st	16	54	84	18th
MAR	44.2	+0.4	50.7	+0.6	37.7	+0.2	15th	1st	46.5	27.2	1.23	84	11th	22	107	95	16th
APR	44.7	-4.0	52.0	-3.8	37.5	-4.0	2nd	17th	46.9	28.1	1.26	70	7th	21	99	62	9th
MAY	53.7	-0.7	62.8	+0.4	44.5	-1.9	24th	29th	53.3	35.5	0.63	35	5th	23	205	103	11th
JUNE	58.4	-2.1	66.7	-1.8	50.1	-2.4	27th	7th	56.1	40.9	2.19	127	6th	22	156	73	12th
JULY	63.1	-0.6	71.9	+0.7	54.2	-1.9	4th	26th	61.3	43.2	0.71	91	28th	17	225	120	16th
AUG	64.5	+1.5	75.0	+4.4	53.9	+1.6	11th	27th	62.2	46.6	2.23	32	6th	23	154	78	2nd
SEPT	59.3	+0.8	66.8	+1.4	51.7	0.0	17th	23rd	61.1	40.6	1.93	97	4th	13	130	91	5th
OCT	48.5	-3.0	55.5	-2.0	41.4	-4.0	16th	10th	53.0	33.9	1.11	49	9th	22	85	87	13th
NOV	42.2	-3.0	47.2	-2.7	37.2	-3.4	2nd	25th	50.3	25.6	1.65	66	6th	19	43	81	3rd
DEC	41.4	-0.1	45.6	0.0	37.2	-0.2	3rd	30th	50.7	26.9	2.26	110	6th	15	23	57	19th
YEAR	50.5	-0.4	57.4	+0.3	43.5	-1.1	Aug. 11	Nov. 25	64.0	25.6	18.92	79	June 6	229	1311	87	May 11

KEW 1885

Month	TEMPERATURE						RAINFALL				SUNSHINE						
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total	Percent of average	Wettest day Date Amount	No. of dry days	Total	Percent of Average	Sunniest day Date Durn.
JAN	36.9	-2.6	40.4	-3.3	33.5	-1.8	29th 52.4	21st 31.8	29th 47.0	22nd 25.4	in 1.38	64	10th 0.47	19	h 15	33	7th 4.1
FEB	44.1	+4.2	49.0	+4.4	39.1	+4.0	12th 56.3	20th 39.3	16th 48.7	21st 27.6	3.01	194	16th 0.75	11	53	83	24th 7.5
MAR	40.5	-3.3	47.4	-2.7	33.6	-3.0	20th 59.0	10th 40.7	21st 41.1	8th 25.0	1.47	101	22nd 0.74	20	103	91	17th 9.6
APR	47.5	-1.2	55.4	-0.4	39.5	-2.0	20th 70.2	8th 43.3	25th 49.4	5th 30.3	1.78	98	16th 0.35	20	156	97	21st 12.8
MAY	49.7	-4.7	57.2	-5.2	42.3	-4.1	28th 70.3	5th 46.7	28th 53.4	8th 33.4	2.90	160	22nd 0.54	10	195	98	24th 11.6
JUNE	58.5	-2.0	67.1	-1.4	49.9	-2.6	4th 79.5	25th 59.6	6th 58.2	11th 41.7	1.85	107	8th 0.28	27	224	105	4th 14.2
JULY	63.3	-0.4	73.0	+1.8	53.7	-2.4	26th 85.4	29th 65.6	19th 60.2	2nd 47.6	0.47	19	12th 0.33	20	237	120	6th 14.2
AUG	58.5	-4.5	66.6	-4.0	50.5	-5.0	17th 76.4	31st 59.5	10th 57.4	14th 42.1	1.09	49	27th 0.33	9	155	82	13th 12.6
SEPT	55.1	-3.4	62.4	-3.0	47.7	-4.0	15th 73.0	27th 49.9	15th 58.5	27th 33.8	4.33	219	10th 0.95	20	123	87	15th 9.5
OCT	46.3	-5.2	51.7	-5.8	40.9	-4.5	2nd 58.9	30th 45.8	2nd 46.3	30th 32.8	3.86	171	23.31 0.70	11	91	93	7th 9.5
NOV	43.5	-1.7	48.1	-1.8	39.0	-1.6	30th 58.4	18th 40.8	27th 48.5	16th 31.1	2.95	118	24th 0.75	14	38	72	1st 7.1
DEC	38.4	-3.1	42.7	-2.9	34.1	-3.3	3rd 50.4	24th 33.0	3rd 44.1	11th 23.2	1.16	56	5th 0.35	15	47	117	1st 5.7
YEAR	48.5	-2.4	55.1	-2.0	42.0	-2.6	July 85.4	Jan. 21	July 19	Dec. 11	26.25	110	Sept. 10	197	1437	95	June 4 July 6 14.2

KEW 1886

Month	TEMPERATURE						RAINFALL				SUNSHINE					
	Mean	Diff. from average max.	Diff. from average min.	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total	Per cent of average	Wettest day Date Amount	No. of dry days	Total	Per cent of Average	Sunniest day Date Durn.
JAN	35.9	degF -3.6	degF -3.2	31.3	degF -4.0	2nd 51.3	7th 28.3	1st 44.2	7th 15.8	in 3.45	161	6th 0.81	7	h 47	102	16th 6.4
FEB	34.0	degF -5.9	degF -7.1	30.5	degF -4.6	13th 47.5	10th 31.3	14th 36.3	10th 22.3	0.65	42	3rd 0.39	23	38	59	1st 6.8
MAR	40.3	degF -3.5	degF -4.0	34.6	degF -2.9	24th 64.4	3 14 34.4	27th 49.6	17th 22.2	1.44	99	8.29 0.31	18	72	64	9th 9.3
APR	46.9	degF -1.8	degF -2.1	40.0	degF -1.5	24th 64.8	10th 45.3	22nd 47.2	11th 33.8	1.50	83	13th 0.29	16	150	94	25th 11.4
MAY	52.6	degF -1.8	degF -1.6	44.4	degF -2.0	7 8 71.9	14th 48.6	22nd 52.9	1st 30.9	3.91	216	10th 0.11	16	170	85	4.6 12.9
JUNE	57.3	degF -3.2	degF -3.5	49.0	degF -2.9	29th 75.2	18th 51.7	28th 54.7	1st 40.3	2.39	98	12th 0.51	20	224	105	4th 13.9
JULY	62.1	degF -1.6	degF -0.8	65.6	degF -2.6	4th 83.4	27th 59.9	4th 60.2	28th 46.6	1.03	60	12th 0.43	19	212	107	1.5 14.8
AUG	62.4	degF -0.6	degF -0.3	53.9	degF -1.6	30 31 84.4	2nd 63.6	8th 62.3	3rd 44.1	2.39	98	1st 0.14	19	190	101	3.1 11.8
SEPT	58.5	degF -0.0	degF +0.9	50.6	degF -1.1	1st 80.9	24th 56.1	9th 61.2	18th 41.2	0.78	30	10th 0.39	19	136	96	7th 11.3
OCT	53.3	degF +1.8	degF +1.6	47.5	degF +2.1	4th 76.7	27th 48.9	5th 56.0	22nd 37.3	2.09	93	12th 0.49	11	78	80	2nd 8.5
NOV	43.3	degF -1.9	degF -2.4	38.2	degF -2.4	1st 58.6	24th 34.2	1st 48.2	24th 27.6	3.07	123	11th 0.70	9	46	87	4th 6.2
DEC	36.5	degF -5.0	degF -3.9	31.4	degF -6.0	6th 53.3	21st 29.0	6th 48.4	20th 17.7	3.47	168	26th 0.93	9	72	180	25th 6.1
YEAR	48.6	-2.3	-2.0	42.1	-2.5	Aug. 30, 31 84.4	Jan. 7	Aug. 8	Jan. 7	25.47	106	May 13	186	1436	95	July 1, 5 14.8

KEW 1887

Month	TEMPERATURE										RAINFALL				UNSHINE				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day		
																		Date	Temp.
°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	°F	in		in		h		h		
JAN	35.5	-4.0	39.8	-3.9	31.3	-4.0	19th	1st	22.9	31st	42.4	2nd	14.9	4th	8	36	26th	6.8	
FEB	39.1	-0.8	44.8	+0.2	33.3	-1.8	5th	10th	34.7	4th	45.5	17th	20.7	18th	22	66	26th	7.7	
MAR	38.5	-5.3	44.3	-5.8	32.8	-4.7	27th	15th	33.2	27th	42.9	19th	23.8	14th	19	95	13th	9.3	
APR	44.4	-4.3	52.4	-3.4	36.4	-5.1	19th	5th	43.9	22nd	45.9	17th	27.4	1st	18	169	20th	12.4	
MAY	50.2	-4.2	57.1	-5.3	43.3	-3.1	8th	2nd	47.6	31st	49.2	1st	34.8	3rd	14	135	15th	13.5	
JUNE	60.3	-0.2	69.9	+1.4	50.8	-1.7	15th	2nd	55.0	16th	56.9	27th	44.1	3rd	25	240	13th	15.7	
JULY	65.3	+1.6	75.6	+4.4	54.9	-1.2	3rd	5th	67.3	9th	61.1	18th	45.3	25th	21	275	3rd	14.1	
AUG	61.9	-1.1	71.7	+1.1	52.1	-3.4	6th	20th	63.1	27th	59.9	15th	41.5	17th	22	238	17th	12.8	
SEPT	54.0	-4.5	60.7	-4.7	47.3	-4.4	5th	24th	54.2	2nd	56.2	29th	32.9	17th	14	119	8th	11.1	
OCT	45.2	-6.3	51.8	-5.7	38.6	-6.8	8th	25th	44.4	4th	49.8	26th	26.4	30th	18	107	12th	9.0	
NOV	40.7	-4.5	45.1	-4.8	36.4	-4.2	4th	16th	30.6	8th	47.1	16th	23.2	3rd	8	43	4th	6.1	
DEC	38.1	-3.4	42.2	-3.4	34.0	-3.4	9th	27th	32.2	2nd	44.4	27th	25.5	8th	17	43	5th	5.2	
YEAR	47.7	-3.2	54.6	-2.5	40.9	-3.7	July 3	Jan. 1	22.9	July 9	61.1	Jan. 2	14.9	Aug. 17	206	1566	103	June 13	15.7

KEW 1888

Month	TEMPERATURE										RAINFALL				SUNSHINE				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent average	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day	Date	Durn.
JAN	37.9	-1.6	41.8	-1.9	34.0	-1.3	8th	16th	43.2	30th	0.86	40	21st	18	39	85	23rd		6.0
FEB	35.7	-4.2	39.3	-5.3	32.0	-3.1	6th	24th	42.2	2nd	0.90	58	13th	20	30	47	1st		4.3
MAR	38.9	-4.9	44.0	-6.1	33.9	-3.6	10th	1st	47.6	2nd	3.06	209	14th	10	57	50	21st		9.1
APR	44.1	-4.6	50.7	-5.1	37.4	-4.1	15th	8th	46.8	6th	2.21	122	18th	15	104	65	30th		11.6
MAY	52.4	-2.0	61.1	-1.3	43.7	-2.7	19th	2nd	55.4	12th	1.13	62	17th	27	220	111	23rd		14.5
JUNE	58.0	-2.5	65.5	-3.0	50.5	-2.0	25th	17th	60.9	17th	2.35	137	27th	13	129	61	13th		13.9
JULY	58.3	-5.4	64.6	-6.6	52.0	-4.1	22nd	12th	56.9	11th	4.43	181	2nd	8	103	52	26th		11.0
AUG	58.7	-4.3	66.2	-4.4	51.1	-4.4	10th	1st	59.0	19th	2.97	133	28th	18	156	83	14th		12.9
SEPT	55.7	-2.8	62.8	-2.6	48.7	-3.0	15th	30th	57.9	30th	1.44	73	25th	18	123	87	11th		10.0
OCT	45.5	-6.0	53.6	-3.9	37.5	-7.9	27th	2nd	56.9	3rd	1.33	59	29th	23	108	110	1st		9.4
NOV	47.3	+2.1	51.2	+1.3	43.3	+2.7	16th	7th	52.2	28th	3.88	156	2nd	11	25	47	20th		6.3
DEC	40.3	-1.2	44.9	-0.7	35.6	-1.8	5th	10th	50.2	31st	1.39	67	28th	20	33	83	7th		5.9
YEAR	47.7	-3.2	53.8	-3.3	41.6	-3.0	June 25	Feb. 24	60.9	Feb. 2	25.96	108	Aug. 28	201	1129	75	May 23		14.5

KEW 1889

Month	TEMPERATURE							RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total of average	Wettest day Date Amount	No. of dry days
JAN	36.5	degF -3.0	41.0	degF -2.7	32.0	degF -3.3	31st 53.0	6th 29.5	26th 41.9	6th 19.7	0.91	9th 0.28	21
FEB	37.4	-2.5	42.5	-2.1	32.3	-2.8	1st 55.8	10th 33.0	1st 47.3	13th 14.9	2.07	14th 0.37	10
MAR	40.7	-3.1	47.3	-2.8	34.2	-3.3	24th 58.3	2nd 33.8	24th 44.0	4th 20.9	1.36	7th 0.39	18
APR	46.2	-2.5	52.6	-3.2	39.8	-1.7	18, 19 61.9	3rd 43.3	18th 48.2	16th 33.6	2.23	10th 0.57	10
MAY	56.5	+2.1	64.0	+1.6	48.9	+2.5	24th 77.9	12th 52.1	25th 54.2	1st 41.9	3.05	27th 1.45	17
JUNE	61.1	+0.6	69.5	+1.0	52.6	+0.1	6th 79.2	10th 53.7	30th 56.4	1st 45.8	1.28	10, 15 0.41	24
JULY	60.9	-2.8	68.4	-2.8	53.5	-2.6	6th 76.7	24th 62.1	13th 59.9	19, 24 47.0	3.05	12th 0.70	17
AUG	59.9	-3.1	67.8	-2.8	52.1	-3.4	1st 80.2	12th 60.6	3rd 59.6	23th 45.1	2.17	21st 0.31	13
SEPT	55.8	-2.7	63.5	-1.9	48.1	-3.6	11th 76.3	29th 52.2	3rd 60.0	17th 34.7	1.57	24th 0.99	22
OCT	48.3	-3.2	54.3	-3.2	42.4	-3.0	16th 59.1	22nd 49.5	16th 50.5	13th 32.0	3.90	20th 0.83	10
NOV	44.2	-1.0	49.3	-0.6	39.1	-1.5	15th 57.1	27th 35.7	17th 48.9	30th 29.3	0.81	3rd 0.24	22
DEC	37.2	-4.3	41.7	-3.9	32.7	-4.7	17th 52.0	29th 30.3	17th 47.6	29th 22.7	1.20	22nd 0.36	17
YEAR	48.7	-2.2	55.2	-1.9	42.3	-2.3	Aug. 1 80.2	Jan. 6 29.5	Sept. 3 60.0	Feb. 13 14.9	23.59	May 27 1.45	201
											1217	80	June 1 13.9

KEW 1890

Month	TEMPERATURE							RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total of average	Wettest day Date Amount	No. of dry days
JAN	43.5	+4.0	48.3	+4.6	38.6	+3.3	25th 54.1	1st 33.7	6th 49.3	1st 21.9	2.16	28th 0.48	11
FEB	38.2	-1.7	42.7	-1.9	33.7	-1.4	17th 49.8	9th 38.3	1st 43.8	11th 27.5	0.91	15th 0.81	21
MAR	43.1	-0.7	49.7	-0.4	36.4	-1.1	28th 64.2	3rd 31.9	27th 49.4	4th 18.3	1.53	20th 0.39	17
APR	45.9	-2.8	53.0	-2.8	38.7	-2.8	30th 62.7	10th 44.0	16th 46.1	5th 30.8	1.73	25th 0.55	15
MAY	53.7	-0.7	62.8	+0.4	44.7	-1.7	24th 73.4	9th 51.2	25th 51.2	3rd 37.9	1.41	9th 0.52	17
JUNE	58.3	-2.2	66.3	-2.2	50.4	-2.1	25th 75.7	4th 59.1	24th 58.1	1st 38.3	3.31	28th 0.97	15
JULY	59.7	-4.0	66.8	-4.4	52.5	-3.6	23rd 74.3	11th 58.4	31st 61.8	12th 44.0	4.53	17th 1.72	16
AUG	59.4	-3.6	66.8	-3.8	52.0	-3.5	5th 77.3	19th 58.7	10th 59.8	31st 40.5	1.95	20th 0.53	15
SEPT	59.3	+0.8	68.0	+2.6	50.5	-1.2	16th 73.1	29th 61.8	18th 56.2	1st 36.9	0.59	17th 0.17	22
OCT	49.3	-2.2	56.8	-0.7	41.7	-3.7	4th 66.2	28th 42.7	7th 53.2	28th 25.5	1.03	25th 0.35	16
NOV	42.8	-2.4	48.6	-1.3	37.0	-3.6	23rd 58.3	28th 25.5	19th 51.5	28, 30 21.5	1.53	6th 0.35	10
DEC	29.3	-12.2	33.4	-12.1	25.3	-12.2	4th 43.8	14th 21.5	4th 36.1	22nd 10.8	0.55	19th 0.23	24
YEAR	48.5	-2.4	55.3	-1.8	41.8	-2.8	Aug. 5 77.3	Dec. 14 21.5	July 31 61.8	Dec. 22 10.8	21.23	July 17 1.72	199
											1395	92	May 23 13.8

KEW 1891

Month	TEMPERATURE							RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total
	°F	degF	°F	degF	°F	°F	°F	°F	in	75	31st	in	h
JAN	34.0	-5.5	38.5	-5.2	51.4	11th	29th	15.3	1.61	6	Several	18	75
FEB	38.2	-1.7	44.4	-0.2	57.1	18.23	3rd	23.3	0.09	6	8th	23	61
MAR	40.7	-3.1	46.3	-3.8	55.9	10th	25th	23.9	1.32	90	8th	14	100
APR	44.4	-4.3	51.6	-4.2	62.4	9th	30th	27.0	0.99	55	4th	23	118
MAY	50.3	-4.1	58.1	-4.3	75.9	18th	13th	32.2	2.53	140	18th	13	164
JUNE	59.9	-0.6	68.1	-0.4	75.9	7th	25th	42.3	1.59	92	22nd	20	200
JULY	59.7	-4.0	67.8	-3.4	78.8	29th	60.1	45.7	2.95	121	19th	14	181
AUG	58.7	-4.3	65.6	-5.0	73.6	27th	14th	42.5	4.03	180	27th	9	144
SEPT	58.1	-0.4	66.3	+0.9	78.5	21st	19th	30.9	5.93	52	19th	12	155
OCT	50.6	-0.9	57.1	-0.4	64.3	31st	26th	27.9	1.92	77	22nd	9	112
NOV	42.7	-2.5	47.7	-2.2	55.8	24th	19th	18.5	2.91	141	11th	10	42
DEC	40.5	-1.0	45.7	+0.1	56.3	22nd	5th	13.3			2nd		42
YEAR	48.1	-2.8	54.8	-2.3	78.8	Dec. 22	June 25	11	26.89	112	Oct. 22	177	1395
				-3.1	July 17	Dec. 22	June 25	Jan. 11			1.03		July 2

KEW 1892

Month	TEMPERATURE							RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total
	°F	degF	°F	degF	°F	°F	°F	°F	in	21	31st	in	h
JAN	36.9	-2.6	41.1	-2.6	51.9	10th	29th	23.8	0.45	21	31st	18	34
FEB	39.1	-0.8	43.9	-0.7	52.9	16th	8th	19.2	1.39	90	24th	13	49
MAR	37.7	-6.1	43.5	-6.6	59.2	16th	17th	22.2	1.05	72	15th	18	94
APR	46.7	-2.0	56.5	+0.7	68.7	13th	24th	27.9	1.07	59	27th	24	217
MAY	54.5	+0.1	63.9	+1.5	79.3	3rd	27th	31.2	1.47	81	26th	20	210
JUNE	57.7	-2.8	66.4	-2.1	80.7	14th	27th	38.2	2.79	162	29th	18	236
JULY	59.9	-3.8	67.4	-3.8	80.7	14th	24th	46.7	2.07	85	5th	21	196
AUG	61.4	-1.6	69.4	-1.2	77.0	9, 10	4th	43.8	3.28	146	28th	17	199
SEPT	55.9	-2.6	63.4	-2.0	70.9	30th	12th	33.9	3.04	154	21st	15	140
OCT	45.6	-5.9	51.6	-5.9	58.9	25th	28th	28.3	3.77	167	31st	7	94
NOV	44.7	-0.5	49.7	-0.2	60.1	30th	14th	30.0	2.71	109	16th	13	41
DEC	36.5	-5.0	40.9	-4.7	54.0	28th	17th	17.9	1.17	57	1st	19	34
YEAR	48.1	-2.8	54.8	-2.3	80.7	Dec. 28	Aug. 24	27	24.26	101	Aug. 28	203	1544
				-3.3	May 31	Dec. 28	Aug. 24	Dec. 27			1.33		June 9

Kew 1893

Month	TEMPERATURE					RAINFALL			SUNSHINE														
	Mean °F	Diff. from max.	Mean min.	Diff. from average	Highest from maximum Date	Highest maximum Temp.	Lowest maximum Temp.	Highest minimum Date	Lowest minimum Date	°F	Total Average	Per cent of average	Wettest day Date	No. of dry days	Total	Per cent of Average	Summit day Date	Durn.					
JAN	35.7	degF -5.8	39.6	degF -4.1	31.9	degF -3.4	31st	degF 56.3	23.9	4th	degF 52.2	4th	degF 52.2	4th	23.9	5th	13.1						
FEB	41.7	degF -1.8	46.8	degF -2.2	36.7	degF -1.6	19th	degF 56.2	35.3	23rd	degF 56.3	19th	degF 46.9	6th	23.0	6th	23.0						
MAR	45.7	degF +1.9	55.2	degF +5.1	36.3	degF -1.2	29th	degF 60.9	42.8	18th	degF 64.9	15th	degF 46.7	19th	26.9	10th	10.4						
APR	51.7	degF +3.0	62.4	degF +6.6	40.9	degF -0.6	20th	degF 80.3	47.8	12th	degF 80.3	22nd	degF 48.0	14th	30.8	26th	12.5						
MAY	57.0	degF +2.6	66.8	degF +4.4	47.2	degF +0.8	15th	degF 86.1	56.2	30th	degF 86.1	16th	degF 53.0	31st	39.9	10th	13.8						
JUNE	61.1	degF +0.6	71.1	degF +2.6	51.1	degF -1.4	19th	degF 86.2	61.6	24th	degF 86.2	27th	degF 57.8	1st	38.9	16	18						
JULY	63.7	degF 0.0	72.0	degF +0.8	55.5	degF -0.6	7th	degF 85.6	63.2	20th	degF 85.6	1st	degF 51.8	15th	48.1	13.5							
AUG	65.3	degF +2.3	74.4	degF +3.8	56.1	degF -0.6	17th	degF 88.6	67th	62.7	degF 88.6	18th	degF 65.9	29th	43.6	19	18						
SEPT	57.1	degF -1.4	65.3	degF -0.1	49.0	degF -2.7	6th	degF 77.2	52.0	23rd	degF 77.2	31st	degF 58.0	24th	38.7	12th	10.1						
OCT	51.3	degF -0.2	57.8	degF -0.3	44.9	degF -0.5	16th	degF 65.3	43.3	15th	degF 58.4	15th	degF 58.4	31st	30.3	3rd	9.7						
NOV	42.0	degF -3.2	47.1	degF -2.8	36.9	degF -3.7	3rd	degF 59.6	38.3	29th	degF 46.7	1st	degF 28.9	1st	28.9	7th	6.2						
DEC	39.5	degF -2.0	45.3	degF -0.3	33.7	degF -3.7	13th	degF 55.8	32.9	19th	degF 41.9	3rd	degF 20.8	3rd	20.8	137	2nd	6.1					
YEAR	51.1	+0.2	58.7	+1.6	43.4	-1.2	Aug. 17	88.6	23.9	Jan. 4	Aug. 18	65.9	5	13.1	19.49	81	Oct. 9	0.89	207	1685	111	June 16, 18	13.9

Kew 1894

Month	TEMPERATURE.					RAINFALL			SUNSHINE							
	Mean	Diff. from average	Mean min.	Diff. from max.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total average	Per cent of average	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day
	°F	deg F	°F	deg F	deg F	°F	°F	°F	°F	in		Date	Amount	h		Date
JAN	38.5	-1.0	42.8	-0.9	34.2	11th	51.3	22.2	14.0	2.93	137	9th	0.39	54	117	26th
FEB	41.9	+2.0	47.3	+2.7	36.4	7th	53.0	36.9	23.0	1.57	101	17th	0.51	74	116	12th
MAR	44.5	+0.7	52.3	+2.2	36.7	31st	63.0	22nd	21st	1.21	83	15th	0.21	160	141	31st
APR	50.9	+2.2	59.3	+3.5	42.6	8th	70.2	49.1	29.5	1.47	81	25th	0.41	146	91	10th
MAY	50.1	+4.3	57.7	+7.4	42.6	16th	66.1	48.7	33.8	1.57	87	10th	0.38	175	88	24th
JUNE	58.6	-1.9	66.0	-2.5	51.2	30th	78.6	56.0	48.1	2.20	128	4th	0.58	164	77	14.3
JULY	62.3	-1.4	69.9	-1.3	54.8	6th	83.4	61.2	48.7	2.20	128	29th	1.33	178	90	1st
AUG	64.5	-2.7	66.4	-4.2	54.1	14th	75.7	59.2	45.5	2.52	113	23rd	0.63	149	79	20th
SEPT	54.5	-4.0	60.5	-4.9	48.4	1st	67.6	52.6	36.0	2.32	113	25th	0.40	99	70	11th
OCT	50.1	-1.4	55.1	-2.4	45.2	11th	61.7	40.1	32.9	3.80	173	30th	1.26	51	52	29th
NOV	46.2	+1.0	51.4	+1.5	41.0	1st	61.9	43.0	30.5	2.93	120	12th	0.65	74	140	18th
DEC	41.7	+0.2	46.1	+0.5	37.3	14th	51.6	35.7	28.5	1.99	97	14th	0.89	44	110	15th
YEAR	49.9	-1.0	56.2	-0.9	43.7	July 6	83.4	Jan. 5	Jan. 5	28.07	117	July 29	1.33	1368	90	June 30

KEW 1895

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		in		h		h
JAN	33.7	-5.8	37.8	-5.9	29.7	-5.6	20th 51.8	11th 29.1	20th 40.6	29th 20.6	1.43	67	19th 0.41	16	51	111	18th 5.6
FEB	29.1	-10.8	34.5	-10.1	23.8	-11.3	28th 44.9	9th 23.1	22nd 35.8	7th 10.8	0.13	8	2nd 0.05	25	38	59	7th 5.1
MAR	43.3	-0.5	50.1	0.0	36.6	-0.9	22nd 62.0	2nd 37.8	20th 45.7	3rd 26.1	1.23	84	27th 0.49	14	115	102	22nd 10.6
APR	48.7	0.0	55.8	0.0	41.6	+0.1	20th 64.1	4th 44.4	21st 51.2	1st 29.7	1.63	90	25th 0.47	19	128	80	11th 11.8
MAY	55.3	+0.9	64.9	+2.5	45.8	-0.6	30th 83.7	17th 47.1	31st 57.5	2nd 36.8	0.33	18	23rd 0.09	22	245	123	13th 13.8
JUNE	60.6	+0.1	70.7	+2.2	50.5	-2.0	26th 80.6	12th 61.2	22nd 58.6	4th 41.8	0.33	19	19th 0.15	24	238	112	15, 25 14.3
JULY	62.5	-1.2	70.6	-0.6	54.3	-1.8	17th 80.4	28th 59.1	25th 61.3	7th 48.9	4.50	184	21st 1.11	18	191	96	8th 14.3
AUG	61.9	-1.1	69.7	-0.9	54.1	-1.4	22nd 77.7	4th 63.1	22nd 61.3	25th 46.4	2.87	128	22nd 1.22	18	226	120	21st 13.1
SEPT	61.3	+2.8	71.4	+6.0	51.2	-0.5	24th 80.2	19th 60.0	7th 61.0	22nd 38.6	1.53	77	7th 1.39	22	214	151	1st 11.7
OCT	45.7	-5.8	52.9	-4.6	38.6	-6.8	1st 70.9	26th 39.0	1st 53.0	25.1	2.99	133	6th 0.33	15	78	80	17, 25 7.4
NOV	47.0	+1.8	52.3	+2.4	41.7	+1.1	16th 61.6	26th 42.0	6th 52.6	18th 29.9	3.42	137	28th 0.69	12	47	87	13th 6.7
DEC	40.1	-1.4	44.5	-1.1	35.6	-1.8	5th 56.2	21st 35.9	5th 49.3	11th 26.1	1.97	96	12th 0.35	12	31	77	7th 5.5
YEAR	49.1	-1.8	56.3	-0.8	42.0	-2.6	May 83.7	Feb. 9	July 25	Feb. 7	22.37	93	Sept. 7	217	1601	106	June 14.3 15, 25 July 8

KEW 1896

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Diff. degF	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	°F	°F	°F	°F	in		Date	Amount	h		Date
JAN	40.6	+1.1	44.6	+0.9	36.6	+1.3	15th 52.3	26th 44.9	20th 27.2	0.59	27	25th 0.25	23	30	65	29th 5.7
FEB	40.3	+0.4	45.4	+0.8	35.1	0.0	12th 55.5	20th 47.6	26th 22.8	0.27	17	20th 0.09	22	60	94	12th 7.8
MAR	46.3	+2.5	52.4	+2.3	40.2	+2.7	24th 67.4	8th 51.0	15th 32.6	2.88	197	18th 0.89	9	88	78	31st 9.3
APR	48.7	0.0	56.4	+0.6	41.1	-0.4	27th 65.0	8th 48.9	24th 33.1	0.58	32	14th 0.15	21	148	93	28th 11.3
MAY	54.0	-0.4	63.2	+0.8	44.8	-1.6	12th 75.5	18th 56.5	2nd 35.1	0.19	10	22nd 0.17	28	234	117	28th 13.9
JUNE	62.7	+2.2	72.3	+3.8	53.1	+0.6	15th 82.5	9th 61.2	1st 45.3	1.63	95	10th 0.59	21	232	109	1st 14.8
JULY	64.3	+3.6	74.4	+3.2	54.2	-1.9	14th 84.3	24th 60.4	27th 45.6	1.58	71	9th 0.33	20	141	75	20th 11.2
AUG	59.5	-3.5	67.2	-3.4	51.8	-0.1	12th 73.7	4th 58.6	21st 40.0	5.36	271	13th 1.01	9	95	67	19th 10.0
SEPT	57.1	-1.4	62.7	-2.7	51.6	-0.1	8.9 68.2	3rd 54.6	28th 27.1	2.39	106	6th 0.56	14	95	97	5th 8.8
OCT	46.2	-5.3	52.2	-5.3	40.2	-5.2	8th 61.7	43.1	7th 25.6	1.09	44	14th 0.39	22	64	121	9th 6.6
NOV	40.1	-5.1	45.1	-4.8	35.2	-5.4	12th 49.8	17th 38.5	25th 3.1	3.11	151	2nd 0.45	10	27	67	25th 5.6
DEC	39.5	-2.0	43.7	-1.9	35.4	-2.0	27th 51.8	31st 44.4	24th 26.2							
YEAR	49.9	-1.0	56.6	-0.5	43.3	-1.3	July 84.3	July 61.2	Feb. 22.8	20.97	87	Sept. 13	217	1441	95	July 5

KEW 1897

TEMPERATURE										RAINFALL				SUNSHINE			
Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		in		h		h
JAN	35.9	-3.6	39.3	-4.4	32.5	-2.8	48.2	23rd	31.0	18th	1.74	81	8th	13	35	76	26th
FEB	43.6	+3.7	47.7	+3.1	39.5	+4.4	26th	2nd	37.6	18th	2.35	152	5th	16	41	64	18th
MAR	45.2	+1.4	51.2	+1.1	39.2	+1.7	23rd	7th	43.1	9th	3.58	245	2nd	12	118	104	19th
APR	46.3	-2.4	53.1	-2.7	39.6	-1.9	27th	1st	43.2	11th	1.39	77	7th	15	137	86	15th
MAY	51.7	-2.7	60.6	-1.8	42.8	-3.6	18th	12th	48.2	13th	0.95	52	30th	22	253	127	22nd
JUNE	61.1	+0.6	69.6	+1.1	52.7	+0.2	24th	9th	54.0	10th	2.73	159	9th	19	183	86	12th
JULY	63.8	+0.1	72.6	+1.4	55.0	-1.1	24th	2nd	63.6	8th	0.93	38	19th	25	254	128	15th
AUG	63.1	+0.1	71.5	+0.9	54.8	-0.7	4th	23rd	63.8	13th	2.63	117	31st	16	214	114	4th
SEPT	55.1	-3.4	62.0	-3.4	48.2	-3.5	29th	18th	53.4	19th	1.95	98	1st	14	123	87	3rd
OCT	50.5	-1.0	57.4	-0.1	43.6	-1.8	17th	13th	50.9	17th	0.57	25	26th	19	98	100	8th
NOV	44.9	-0.3	50.1	+0.2	39.8	-0.8	13th	11th	42.2	26th	0.90	36	27th	21	22	41	29th
DEC	40.3	-1.2	45.1	-0.5	35.6	-1.8	16th	25th	29.6	25, 26	2.14	104	12th	12	43	107	1, 15
YEAR	50.1	-0.8	56.7	-0.4	43.6	-1.0	Aug. 4	Dec. 25	29.6	Aug. 5	21.87	91	Aug. 31	204	1520	100	June 12

KEW 1898

TEMPERATURE										RAINFALL				SUNSHINE			
Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		in		h		h
JAN	43.0	+3.5	47.1	+3.4	38.9	+3.6	31st	17th	36.6	8th	0.85	40	5th	21	26	57	7th
FEB	41.3	+1.4	46.7	+2.1	36.0	+0.9	1st	5, 19	49.0	21st	1.33	86	18th	13	69	108	26th
MAR	40.3	-3.5	46.5	-3.6	34.0	-3.5	18th	25th	36.1	30th	1.17	80	3rd	19	90	80	15th
APR	47.7	-1.0	56.1	+0.3	39.3	-2.2	8th	22nd	47.9	6th	1.03	57	28th	19	143	89	8, 16
MAY	52.2	-2.2	59.0	-3.4	45.4	-1.0	23rd	19th	50.5	13th	2.45	135	19th	8	142	71	7th
JUNE	57.9	-2.6	65.4	-3.1	50.3	-2.2	21st	14th	55.0	1st	1.39	81	26th	19	166	78	11th
JULY	64.1	-2.0	70.4	-0.8	53.0	-3.1	15th	29th	58.4	11th	0.67	27	28th	25	211	107	24th
AUG	61.7	+1.1	72.9	+2.3	55.2	+0.3	22nd	7th	53.3	8th	1.11	49	7th	22	203	108	12th
SEPT	61.0	+2.5	71.8	+6.4	50.2	-1.5	8th	30th	57.5	29th	0.42	21	30th	24	209	147	28th
OCT	53.5	+2.0	58.9	+1.4	48.1	+2.7	3rd	13th	49.1	13th	3.34	148	18th	16	63	64	23rd
NOV	45.3	+0.1	50.6	+0.7	40.0	-0.6	3rd	22nd	39.8	22nd	2.06	83	21st	14	57	107	1st
DEC	45.2	+3.7	49.9	+4.3	40.5	+3.1	4th	20th	40.2	31st	2.41	117	7th	21	50	125	30th
YEAR	51.1	+0.2	57.9	+0.8	44.2	-0.4	Sept. 8	Mar. 25	36.1	Feb. 21	18.22	76	Dec. 7	221	1430	94	July 24

KEW 1899

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent average	Wettest day	No. of dry days	Total	Per cent Average	Sunniest day
	°F	degF	°F	degF	degF	°F	°F	°F	°F	in		in		h		h
JAN	42.6	+3.1	47.3	+3.7	+2.6	55.4	38.3	21st	6th	28.8	2.39	112	13th	0.42	65	141
FEB	41.9	+2.0	47.6	+3.0	+1.1	62.3	27th	10th	28th	21.9	2.02	130	6th	0.36	77	120
MAR	40.2	-3.6	48.1	-2.0	-5.2	59.8	21st	29th	21st	22.5	0.56	38	31st	0.13	114	101
APR	47.7	-1.0	54.2	-1.6	-0.3	63.8	16th	29th	18th	32.2	2.37	131	21st	0.42	125	78
MAY	51.6	-2.8	59.9	-2.5	-3.1	71.3	26th	20th	4th	34.8	1.47	81	15th	0.33	211	106
JUNE	60.9	+0.4	70.7	+2.2	-1.5	80.6	13th	26th	14, 15	42.6	1.35	78	28th	0.52	244	115
JULY	66.2	+2.5	75.4	+4.2	+0.9	86.4	2nd	22nd	5th	50.4	0.87	36	1st	0.33	260	131
AUG	66.1	+3.1	75.8	+5.2	+0.9	87.3	29th	6th	22nd	48.2	0.45	20	29th	0.19	256	136
SEPT	57.9	-0.6	66.1	+0.7	-1.9	84.2	30th	6th	29th	35.2	2.11	107	29th	0.89	171	120
OCT	49.1	-2.4	56.6	-0.9	-3.9	62.2	21st	27th	14th	31.0	2.03	90	27th	0.67	99	101
NOV	46.9	+1.7	52.5	+2.6	+0.8	60.8	30th	2nd	30th	27.8	3.98	160	5th	0.77	49	92
DEC	36.7	-4.8	41.1	-4.5	-5.0	54.0	15th	6th	14th	21.3	1.25	61	1st	0.26	38	95
YEAR	50.7	-0.2	57.9	+0.8	-1.2	87.3	Dec. 15	July 22	Dec. 14	21.3	20.85	87	Sept. 29	0.89	1708	113
						Aug. 15										June 15
																14.9

KEW 1900

Month	TEMPERATURE										RAINFALL			SUNSHINE										
	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent average	Wettest day	No. of dry days	Total	Per cent Average	Sunniest day								
	°F	degF	°F	degF	°F	°F	°F	°F	°F	in		in		h		h								
JAN	40.1	+0.6	44.9	+1.2	35.4	+0.1	24th	53.0	14th	36.8	23rd	46.6	14th	27.9	2.93	137	7th	0.55	10	44	96	18th	h	6.2
FEB	38.3	-1.6	43.2	-1.4	33.4	-1.7	26th	56.7	9th	32.1	24th	49.2	9th	19.0	3.17	205	15th	0.49	10	53	83	21st	8.4	
MAR	39.9	-3.9	45.1	-5.0	34.6	-2.9	12th	56.0	6th	39.7	15th	42.1	18th	24.9	0.93	64	19th	0.27	22	72	64	20th	9.3	
APR	47.5	-1.2	55.7	-0.1	39.2	-2.3	21st	73.4	1st	42.3	30th	49.0	2nd	27.9	0.93	51	3rd	0.33	23	166	104	18th	12.1	
MAY	51.9	-2.5	59.6	-2.8	44.2	-2.2	6th	69.3	13th	48.7	5th	50.4	16, 20	37.2	0.99	55	22nd	0.27	21	167	84	15th	11.6	
JUNE	60.2	-0.3	68.3	-0.2	52.1	-0.4	11th	86.5	1st	52.7	11th	59.1	5th	46.1	2.10	122	25th	0.49	17	173	81	10th	15.0	
JULY	67.2	+3.5	76.9	+5.7	57.5	+1.4	16, 19, 20	89.4	7th	62.0	23rd	67.4	8th	45.2	1.25	51	27th	0.51	26	290	146	11th	15.3	
AUG	61.4	-1.6	69.0	-1.6	53.8	-1.7	18th	81.3	9th	60.2	17th	60.3	31st	46.3	2.65	118	23rd	0.52	16	181	96	13th	13.4	
SEPT	58.3	-0.2	67.3	+1.9	49.2	-2.5	16th	79.4	3rd	49.2	1st	52.9	1st	41.9	1.04	53	1st	0.39	23	172	121	11th	11.0	
OCT	50.5	-1.0	57.2	-0.3	43.9	-1.5	8th	70.1	14th	49.1	6th	52.9	16th	36.6	1.61	71	30th	0.56	17	129	132	8th	9.6	
NOV	46.2	+1.0	50.7	+0.8	41.7	+1.1	1st	59.9	19th	44.8	1st	53.1	11th	27.3	1.71	69	7, 25	0.28	14	46	87	10th	7.2	
DEC	45.3	+3.8	49.8	+4.2	40.7	+3.3	5th	56.1	23rd	36.9	12th	51.0	24th	31.0	2.55	124	5th	0.59	12	37	93	21st	6.4	
YEAR	50.5	-0.4	57.3	+0.2	43.8	-0.8	July 16, 19, 20	89.4	Feb. 9	32.1	July 23	67.4	Feb. 9	19.0	21.87	91	Dec. 5	0.59	211	1530	101	July 11	15.3	

KEW 1903

Month	TEMPERATURE										RAINFALL		SUNSHINE	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Total	Per cent of average
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		h	
JAN	40.7	+1.2	44.6	+0.9	36.9	+1.6	53.6	16th	6th	25.0	2.19	102	52	113
FEB	44.9	+5.0	50.2	+5.6	39.7	+4.6	57.3	2nd	8th	25.4	0.99	64	75	117
MAR	45.8	+2.0	52.6	+2.5	39.0	+1.5	65.3	10th	22nd	28.2	2.35	161	128	113
APR	44.7	-4.0	51.7	-4.1	37.8	-3.7	59.8	16th	29th	16,19,20	1.76	97	135	84
MAY	53.9	-0.5	61.9	-0.5	45.9	-0.5	75.6	11th	31st	34.9	3.35	185	162	81
JUNE	55.7	-4.8	63.3	-5.2	48.2	-4.3	80.8	19th	28th	39.6	7.21	419	184	86
JULY	61.6	-2.1	69.4	-1.8	53.8	-2.3	83.3	20th	9th	46.3	4.27	175	190	96
AUG	59.9	-3.1	67.3	-3.3	52.5	-3.0	76.3	25th	31st	45.0	3.93	175	193	103
SEPT	57.3	-1.2	64.7	-0.7	50.0	-1.7	79.0	15th	23rd	37.0	3.23	163	161	113
OCT	52.7	+1.2	57.9	+0.4	47.5	+2.1	65.1	8th	24th	29.0	5.49	244	84	86
NOV	44.5	-0.7	50.0	+0.1	39.0	-1.6	55.4	30th	11th	29.0	1.79	72	47	89
DEC	39.0	-2.5	42.5	-3.1	35.5	-1.9	52.3	31st	22nd	25.9	1.61	78	18	45
YEAR	50.1	-0.8	56.3	-0.8	43.8	-0.8	83.3	Dec. 31	July 9	25.0	38.17	159	1428	94

KEW 1904

Month	TEMPERATURE										RAINFALL		SUNSHINE	
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Total	Per cent of average
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		h	
JAN	39.5	0.0	44.1	+0.4	34.9	-0.4	54.8	24th	27th	25.9	2.37	111	27	59
FEB	39.9	0.0	44.2	-0.4	35.7	+0.6	53.1	29th	21st	29.0	2.24	145	55	86
MAR	40.8	-3.0	46.8	-3.3	34.8	-2.7	58.0	1st	20th	27.0	1.28	88	77	68
APR	49.1	+0.4	56.6	+0.8	41.7	+0.2	66.6	21st	13th	36.2	0.94	52	167	104
MAY	53.7	-0.7	60.8	-1.6	46.5	+0.1	73.6	8th	27th	36.0	2.65	146	147	74
JUNE	58.3	-2.2	66.6	-1.9	49.9	-2.6	78.1	2nd	15, 16	44.5	1.10	64	204	96
JULY	65.7	+2.0	74.7	+3.5	56.7	+0.6	84.3	2nd	30th	50.9	2.03	83	264	133
AUG	61.9	-1.1	70.7	-2.4	53.1	-4.0	86.4	24th	4th	43.9	1.66	74	238	127
SEPT	55.3	-3.2	62.9	-2.5	47.7	-4.0	71.9	22nd	5th	38.0	1.69	85	159	112
OCT	50.7	-0.8	56.9	-0.6	44.4	-1.0	65.9	31st	21st	32.3	1.63	72	68	69
NOV	42.1	-3.1	47.3	-2.6	36.9	-3.7	59.6	26th	9th	24.1	1.74	70	51	96
DEC	40.4	-1.1	44.9	-0.7	35.9	-1.5	55.0	22nd	17th	26.6	1.86	90	29	73
YEAR	49.8	-1.1	56.4	-0.7	43.2	-1.4	86.4	Dec. 22	Aug. 4	24.1	21.19	88	1488	98

KIEW 1905

Month	TEMPERATURE						RAINFALL				SUNSHINE					
	Mean	Diff. from average	Max.	Mean min.	Diff. from average	Highest from maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent average	Westest day	No. of dry days	Total	Per cent Average	Sunniest day
	°F	deg F	°F	°F	deg F	°F	°F	°F	°F	in		Date	Amount	in		Date
JAN	38.5	-1.0	43.8	33.2	-2.1	6th	54.6	35.3	19th	1.08	50	17th	0.55	72	157	29th
FEB	42.7	-2.8	46.9	38.4	+3.3	5th	53.0	37.1	20th	0.67	43	26th	0.27	75	117	22nd
MAR	45.2	-1.4	51.5	38.9	+1.4	22nd	60.9	29th	4th	3.18	218	15th	0.71	107	95	26th
APR	47.5	-1.2	53.9	41.0	-0.5	13th	63.1	44.6	9th	3.53	85	10th	0.43	101	63	15th
MAY	53.1	-1.3	62.0	44.2	-2.2	29th	79.0	50.5	23rd	4.75	41	2nd	0.21	252	127	17th
JUNE	60.4	-0.1	67.7	53.1	-0.8	27th	77.5	52.3	7th	4.06	236	5th	1.16	156	73	23rd
JULY	66.3	+2.6	74.8	57.9	+1.8	8th	81.5	67.7	15th	1.69	69	1st	0.93	240	121	7th
AUG	60.9	-2.1	68.5	53.3	-2.2	14th	74.1	59.2	4th	1.69	125	29th	0.73	167	109	19th
SEPT	56.3	-2.2	62.5	50.0	-1.7	3rd	72.2	55.3	13th	2.80	93	9th	0.38	172	79	18th
OCT	45.3	-6.2	51.9	38.6	-6.8	9th	58.8	41.0	26th	1.75	88	30th	0.58	103	105	16th
NOV	41.3	-3.9	46.9	35.7	-4.9	26th	54.5	36.7	10th	3.10	124	11th	0.57	57	107	27th
DEC	40.7	-0.8	44.7	36.7	-0.7	7th	56.9	32.6	10th	0.74	36	8th	0.26	21	53	19th
YEAR	49.9	-1.0	56.3	43.4	-1.2	July 8	81.5	32.6	Nov. 22	22.57	94	June 5	1.16	1463	97	July 7

KIEW 1906

Month	TEMPERATURE					RAINFALL				SUNSHINE							
	Mean	Diff. from average	max.	Diff. from average	min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent average	Wettest day	No. of dry days	Total	Per cent average	Sunniest day
	°F	deg F	°F	deg F	°F	deg F	°F	°F	°F	°F	in		Date	Amount	h		Date
JAN	42.6	+5.1	47.1	+3.4	38.1	+2.8	26th	23rd	5th	23rd	3.36	157	16th	0.41	65	141	10th
FEB	36.1	-0.8	44.0	-0.6	34.3	-1.3	16th	13th	1st	22nd	1.69	109	17th	0.61	89	139	20, 21
MAR	42.1	-1.7	47.9	-2.5	36.2	-1.3	17th	6th	16th	23rd	1.03	74	10th	0.29	110	97	17th
APR	46.3	-2.4	55.7	-0.1	36.8	-4.7	12th	45-6	13th	20th	0.44	24	28th	0.22	110	137	27th
MAY	53.3	-1.1	60.7	-1.7	45.9	-0.5	8th	73-3	12th	30-6	1.80	99	8th	0.78	152	76	29th
JUNE	59.3	-1.2	68.6	+0.1	49.9	-2.6	23rd	18th	49-6	5th	2.84	165	29th	2.27	247	116	26th
JULY	63.9	-1.2	73.0	+1.8	54.7	-1.4	18th	80-8	14th	41-2	1.03	42	27th	0.79	249	126	5th
AUG	68.2	+2.2	74.6	+4.0	55.8	+0.3	31st	90-9	22nd	46-0	0.77	34	25th	0.20	238	127	13-6
SEPT	59.1	+0.6	67.9	+2.5	50.3	-1.4	9th	16th	60-4	29th	1.75	88	5th	0.56	167	118	1st
OCT	53.9	+2.4	60.1	+2.6	47.8	+2.4	11th	69-3	2nd	58-5	3.18	141	30th	0.82	101	103	14th
NOV	45.9	+0.7	51.0	+1.1	40.8	+0.2	22nd	59-0	13th	29-4	3.88	156	8th	1.03	39	73	5th
DEC	37.9	-3.6	42.6	-3.0	33.3	-4.1	3rd	55-0	3, 4	47-2	1.85	90	16th	0.46	47	117	1, 10
YEAR	50.7	-0.2	57.8	+0.7	43.7	-0.9	Sept.	91-8	Dec.	26	23.62	99	June	2.27	1723	114	June
							30-8	23	63-8	26			29				14-5

KEW 1907

Month	TEMPERATURE							RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total	Per cent of average	No. of dry days
JAN	38.9	-0.6	43.1	-0.6	34.8	-0.5	50.9	24th	29.0	27th	0.68	32	20
FEB	38.1	-1.8	42.9	-1.7	33.4	-1.7	51.3	3rd	33.7	23rd	1.15	74	17
MAR	44.0	+0.2	52.8	+2.7	35.2	-2.3	66.4	11th	43.6	12th	0.89	61	18
APR	47.2	-1.5	54.3	+1.5	40.1	-1.4	69.8	18th	46.0	18th	3.14	173	14
MAY	53.3	-1.1	60.5	-1.9	46.0	-0.4	76.0	20th	49.8	20th	1.68	93	13
JUNE	57.3	-3.2	64.0	-4.5	50.6	-1.9	76.0	3rd	55.2	17th	2.81	163	14
JULY	59.5	-4.2	67.1	-4.1	52.0	-4.1	76.3	3rd	58.7	11th	1.80	74	16
AUG	60.5	-2.5	68.0	-2.6	53.1	-2.4	74.9	20th	60.6	2nd	0.53	27	22
SEPT	58.3	-0.2	66.9	+1.5	49.8	-1.9	77.7	1st	58.3	23rd	0.53	27	22
OCT	50.7	-0.8	57.5	0.0	44.0	-1.4	65.1	27th	49.1	26th	3.65	162	6
NOV	45.1	-0.1	50.6	+0.7	39.7	-0.9	59.6	11th	42.5	21st	2.08	83	11
DEC	42.3	+0.8	46.5	+0.9	38.1	+0.7	56.6	30th	35.5	16th	3.61	175	15
YEAR	49.7	-1.2	56.2	-0.9	43.1	-1.5	77.7	Jan. 24	29.0	Jan. 27	23.81	99	183
							Sept. 25	Jan. 24	Aug. 9	Dec. 30	1463	97	14.5

KEW 1908

Month	TEMPERATURE							RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total	Per cent of average	No. of dry days
JAN	36.9	-2.6	41.7	-2.0	32.0	-3.3	53.9	5th	29.6	5th	1.82	85	23
FEB	42.5	+2.6	47.8	+3.2	37.1	+2.0	53.5	29th	41.0	2nd	1.20	77	16
MAR	41.1	-2.7	46.6	-3.5	35.5	-2.0	56.6	15th	37.9	15th	2.41	165	14
APR	44.5	-4.2	50.9	-4.9	38.0	-3.5	62.4	24th	42.3	9th	2.31	128	14
MAY	56.5	+2.1	64.2	+1.8	48.8	+2.4	76.0	14th	54.7	23rd	1.33	73	17
JUNE	60.2	-0.3	69.3	+0.8	51.1	-1.4	79.3	6th	56.9	7th	1.95	113	23
JULY	63.1	-0.6	71.0	-0.2	55.1	-1.0	81.2	13th	61.3	20th	2.44	100	20
AUG	60.3	-2.7	67.8	-2.8	52.9	-2.6	79.7	23rd	56.7	12th	2.43	108	17
SEPT	56.1	-2.4	64.1	-1.3	48.1	-3.6	76.0	4th	54.4	13th	1.41	71	17
OCT	46.3	+2.8	61.6	+4.1	47.1	+1.7	78.2	24th	46.2	9th	2.17	96	13
NOV	44.5	+1.3	51.9	+2.0	41.2	+0.6	58.3	10th	44.3	10th	0.68	27	21
DEC	40.2	-1.3	44.1	-1.5	36.3	-1.1	52.6	30th	26.0	30th	2.08	101	16
YEAR	50.1	-0.8	56.7	-0.4	43.6	-1.0	81.2	Dec. 30	26.0	Dec. 30	22.23	93	211
							July 3	Dec. 30	June 1	Jan. 30	1544	102	14.2

KEW 1909

Month	TEMPERATURE										RAINFALL			SUNSHINE											
	Mean	Diff. from average	Mean max.	Diff. from max.	Mean min.	Diff. from min.	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest Date	Durn.							
	°F	degF	°F	degF	°F	degF	°F	°F	Date	Temp.	°F	Date	Temp.	°F	in	35	10th	in	20	h	46	100	15th	h	6.6
JAN	38.5	-1.0	42.5	-1.2	34.5	-0.8	50.6	28th	28.9	18th	45.1	29th	23.9	23.9	0.74	0.74	0.24	0.24	20	20	83	130	21st	9.2	9.2
FEB	37.7	-2.2	43.6	-1.0	31.9	-3.2	4th	55.2	28th	34.6	4th	50.4	23rd	22.7	0.31	0.31	10th	0.08	20	20	83	130	21st	9.2	9.2
MAR	40.0	-3.8	44.7	-5.4	35.3	-3.2	29th	58.4	3rd	32.5	30th	47.5	5th	17.0	2.73	187	6th	0.54	10	67	59	8th	9.8	9.8	
APR	49.3	+0.6	58.3	+2.5	40.2	+1.3	9th	68.0	2nd	46.1	24th	48.3	2nd	30.0	1.76	187	27th	0.44	16	239	149	25th	13.3	13.3	
MAY	53.2	+1.2	62.8	+0.4	43.6	+2.8	21st	80.7	1st	49.0	23rd	53.1	2nd	35.0	1.60	239	25th	0.81	23	315	158	19th	14.0	14.0	
JUNE	55.1	+5.4	61.3	+0.4	48.8	+3.7	21st	72.0	6th	50.7	20th	56.2	11th	41.0	3.41	198	24th	0.85	14	105	49	8th	12.6	12.6	
JULY	61.1	+2.6	68.1	-3.1	54.0	-2.1	18th	75.2	11th	60.4	17th	61.2	1st	45.4	2.68	110	27th	0.79	15	182	92	19th	14.3	14.3	
AUG	62.3	+0.7	70.4	-0.2	54.1	-1.4	12th	83.4	2nd	59.6	16th	61.2	3rd	46.7	1.31	58	24th	0.35	19	223	119	8th	13.0	13.0	
SEPT	55.3	-3.2	61.6	-3.8	48.9	-2.8	6th	68.6	8th	54.0	23rd	56.7	2nd	40.0	2.49	126	29th	0.46	14	113	79	5th	12.0	12.0	
OCT	52.5	+1.0	58.1	+0.6	47.0	+1.6	1st	65.4	30th	42.6	16th	58.5	30th	31.0	0.70	88	26th	0.66	10	88	90	6th	9.8	9.8	
NOV	41.9	+3.3	46.9	+3.0	36.8	+3.8	3rd	54.9	23rd	38.3	3rd	49.0	9th	28.5	3.60	28	29th	0.31	20	77	145	8th	6.6	6.6	
DEC	40.7	-0.8	45.4	-0.2	35.9	-1.5	28th	53.7	21st	36.6	23rd	49.0	21st	22.9	2.33	113	4th	0.40	9	50	125	20th	6.0	6.0	
YEAR	48.9	-2.0	55.3	-1.8	42.6	-2.0	Aug. 12 83.4	Jan. 28 28.9	July 17 61.6	Mar. 5 17.0	23.66	99	June 24 0.85	190	23.66	99	June 24 0.85	190	1587	105	July 19 14.3	14.3	14.3	14.3	14.3

KEW 1910

Month	TEMPERATURE						RAINFALL				SUNSHINE						
	Mean	Diff. from average max.	Diff. from average min.	Mean	Diff. from average	Highest maximum Date Temp. °F	Lowest maximum Date Temp. °F	Highest minimum Date Temp. °F	Lowest minimum Date Temp. °F	Total	Per cent of average	Wettest day Date	No. of dry days	Total	Per cent of Average	Sunniest day Date	Durn.
JAN	40.3	+0.8	+0.8	36.1	+0.8	2nd 56.0	26th 33.9	2nd 46.8	27th 21.2	in	79	28th	18	h 63	137	30th	h 7.2
FEB	42.3	+2.4	+2.9	37.2	+2.1	17th 54.4	2nd 41.0	6th 46.7	5th 29.0	1.68	178	15th	8	74	116	26th	7.0
MAR	43.4	+0.4	+0.2	36.5	+1.0	5th 56.6	18th 42.0	9th 45.6	20th 29.8	2.76	66	9th	20	143	127	3rd	9.7
APR	47.1	-1.6	-1.9	40.2	-1.3	21st 64.0	1st 47.5	19th 52.4	3rd 28.9	0.96	59	28th	15	117	73	27th	12.0
MAY	54.1	-0.3	-0.6	46.5	+0.1	22nd 75.1	9th 49.8	20th 57.3	10th 32.8	1.84	102	19th	16	219	110	23rd	14.3
JUNE	61.3	+0.8	+0.4	53.6	+1.1	20th 80.5	26th 61.1	21st 61.0	15th 46.7	2.66	155	25th	18	164	77	3rd	14.7
JULY	59.5	+4.2	+0.6	53.4	+2.7	28th 74.2	9th 57.6	21st 58.7	4th 48.0	2.49	102	5th	15	111	56	14th	10.1
AUG	61.1	-1.9	-0.2	54.2	-1.3	14th 75.1	29th 63.1	8th 59.2	7th 49.3	2.79	125	5th	12	163	87	10th	12.1
SEPT	56.4	-2.1	-2.0	49.4	-2.3	28th 73.5	20th 57.0	16th 54.8	21st 38.0	2.45	23	14th	27	136	96	3rd	11.3
OCT	53.8	+2.3	+1.5	48.6	+3.2	2nd 70.3	30.31 52.0	2nd 56.8	21st 39.4	2.17	96	12th	16	62	63	3rd	7.8
NOV	39.2	+6.0	+3.1	33.1	+7.5	1st 55.7	26th 36.7	13th 46.9	23rd 24.0	3.11	125	27th	8	73	138	16th	7.5
DEC	44.7	+3.2	+2.9	41.0	+3.6	16th 54.2	28th 38.1	5th 49.0	28th 28.5	3.53	171	1st	12	27	67	25th	4.6
YEAR	50.3	-0.6	-0.7	44.1	-0.5	June 20 80.5	Jan. 26 33.9	June 21 61.0	Jan. 27 21.2	25.50	106	Aug. 5 1.17	172	1351	89	June 3	14.7

KEW 1911

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean average	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date	Lowest maximum Date	Highest minimum Date	Lowest minimum Date	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day
JAN	38.8	-0.7	42.8	-0.9	34.8	-0.5	26th	31st	26th	16th	1.19	56	6.9	21	48	104	28, 31
FEB	41.5	+1.6	46.2	+1.6	36.7	+1.6	18th	2nd	18th	1, 2	1.31	85	27th	14	67	105	22nd
MAR	42.6	-1.2	48.0	-2.0	37.2	-0.4	22nd	27th	47.7	17th	1.31	90	13th	16	71	63	1st
APR	46.7	-2.0	53.4	-2.4	40.1	-1.4	15th	5th	34.5	5th	1.88	104	2nd	18	148	93	24th
MAY	56.7	+2.3	65.5	+3.1	47.8	+1.4	31st	20th	49.3	22nd	1.55	86	13th	24	192	96	29th
JUNE	60.4	-0.1	68.5	0.0	52.3	-0.2	5th	25th	57.2	14th	1.98	115	23rd	19	211	99	8th
JULY	67.4	+3.7	78.1	+6.9	56.7	+0.6	22nd	2nd	64.2	3rd	0.83	34	26th	28	334	169	13th
AUG	68.0	+5.0	77.9	+7.3	58.1	+2.6	9th	22nd	66.9	31st	0.81	36	21st	24	244	130	14, 16
SEPT	59.7	+1.2	70.0	+4.6	49.3	-2.4	8th	29th	58.8	22, 29	1.36	69	13th	20	224	158	1st
OCT	50.7	-0.8	56.7	-0.8	44.8	-0.6	12th	27, 28	54.1	29th	3.00	133	24th	16	83	85	1st
NOV	44.1	-1.1	49.1	-0.8	39.2	-1.4	5th	27th	50.9	22nd	3.40	137	18th	7	55	104	1st
DEC	44.5	+3.0	48.6	+3.0	40.3	+2.9	17th	8, 23	49.3	8th	4.45	216	7th	7	43	107	9th
YEAR	51.7	+0.8	58.7	+1.6	44.8	+0.2	Aug. 9	Feb. 2	66.9	Jan. 16 Feb. 1, 2	23.03	96	Oct. 24	214	1721	114	July 13

KEW 1912

Month	TEMPERATURE										RAINFALL			SUNSHINE													
	Mean average	Diff. average	Mean max.	Diff. average	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total average	Per cent of day	Wettest day Date	No. of dry days	Total	Per cent of Average	Sunniest day Date	Durn.								
JAN	40.9	+1.4	44.8	+1.1	degF	36.9	+1.6	degF	6th	51.8	28th	36.3	4th	48.0	29th	18.0	3.46	162	24th	in	13	h	20	43	9th	h	4.9
FEB	44.1	+4.2	48.4	+3.8	degF	39.7	+4.6	degF	28th	57.9	4th	28.6	28th	50.4	3rd	20.3	1.35	87	23rd	0.29	11	39	61	3rd	6.7		
MAR	46.6	+2.8	51.8	+1.7	degF	41.4	+3.9	degF	25th	60.8	18th	46.2	25th	51.6	21st	32.4	2.72	186	4th	0.35	9	92	81	29th	11.0		
APR	49.1	+0.4	57.7	+1.9	degF	40.5	-1.0	degF	20th	68.5	1st	48.4	6th	51.6	12th	31.3	0.15	8	1st	0.10	27	235	147	23rd	13.5		
MAY	56.6	+2.2	64.8	+2.4	degF	48.4	+2.0	degF	11th	74.7	4th	54.3	8th	56.8	26th	39.0	1.29	71	31st	0.51	23	169	85	25th	11.8		
JUNE	58.9	-1.6	66.7	-1.8	degF	51.1	-1.4	degF	19th	79.2	7th	58.3	18, 23	55.9	3rd	43.2	3.19	185	7th	0.60	10	191	90	22nd	15.0		
JULY	63.9	+0.2	71.8	+0.6	degF	55.9	-0.2	degF	12th	86.7	26th	58.3	16th	62.8	19th	47.8	1.68	69	29th	0.35	15	151	76	15th	13.6		
AUG	57.7	-5.3	64.0	-6.6	degF	51.4	-4.1	degF	4th	70.0	19th	59.2	17th	58.6	28th	45.0	5.29	236	26th	1.03	9	109	58	1st	9.5		
SEPT	53.7	-4.8	59.9	-5.5	degF	47.5	-4.2	degF	8th	66.0	11th	52.3	15th	54.7	27th	41.5	2.14	108	30th	1.59	21	112	79	22nd	9.5		
OCT	47.4	-4.1	55.2	-2.3	degF	39.6	-5.8	degF	10th	61.9	21st	48.0	27th	55.4	6th	29.7	2.28	101	28th	0.45	12	113	115	4th	9.2		
NOV	43.8	-1.4	48.2	-1.7	degF	39.4	-1.2	degF	7, 9	55.4	30th	36.1	8th	51.3	3, 30	28.6	1.67	67	26th	0.38	10	31	58	1st	6.9		
DEC	45.8	+4.3	50.4	+4.8	degF	41.2	+3.8	degF	14th	56.3	1, 17	44.4	14th	52.3	1st	26.4	2.69	131	26th	0.49	8	30	75	30th	5.4		
YEAR	50.7	-0.2	57.0	-0.1	degF	44.4	-0.2	degF	July 12	86.7	Feb. 4	28.6	July 16	62.8	Jan. 29	18.0	27.91	116	Sept. 30	1.59	168	1290	85	June 22	15.0		

KEW 1913

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	in	in	h	h
JAN	41.5	+2.0	46.0	+2.3	37.0	+1.7	52.2	37.4	46.9	25.0	2.56	120	11th	0.38	10	89
FEB	41.3	+1.4	46.0	+1.4	36.7	+1.6	53.2	36.0	45.9	27.3	0.78	50	1st	0.21	17	58
MAR	45.1	+1.3	51.1	+1.1	39.0	+1.4	57.0	42.6	47.3	28.9	2.09	143	16th	0.39	15	88
APR	47.2	-1.5	54.1	-1.7	40.3	-1.2	66.0	43.3	50.2	29.8	2.57	142	29th	0.51	9	75
MAY	55.3	+0.9	63.9	+1.5	46.8	+0.4	80.2	52.5	57.0	37.6	1.77	98	30th	0.66	17	106
JUNE	59.9	-0.6	68.5	0.0	51.3	-1.2	82.9	61.2	57.7	43.9	0.43	25	20th	0.18	24	93
JULY	59.9	-3.8	66.7	-4.5	53.2	-2.9	74.3	58.3	57.2	46.2	1.91	78	15th	1.07	18	53
AUG	61.5	-1.5	69.3	-1.3	53.6	-1.9	78.6	61.7	59.7	46.2	1.24	55	31st	0.58	22	74
SEPT	58.9	+0.4	65.8	+0.4	52.0	+0.3	74.8	58.3	60.4	45.0	1.89	95	16th	0.37	19	88
OCT	53.6	+2.1	59.9	+2.4	47.3	+1.9	65.8	51.3	55.9	37.4	3.38	150	26th	0.70	12	99
NOV	48.0	+2.8	53.6	+3.7	42.4	+1.8	58.3	46.9	52.9	30.6	2.26	91	21st	0.77	14	136
DEC	42.0	+0.5	45.9	+0.3	38.1	+0.7	54.3	35.6	49.6	29.3	0.98	47	23rd	0.35	17	100
YEAR	51.2	+0.3	57.6	+0.5	44.8	+0.2	82.9	35.6	60.4	25.0	21.85	91	July 15	1.07	194	84

KEW 1914

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	in	in	h	h
JAN	38.4	-1.1	42.1	-1.6	34.7	-0.6	55.2	31.6	50.2	19.4	0.55	26	10th	0.16	19	57
FEB	44.7	+4.8	50.6	+6.0	38.8	+3.7	57.0	41.0	49.6	28.4	2.43	157	8th	0.45	11	128
MAR	44.1	+0.3	50.2	+0.1	38.1	+0.6	62.4	39.4	49.5	28.9	3.94	270	9th	0.99	5	87
APR	50.4	+1.7	59.4	+3.6	41.4	-0.1	72.5	50.5	46.6	35.1	0.87	48	5th	0.32	23	136
MAY	53.5	-0.9	61.7	-0.7	45.4	-1.0	79.2	48.6	51.8	37.2	1.75	97	7th	0.84	22	101
JUNE	60.3	-0.2	69.7	+1.2	51.0	-1.5	84.4	56.1	58.6	40.3	2.29	133	14th	1.30	20	120
JULY	63.5	-0.2	71.4	+0.2	55.5	-0.6	89.1	62.2	63.0	48.7	1.93	79	3rd	0.43	13	159
AUG	63.3	+0.3	71.8	+1.2	54.9	-0.6	80.4	65.3	62.2	46.6	1.76	79	5th	0.94	22	92
SEPT	57.7	-0.8	66.9	+1.5	48.4	-3.3	79.9	55.9	60.3	33.3	1.00	51	11th	0.33	23	199
OCT	51.9	+0.4	58.3	+0.8	45.6	+0.2	65.3	52.7	53.2	28.9	1.19	53	25th	0.25	19	72
NOV	45.6	+0.4	50.8	+0.9	40.4	-0.2	60.6	39.4	51.3	28.9	2.98	120	30th	0.74	14	65
DEC	42.3	+0.8	46.9	+1.3	37.8	+0.4	54.9	35.4	47.1	29.3	6.56	318	10th	1.02	6	100
YEAR	51.3	+0.4	58.3	+1.2	44.3	-0.3	89.1	31.6	63.0	19.4	27.25	114	June 14	1.30	197	104

KEW 1915

Month	TEMPERATURE										RAINFALL			SUNSHINE				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	
JAN	40.5	+1.0	44.4	+0.7	36.7	+1.4	53.1	28th	47.3	23rd	27.7	in 4.19	196	22nd	13	38	83	17th
FEB	40.7	+0.8	46.2	+1.6	35.2	+0.1	51.3	24th	43.3	12, 26	26.1	3.31	213	17th	10	71	111	23rd
MAR	42.1	-1.7	48.0	-2.1	36.3	-1.2	58.3	29th	46.6	30th	26.6	0.80	55	3rd	18	82	73	21st
APR	46.6	-2.1	54.5	-1.3	38.7	-2.8	69.8	13, 25	45.0	1st	30.2	1.26	70	12th	16	166	104	29th
MAY	54.1	-0.3	63.1	+0.7	45.0	-1.4	75.0	13th	53.1	14th	36.9	3.16	175	13th	21	226	113	24th
JUNE	60.0	-0.5	69.3	+0.8	50.7	-1.8	83.1	24th	61.5	1st	38.5	0.58	34	27th	25	211	99	15th
JULY	61.3	-2.4	68.9	-2.3	53.6	-2.5	84.2	17th	60.1	13th	46.9	4.21	173	6th	17	184	93	28th
AUG	61.7	-1.3	69.4	-1.2	54.1	-1.4	75.2	30th	63.1	30th	45.1	3.25	145	13th	18	157	83	10.1
SEPT	57.4	-1.1	65.7	+0.3	49.1	-2.6	74.7	30th	63.1	30th	36.3	2.33	118	28th	23	175	123	4th
OCT	49.5	-2.0	55.6	-1.9	43.5	-1.9	64.2	27th	50.9	29th	34.0	1.93	86	24th	19	52	53	1st
NOV	39.2	-6.0	44.4	-5.5	34.0	-6.6	56.1	27th	44.4	28th	21.7	2.37	95	11th	20	62	117	10, 14, 16
DEC	43.9	+2.4	48.2	+2.6	39.6	+2.2	55.8	12th	48.2	9th	29.1	5.39	262	6th	8	35	87	13th
YEAR	49.7	-1.2	56.5	-0.6	43.0	-1.6	84.2	Nov. 27	Aug. 8	Nov. 28	21.7	32.79	137	May 13	208	1458	96	May 24

KEW 1916

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Diff. degF	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	degF	°F	°F	°F	°F	in		in		h		h
JAN	45.8	+6.3	50.4	+6.7	+5.9	56.1	14th	42.1	23rd	27.3	1st	2nd	14	45	98	3rd
FEB	40.2	+0.3	44.8	+0.2	+0.5	52.9	25th	34.5	25th	27.0	3rd	15th	10	75	117	17th
MAR	39.9	-3.9	45.0	+0.5	-2.6	56.3	10th	36.9	9th	28.4	16th	27th	10	59	52	29th
APR	48.4	-0.3	56.5	+0.7	-1.2	73.2	6th	45.7	1st	32.4	28th	18th	18	187	117	29th
MAY	55.4	+1.0	64.6	+2.2	-0.2	77.9	8th	48.7	9th	37.0	12.25	2nd	19	186	93	20th
JUNE	54.7	-5.8	61.7	-6.8	-4.7	69.3	12th	50.4	17th	41.4	23rd	10th	14	142	67	17th
JULY	60.9	-2.8	68.9	-2.3	-3.2	80.4	23rd	59.0	4th	46.4	17th	7th	21	160	81	29th
AUG	63.6	+0.6	71.4	+0.8	+0.3	82.0	30th	59.7	31st	45.3	13th	29th	17	162	86	5th
SEPT	56.2	-2.3	63.1	-2.3	-2.4	71.2	20th	54.0	22nd	37.2	9th	2nd	20	101	71	14th
OCT	53.1	+1.6	58.6	+1.1	+2.1	66.0	21st	47.7	21st	30.2	6th	17th	11	91	93	15th
NOV	43.9	-1.3	49.1	-0.8	-1.9	57.6	18th	36.3	28th	26.4	5th	19th	16	70	132	9th
DEC	36.9	-4.6	41.2	-4.4	-4.7	54.3	27th	28.8	17th	23.9	29th	21st	14	20	50	4th
YEAR	49.9	-1.0	56.3	-0.8	-1.0	82.0	Dec. 27	28.8	Dec. 17	23.9	Aug. 13	Aug. 29	184	1298	86	May 20

KEW 1917

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent average	Wettest day	No. of dry days	Total	Per cent average	Sunniest day
JAN	35.9	-3.6	38.7	-5.0	33.1	-2.2	1st 54.1	26.28	3rd 48.9	30th 23.9	in 1.13	53	11th	16	h 24	52	10th
FEB	35.9	-4.0	40.3	-4.3	31.5	-3.6	21.27	2nd 29.3	21.24	8th 14.0	0.79	51	20th	18	27	42	26th
MAR	38.7	-5.1	44.2	-5.9	33.1	-4.4	17th 55.9	8th 33.8	11th 45.0	9th 21.4	1.74	119	31st	13	72	64	30th
APR	42.8	-5.9	49.8	-6.0	35.8	-5.7	30th 61.0	1st 50.9	29th 49.1	1.2 28.9	2.15	119	2nd	15	154	96	24th
MAY	57.3	+2.9	66.9	+4.5	47.8	+1.4	27th 77.9	17th 58.3	27th 56.3	7th 36.9	2.04	113	17th	24	212	107	28th
JUNE	63.1	+2.6	72.5	+4.0	53.8	+1.3	17th 87.8	30th 58.3	17th 61.7	4th 46.2	3.71	216	16th	21	206	97	4th
JULY	63.0	-0.7	71.1	-0.1	54.9	-1.2	27.28	31st 56.7	14th 62.1	2nd 46.8	4.50	184	31st	20	210	106	10th
AUG	61.7	-1.3	67.6	-3.0	55.8	+0.3	7th 75.6	1st 57.0	6th 61.0	20th 50.7	4.18	187	1st	12	168	89	19th
SEPT	59.3	+0.8	66.4	+1.0	52.2	+0.5	5th 72.5	28th 61.2	18th 59.2	30th 42.1	2.06	104	18th	17	158	111	21st
OCT	46.9	-4.6	54.1	-3.4	39.6	-5.8	1.2 68.2	28th 44.8	3rd 54.1	30th 30.0	3.41	151	4th	12	140	143	15th
NOV	46.9	+1.7	51.6	+1.7	42.3	+1.7	21st 58.8	15th 45.1	21st 52.0	17th 31.6	1.32	53	26th	13	45	85	7th
DEC	36.2	-5.3	40.6	-5.0	31.8	-5.6	1st 52.3	19th 29.1	7th 42.1	20th 22.1	1.18	57	9th	18	57	143	2nd
YEAR	48.9	-2.0	55.3	-1.8	42.6	-2.0	June 87.8	Dec. 19	July 62.1	Feb. 8	28.20	118	June 16	199	1472	97	June 4
										14.0							14.6

KEW 1918

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day
JAN	39.4	-0.1	43.9	+0.2	34.9	-0.4	24th	8th	24th	9th	in	137	15th	14	58	126	27th
FEB	43.8	+3.9	48.4	+3.8	39.2	+4.1	23rd	1st	10th	19th	2.94	54	24th	16	63	98	16th
MAR	43.9	+0.1	51.3	+1.2	36.5	-1.0	24th	3rd	28.31	16th	0.84	62	30th	23	126	111	23rd
APR	45.1	-3.6	51.3	-4.5	38.8	-2.7	25th	16th	27th	3rd	0.90	175	21st	13	85	53	22nd
MAY	56.9	+2.5	65.7	+3.3	48.0	+1.6	21st	1st	22nd	11th	3.16	101	7th	20	222	111	18.20
JUNE	57.5	-3.0	66.7	-1.8	48.4	-4.1	2nd	17th	13th	17th	1.82	67	14th	19	232	109	21.29
JULY	62.0	-1.7	70.0	-1.2	54.0	-2.1	1st	11th	5th	4th	0.32	196	11th	13	182	92	23rd
AUG	62.5	-0.5	70.5	-0.1	54.5	-1.0	22nd	27.31	22nd	25th	1.05	63	3rd	19	183	97	4th
SEPT	55.9	-2.6	62.4	-3.0	49.3	-2.4	7th	29th	17th	29th	0.38	288	18th	7	149	105	22nd
OCT	49.4	-2.1	55.6	-1.9	43.2	-2.2	6th	18th	10th	14th	1.35	50	11th	17	75	77	1st
NOV	42.9	-2.3	48.9	-1.0	36.9	-3.7	1st	20th	1st	14th	0.19	84	3rd	16	54	102	9th
DEC	46.3	+4.8	50.4	+4.8	42.1	+4.7	3rd	25th	4th	26th	0.67	102	10th	9	29	73	17th
YEAR	50.5	-0.4	57.1	0.0	43.8	-0.8	Aug. 22	Jan. 8	Aug. 22	Jan. 9	28.05	117	Sept. 18	186	1458	96	June 23
																	14.2

KEW 1919

TEMPERATURE										RAINFALL			SUNSHINE			
Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		in		h		h
38.1	-1.4	42.3	-1.4	34.0	-1.3	52.7	31st	15th	27th	27.0	3.53	165	3rd	0.54	7	31
36.9	-3.0	41.2	-3.4	32.5	-2.6	52.7	8th	21st	9th	20.8	2.21	143	16th	0.54	16	30
40.8	-3.0	46.0	-4.1	35.6	-1.9	55.4	25th	11th	23rd	27.0	3.06	209	4th	0.55	15	91
45.9	-2.8	52.9	-2.9	39.0	-2.5	66.7	1st	11th	1st	29.8	2.34	129	27th	0.95	18	106
57.5	+3.1	66.9	+4.5	48.0	+1.6	77.4	7th	15th	28th	41.4	0.36	20	1st	0.24	27	239
59.7	-0.8	68.9	+0.4	50.4	-2.1	81.7	26th	5th	4th	41.4	1.18	69	20th	1.01	24	220
58.3	-5.4	65.3	-5.9	51.3	-4.8	77.2	8th	17th	9th	43.5	2.65	109	28th	0.57	18	119
63.7	+0.7	72.7	+2.1	54.7	-0.8	84.0	29th	19th	28th	45.0	2.11	94	14th	0.65	20	227
57.1	-1.4	65.7	+0.3	48.6	-3.1	82.8	20, 28	5th	30th	30.7	1.45	73	24th	0.15	22	153
45.3	-6.2	53.6	-3.9	37.0	-8.4	65.3	28th	1, 25	23rd	28.4	0.57	26	29th	0.27	11	121
39.3	-5.9	43.9	-6.0	34.7	-5.9	57.0	27th	23rd	27th	25.9	1.05	42	29th	0.27	11	45
42.8	+1.3	48.0	+2.4	37.6	+0.2	54.1	9th	29th	9th	23.2	3.74	181	1st	0.67	7	25
48.8	-2.1	55.6	-1.5	42.0	-2.6	84.0	Jan. 31	Aug. 19	Feb. 9	20.8	24.27	101	Aug. 28	1.07	205	1407
YEAR																June 16
															93	14.8

KEW 1920

Month	TEMPERATURE										RAINFALL			SUNSHINE					
	Mean from average	Diff. from average	Mean max.	Diff. from average	Diff. degF	Highest maximum Date	Highest minimum Date	Lowest maximum Date	Lowest minimum Date	Lowest minimum Temp.	Total average	Per cent of day	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day	Date	Durn.
JAN	42.7	+3.2	47.5	+3.8	degF	13th	56.7	33.6	18, 19	50.2	2.17	101	10th	0.43	14	48	104	30th	h
FEB	43.3	+3.4	49.8	+5.2	degF	18th	58.3	41.9	10th	47.3	0.41	26	4th	0.09	20	66	103	22nd	6.9
MAR	46.5	+2.7	54.1	+4.0	degF	30th	65.8	39.9	28th	50.5	1.17	80	14th	0.27	17	128	113	31st	8.0
APR	49.3	+0.6	55.2	-0.6	degF	24th	63.0	48.6	15th	51.1	2.67	147	16th	0.34	10	79	49	30th	11.6
MAY	55.6	+1.2	63.9	+1.5	degF	25th	79.2	53.6	26th	57.4	1.51	83	26th	0.86	19	212	107	24th	8.6
JUNE	60.3	-0.2	68.4	-0.1	degF	16th	75.0	57.4	27, 28	59.0	3.07	178	12th	1.42	19	195	91	9th	13.9
JULY	60.1	-3.6	66.9	-4.2	degF	19th	73.0	53.6	21st	61.3	4.40	180	21st	0.70	11	133	67	16th	14.6
AUG	57.7	-5.3	65.1	-5.5	degF	8th	73.2	57.2	15th	57.7	1.49	67	2nd	0.70	23	140	74	8th	12.2
SEPT	57.1	-1.4	64.6	-0.9	degF	12th	71.8	53.8	15th	56.8	2.45	124	16th	0.69	19	104	73	19th	10.9
OCT	52.0	+0.5	59.4	+1.9	degF	5th	71.1	48.6	9th	58.3	1.68	75	1st	0.74	22	113	115	20th	8.4
NOV	43.3	-1.9	49.6	-0.3	degF	15th	57.9	37.2	15th	50.5	1.32	53	27th	0.31	18	49	92	17th	6.7
DEC	41.0	-0.5	44.6	-1.0	degF	31st	55.9	30.7	28, 31	48.7	1.94	94	23rd	0.44	14	28	70	1st	5.1
YEAR	50.7	-0.2	57.4	+0.3	degF	May 25	79.2	30.7	July 21	61.3	24.28	101	June 12	1.42	206	1294	85	June 9	14.6

KEW 1923

Month	TEMPERATURE										RAINFALL				SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	
°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	in	in	in	h	h	h	
JAN	41.3	+1.8	47.1	+3.4	35.6	+0.3	54.1	17th	47.7	17th	1.29	60	7th	0.30	18	48	23rd	
FEB	43.5	+3.6	48.2	+3.6	38.7	+3.6	55.0	20th	51.4	5th	2.81	181	8th	0.54	5	51	4th	
MAR	44.9	+1.1	50.9	+0.8	39.0	+1.5	57th	15th	47.8	12th	2.07	142	13th	0.78	17	73	24th	
APR	47.9	-0.8	54.7	-1.1	41.0	-0.5	67.2	9th	50.0	10th	1.57	87	26th	0.30	18	119	24th	
MAY	51.7	-2.7	59.2	-3.2	44.1	-2.3	74.9	12th	54.9	12th	2.06	114	23rd	0.49	15	165	4th	
JUNE	55.7	-4.8	62.8	-5.7	48.7	-3.8	75.4	4th	60.6	3rd	0.25	15	15th	0.10	23	118	12.2	
JULY	66.7	+3.0	75.7	+4.5	57.7	+1.6	90.1	1.3	68.0	27th	3.26	134	10th	1.17	20	232	14.3	
AUG	62.1	-0.9	70.9	+0.3	53.2	-2.3	84.9	29th	63.3	31st	1.57	70	29th	0.37	24	247	14.1	
SEPT	56.3	-2.2	65.1	-0.3	47.5	-4.2	73.2	20th	59.0	9th	1.38	70	21st	0.23	18	173	13.7	
OCT	51.1	-0.4	56.8	-0.7	45.3	-0.1	64.6	5th	53.1	15th	5.33	237	3rd	0.93	7	93	11.0	
NOV	38.7	-6.5	44.2	-5.7	33.3	-7.3	57.7	26th	46.0	8th	1.47	59	8th	0.29	19	73	9.3	
DEC	39.1	-2.4	45.0	-0.6	33.3	-4.1	50.7	21st	44.4	10th	2.05	99	25th	0.40	13	35	8.0	
YEAR	49.9	-1.0	56.7	-0.4	43.1	-1.5	90.1	Nov. 26	68.0	Nov. 8	25.13	105	July 10	1.17	197	1427	June 23	

KEW 1924

Month	TEMPERATURE										RAINFALL				SUNSHINE												
	Mean average	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Temp.	Lowest maximum Temp.	Highest minimum Temp.	Lowest minimum Temp.	Total of average	Per cent of day	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day										
																		Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	°F	in	117	21st	in	15	h	117	25th	h	54	117	25th	h	54	117	25th	h
JAN	41.3	+1.8	45.5	+1.8	37.2	+1.9	52.0	12th	52.0	9th	31.6	4th	46.6	14th	46.6	26.4	4th	26.4	2.51	117	21st	0.54	15	54	117	25th	h
FEB	37.9	-2.0	42.4	-2.2	33.4	-1.7	51.1	6th	51.1	17th	34.9	15th	46.6	6th	46.6	23.9	15th	23.9	0.41	26	27th	0.08	21	37	58	1st	7.7
MAR	41.3	-2.5	48.6	-1.5	34.0	-3.5	58.1	24th	58.1	27th	41.4	5th	48.0	23rd	48.0	26.4	5th	26.4	0.85	58	6th	0.20	23	154	136	9th	9.8
APR	46.8	-1.9	54.0	-1.8	39.6	-1.9	71.2	21st	71.2	11th	39.0	23th	52.2	25th	52.2	29.3	10th	29.3	3.39	187	30th	0.71	15	123	77	21st	11.9
MAY	55.9	+1.5	64.2	+1.8	47.7	+1.3	75.4	19th	75.4	5.8	53.6	5.6	59.2	31st	57.6	37.6	5.6	37.6	2.42	134	10th	0.31	12	184	92	5th	11.9
JUNE	60.2	-0.3	68.2	-0.3	52.2	-0.3	77.9	26th	77.9	13th	55.6	25th	59.2	25th	59.2	44.4	14th	44.4	3.45	201	1st	0.98	19	198	93	26th	14.7
JULY	62.1	-1.6	70.9	-0.3	53.4	-2.7	85.8	12th	85.8	28th	60.3	1st	61.0	12th	61.0	45.3	1st	45.3	3.75	154	17th	1.06	15	229	116	14th	14.7
AUG	59.5	-3.5	66.6	-4.0	52.5	-3.0	75.2	11th	75.2	24th	59.4	20th	58.3	4th	58.3	46.4	20th	46.4	2.50	112	30th	0.35	10	147	78	9th	10.2
SEPT	57.9	-0.6	63.7	-1.7	52.0	+0.3	71.6	25th	71.6	25th	56.1	13th	60.8	28th	60.8	41.4	28th	41.4	2.95	149	30th	0.73	11	117	82	8th	10.9
OCT	52.2	+0.7	57.6	+0.1	46.8	+1.4	68.0	13th	68.0	25th	47.1	11th	55.8	24th	55.8	33.3	24th	33.3	3.63	161	21st	0.63	17	61	62	24th	5.4
NOV	46.3	+1.1	51.1	+1.2	41.5	+0.9	60.1	1st	60.1	17th	40.3	2nd	52.2	2nd	52.2	27.0	18th	27.0	2.28	91	12th	0.66	18	41	77	4th	6.9
DEC	43.9	+2.4	48.0	+2.4	39.7	+2.3	54.9	5th	54.9	11th	34.0	10, 11	49.1	5th	49.1	30.7	10, 11	30.7	2.84	138	27th	0.75	13	46	115	14th	5.6
YEAR	50.5	-0.4	56.7	-0.4	44.2	-0.4	85.8	July 12	85.8	Jan. 9	31.6	Feb. 15	61.0	July 12	61.0	23.9	Feb. 15	23.9	30.99	129	July 17	1.06	189	1391	92	June 26	14.7

KEW 1925

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
JAN	41.9	+2.4	46.9	+3.2	36.9	+1.6	54.5	11th	33.8	30th	47.5	10th	26.8	16	39	85	5th
FEB	42.5	+2.6	47.5	+2.9	37.6	+2.5	54.1	23rd	39.6	5th	44.1	24th	28.9	11	60	94	28th
MAR	41.5	-2.3	47.1	+3.0	35.8	-1.7	53.4	12th	37.9	7th	44.8	13th	24.8	21	81	72	10th
APR	46.9	-1.8	54.5	+1.3	39.2	-2.3	61.2	3rd	47.7	6th	47.3	4th	30.4	12	131	82	8th
MAY	55.5	+1.1	63.9	+1.5	47.1	+0.7	76.5	1st	50.7	18, 19	55.6	2nd	37.6	13	199	100	15, 28
JUNE	60.9	+0.4	70.5	+2.0	51.4	+1.1	83.7	24th	53.6	16th	59.0	2nd	43.7	29	271	127	4th
JULY	64.5	+0.8	73.4	+2.2	55.6	-0.5	86.5	27th	63.5	22, 23	62.8	8th	49.1	18	187	94	13, 14
AUG	61.3	-1.7	68.5	+2.1	54.0	-1.5	77.4	4th	61.0	9th	60.8	26th	47.3	16	142	75	16th
SEPT	53.5	-5.0	60.8	-4.6	46.2	-5.5	30th	26th	56.7	30th	57.7	25th	39.2	13	126	89	12th
OCT	52.1	+0.6	58.6	+1.1	45.7	+0.3	1st	16th	47.3	21st	58.8	15th	33.4	19	85	87	25th
NOV	40.7	-4.5	45.0	-4.9	36.3	-4.3	3rd	28th	35.1	1st	51.3	27th	23.9	18	79	149	9th
DEC	38.5	-3.0	42.6	-3.0	34.5	-2.9	29th	4th	32.2	29th	49.8	6th	22.6	15	52	130	6.3
YEAR	50.0	-0.9	56.7	-0.4	43.3	-1.3	July 22	Dec. 4	July 22, 23	Dec. 6	62.8	22.6	25.56	107	1452	96	June 4

KEW 1926

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
JAN	40.7	+1.2	45.5	+1.8	35.8	+0.5	27th	15th	29.7	16th	2.33	109	7th	13	43	93	20th
FEB	45.6	+5.7	50.4	+5.8	40.8	+5.7	26th	10th	36.5	14th	2.28	147	17th	10	46	72	13, 22
MAR	44.6	+0.8	50.4	+0.3	38.8	+1.3	6th	22nd	39.9	31st	0.19	13	27th	27	101	89	5th
APR	49.5	+0.8	57.2	+1.4	41.9	+0.4	2nd	25th	48.9	1st	2.66	147	25th	14	110	69	12th
MAY	52.3	-2.1	59.2	-3.2	45.3	-1.1	26th	5th	50.2	9th	1.73	95	14th	15	147	74	3rd
JUNE	58.0	-2.5	66.0	-2.5	50.0	-2.5	21st	2nd	52.9	25th	3.39	197	2nd	18	188	88	30th
JULY	63.9	+0.2	71.6	+0.4	56.1	0.0	14th	26th	58.5	27th	1.72	70	26th	15	167	84	13th
AUG	63.5	+1.5	72.1	+0.5	55.0	-0.5	30th	6, 7, 11	66.6	5th	0.58	26	17th	20	207	110	4th
SEPT	60.3	+1.8	68.0	+2.6	52.5	+0.8	19th	26th	52.5	28th	2.04	74	2nd	20	130	91	13th
OCT	47.9	-3.6	54.5	-3.0	41.4	-4.0	6th	28th	44.1	19th	5.12	206	15th	15	88	90	13th
NOV	45.1	-0.1	50.0	+0.1	40.3	-0.3	5, 11	25th	39.6	1st	0.24	12	8th	10	41	77	7th
DEC	39.9	-1.6	44.1	-1.5	35.8	-1.6	31st	23, 27	37.2	27th	0.24	12	6th	26	53	133	29th
YEAR	50.9	0.0	57.4	+0.3	44.4	-0.2	July 14	Jan. 15	29.7	Jan. 16	23.77	99	June 2	203	1320	87	June 30

KEW 1927

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean average	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total average	Per cent of average	Wettest day Date Amount	No. of dry days	Total	Per cent of Average	Sunniest day Date Durn.	
JAN	40.9	+1.4	45.9	+2.2	52.9	22nd	37.0	20th	1.91	89	21st	0.32	12	51	111	13th
FEB	40.1	+0.2	45.0	+0.4	54.0	11th	32.7	11th	3.40	219	1st	0.55	14	34	53	2nd
MAR	46.5	+2.7	52.5	+2.4	64.8	14th	41.7	11th	2.19	150	25th	0.64	14	118	104	17, 28
APR	48.2	-0.5	55.4	-0.4	70.0	7th	47.3	27th	1.78	98	7th	0.48	18	170	106	30th
MAY	55.0	+0.6	64.0	+1.6	74.7	13th	52.5	1st	1.09	60	27th	0.53	24	238	119	7th
JUNE	57.2	-3.3	64.9	-3.6	80.1	26th	57.2	13th	2.53	147	27th	0.69	14	161	75	22nd
JULY	61.7	-2.0	68.4	-1.1	79.2	17th	57.9	18th	3.00	123	11th	1.10	20	127	64	10th
AUG	61.9	-1.1	68.7	-1.9	76.3	1st	61.2	26th	4.07	182	18th	0.59	14	173	92	3rd
SEPT	55.9	-2.6	61.9	-3.5	71.2	26, 29	54.9	21st	4.49	227	15th	0.77	15	102	72	24th
OCT	51.0	-0.5	57.4	-0.8	64.0	5th	48.4	26th	1.27	56	22nd	0.51	20	70	71	3rd
NOV	43.7	-1.5	48.4	-1.5	62.4	27th	40.1	26th	2.69	108	29th	1.34	17	43	81	11th
DEC	36.7	-4.8	39.9	-5.7	53.6	18th	28.6	19th	3.71	180	25th	1.29	20	29	73	6th
YEAR	50.0	-0.9	56.1	-1.0	80.1	Dec. 18	28.6	Dec. 19	32.12	134	Nov. 29	1.34	202	1317	87	May 7 June 22

KEW 1928

Month	TEMPERATURE										RAINFALL			SUNSHINE				
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest		Lowest		Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	
							Date	Temp.	Date	Temp.								Date	Temp.	Date	Temp.
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		in		h		h	
JAN	41.7	+2.2	47.3	+3.6	36.1	+0.8	55.2	6th	21st	47.3	18th	26.1	3.10	2nd	6	58	19th	7.3
FEB	43.9	+4.0	50.2	+5.6	37.6	+2.5	55.8	27th	15th	51.3	22nd	28.4	1.40	2nd	16	86	27th	8.4
MAR	44.9	+1.1	50.7	+0.6	39.0	+1.5	63.7	4th	20th	48.9	11th	27.5	1.73	5th	14	93	26th	8.5
APR	48.0	-0.7	55.2	-0.6	40.8	-0.7	73.6	26th	26th	52.2	18th	31.6	1.41	16th	19	131	24th	13.2
MAY	52.9	-1.5	60.8	-1.3	45.1	-1.3	75.6	28th	29th	57.6	9th	35.4	1.76	18th	22	165	6th	13.8
JUNE	57.5	-3.0	65.8	-2.7	49.3	-3.2	86.9	25, 26	9th	55.6	17th	42.3	2.24	14th	12	211	2nd	14.8
JULY	65.3	+1.6	74.8	+3.6	55.8	-0.3	86.9	15th	24, 25	63.3	29th	50.2	2.06	3rd	22	290	13, 14	15.2
AUG	61.7	-1.3	69.3	+0.1	54.0	-1.3	80.4	11th	12, 23	60.3	5th	46.4	2.59	4th	15	201	5th	12.8
SEPT	56.1	-2.4	65.5	+0.1	46.6	-5.1	80.4	8th	6th	54.3	27th	35.1	1.03	9th	20	200	4th	12.4
OCT	51.3	-0.2	58.3	+0.8	44.4	-1.0	65.7	5th	8th	52.7	14th	31.3	3.63	22nd	10	112	1st	9.8
NOV	47.2	+2.0	52.3	+2.4	42.1	+1.5	58.6	13th	42.1	54.3	10th	28.4	1.81	16th	15	55	9th	7.6
DEC	38.7	-2.8	43.5	-2.1	33.8	-3.6	53.8	26th	1st	46.2	9, 15	24.8	2.35	28th	15	47	7th	6.7
YEAR	50.7	-0.2	57.7	+0.6	43.7	-0.9	86.9	July 15	Dec. 15	63.3	Dec. 9, 15	24.8	25.11	Oct. 22	190	109	July 13, 14	15.2

KEW 1929

Month	TEMPERATURE										RAINFALL			SUNSHINE											
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total average	Per cent of day	Wettest day Amount	No. of dry days	Total	Per cent of Average	Sunniest day Date	Durn.							
JAN	35.3	-4.2	38.8	-4.9	31.8	-3.5	31st	50.7	32.2	30th	45.0	17th	24.1	in	0.73	34	10th	0.28	21	h	32	69	19th	h	6.6
FEB	32.8	-7.1	38.1	-6.5	27.5	-7.6	1st	52.7	6th	1st	45.5	15th	12.6	0.51	0.16	33	1st	0.16	19	51	80	3rd	7.5		
MAR	43.1	-0.7	53.4	+3.3	32.9	-4.6	29th	67.6	15th	22nd	46.4	5th	21.9	0.03	0.02	2	25th	0.02	30	146	129	28, 30	10.5		
APR	44.6	-4.1	52.3	-3.5	36.9	-4.6	19th	69.3	12th	18th	49.1	6th	28.9	1.07	0.20	59	11, 29	0.20	18	146	91	22nd	12.5		
MAY	54.1	-0.3	63.1	+0.7	45.0	-1.4	23rd	81.3	1st	24th	56.1	1st	30.7	1.27	0.47	70	5th	0.47	20	244	123	19th	13.7		
JUNE	58.3	-2.2	66.7	-1.8	49.8	-2.7	19th	79.3	30th	12th	57.2	5th	43.3	0.88	0.19	51	13, 14	0.19	19	210	99	19th	14.5		
JULY	64.1	+0.4	73.6	+2.4	54.5	-1.6	16th	87.3	61.2	21st	63.5	8th	46.6	2.59	1.42	106	20th	1.42	21	257	130	17th	14.7		
AUG	62.3	-0.7	70.5	-0.1	54.0	-1.5	31st	84.6	18th	24th	61.0	3rd	46.9	2.16	0.69	96	16th	0.69	22	187	99	25th	12.2		
SEPT	63.4	+4.9	73.0	+7.6	53.8	+2.1	4th	84.6	19th	3rd	60.4	27th	39.6	0.16	0.10	28	30th	0.10	28	196	138	8th	11.2		
OCT	49.9	-1.6	56.7	-0.8	43.2	-2.2	16th	64.4	27th	41.2	2nd	54.1	30.7	2.73	0.81	121	24th	0.81	17	109	111	7th	7.8		
NOV	45.1	-0.1	50.9	+1.0	39.2	-1.4	8th	59.4	15th	22nd	50.5	15th	27.7	4.83	1.05	194	16th	1.05	11	66	125	9th	7.5		
DEC	43.6	+2.1	48.2	+2.6	39.0	+1.6	14th	56.8	20th	14th	52.5	19th	28.9	4.43	0.57	215	5th	0.57	8	63	157	19th	6.4		
YEAR	49.8	-1.1	57.2	+0.1	42.4	-2.2	July 16	87.3	Feb. 13	25.9	July 21	63.5	15	12.6	21.38	89	20	1.42	234	1707	113	17	14.7		

Kew 1930

TEMPERATURE										RAINFALL			SUNSHINE				
Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total average	Per cent of day	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		Amount		h		Date
JAN	43.7	+4.2	48.7	+5.0	38.8	+3.5	19th	31st	14th	21st	2.71	127	11th	0.52	10	42	6th
FEB	38.9	-1.0	42.6	-2.0	35.1	0.0	27th	8th	27th	25th	0.58	37	15th	0.15	23	47	9th
MAR	43.3	-0.5	49.8	-0.3	36.7	-0.8	3rd	19th	28th	20th	1.48	101	15th	0.59	18	122	10th
APR	47.0	-1.7	53.2	-2.6	40.8	-0.7	23th	19th	24th	21st	1.87	103	4th	0.67	16	104	30th
MAY	53.5	-0.9	60.4	-2.0	46.6	+0.2	20th	8th	30th	8th	3.47	192	3rd	0.89	12	152	13th
JUNE	61.9	+1.4	70.5	+2.0	53.2	+0.7	30th	3rd	21st	9th	1.31	76	18th	0.83	24	227	28th
JULY	61.9	-1.9	69.3	-1.9	54.5	-1.6	5th	23rd	61.5	12th	1.84	75	29th	0.33	17	173	5th, 8th, 29th
AUG	62.8	-0.2	70.9	+0.3	54.7	-0.8	29th	13th	30th	17th	2.82	126	29th	0.59	16	221	7th
SEPT	58.7	+0.2	64.8	-0.6	52.5	+0.8	5th	26th	61.3	16th	2.53	128	6th	0.52	12	117	16th
OCT	52.2	+0.7	58.5	+1.0	45.9	+0.5	17th	27th	57.9	31st	1.07	47	20th	0.46	19	115	2nd
NOV	44.8	-0.4	50.4	+0.5	39.2	-1.4	20th	17th	50.9	17th	3.85	155	20th	0.75	15	60	18th
DEC	40.5	-1.0	45.0	-0.6	36.0	-1.4	27th	22nd	46.4	6th	1.82	88	11th	0.43	17	22	4th
YEAR	50.8	-0.1	57.0	-0.1	44.6	0.0	Aug. 29	Dec. 22	Aug. 30	Nov. 17	25.35	106	May 3	0.89	199	1403	55
																	June 5, 8, 29
																	14.8

KEW 1931

Month	TEMPERATURE										RAINFALL				SUNSHINE								
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Date Temp.	Lowest maximum	Date Temp.	Highest minimum	Date Temp.	Lowest minimum	Date Temp.	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	Date	Durn.
	°F	degF	°F	degF	°F	degF	°F		°F		°F		°F		in		in		h		h		h
JAN	38.9	-0.6	43.5	-0.2	34.2	-1.1	16, 17	52.5	8th	33.8	16th	44.1	7th	26.6	1.07	50	23rd	12	54	117	24th		6.6
FEB	39.6	-0.3	45.0	+0.4	34.2	-0.9	25th	53.8	5th	36.9	9th	44.4	22nd	27.9	1.47	95	27th	11	60	94	14th		7.4
MAR	41.0	-2.8	47.8	-2.3	34.2	-3.3	20th	65.8	9th	31.3	20th	48.4	10th	18.1	0.32	22	9th	26	123	109	31st		9.1
APR	47.4	-1.3	53.8	-2.0	41.0	-0.5	11th	61.9	18th	41.5	24th	46.2	1st	32.9	3.66	202	3rd	14	113	71	13th		11.0
MAY	54.5	+0.1	62.1	-0.3	46.9	+0.5	26th	73.6	3rd	48.2	27th	53.6	1st	39.9	2.48	137	23rd	16	159	80	25th		13.1
JUNE	61.0	+0.5	68.9	+0.4	53.1	+0.6	28th	77.2	16th	57.7	23rd	60.4	25th	44.8	1.66	97	5th	20	174	82	27th		14.3
JULY	62.3	-1.4	69.4	-1.8	55.2	-0.9	3rd	76.1	20th	63.0	10, 25	58.8	21st	49.6	2.91	119	25th	19	151	76	3rd		14.8
AUG	60.3	-2.7	66.7	-3.9	53.8	-1.7	4th	77.2	24th	56.7	5th	61.9	26th	43.9	4.85	217	5th	15	136	72	29th		11.5
SEPT	54.3	-4.2	60.3	-5.1	48.2	-3.5	19th	68.2	26th	54.7	18th	54.1	8th	37.9	2.09	105	4th	20	117	82	6th		9.9
OCT	48.8	-2.7	55.9	-1.6	41.7	-3.7	2nd	65.1	27th	41.2	2nd	53.8	28th	25.5	0.65	29	7th	24	90	92	3rd		8.4
NOV	46.2	+1.0	51.4	+1.5	41.0	+0.4	3rd	61.0	29th	41.2	3, 4	49.6	22nd	31.8	2.14	86	7th	15	59	111	1st		7.8
DEC	42.3	+0.8	46.2	+0.6	38.3	+0.9	4th	59.2	19th	34.5	4th	50.0	31st	24.4	0.54	26	3rd	23	29	73	7th		5.5
YEAR	49.7	-1.2	55.9	-1.2	43.5	-1.1	June 28	77.2	Mar. 9	31.3	Aug. 5	61.9	Mar. 10	18.1	23.83	99	Aug. 5	215	1265	83	July 3		14.8

KEW 1932

Month	TEMPERATURE										RAINFALL				SUNSHINE								
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Date	Lowest maximum	Date	Highest minimum	Date	Lowest minimum	Date	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	Date	Durn.
	°F	degF	°F	degF	°F	degF	°F		°F		°F		°F		in		in		h		h		h
JAN	43.6	+4.1	48.4	+4.7	38.8	+3.5	3rd	55.6	28th	36.3	3rd	52.9	1st	21.6	1.61	75	6th	19	38	83	15th		6.4
FEB	37.9	-2.0	42.3	-2.3	33.6	-1.5	22, 23	48.0	11th	33.6	23rd	42.6	7th	25.3	0.17	11	24th	25	46	72	3rd		7.0
MAR	41.0	-2.8	48.2	-1.9	33.8	-3.7	31st	55.2	12th	37.9	30th	45.7	13th	24.3	1.29	88	22nd	21	121	107	25th		9.8
APR	46.0	-2.7	52.3	-3.5	39.7	-1.8	30th	64.9	17th	43.2	28th	47.1	13th	32.7	2.23	123	14th	8	117	73	22nd		10.1
MAY	52.9	-1.5	59.7	-2.7	46.2	-0.2	20th	73.6	9th	46.4	19th	56.5	6th	34.7	4.03	223	9th	13	114	57	17th		11.7
JUNE	59.2	-1.3	67.5	-1.0	50.9	-1.6	27th	79.3	4th	53.2	28th	60.1	6th	41.7	0.26	15	30th	25	211	99	14th		14.6
JULY	62.7	-1.0	70.3	-0.9	55.2	-0.9	10th	84.0	18th	59.0	12th	63.0	19th	46.4	2.45	100	25th	18	140	71	10th		12.7
AUG	66.5	+3.5	75.2	+4.6	57.9	+2.4	19th	91.6	22nd	66.0	20th	66.0	14th	52.0	1.17	52	1st	24	197	105	11th		12.4
SEPT	57.9	-0.6	64.6	-0.8	51.1	-0.6	2, 14	75.2	23rd	53.8	2nd	63.9	27th	42.1	2.32	117	18th	15	103	73	26th		10.2
OCT	49.2	-2.3	55.4	-2.1	43.0	-2.4	1st	63.7	28th	44.1	21st	53.8	29th	32.7	5.00	222	23rd	7	97	99	4th		9.6
NOV	44.8	-0.4	49.1	-0.8	40.5	-0.1	4th	57.6	18th	39.6	3, 4	47.5	9th	31.3	1.01	41	22nd	15	26	49	21st		6.7
DEC	42.7	+1.2	46.8	+1.2	38.5	+1.1	19th	54.9	10, 11	38.5	18th	50.0	5th	30.2	0.46	22	23rd	23	49	123	22nd		5.4
YEAR	50.4	-0.5	56.7	-0.4	44.1	-0.5	Aug. 19	91.6	Feb. 11	33.6	Aug. 20	66.0	Jan. 1	21.6	22.00	92	Oct. 23	213	1257	83	June 14		14.6

KEW 1933

Month	TEMPERATURE										RAINFALL				SUNSHINE		
	Mean	Diff. from average	Mean max.	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Lowest temperature	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	°F	degF	°F	°F	°F	°F	°F	in		in		h		h
JAN	37.3	-2.2	41.5	33.1	-2.2	53.1	24th	31.6	2nd	23rd	1.34	63	0.22	16	39	85	9th
FEB	40.9	+1.0	45.9	36.0	+0.9	55.9	19th	37.4	5th	24th	2.65	171	0.87	13	76	119	23rd
MAR	46.2	+2.4	54.5	37.9	+0.4	62.8	20th	46.6	3rd	26th	2.17	149	0.44	19	178	157	27th
APR	49.3	+0.6	57.6	41.0	+0.5	70.2	20th	44.6	10th	19th	0.66	36	0.21	24	175	109	8th
MAY	55.9	+1.5	64.2	47.5	+0.2	77.4	2nd	52.5	24th	15th	1.83	101	0.43	17	259	121	28th
JUNE	61.8	+1.3	70.9	52.4	+0.2	85.5	18th	59.5	16th	22nd	1.93	112	0.50	20	259	121	7th
JULY	67.0	+3.3	75.9	58.1	+2.0	88.3	13th	63.9	27th	1st	1.74	71	0.53	22	244	123	3rd
AUG	66.5	+3.5	76.1	56.8	+1.3	89.4	22nd	66.4	3rd	24th	0.50	22	0.18	27	250	133	10th
SEPT	61.3	+2.8	68.9	53.8	+2.1	79.0	23rd	58.3	2nd	15th	2.72	137	0.55	18	190	134	4th
OCT	51.9	+0.4	57.9	45.9	+0.5	67.8	27th	45.0	10th	28th	1.44	64	0.26	16	108	110	9th
NOV	43.1	-2.1	47.5	38.7	-1.9	55.8	30th	40.3	7th	16th	0.94	38	0.40	20	48	91	14th
DEC	35.3	-6.2	38.5	32.0	-5.4	43.9	14th	32.2	26th	7th	0.32	15	0.15	26	19	47	15th
YEAR	51.3	+0.4	58.3	44.4	-0.2	89.4	Jan. 24	31.6	Aug. 3	Jan. 23	18.24	76	0.87	238	1758	116	June 7

KEW 1934

Month	TEMPERATURE										RAINFALL				SUNSHINE		
	Mean	Diff. from average	Mean max.	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Lowest temperature	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	°F	degF	°F	°F	°F	°F	°F	in		in		h		h
JAN	39.5	0.0	44.4	34.7	-0.6	55.8	24th	31.1	18th	22nd	1.20	56	0.21	13	45	98	23rd
FEB	37.9	-2.0	44.1	31.8	-3.3	53.1	12th	34.7	25th	14th	0.22	14	0.15	24	77	120	27th
MAR	42.3	-1.5	48.9	35.8	-1.7	57.4	1st	44.2	5th	2nd	2.12	145	0.46	17	110	97	28th
APR	48.6	-0.1	55.8	41.4	-0.1	74.5	6th	43.2	16th	8th	1.47	81	0.27	15	132	83	20th
MAY	55.1	+0.7	63.9	46.2	-0.2	78.8	17th	55.6	22nd	17th	0.44	24	0.15	23	201	101	24th
JUNE	61.4	+0.9	70.5	52.3	-0.2	84.2	6th	56.5	18th	13th	1.00	58	0.22	22	205	96	30th
JULY	67.3	+3.6	76.8	57.7	+1.6	83.5	24th	66.7	30th	15th	3.19	131	1.28	23	281	142	8th
AUG	61.9	-1.1	70.0	53.8	-0.6	79.2	30th	61.9	17th	31st	1.77	79	0.59	19	192	102	26th
SEPT	60.1	+1.6	68.9	51.4	-0.3	80.6	24th	61.3	14th	2nd	1.26	64	0.36	20	186	131	5th
OCT	52.5	+1.0	58.1	46.9	+1.5	65.8	31st	40.3	7th	31st	0.87	39	0.17	19	80	82	23rd
NOV	44.1	-1.1	48.2	40.1	-0.5	56.1	19th	39.9	28th	1st	1.76	71	0.57	16	38	72	3rd
DEC	47.5	+6.0	50.9	44.1	+6.7	56.7	22nd	43.5	4th	21st	4.42	215	0.59	5	26	65	31st
YEAR	51.7	+0.8	58.5	44.8	+0.2	84.2	Jan. 24	31.1	July 30	Jan. 22	19.72	82	1.28	216	1573	104	July 8

KEW 1935

Month	TEMPERATURE							RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total average	Wettest day	No. of dry days
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	
JAN	41.1	+1.6	44.8	+1.1	37.4	+2.1	54.1	35.8	2nd	9th	0.89	41	18
FEB	43.8	+3.9	48.4	+3.8	39.2	+4.1	58.1	36.3	20th	9th	2.30	148	14
MAR	44.8	+1.0	51.1	+1.0	38.5	+1.0	63.1	35.1	22nd	9th	0.37	25	25
APR	47.6	-1.1	54.0	-1.8	41.2	-0.3	61.3	44.2	10th	5th	2.69	149	9
MAY	51.8	-2.6	59.5	-2.9	44.1	-2.3	73.8	46.9	24th	17th	1.39	77	21
JUNE	61.9	+1.4	69.6	+1.1	54.1	+1.6	83.8	61.9	25th	9th	3.37	196	12
JULY	66.3	+2.6	75.0	+3.8	57.6	+1.5	85.1	67.1	28th	31st	1.63	67	24
AUG	63.9	+0.9	73.2	+2.6	54.5	-1.0	84.4	63.3	20th	26th	1.99	89	24
SEPT	58.5	0.0	65.7	+0.3	51.4	-0.3	82th	58.1	7th	28th	2.55	129	12
OCT	50.7	-0.8	56.5	-1.0	44.8	-0.6	62.2	47.5	28th	21st	1.98	88	18
NOV	45.5	+0.3	50.4	+0.5	40.6	0.0	61.9	39.7	3rd	25th	4.35	175	10
DEC	39.4	-2.1	43.0	-2.6	35.8	-1.6	51.3	29.8	27th	23rd	2.15	104	10
YEAR	51.3	+0.4	57.6	+0.5	45.0	+0.4	85.1	29.8	June 25	Dec. 23	25.67	107	197
							July 14		July 2	July 8	1511	100	14.9

KEW 1936

Month	TEMPERATURE							RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total average	Wettest day	No. of dry days
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	
JAN	40.9	+1.4	45.0	+1.3	36.7	+1.4	56.1	32.7	10th	15th	3.91	183	9
FEB	37.7	-2.2	42.6	-2.0	32.9	-2.2	53.4	32.7	18th	12th	1.61	104	16
MAR	46.1	+2.3	51.8	+1.7	40.3	+2.8	62.2	39.2	29th	4th	0.90	62	20
APR	44.6	-4.1	50.9	-4.9	38.3	-3.2	62.8	43.2	25th	23rd	1.68	93	16
MAY	54.4	0.0	62.8	+0.4	46.0	-0.4	77.0	52.3	16. 17	22nd	0.51	28	26
JUNE	61.7	+1.2	69.3	+0.8	54.0	+1.5	85.5	58.3	20th	4th	3.53	205	11
JULY	61.9	-1.8	68.5	-2.6	55.4	-0.8	76.1	61.0	7th	27th	2.35	96	11
AUG	62.9	-0.1	71.2	+0.6	54.7	-0.8	79.9	54.7	31st	23rd	0.48	21	25
SEPT	59.7	+1.2	65.7	+0.3	53.6	+1.9	73.6	54.7	25th	29th	2.81	142	14
OCT	49.5	-2.0	56.1	-1.4	42.8	-2.6	64.8	50.4	23rd	29th	1.79	79	20
NOV	43.7	-1.5	48.4	-1.5	39.0	-1.6	55.9	36.9	16th	25th	2.79	112	13
DEC	42.3	+0.8	46.8	+1.2	37.9	+0.5	54.9	35.2	3rd	7th	1.38	67	17
YEAR	50.5	-0.4	56.7	-0.4	44.4	-0.2	85.5	32.7	June 20	Jan. 15	23.74	99	198
							Jan. 14		June 20	Oct. 31	1307	86	14.4

KEW 1937

TEMPERATURE										RAINFALL			SUNSHINE					
Month	Mean	Diff. from average	Diff. degF	Mean °F	Mean min.	Diff. from average degF	Highest maximum °F	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	Durn.
	°F	degF	°F	°F	°F	degF	°F	°F	°F	°F	in		in		h		Date	
JAN	42.4	+2.9	46.9	+3.2	37.9	+2.6	6th	29th	3rd	29th	3.76	176	1st	10	48	104	10th	h
FEB	43.5	+3.6	48.0	+3.4	39.0	+3.9	15th	28th	3rd	12th	4.05	261	22nd	6	63	98	23rd	6.8
MAR	39.9	+3.9	45.3	+4.8	34.5	+3.0	20th	8th	17th	10th	2.76	189	7th	13	113	100	15th	7.2
APR	49.9	+1.2	56.3	+0.5	43.5	+2.0	23rd	29th	7th	1st	1.98	109	2nd	14	102	64	25th	9.7
MAY	56.1	+1.7	63.7	+1.3	48.4	+2.0	29th	9th	23rd	6th	2.15	119	21st	18	173	87	28th	13.3
JUNE	60.6	+0.1	68.9	+0.4	52.3	+0.2	11th	19th	12th	3rd	1.81	105	13th	19	209	98	6th	13.5
JULY	63.7	0.0	70.7	+0.5	56.8	+0.7	3rd	27th	61.9	5.30	0.95	39	19th	21	135	68	16th	14.3
AUG	65.7	+2.7	74.1	+1.7	57.2	+1.7	6th	84.9	64.2	50.0	2.98	133	13th	27	210	112	6.7	12.2
SEPT	57.4	+1.1	65.3	+0.1	49.5	+2.2	7th	11.19	21st	41.5	2.03	103	17th	18	153	108	4th	10.3
OCT	52.5	+1.0	58.3	+0.8	46.6	+1.2	2nd	13th	52.7	36.5	2.37	105	27th	21	82	84	4th	8.0
NOV	42.1	+3.1	46.9	+3.0	37.2	+3.4	4th	21st	7th	21st	1.38	55	1st	20	46	87	14th	6.2
DEC	38.7	+2.8	42.6	+3.0	34.7	+2.7	23rd	19.20	1st	25.9	3.44	167	13th	14	25	63	12th	5.9
YEAR	51.1	+0.2	57.4	+0.3	44.8	+0.2	Aug. 6	Jan. 29	Aug. 10	Nov. 21	29.66	124	Aug. 13	201	1358	90	June 5	14.2

KEW 1938

TEMPERATURE										RAINFALL			SUNSHINE					
Month	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	Durn.
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		in		h			
JAN	43.6	+4.1	48.4	+4.7	38.8	+3.5	54.5	10th	40.3	11th	2.23	104	13th	10	45	98	19th	6.4
FEB	41.7	+1.8	46.2	+1.6	37.2	+2.1	55.4	14th	36.5	25th	0.31	20	26th	21	70	109	11th	6.8
MAR	49.3	+5.5	58.3	+8.2	40.3	+2.8	64.8	26th	49.1	8th	0.26	18	25th	28	173	153	14.19	10.5
APR	46.4	+2.3	54.1	+1.7	38.7	+2.8	62.6	18th	46.8	11th	0.09	5	3rd	27	150	94	13th	11.0
MAY	52.5	+1.9	60.3	+2.1	44.8	+1.6	75.0	3rd	49.8	15th	1.30	72	28th	18	161	81	21st	14.1
JUNE	61.3	+0.8	69.6	+1.1	53.1	+0.6	77.2	2nd	56.8	3rd	0.35	20	27th	23	207	97	21st	14.8
JULY	62.5	+1.2	70.0	+1.2	55.0	+1.1	81.5	5.16	62.8	1st	1.02	42	27th	23	147	74	29th	13.7
AUG	63.9	+0.9	71.8	+1.2	55.9	+0.4	83.8	29th	58.5	30th	2.70	121	11th	19	158	84	23rd	11.1
SEPT	58.7	+0.2	66.2	+0.8	51.3	+0.4	75.9	21st	61.0	1st	1.94	98	27th	15	125	88	15th	10.4
OCT	51.3	+0.2	57.2	+0.3	45.3	+0.1	64.2	25th	48.0	24th	2.05	91	3rd	16	111	113	21st	8.7
NOV	49.7	+4.5	54.5	+4.6	45.0	+4.4	66.2	29th	44.1	27th	2.60	104	20th	13	62	117	5th	7.3
DEC	39.8	+1.7	44.4	+1.2	35.2	+2.2	55.4	20th	26.8	20th	3.29	160	16th	12	50	125	27th	5.6
YEAR	51.8	+0.9	58.5	+1.4	45.1	+0.5	Aug. 1	Dec. 20	Aug. 1	Dec. 20	18.15	76	Dec. 16	225	1459	96	June 21	14.8

KEW 1939

Month	TEMPERATURE										RAINFALL				SUNSHINE			
	Mean	Diff. from average	Mean max.	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Diff. from average	Percent of average	Wettest day	No. of dry days	Total	Percent of average	Sunniest day	Date	Durn.
JAN	41.9	+2.4	45.5	38.3	+1.8	54.0	36.0	49.6	25.7	degF +3.0	201	25th	11	431	115	24th	h	7.0
FEB	42.6	+2.7	48.0	37.2	+3.4	55.6	33.8	51.6	28.4	degF +2.1	52	28th	21	0.80	0.24	6,20,21	7.6	
MAR	43.5	-0.3	48.6	38.3	+0.8	57.4	39.6	45.7	29.3	degF +0.8	68	22nd	18	1.00	0.21	22nd	8.2	
APR	48.6	-0.1	55.8	41.4	0.0	72.1	44.6	48.9	31.6	degF -0.1	122	30th	14	2.21	0.49	18, 20	12.0	
MAY	53.0	-1.4	61.0	45.0	-1.4	73.8	46.8	52.2	36.9	degF -1.4	77	16th	24	1.39	0.46	13th	14.2	
JUNE	59.1	-1.4	66.6	51.6	-0.9	77.5	56.7	59.5	33.1	degF -0.9	67	20th	21	1.15	0.35	4th	15.3	
JULY	61.3	-2.4	67.5	55.2	-3.7	79.2	61.2	60.3	48.2	degF -3.7	73	20th	12	1.79	0.55	25th	11.1	
AUG	63.4	+0.4	70.7	56.1	+0.6	79.7	60.8	63.5	50.0	degF +0.6	153	3rd	19	3.43	0.81	15th	11.8	
SEPT	59.8	+1.3	66.2	53.4	+0.8	77.5	56.3	63.7	44.4	degF +1.3	46	22nd	21	0.91	0.58	7th	11.7	
OCT	48.9	-2.6	54.0	43.7	-1.7	63.9	43.3	50.5	33.4	degF -2.6	218	14th	15	4.91	1.13	25th	8.3	
NOV	48.7	+3.5	52.9	44.6	+3.0	58.1	45.0	54.3	31.3	degF +3.5	178	6th	6	4.43	0.74	19th	5.7	
DEC	37.9	+3.6	41.7	34.0	+3.4	55.0	32.5	52.0	19.4	degF +3.6	41	8th	18	0.84	0.34	2nd	6.0	
YEAR	50.7	-0.2	56.5	45.0	+0.4	85.3	32.5	63.7	19.4	Dec. 28	113	Jan. 25	200	27.17	1.15	June 4	15.3	

KEW 1940

Month	TEMPERATURE										RAINFALL				SUNSHINE			
	Mean	Diff. from average	Mean max.	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Diff. from average	Percent of average	Wettest day	No. of dry days	Total	Percent of average	Sunniest day	Date	Durn.
JAN	31.4	-8.1	35.8	27.0	-8.3	49.8	27.7	41.9	16.5	degF -8.3	115	27th	20	2.47	1.09	17th	h	5.8
FEB	37.9	-2.0	41.9	34.0	-1.1	53.6	30.0	46.8	21.7	degF -2.0	103	19th	12	1.60	0.35	24th	7.6	
MAR	43.9	+0.1	50.0	37.9	+0.4	59.5	41.7	50.9	27.9	degF +0.4	232	26th	17	3.39	1.09	20th	9.9	
APR	49.0	+0.3	55.9	42.1	+0.6	68.9	45.9	52.3	30.2	degF +0.3	89	30th	14	1.61	0.37	6th	11.0	
MAY	56.4	+2.0	65.7	47.1	+0.7	73.8	59.9	59.5	50.9	degF +2.0	67	22nd	23	1.21	0.75	19th	14.5	
JUNE	63.4	+2.9	72.1	54.7	+3.6	85.6	61.9	59.4	46.8	degF +2.9	70	9th	24	2.77	0.62	18th	15.2	
JULY	61.0	-2.7	68.2	53.8	-2.3	78.1	61.5	59.5	46.8	degF -2.7	110	21st	15	2.69	0.40	1st	13.4	
AUG	62.5	-0.5	70.9	54.0	-1.5	79.7	61.7	60.1	44.2	degF -0.5	4	10th	28	0.09	0.05	12th	13.2	
SEPT	57.1	-1.4	65.3	48.9	-2.8	79.5	55.6	57.0	39.9	degF -1.4	69	19th	20	1.37	0.71	4th	12.0	
OCT	50.3	-1.2	55.9	44.6	-0.8	63.1	47.5	57.6	31.6	degF -1.2	107	16th	17	2.41	0.67	7th	8.8	
NOV	45.1	-0.1	50.7	39.6	+0.8	58.6	40.3	48.2	26.1	degF -0.1	271	3rd	8	6.76	1.39	14th	6.6	
DEC	39.7	-1.8	44.1	35.4	-2.0	50.9	35.2	45.0	26.4	degF -1.8	54	30th	18	1.12	0.26	6th	5.9	
YEAR	49.9	-1.0	56.5	43.3	-1.3	85.6	27.7	60.1	16.5	Jan. 20	108	Nov. 3	216	25.93	1.39	June 18	15.2	

KEW 1941

Month	TEMPERATURE							RAINFALL			SUNSHINE					
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	Date	Date	Date	Date	Total	Date	Amount	in	in	Date
JAN	34.8	-4.7	37.8	-5.9	31.8	-3.5	22nd	46.9	2nd	39.9	16th	20th	16	2.46	57	2nd
FEB	39.7	-0.2	44.1	-0.5	35.2	+0.1	8th	52.3	5th	47.7	5th	27th	7	1.93	83	21st
MAR	42.3	-1.5	48.4	-1.7	36.1	-1.4	21st	55.0	12, 29	44.2	19th	6th	17	3.21	85	13th
APR	44.9	-3.8	50.9	-4.9	39.0	-2.5	21st	58.8	16th	44.5	10th	1st	21	1.72	60	17th
MAY	49.3	-5.1	56.8	-5.6	41.9	-4.5	28th	66.0	15th	48.7	12th	26th	18	1.87	75	4th
JUNE	61.5	+1.0	69.8	+1.3	53.1	+0.6	22nd	87.1	3rd	63.5	12th	9th	22	1.93	101	17th
JULY	65.9	+2.2	74.3	+3.1	57.4	+1.3	11th	88.7	16, 31	63.9	20th	26th	14	4.06	123	6th
AUG	59.9	-3.1	65.8	-4.8	54.0	-1.5	3rd	73.8	23rd	58.6	7th	18th	18	5.89	90	31st
SEPT	59.5	+1.0	66.0	+0.6	53.1	+1.4	3rd	77.5	15th	57.7	3rd	28th	27	1.13	79	7th
OCT	51.5	-0.5	57.4	-0.1	45.7	+0.3	6th	70.9	4th	45.0	5th	11th	17	0.76	106	23rd
NOV	44.7	-0.5	49.6	-0.3	39.7	+0.9	22nd	57.9	29th	40.6	14th	6th	17	2.53	73	7th
DEC	42.1	+0.6	46.4	+0.8	37.9	+0.5	14th	55.9	29th	36.0	14th	6th	22	1.56	90	16th
YEAR	49.9	-1.0	55.8	-1.3	43.9	-0.7	July 11	88.7	Jan. 2	63.9	Jan. 16	July 26	213	28.26	89	July 6
																15.3

KEW 1942

Month	TEMPERATURE						RAINFALL				SUNSHINE						
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	Date	Date	Date	Date	in	%	Date	Amount	h	%	Date
JAN	33.9	-5.6	38.1	-5.6	29.7	-6.0	4th	50.5	3rd	42.6	15th	23rd	23rd	0.62	34	74	25th
FEB	33.0	-6.9	36.9	-7.7	29.1	-6.0	12th	45.1	10, 15	34.0	21, 22	1st	4th	0.77	36	56	14th
MAR	42.0	-1.8	48.0	-2.1	36.0	-1.5	14th	61.2	17th	48.2	8th	25th	1st	0.53	36	65	23rd
APR	49.9	+1.2	56.5	+0.7	43.2	+1.7	12th	65.5	28th	47.3	11th	9th	4th	0.54	73	135	16th
MAY	53.9	-0.5	61.7	-0.7	46.2	-0.2	7th	74.4	28th	54.0	3rd	10th	30th	0.73	216	115	12th
JUNE	60.8	+0.3	70.2	+1.7	55.4	-1.1	6th	85.8	30th	62.2	1, 11	23rd	14	0.24	230	115	4th
JULY	61.9	+0.8	68.7	+2.5	55.2	-0.9	21st	76.3	21st	62.6	28th	30th	28	0.24	253	119	22nd
AUG	63.4	+0.4	70.5	-0.1	55.3	+0.8	28th	77.1	28th	63.9	5th	10th	21	0.38	176	89	31st
SEPT	58.7	+0.2	65.1	-0.3	52.3	+0.6	11th	75.2	1st	61.2	48th	29th	16	0.41	159	85	17th
OCT	52.5	+1.0	58.3	+0.8	46.6	+1.2	4th	66.2	7th	55.4	25th	21st	18	0.47	127	89	8th
NOV	46.9	-2.9	46.9	-3.0	37.6	+3.0	7th	54.7	6th	45.1	23rd	26th	13	0.85	86	88	2nd
DEC	44.3	+2.8	48.0	+2.4	40.6	+3.2	21, 22	53.4	10th	49.8	25th	5th	22	0.83	56	106	8th
YEAR	49.7	-1.2	55.8	-1.3	43.7	-0.9	Aug. 28	87.1	Aug. 28	63.9	Jan. 15	June 30	228	1.24	1499	99	June 22
								26.6				94					14.2

Kew 1943

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	
	°F	degF	°F	degF	°F	°F	°F	°F	in	221	30th	9	h	96	h	
JAN	42.0	+2.5	45.9	+2.2	52.2	9th	34.7	28th	47.5	8th	28.4	8th	44	120	29th	
FEB	42.5	+2.6	48.2	+3.6	55.2	22nd	40.3	12th	45.0	8th	28.4	8th	77	101	18th	
MAR	45.2	+1.4	52.3	+2.2	59.5	3, 19	45.7	30th	49.3	21st	28.4	28	114	104	18th	
APR	52.9	+4.2	60.3	+4.5	73.8	8th	51.1	1st	51.3	20th	37.9	20	166	104	18th	
MAY	56.2	+1.8	64.2	+1.8	81.1	8th	51.8	27th	57.2	11th	39.2	23	142	124	16th	
JUNE	59.9	+0.6	67.3	+1.2	75.6	23rd	59.5	19th	57.4	7th	46.4	19	213	100	24th	
JULY	63.9	+0.2	71.8	+0.6	90.5	23rd	59.5	31st	64.0	9th	49.3	20	199	101	17th	
AUG	62.7	+0.3	70.3	+0.3	81.1	28th	63.7	1st	62.1	24th	47.5	20	201	107	15th	
SEPT	57.4	+1.1	64.4	+1.0	73.8	27th	53.4	10th	60.4	23rd	37.9	15	144	101	24th	
OCT	52.5	+1.0	58.5	+1.0	63.1	26th	50.7	5th	55.2	3rd	38.3	17	81	83	2nd	
NOV	43.3	+1.9	48.6	+1.3	59.5	20th	36.3	1st	53.4	26th	28.9	16	53	100	7th	
DEC	39.7	+1.8	43.9	+1.7	49.3	14, 16	37.8	26th	43.3	14th	28.0	22	35	87	20th	
YEAR	51.5	+0.6	58.0	+0.9	90.5	Jan. 9	34.7	July 31	64.0	Dec. 14	28.0	228	1574	104	July 17	
															14.6	

Kew 1944

Month	TEMPERATURE								RAINFALL			SUNSHINE			
	Mean from average	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total average	Wettest day Date	No. of dry days	Total	Per cent of Average	Sunniest day Date	Durn.
JAN	43.9	+4.4	39.7	+4.4	27th	15, 16	27th	29.8	1.55	23rd	19	31	67	14th	5.8
FEB	39.1	-0.8	35.2	+0.1	2nd	19th	2nd	26.6	0.67	16th	20	55	86	24th	7.7
MAR	41.9	-1.9	35.1	-2.4	26th	4th	12th	27.0	0.09	14, 30	26	101	89	26th	10.7
APR	51.8	+3.1	44.6	+3.2	30th	1st	5th	35.8	1.31	3rd	19	136	85	27th	12.8
MAY	54.3	-0.1	44.6	-1.8	29th	16th	30th	8th	0.69	13th	26	227	114	3, 11	12.9
JUNE	58.3	-2.2	51.3	-0.9	24th	6th	26, 29	44.1	1.51	9th	17	187	88	20th	15.0
JULY	63.5	-0.2	57.0	+1.2	17th	3rd	18th	50.0	1.67	3rd	13	107	54	6th	13.0
AUG	65.7	+2.7	58.1	+2.6	16th	21st	26th	52.9	1.97	24th	19	199	106	7th	13.2
SEPT	56.0	-2.5	49.6	-2.1	14th	29th	11th	38.8	2.23	2nd	16	143	101	10th	10.2
OCT	49.7	-1.8	44.8	-0.6	6th	29th	5th	32.2	2.71	17th	11	81	83	2nd	10.2
NOV	44.3	-0.9	39.7	-0.9	5th	14, 15	23rd	30.2	3.42	17th	8	51	96	21st	6.0
DEC	38.5	-3.0	34.2	-3.2	3rd	26, 29	17th	23.2	1.19	17th	16	41	103	5th	6.0
YEAR	50.5	-0.4	44.4	-0.2	May 29	Dec. 26, 29	Aug. 18	Dec. 23.2	19.01	Nov. 17	210	1358	90	June 20	15.0

KEW 1945

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Per cent of average	Wettest day	Total	Per cent of average	Sunniest day	Durn.
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F			in		h	
JAN	33.8	-5.7	37.6	-6.1	30.0	-5.3	47.1	28.2	17th	26th	77	30th	1.66	77	30th	h
FEB	45.7	+5.8	50.7	+6.1	40.6	+5.5	18th	42.3	26th	21st	90	12th	1.39	90	19th	5.5
MAR	47.2	+3.4	54.3	+4.2	40.1	+2.6	23rd	44.1	29th	3rd	55	26th	0.80	55	14th	8.1
APR	51.7	+3.0	59.9	+4.1	43.5	+2.0	16th	44.2	15th	30th	62	26th	1.13	62	23rd	9.7
MAY	56.5	+2.1	64.6	+2.2	48.4	+2.0	12th	48.9	8th	1st	133	3rd	2.41	133	22nd	12.1
JUNE	60.0	-0.5	66.9	-1.6	53.1	+0.6	19th	56.8	24th	17th	102	8th	1.76	102	17th	13.9
JULY	64.3	+0.6	72.0	+0.8	56.5	+0.4	15th	62.6	15th	3rd	110	14th	2.69	110	18th	15.1
AUG	62.1	-0.9	69.1	-1.5	55.2	-0.3	4th	58.6	29th	7th	56	9th	1.26	56	23rd	14.2
SEPT	59.3	+0.8	64.4	-1.0	54.1	+2.4	12th	56.7	12th	29th	85	13th	1.68	85	2nd	13.7
OCT	53.8	+2.3	60.3	+2.8	47.3	+1.9	7th	53.1	21st	31st	92	23rd	2.08	92	23rd	8.1
NOV	46.5	+1.3	50.4	+0.5	42.6	+2.0	11th	43.0	2nd	28th	12	22nd	0.29	12	10th	8.2
DEC	41.8	+0.3	46.2	+0.6	37.4	0.0	1st	34.3	16th	10th	131	28th	2.69	131	6th	7.0
YEAR	52.0	+1.1	58.1	+1.0	45.9	+1.3	July 15	28.2	Sept. 12	Jan. 26	83	July 14	19.83	83	June 18	15.1

KEW 1946

Month	TEMPERATURE										RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Per cent of average	Wettest day	Total	Per cent of average	Sunniest day	Durn.
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F			in		h	
JAN	38.5	-1.0	42.1	-1.6	34.9	-0.4	11th	31.1	11th	20th	65	9th	1.39	65	12th	h
FEB	44.0	+4.1	48.4	+3.8	39.6	+4.5	6, 7	38.3	7th	28th	146	26th	2.26	146	27th	6.8
MAR	41.7	-2.1	47.3	-2.8	36.0	-1.5	29th	35.8	21st	10th	80	22nd	1.17	80	31st	7.7
APR	51.1	+2.4	59.7	+3.9	42.4	+0.9	3rd	49.5	27th	11th	105	29th	1.91	105	19, 20	9.8
MAY	52.5	-1.9	60.3	-2.1	44.8	-1.6	23rd	49.3	26, 27	17th	192	8th	3.47	192	12th	12.4
JUNE	57.7	-2.8	64.0	-4.5	51.3	-1.2	23rd	57.9	24th	7th	162	11th	2.78	162	10th	12.9
JULY	63.3	-0.4	71.4	+0.2	55.2	-0.9	12th	59.2	13th	44.8	127	26th	3.11	127	21st	11.2
AUG	60.1	-2.9	66.7	-3.9	53.6	-1.9	5th	59.7	6th	44.2	167	9th	3.74	167	7th	13.8
SEPT	57.9	-0.6	63.5	-1.9	52.3	+0.6	28th	60.1	26, 29	16th	175	8th	3.47	175	4th	13.3
OCT	51.3	-0.2	56.5	-1.0	46.0	+0.6	1st	44.4	5th	32.9	59	3rd	1.33	59	15th	9.1
NOV	47.5	+2.3	51.4	+1.5	43.5	+2.9	4th	45.3	24th	2, 23	163	14th	4.06	163	6th	7.6
DEC	37.2	-4.3	41.9	-3.7	32.5	-4.9	1st	28.2	1st	21st	95	8th	1.95	95	4th	5.6
YEAR	50.1	-0.7	56.1	-1.0	44.2	-0.4	July 12	28.2	July 13	Dec. 21	128	July 26	30.61	128	July 7	13.8

KEW 1947

Month	TEMPERATURE										RAINFALL				SUNSHINE			
	Mean average	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total average	Per cent of average	Wettest day Date	No. of dry days	Total	Per cent of Average	Sunniest day Date	Durn.
JAN	35.8	-3.7	40.5	-3.2	31.1	-4.2	51.8 16th	27.1 29th	46.6 15th	14.9 29th	1.35 in	63	8th	16	55	119	16th	h
FEB	30.0	-9.9	32.9	-11.7	27.1	-8.0	4.26 4th	17th	34.2 3rd	14.5 24th	1.19	77	3rd	17	19	30	26th	7.8
MAR	40.9	-2.9	45.9	-4.2	36.0	-1.5	57.7 28th	33.3 6th	46.9 29th	22.8 7th	4.66	319	29th	5	67	59	1.2	9.4
APR	49.0	+0.3	56.3	+0.5	41.7	+0.2	65.5 13th	2nd	47.8 15th	32.4 10th	1.68	93	2nd	19	175	109	24th	11.9
MAY	57.3	+2.9	66.0	+3.6	48.6	+2.2	86.2 30th	2nd	61.7 30th	39.4 5th	1.35	75	4th	16	182	91	28th	14.3
JUNE	62.1	+1.6	70.2	+1.7	54.1	+1.6	90.9 3rd	15th	64.4 2nd	46.2 10th	3.17	184	15th	16	217	102	1st	13.9
JULY	65.6	+1.9	72.7	+1.5	58.5	+2.4	84.9 27th	9th	68.0 28th	50.9 12th	1.41	58	17th	18	175	88	26th	13.1
AUG	68.1	+5.1	77.5	+6.9	58.8	+0.8	87.3 16th	7th	65.1 19th	48.6 8th	0.40	18	23rd	20	171	120	1st	10.7
SEPT	60.7	+2.2	68.9	+3.5	52.5	+0.8	76.6 15th	24th	63.0 23rd	40.1 25th	1.17	59	18th	27	101	103	4th	8.7
OCT	51.5	0.0	59.5	+2.0	43.5	-1.9	70.3 7th	29th	53.4 10th	31.6 21st	0.15	7	23rd	17	63	119	3rd	7.5
NOV	45.7	+0.5	50.5	+0.6	40.8	+0.2	60.8 22,23	30th	57.4 22nd	23.0 30th	1.07	43	9th	27	24	60	29th	6.4
DEC	42.1	+0.6	46.0	+0.4	38.3	+0.9	55.0 27th	1st	46.0 22nd	23.0 1st	2.14	104	5th	17				
YEAR	50.9	0.0	57.4	+0.3	44.4	-0.2	June 3	Jan. 29	July 28	Feb. 24	19.75	82	Mar. 29	215	1524	101	May 28	14.3

KEW 1948

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Diff. degF	Mean min.	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Percent of average	Wettest day	No. of dry days	Total	Percent of Average	Sunniest day
	°F	degF	°F	degF	degF	°F	°F	°F	°F	°F	in		in		h		h
JAN	43.7	+4.2	48.2	+4.5	39.2	+3.9	55.9	19th	4th	20th	3.57	167	29th	9	43	93	22nd
FEB	41.3	+1.4	46.0	+1.4	36.7	+1.6	58.3	20th	8th	20, 22	1.43	92	21st	17	74	116	26th
MAR	47.9	+4.1	55.6	+5.5	40.3	+2.8	70.5	5th	8, 16	24th	0.58	40	31st	24	140	124	26th
APR	50.3	+1.6	58.3	+2.5	42.3	+0.8	70.0	4th	20th	10th	1.24	69	4th	17	225	141	26th
MAY	54.6	+0.2	63.5	+1.1	45.7	-0.7	76.6	2nd	18th	3rd	2.22	123	29th	22	237	119	18th
JUNE	58.9	-1.6	65.8	-2.7	52.0	-0.5	92.8	3rd	26th	3rd	1.67	97	19th	14	179	84	26th
JULY	62.3	-1.4	69.6	-1.6	55.0	-1.1	78.3	4th	29th	17th	1.19	49	30th	22	185	93	27th
AUG	61.1	-1.9	68.0	-2.6	54.3	-1.2	73.8	3rd	2nd	29th	2.87	128	8th	19	152	81	29th
SEPT	58.3	-0.2	65.1	-0.3	51.6	-0.1	68.0	21st	10th	22nd	1.24	63	12th	21	159	112	9th
OCT	50.3	-1.2	57.2	-0.3	43.3	-2.1	68.0	30th	2nd	27th	1.83	81	25th	21	92	94	5th
NOV	45.4	+0.2	50.5	+0.6	40.3	-0.3	61.3	29th	3rd	26th	1.59	64	7th	21	70	132	20th
DEC	43.8	+2.3	48.0	+2.4	39.6	+2.2	56.3	26th	7th	26th	2.02	98	30th	14	45	113	29th
YEAR	51.6	+0.7	58.1	+1.0	45.1	+0.5	92.8	Feb. 20	July 29	Dec. 26	21.48	90	Aug. 8	221	1600	106	May 18
																	14.6

KIEW 1949

Month	TEMPERATURE										RAINFALL			SUNSHINE									
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Date Temp.	Lowest maximum	Date Temp.	Highest minimum	Date Temp.	Lowest minimum	Date Temp.	Total	Per cent average	Wettest day	No. of dry days	Total	Per cent of Average	Sunniest day	Date	Durn.
JAN	42.3	+2.8	47.1	+3.4	37.4	-0.1	14th	53.4	3rd	37.8	19th	47.7	29th	28.0	1.20	56	1st	19	55	119	27th	h	6.2
FEB	41.8	+1.9	48.7	+4.1	34.9	-0.4	21st	55.2	3rd	38.7	23rd	48.6	5th	22.5	0.88	57	9th	19	106	166	16th	8.7	
MAR	42.1	-1.7	48.0	-2.1	36.1	-1.4	26th	62.8	6th	35.6	17th	46.2	3rd	28.8	0.92	61	4th	23	102	190	24th	9.6	
APR	51.8	+3.1	59.4	+3.6	44.2	+2.7	16th	77.9	8th	48.2	23rd	53.1	10th	32.2	1.47	83	28th	18	211	132	23rd	13.1	
MAY	53.4	+1.0	61.7	-0.7	45.5	-1.3	21.22d	68.9	9th	50.7	23rd	54.3	10th	35.1	2.30	127	24th	19	216	100	10th	14.8	
JUNE	61.4	+0.9	70.3	+1.8	52.5	+0.6	27th	84.4	3rd	58.6	28th	63.3	2nd	43.5	0.50	29	1st	27	235	110	6th	15.5	
JULY	66.4	+2.7	75.6	+4.4	52.5	+1.1	12th	85.5	7th	59.2	27th	65.3	12th	47.1	1.12	46	16th	24	231	127	3rd	13.8	
AUG	64.9	+1.9	73.8	+3.2	56.1	+0.6	15th	83.3	11th	65.3	29th	61.3	8th	47.1	1.50	67	2nd	23	235	120	4th	10.2	
SEPT	64.4	+5.9	71.8	+6.4	57.0	+2.3	3rd	85.8	21st	63.1	5th	64.8	18th	48.2	0.35	18	21st	24	238	117	4th	18.7	
OCT	54.6	+3.1	61.5	+4.0	47.7	+2.3	4th	73.0	30th	44.6	15th	59.0	28th	30.0	5.24	233	26th	17	118	117	4th	7.2	
NOV	43.9	-1.3	49.1	-0.8	38.7	-1.9	9th	56.5	29th	41.9	11th	47.5	2nd	27.5	2.16	87	21st	13	65	123	10th	6.6	
DEC	43.6	+2.1	48.0	+2.4	39.2	+1.8	3rd	55.4	11th	39.2	7th	50.4	12th	29.7	1.47	71	14th	14	51	127	4th	15.5	
YEAR	52.5	+1.6	59.6	+2.5	45.5	+0.9	Sept.	85.8	Mar.	35.6	July	65.3	Feb.	22.5	19.11	80	Oct.	26	1790	118	July	3	15.5

KEW 1950

Month	TEMPERATURE						RAINFALL			SUNSHINE					
	Mean from average	Diff. from max. average	Mean from min. average	Diff. from max. average	Highest maximum Date Temp.	Lowest maximum Date Temp.	Highest minimum Date Temp.	Lowest minimum Date Temp.	Total average	Percent of day	Wettest day Amount	No. of dry days	Total	Percent Average	Sunniest day Date	Durn.
JAN	40.8	+1.3	44.6	+0.9	3rd	29th	32.2	11th	31st	0.72	4	26	57	16th	h
FEB	43.5	+3.6	49.1	+4.5	17th	58.1	41.4	18th	2nd	0.45	9	68	106	28th	8.7
MAR	46.7	+2.9	53.2	+3.1	8th	61.9	44.6	23rd	4th	0.11	21	138	122	24th	9.9
APR	47.5	+1.2	54.3	+1.5	21st	64.4	45.3	25th	26th	0.93	12	167	104	7th	10.3
MAY	54.1	-0.3	61.5	-0.9	21st	74.5	51.8	31st	25th	0.45	22	180	90	13th	14.4
JUNE	63.5	+3.0	72.1	+3.6	5th	85.3	61.3	27th	2nd	0.50	22	257	121	10th	14.6
JULY	63.3	-0.4	70.2	-1.0	5th	80.8	60.6	19th	3rd	0.90	17	225	114	27th	14.4
AUG	62.3	-0.7	69.6	-1.0	6th	80.6	63.1	15th	31st	0.67	17	201	107	4th	12.4
SEPT	57.0	-1.5	62.4	-3.0	1-4	70.5	55.6	1st	24th	0.38	8	131	92	5th	10.4
OCT	50.7	-0.8	56.5	-1.0	5th	69.6	54.1	28th	25th	0.21	22	106	108	13th	7.2
NOV	44.3	-0.9	48.6	-1.3	10, 28	55.2	36.3	28th	10th	0.91	14	62	117	13th	5.8
DEC	35.6	-5.9	39.0	-6.6	1st	52.0	33.3	1st	1st	0.61	18	34	85	11th	
YEAR	50.8	-0.1	56.8	-0.3	June 5	85.3	32.2	July 19	Apr 26	0.93	206	1597	105	June 10	14.6

KEW

1951

Month	TEMPERATURE										RAINFALL			SUNSHINE									
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day						
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		in		h		h						
JAN	40.7	+1.2	44.6	+0.9	36.9	+1.6	51.8	29th	32.4	21st	30th	25.2	0.88	13	3.04	142	2nd	0.88	13	51	111	27th	6.1
FEB	39.7	-0.2	44.2	-0.4	35.1	0.0	48.9	14th	39.2	8th	1st	29.7	0.74	6	4.98	321	4th	0.74	6	62	97	19th	8.2
MAR	41.3	-2.5	46.6	-3.5	36.1	-1.4	52nd	9th	37.2	17th	31st	28.6	0.57	9	2.87	197	19th	0.57	9	91	81	20th	9.6
APR	45.9	-2.8	53.2	-2.6	38.7	-2.8	72.5	25th	44.8	26th	11th	33.8	0.46	17	2.30	127	9th	0.46	17	197	123	22nd	12.4
MAY	51.8	-2.6	58.6	-3.8	45.0	-1.4	68.0	7, 8	49.1	24th	12th	38.1	0.45	17	2.02	112	26th	0.45	17	155	78	31st	14.5
JUNE	59.1	-1.4	67.5	-1.0	50.7	-1.8	73.2	26th	57.0	12th	2nd	44.1	0.33	22	0.94	55	22nd	0.33	22	258	121	1st	14.8
JULY	64.2	+0.5	72.3	+1.2	56.1	-0.1	80.4	23rd	61.2	31st	14th	48.6	0.34	22	1.00	41	12th	0.34	22	223	113	28th	14.4
AUG	60.8	-2.2	67.3	-3.3	54.3	-1.2	74.5	11th	61.2	4th	15th	49.8	0.81	15	3.35	149	26th	0.81	15	188	100	2nd	13.9
SEPT	59.0	+0.5	65.5	+0.1	52.5	+0.8	73.6	18th	59.2	6th	30th	43.9	0.71	18	2.11	107	27th	0.71	18	120	85	14th	10.5
OCT	50.5	-1.0	57.4	-0.1	43.7	-1.7	65.1	22nd	46.2	2nd	25th	29.8	0.44	22	0.83	37	31st	0.44	22	104	106	23rd	9.1
NOV	48.4	+3.2	53.1	+3.2	43.7	+3.1	58.6	26th	44.4	24th	26th	32.7	1.11	8	5.29	212	17th	1.11	8	71	134	1st	7.7
DEC	43.3	+1.8	47.7	+2.1	39.0	+1.6	53.2	11th	37.2	5, 24	13th	25.7	0.25	18	1.45	70	28th	0.25	18	54	135	10th	5.8
YEAR	50.5	-0.4	56.5	-0.6	44.4	-0.2	80.4	Jan. 29	32.4	Sept. 6	Jan. 30	25.2	Nov. 17	187	30.17	126	Nov. 17	1.11	187	1574	104	June 1	14.8

KEW

1952

Month	TEMPERATURE										RAINFALL			SUNSHINE					
	Mean from average	Diff. from average	Mean min.	Diff. from average	Highest maximum Date	Lowest maximum Temp.	Highest minimum Date	Lowest minimum Temp.	Total average	Percent of day	Wettest day	No. of dry days	Total	Percent of Average	Sunniest day				
	°F	degF	°F	degF	°F	°F	°F	°F	in		in		h		h				
JAN	39.1	-0.4	43.5	-0.2	34.7	-0.6	54.0	15th	27th	33.4	7th	27th	22.5	0.33	16	82	178	29th	7.0
FEB	38.9	-1.0	44.1	-0.5	33.6	-1.5	53.4	13th	16th	37.6	19th	16th	27.1	0.42	20	72	113	9th	6.8
MAR	44.9	+1.1	50.2	+0.1	39.7	+2.2	58.6	30th	28th	35.6	8th	28th	30.6	0.56	12	92	81	14th	9.6
APR	50.9	+2.2	58.8	+3.0	43.0	+1.5	73.6	1st	1st	43.9	20th	1st	31.3	0.20	19	176	110	29th	13.2
MAY	58.0	+3.6	66.4	+4.0	49.6	+3.2	80.6	18th	13th	57.4	19th	13th	42.4	0.49	17	226	113	17th	14.3
JUNE	60.7	+0.2	69.3	+0.8	52.2	-0.3	84.7	8th	8th	59.4	30th	8th	43.0	0.43	19	245	115	30th	14.8
JULY	64.7	+1.0	72.7	+1.5	56.7	+0.6	89.8	3rd	15th	59.5	21st	15th	47.5	0.24	26	211	107	5th	14.0
AUG	63.3	+0.3	70.0	-0.6	56.5	+1.0	77.5	18th	23rd	57.9	12th	23rd	50.2	1.05	17	196	104	28th	12.6
SEPT	53.7	-4.8	60.3	-5.1	47.1	-4.8	69.1	30th	19th	51.4	2nd	19th	37.4	0.61	16	143	101	1st	10.5
OCT	49.5	-2.0	54.9	-2.6	44.1	-1.3	59.4	20th	12th	48.4	28th	12th	30.2	0.91	19	94	96	5th	9.1
NOV	40.9	-4.3	45.7	-4.2	36.0	-4.6	56.5	25th	25th	38.7	2nd	25th	25.5	0.65	14	61	115	3rd	7.6
DEC	38.0	-3.5	42.4	-3.2	33.6	-3.8	51.6	6th	5th	31.8	11th	5th	24.1	0.50	15	56	140	17th	5.4
YEAR	50.2	-0.7	56.5	-0.6	43.9	-0.7	89.8	Dec. 6	Jan. 27	31.8	July 21	Jan. 27	22.5	Aug. 6	210	1655	109	June 30	14.8

LONDON WEATHER

KEW 1953

Month	TEMPERATURE										RAINFALL				SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	Durn.
JAN	38.4	-1.1	42.1	-1.6	34.7	-0.6	56.1	7th	29th	12th	0.85	40	6th	20	34	74	18th	h
FEB	39.9	0.0	44.6	0.0	35.2	+0.1	57.0	14, 15	22nd	8th	1.15	74	10th	20	62	97	28th	5.9
MAR	42.7	-1.1	50.7	+0.6	34.7	-2.8	66.9	5th	29th	16th	0.43	29	30th	28	110	97	31st	7.7
APR	47.5	-1.2	54.1	-1.7	40.8	-0.7	66.0	6th	30th	11th	2.22	123	30th	17	171	107	22nd	9.5
MAY	56.2	+1.8	64.0	+1.6	48.4	+2.0	86.2	1st	25th	36.3	1.55	86	1st	20	240	121	3rd	13.0
JUNE	59.1	-1.4	66.0	-2.5	52.2	-0.3	79.2	3rd	25th	44.2	1.83	106	15th	17	174	82	29th	12.9
JULY	61.5	-2.2	68.0	-3.2	54.9	-1.2	88.2	31st	6th	1, 2	3.61	148	31st	11	203	103	5th	13.7
AUG	63.3	+0.3	71.1	+0.5	55.6	+0.1	88.2	22nd	12th	13, 29	1.73	77	20th	22	240	128	7th	11.5
SEPT	58.0	-0.5	65.5	+0.1	50.5	-1.2	88.2	28th	1st	4, 5	2.00	101	17th	18	184	129	5th	7.5
OCT	51.7	+0.2	57.7	+0.2	45.7	+0.3	68.5	28th	1st	51.8	2.29	102	13th	19	81	83	5th	8.1
NOV	47.2	+2.0	51.8	+1.9	42.6	+2.0	56.7	22, 23	14th	31.8	1.48	59	1st	22	53	100	4th	5.8
DEC	46.5	+5.0	50.2	+4.6	42.8	+5.4	59.2	30th	4th	31.5	0.50	24	30th	22	33	83	24th	
YEAR	51.1	+0.2	57.2	+0.1	45.0	+0.4	88.2	Feb. 14, 15	Aug. 12	Jan. 12	19.65	82	Nov. 1	236	1585	105	May 3	14.2

KEW 1954

Month	TEMPERATURE										RAINFALL				SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	Durn.
JAN	38.1	-1.4	42.1	-1.6	34.2	-1.1	57.7	28th	20th	28th	0.92	43	13th	21	66	143	16th	h
FEB	37.7	-2.2	42.1	-2.5	33.4	-1.7	50.4	1st	23rd	1, 6	1.95	126	18th	13	57	89	24th	6.6
MAR	44.1	+0.3	49.8	-0.3	38.5	+1.0	61.7	2nd	22nd	2nd	1.93	132	3rd	15	104	92	30th	7.3
APR	46.3	-2.4	54.3	-1.5	38.3	-3.2	60.1	5th	27th	11th	0.38	21	2nd	25	186	116	27th	10.2
MAY	53.9	-0.5	61.3	-1.1	46.6	+0.2	80.6	2nd	27th	8th	1.78	98	28th	18	160	80	26th	13.2
JUNE	58.2	-2.3	64.4	-4.1	52.0	-0.5	73.8	2nd	18th	35.6	4.00	233	13th	16	162	76	20, 24	13.1
JULY	59.7	-4.0	65.7	-5.4	53.8	-2.4	73.4	8th	24th	45.9	2.34	96	25th	17	152	77	19th	13.0
AUG	60.1	-2.9	66.9	-3.7	53.2	-2.3	76.6	19th	2nd	17, 22	3.14	172	6th	19	153	81	27, 31	11.7
SEPT	56.7	-1.8	63.1	-2.3	50.4	-1.3	81.3	29th	2nd	38.1	1.59	80	4th	11	170	120	1st	11.7
OCT	54.6	+3.1	59.7	+2.2	49.5	+4.1	68.5	25th	18th	31.8	1.72	76	24th	16	96	98	6th	8.6
NOV	46.3	+1.1	52.0	+2.1	40.6	0.0	58.5	18th	1st	30.9	3.70	149	28th	12	56	106	9th	7.5
DEC	44.6	+3.1	49.6	+4.0	39.6	+2.1	57.6	11th	2, 27	25.7	1.95	95	8th	21	53	133	1st	7.0
YEAR	50.1	-0.8	55.9	-1.2	44.2	-0.4	81.3	Jan. 28	Sept. 2	Jan. 28	25.41	106	Aug. 6	204	1415	93	May 26	3 13.

KEW 1955

Month	TEMPERATURE										RAINFALL				SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	Durn.
							Date Temp.	Date Temp.	Date Temp.	Date Temp.	in	°F	Date	Amount	h	°F	Date	h
JAN	38.3	-1.2	42.4	-1.3	34.2	-1.1	11th 52.5	13th 34.2	29th 46.6	15th 23.5	1-92	90	11th 0.39	19	35	76	18th 6.8	
FEB	36.7	-3.2	40.8	-3.8	32.7	-2.4	7th 53.1	26th 33.4	1st 44.6	28th 22.3	1-16	75	4th 0.44	14	78	122	28th 7.4	
MAR	39.1	-4.7	45.1	-5.0	33.1	-4.4	25th 63.1	7th 35.2	25th 44.6	1st 25.2	0.91	62	25th 0.22	22	157	139	29th 10.4	
APR	50.2	+1.5	58.1	+2.3	42.3	+0.8	29th 67.6	21st 52.0	28th 51.3	2nd 31.5	0.32	18	7th 0.11	22	182	114	24th 12.4	
MAY	51.3	-3.1	58.3	-4.1	44.4	-2.0	30th 68.4	21st 50.2	9th 51.3	17th 40.6	3-72	205	27th 0.71	13	229	115	30th 14.9	
JUNE	59.4	-1.1	66.6	-1.9	52.2	-0.3	6, 15 73.4	9th 56.3	23rd 59.4	10th 40.6	2-18	127	4th 0.57	20	172	81	5th 13.3	
JULY	65.5	+1.8	74.7	+3.5	56.3	+0.2	17th 86.2	13th 63.3	19, 22 64.0	2nd 45.9	0.40	16	14th 0.38	26	244	211	12th 12.8	
AUG	65.9	+2.9	74.5	+3.9	57.2	+1.7	22nd 87.2	14th 58.3	2nd 60.1	19th 41.0	1-77	89	9th 0.55	27	197	105	16th 12.8	
SEPT	58.5	0.0	66.2	+0.8	50.7	-1.0	2nd 87.2	14th 58.3	2nd 60.1	19th 41.0	2-37	105	19th 1.08	20	166	117	29th 10.0	
OCT	49.3	-2.2	55.9	-1.6	42.8	-2.6	8th 67.3	30th 46.0	6th 50.4	1st 29.7	0.91	37	4th 0.45	20	111	113	16th 8.8	
NOV	46.3	+1.1	51.1	+1.2	41.4	+0.8	6th 61.3	30th 41.5	9th 51.8	1st 29.1	0.91	37	4th 0.45	20	43	81	15th 5.5	
DEC	44.3	+2.8	49.3	+3.7	39.4	+2.0	28th 57.0	19th 38.5	6th 50.5	19th 24.8	1-77	86	14th 0.42	16	46	115	31st 5.9	
YEAR	50.5	-0.4	57.0	-0.1	43.9	-0.7	July 17 86.2	Feb. 26 33.4	Aug. 19, 22 64.0	Feb. 28 22.3	18.13	76	Oct. 19 1.08	239	1660	110	May 30 14.9	

KEW 1956

Month	TEMPERATURE										RAINFALL				SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	Durn.
							Date Temp.	Date Temp.	Date Temp.	Date Temp.	in	°F	Date	Amount	h	°F	Date	h
JAN	40.1	+0.6	45.1	+1.4	35.2	-0.1	26th 53.8	9th 35.1	20th 44.2	31st 22.8	3-69	172	10th 0.62	13	50	109	18th 5.9	
FEB	31.9	-8.0	36.7	-7.9	27.1	-8.0	28th 53.6	1st 38.1	29th 42.4	2nd 17.1	0.21	13	12th 0.05	19	64	100	25th 8.5	
MAR	44.8	+1.0	51.3	+1.2	38.3	+0.8	26th 61.7	13th 38.1	2nd 50.0	9th 27.9	0.77	53	3rd 0.37	23	143	127	23rd 9.8	
APR	45.5	-3.2	53.1	-2.7	37.9	-3.6	10th 64.6	6th 45.5	13th 46.6	16th 31.1	0.95	52	13th 0.31	22	146	91	23rd 12.7	
MAY	56.1	+1.7	65.3	+2.9	46.8	+0.4	28th 76.3	18th 55.9	29th 51.4	37.2	0.22	12	9, 29 0.06	25	257	129	15th 13.9	
JUNE	57.7	-2.8	64.4	-4.1	50.9	-1.6	25th 74.8	8th 59.4	23rd 56.8	44.6	1.85	107	8th 0.42	15	147	69	27th 13.1	
JULY	62.3	-1.4	69.1	-2.1	55.6	-0.5	27th 81.7	13th 57.4	9th 61.0	22nd 48.6	3-68	243	27th 0.38	20	173	87	25th 14.5	
AUG	58.8	-4.2	64.9	-5.7	52.7	-2.8	8th 75.2	30th 46.9	10th 60.4	48.7	2.01	101	2nd 0.51	16	165	88	14th 13.4	
SEPT	59.9	+1.4	65.7	+0.3	54.0	+2.3	13th 75.2	1st 57.2	23rd 52.2	26th 33.8	2-12	94	1st 0.38	20	112	114	30th 9.4	
OCT	50.0	+1.5	56.1	+1.4	43.9	-1.5	16th 62.6	30th 37.2	26th 48.7	24th 24.8	0.39	16	14th 0.21	24	58	109	26th 8.7	
NOV	43.8	-1.4	48.4	-1.5	39.2	-1.4	8th 56.3	24th 37.2	16th 49.3	27th 29.3	2-56	124	28th 0.34	14	9	23	29th 3.5	
DEC	44.0	+2.5	47.5	+1.9	40.5	+3.1	12th 55.6	25th 35.1	16th 49.3	27th 29.3								
YEAR	49.7	-1.2	55.8	-1.3	43.5	-1.1	July 27 81.7	Feb. 1 24.3	July 9 61.0	Feb. 2 17.1	24.37	102	July 9 2.38	223	1434	95	July 25 14.5	

KEW 1957

Month	TEMPERATURE							RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent average	Wettest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	in
JAN	43.1	+3.6	46.9	+3.2	39.4	+4.1	55.4	37.4	53.8	2nd	32.5	1.44	24th
FEB	43.4	+3.5	47.8	+3.2	39.0	+3.9	55.6	38.7	48.4	18th	32.0	3.00	5th
MAR	49.8	+6.0	55.9	+5.8	43.7	+6.2	66.4	48.2	52.0	4th	30.6	1.02	26th
APR	49.2	+0.5	56.1	+0.3	42.3	+0.8	65.7	48.0	49.8	12th	33.8	0.34	19th
MAY	52.3	-2.1	59.5	-2.9	45.0	-1.4	72.1	49.5	52.2	6th	35.8	1.05	9th
JUNE	62.1	+1.6	72.0	+3.5	52.3	-0.2	87.1	59.0	63.5	12th	43.7	0.97	10th
JULY	64.7	+1.0	71.4	+0.2	58.1	+2.0	88.3	63.7	65.1	11th	52.2	3.28	3rd
AUG	61.7	-1.3	68.4	-2.2	55.0	-0.5	80.1	58.8	62.1	23rd	46.2	3.84	17th
SEPT	56.5	-2.0	62.4	-3.0	50.5	-1.2	67.3	53.8	59.4	30th	37.6	2.49	12th
OCT	53.1	+1.6	59.2	+1.7	47.1	+1.7	66.7	53.6	55.9	20th	36.1	1.84	24th
NOV	45.3	+0.1	48.7	-1.2	41.9	+1.3	55.8	43.2	49.8	14th	30.2	2.29	3rd
DEC	41.0	-0.5	45.5	-0.1	36.5	-0.9	55.6	35.1	48.6	17th	23.5	1.73	13th
YEAR	51.9	+1.0	57.8	+0.7	45.9	+1.3	88.3	4	65.1	17	23.5	23.29	Aug. 12
							July 6	Dec. 4	July 4	Dec. 17		97	1.32
											1569	104	June 13, 15

KEW 1958

Month	TEMPERATURE							RAINFALL			SUNSHINE		
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent average	Wettest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	in
JAN	40.3	+0.8	44.8	+1.1	35.8	+0.5	55.8	34.2	47.7	23rd	23.2	1.91	5th
FEB	42.6	+2.7	47.8	+3.2	37.4	+2.3	56.7	33.8	51.6	7, 26	29.3	2.29	24th
MAR	40.4	-3.4	45.7	-4.4	35.1	-2.4	56.3	34.9	48.4	12th	25.2	1.02	28th
APR	46.7	-2.0	53.2	-2.6	40.1	-1.4	72.3	42.6	53.2	3rd	31.3	1.28	5th
MAY	54.6	+0.2	62.1	-0.3	47.1	+0.7	76.1	52.9	55.6	4th	39.6	2.28	29th
JUNE	59.1	-1.4	66.7	-1.8	51.6	-0.9	77.2	55.0	55.9	13th	43.9	4.13	2nd
JULY	63.0	-0.7	70.2	-1.0	55.8	-0.3	80.4	63.1	60.1	17, 24	48.9	2.48	16th
AUG	62.3	-0.7	68.4	-2.2	56.1	+0.6	80.8	63.7	62.2	24th	50.2	3.41	25th
SEPT	60.8	+2.3	67.1	+1.7	54.5	+2.8	75.7	61.3	62.8	27th	42.8	3.96	3rd
OCT	53.1	+1.6	58.1	+0.6	48.0	+2.6	62.8	52.0	54.3	31st	40.6	2.04	13th
NOV	45.3	+0.1	49.5	-0.4	41.2	+0.6	57.4	43.0	51.6	15th	31.5	1.89	2nd
DEC	42.5	+1.0	46.3	+0.8	38.5	+1.1	55.2	39.9	46.8	6th	31.1	2.97	13th
YEAR	50.9	0.0	56.7	-0.4	45.1	+0.5	80.8	7	62.8	23	29.69	124	Aug. 5
							Aug. 10	Feb. 7	Sept. 5	Jan. 23		92	1.01
											1387	92	July 9

KEW 1959

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest		Lowest		Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
							Date	Temp.	Date	Temp.							
JAN	37.3	-2.2	42.1	-1.6	32.4	-2.9	51.4	19th	43.9	17th	23.5	99	20th	16	80	174	27th
FEB	40.1	+0.2	45.1	+0.5	35.2	+0.1	28th	25th	43.7	19th	29.5	6	21st	25	59	92	28th
MAR	46.7	+2.9	52.7	+2.6	40.6	+3.1	2nd	3rd	47.1	12th	35.8	107	3rd	19	109	96	28th
APR	50.7	+2.0	57.2	+1.4	44.1	+2.6	13th	1st	50.4	29th	37.8	113	25th	15	139	87	28th
MAY	56.1	+1.7	64.6	+2.2	47.7	+1.3	11, 12	12th	58.1	6th	37.6	29	3rd	26	230	115	24th
JUNE	61.7	+1.2	70.3	+1.8	53.1	+0.6	24th	25th	61.3	13th	43.5	35	4th	19	240	113	17th
JULY	66.1	+2.4	75.4	+4.2	56.8	+0.7	5th	2nd	63.0	14th	48.9	64	28th	22	290	146	7th
AUG	66.0	+3.0	74.1	+3.5	57.9	+2.4	20th	21st	65.1	31st	49.5	50	13th	23	240	128	18th
SEPT	61.8	+3.3	71.1	+5.7	52.5	+0.8	12th	4.6	58.3	28th	41.7	5	21st	28	212	149	4th
OCT	56.0	+4.5	63.3	+5.8	48.7	+3.3	3rd	17th	59.0	29th	37.4	83	27th	19	160	163	3rd
NOV	45.4	+0.2	50.7	+0.8	40.1	-0.5	2nd	20th	52.9	12th	28.4	95	13th	18	58	109	10th
DEC	44.6	+3.1	48.6	+3.0	40.6	+3.2	20th	31st	49.5	2nd	32.0	149	5th	7	36	90	24th
YEAR	52.7	+1.8	59.6	+2.5	45.8	+1.2	July 5	Aug. 21	65.1	Jan. 17	23.5	71	Oct. 27	237	1852	122	June 17
																	15.3

KEW 1960

Month	TEMPERATURE										RAINFALL			SUNSHINE								
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum		Lowest maximum		Highest minimum		Lowest minimum		Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day	
							Date	Temp.	Date	Temp.	Date	Temp.	Date	Temp.								
JAN	40.9	+1.4	44.8	+1.1	36.9	+1.6	4th	53.6	13th	33.6	4th	50.2	14th	25.5	1.76	82	24th	12	45	98	29th	h
FEB	41.3	+1.4	45.7	+1.1	37.0	+1.9	28th	58.8	13th	39.0	28th	48.9	18th	26.1	1.66	107	25th	13	81	127	21st	h
MAR	45.2	+1.4	49.8	-0.3	40.6	+3.1	15th	57.6	8th	39.6	1st	48.6	20th	35.6	1.60	109	29th	20	73	65	20, 21	h
APR	49.7	+1.0	56.7	+0.9	42.6	+1.1	20th	64.9	25th	51.3	5th	51.1	1st	34.0	0.52	29	3rd	20	173	108	20th	h
MAY	56.7	+2.3	64.4	+2.0	49.1	+2.7	7th	73.9	1, 2	50.4	27th	58.8	4th	38.1	1.65	91	13th	20	189	95	31st	h
JUNE	62.5	+2.0	70.7	+2.2	54.3	+1.8	5th	83.1	29th	61.2	23rd	61.5	1st	45.5	1.21	70	23rd	18	256	120	20th	h
JULY	60.9	-2.8	66.9	-3.1	55.0	-1.1	28th	72.1	13th	61.9	25th	61.2	1st	47.8	3.37	138	8th	13	163	82	31st	h
AUG	60.7	-2.3	67.5	-3.1	54.0	-1.5	7th	74.1	11th	58.1	7, 24	57.9	17th	48.0	1.81	183	11th	16	176	94	9th	h
SEPT	57.7	-0.8	64.0	-1.4	51.3	-0.4	11th	73.8	30th	55.4	1st	58.3	25th	44.4	3.43	173	1st	16	146	103	13th	h
OCT	52.1	+0.6	56.8	-0.7	47.5	+2.1	2nd	67.3	17th	51.3	2nd	55.0	13th	35.8	5.21	231	9th	6	87	89	12th	h
NOV	47.1	+1.9	51.4	+1.5	42.8	+2.2	1st	60.1	8, 28	45.7	1st	51.8	8th	33.3	3.79	152	1st	7	72	136	2nd	h
DEC	41.1	-0.4	45.0	-0.6	37.2	-0.2	3rd	54.5	11, 13	38.8	1st	48.2	29th	30.2	1.98	96	4th	15	49	123	27th	h
YEAR	51.3	+0.4	57.0	-0.1	45.7	+1.1	June 5	83.1	Jan. 13	33.6	June 23	61.5	Jan. 14	25.5	27.97	117	Sept. 1	174	1511	100	June 20	14.7

KEW 1961

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	in		h	h	h
JAN	40.4	+0.9	44.1	+0.4	36.7	+1.4	29th 52.5	26th 34.5	29th 45.0	11, 12 29.1	2.44	114	2nd 0.36	13	53	115	8, 11 5.6
FEB	46.3	+6.4	50.4	+5.8	42.3	+7.2	14th 59.0	3rd 44.2	11th 48.6	14th 36.3	2.15	139	27th 0.66	17	66	103	7, 14 7.4
MAR	47.6	+3.8	55.6	+5.5	39.6	+2.1	16th 68.5	19th 44.1	13, 30 49.5	5th 31.8	0.16	11	18th 0.08	27	171	151	15, 24 10.0
APR	51.8	+3.1	57.9	+2.1	45.7	+4.2	18th 63.7	3rd 48.4	1st 50.9	25th 39.9	2.06	114	3rd 0.31	13	102	64	24th 11.5
MAY	53.7	-0.7	61.0	-1.4	46.4	-0.3	13th 73.6	27th 54.0	24th 54.1	29th 37.9	0.95	53	4th 0.59	25	233	117	31st 13.5
JUNE	61.0	+0.5	69.8	+1.3	52.2	-0.3	30th 84.7	1st 50.5	18th 57.7	10th 45.0	1.39	81	12th 0.93	23	241	113	25th 15.2
JULY	62.7	-1.0	70.3	-0.9	55.0	-1.1	1st 89.1	16th 60.3	26th 60.6	30th 48.0	1.20	49	12th 0.27	20	203	103	5th 13.9
AUG	62.6	-0.4	69.3	-1.3	55.9	+0.4	29th 86.5	11, 14 64.2	30th 61.3	3rd 49.6	2.30	103	24th 0.61	19	167	89	29, 30, 31 12.4
SEPT	61.1	+2.6	67.6	+2.2	54.5	+2.8	2nd 80.4	6th 59.7	2nd 60.6	10th 46.6	2.14	108	13th 0.59	16	130	91	18th 10.3
OCT	53.1	+1.6	59.0	+1.5	47.1	+1.7	10th 68.4	19th 49.5	10th 61.3	29th 36.1	2.11	94	24th 0.41	17	123	126	2nd 9.0
NOV	44.6	-0.6	49.1	-0.8	40.1	-0.5	1st 59.2	28th 42.4	2nd 49.8	24th 29.8	1.82	73	10th 0.57	20	63	119	4th 8.5
DEC	39.2	-2.3	44.1	-1.5	34.3	-3.1	11, 12 57.4	28th 31.3	11th 52.9	31st 23.9	3.44	167	31st 0.71	17	54	135	24th 6.3
YEAR	52.0	+1.1	58.2	+1.1	45.8	+1.2	July 89.1	Dec. 28 31.3	Aug. 30 61.3	Dec. 31 23.9	22.16	93	June 12 0.93	227	1607	106	June 25 15.2

KEW 1962

Month	TEMPERATURE										RAINFALL			SUNSHINE									
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day						
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in	in	in	in	h	h	h						
JAN	41.5	+2.0	45.7	+2.0	37.2	+1.9	26th	54.1	1st	30.7	26th	47.7	1st	19.4	2.81	131	21st	0.74	13	66	143	14th	7.2
FEB	41.3	+1.4	45.5	+0.9	37.2	+2.1	12th	54.1	26th	31.5	12th	45.7	26th	26.8	0.63	41	12th	0.30	18	68	106	5th	8.1
MAR	38.5	-5.3	44.1	-6.0	32.9	-4.6	29th	55.8	5th	36.0	10th	44.8	17th	23.2	1.35	92	29th	0.39	23	113	100	16th	9.6
APR	47.5	-1.2	53.6	-2.2	41.4	-0.1	26th	68.9	15th	44.1	24th	47.8	14th	34.9	1.66	92	4th	0.41	17	141	88	25th	12.0
MAY	51.9	-2.5	57.7	-4.7	46.2	-0.2	4th	68.9	26th	48.9	6, 8	52.9	2nd	37.6	1.56	86	4th	0.41	15	159	80	31st	14.3
JUNE	58.3	-2.2	66.7	-1.8	49.8	-2.7	9th	77.0	1st	54.5	21st	59.2	2nd	38.3	0.28	16	19th	0.11	24	262	123	8th	14.9
JULY	61.3	-2.4	68.0	-3.2	54.7	-1.4	2nd	74.8	4th	57.4	25th	59.5	8th	48.9	2.33	95	26th	1.50	22	133	67	23rd	11.1
AUG	60.5	-2.5	66.9	-3.7	54.0	-1.5	19th	73.2	6th	59.9	11th	59.7	9th	45.7	2.43	108	6th	0.83	17	173	92	4th	11.9
SEPT	56.5	-2.0	62.8	-2.6	50.2	-1.5	2nd	73.8	21st	55.8	3rd	58.1	18th	41.7	2.84	143	30th	0.69	16	152	107	9th	11.8
OCT	52.7	+1.2	59.0	+1.5	46.4	+1.0	2, 7, 8, 18	65.7	27, 29	49.5	2nd	56.3	27th	34.3	2.15	95	1st	0.75	24	117	119	4th	9.4
NOV	43.9	-1.3	48.2	-1.7	39.6	-1.0	2nd	56.5	19th	38.3	5th	50.2	16th	29.8	1.99	80	1st	0.34	14	37	70	15th	7.3
DEC	36.9	-4.6	41.0	-4.6	32.7	-4.7	15th	55.8	5th	30.9	15th	48.7	5th	23.5	2.21	107	27th	0.47	16	68	170	21st	6.4
YEAR	49.2	-1.7	54.9	-2.2	43.5	-1.1	June 9	77.0	Jan. 1	30.7	Aug. 11	59.7	Jan. 1	19.4	22.23	93	July 26	1.50	219	1489	98	June 8	14.9

KEW 1963

Month	TEMPERATURE										RAINFALL				SUNSHINE			
	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. degF	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day		
	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		in		h		h		
JAN	29.7	-9.8	33.1	-10.6	26.4	-8.9	26th	24th	27.0	25th	14.5	39	3rd	20	49	107	9th	
FEB	32.5	-7.4	36.1	-8.5	28.9	-6.2	28th	2nd	28.4	25th	20.5	17	2nd	20	71	111	28th	
MAR	44.3	+0.5	49.8	-0.3	38.7	+1.2	14th	22nd	40.8	3rd	27.1	158	9th	12	104	92	24th	
APR	49.4	+0.7	55.8	0.0	43.0	+1.5	28th	5th	44.1	1st	30.7	88	16th	16	136	85	22nd	
MAY	52.6	-1.8	59.7	-2.7	45.5	-0.9	31st	2nd	52.2	2nd	38.8	102	1st	18	205	103	31st	
JUNE	60.9	+0.4	68.0	-0.5	53.8	+1.3	7th	19th	58.5	15th	47.1	112	28th	19	202	95	2nd	
JULY	61.5	-2.2	69.1	-2.1	54.0	-2.1	23rd	6th	61.5	27th	47.1	129	6th	20	204	103	26th	
AUG	59.9	-3.1	66.6	-4.0	53.2	-2.3	1st	30th	61.3	29th	45.7	98	3rd	14	144	77	26th	
SEPT	56.9	-1.6	63.5	-1.9	50.4	-1.3	15th	30th	57.9	28th	43.3	118	6th	15	127	89	15th	
OCT	52.7	+1.2	57.7	+0.2	47.7	+2.3	12th	29th	51.6	2, 6	41.7	67	31st	20	90	92	22nd	
NOV	48.5	+3.3	53.4	+3.5	43.5	+2.9	10th	30th	44.1	21st	31.3	181	18th	10	62	117	22nd	
DEC	38.2	-3.3	41.9	-3.7	34.5	-2.9	29th	20th	35.1	24th	22.3	33	26th	20	43	108	15th	
YEAR	48.9	-2.0	54.6	-2.5	43.3	-1.3	July 23	Jan. 24	27.0	Jan. 25	14.5	89	July 6 Nov. 18	204	1437	95	June 2	
																	15.0	

KEW 1964

Month	TEMPERATURE										RAINFALL			SUNSHINE			
	Mean	Diff. from average	Mean max.	Diff. from average	Mean min.	Diff. from average	Highest maximum	Lowest maximum	Highest minimum	Lowest minimum	Total	Per cent of average	Wettest day	No. of dry days	Total	Per cent of average	Sunniest day
	°F	degF	°F	degF	°F	degF	°F	°F	°F	°F	in		Date	Amount	h		Date
JAN	38.7	-0.8	42.6	-1.1	34.9	-0.4	31st	13th	28th	18th	0.53	25	28th	21	37	80	30th
FEB	41.3	+1.4	45.5	+0.9	37.2	+2.1	2nd	19th	26th	7th	0.70	45	29th	21	65	102	5th
MAR	41.5	-2.3	45.7	-4.4	37.2	-0.3	13th	7th	14th	10th	3.27	224	15th	20	71	63	26th
APR	48.7	0.0	54.7	-1.1	42.8	+1.3	27th	2, 3	17th	6th	3.18	176	16th	14	129	81	29th
MAY	58.4	+4.0	66.4	+4.0	50.4	+4.0	30th	1st	24, 31	15th	1.67	92	31st	16	208	105	14th
JUNE	59.3	-1.2	66.9	-1.6	51.8	-0.7	10th	2nd	28th	20th	3.89	226	18th	18	172	81	26th
JULY	64.9	+1.2	73.0	+0.8	56.7	+0.6	17th	4, 10	30th	4th	1.95	80	21st	21	225	114	13th
AUG	62.8	-0.2	70.9	+0.3	54.7	-0.8	26th	19th	3rd	30th	1.83	82	18th	21	220	117	25th
SEPT	59.7	+1.2	68.5	+3.1	50.9	-0.8	4th	21st	6th	29th	0.41	21	15th	24	219	154	2nd
OCT	49.1	-2.4	55.9	-1.6	42.3	-3.1	5th	24th	52.5	13th	1.21	54	14th	20	132	135	3rd
NOV	47.6	+2.4	52.2	+2.3	43.0	+2.4	18th	10, 30	53.6	30th	1.34	54	16th	21	55	104	8th
DEC	40.4	-1.1	45.0	-0.6	35.8	-1.6	9th	28th	52.2	29th	1.34	65	13th	16	50	125	4th
YEAR	51.0	+0.1	57.3	+0.2	44.8	+0.2	Aug. 26	Jan. 13	July 30	Dec. 29	21.32	89	June 18	233	1583	105	July 13
																	14.7

CONVERSION TABLE FOR DEGREES

°F	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C
100	37.8	37.8	37.9	37.9	38.0	38.1	38.1	38.2	38.2	38.3
99	37.2	37.3	37.3	37.4	37.4	37.5	37.6	37.6	37.7	37.7
98	36.7	36.7	36.8	36.8	36.9	36.9	37.0	37.1	37.1	37.2
97	36.1	36.2	36.2	36.3	36.3	36.4	36.4	36.5	36.6	36.6
96	35.6	35.6	35.7	35.7	35.8	35.8	35.9	35.9	36.0	36.1
95	35.0	35.1	35.1	35.2	35.2	35.3	35.3	35.4	35.4	35.5
94	34.4	34.5	34.6	34.6	34.7	34.7	34.8	34.8	34.9	34.9
93	33.9	33.9	34.0	34.1	34.1	34.2	34.2	34.3	34.3	34.4
92	33.3	33.4	33.4	33.5	33.6	33.6	33.7	33.7	33.8	33.8
91	32.8	32.8	32.9	32.9	33.0	33.1	33.1	33.2	33.2	33.3
90	32.2	32.3	32.3	32.4	32.4	32.5	32.6	32.6	32.7	32.7
89	31.7	31.7	31.8	31.8	31.9	31.9	32.0	32.1	32.1	32.2
88	31.1	31.2	31.2	31.3	31.3	31.4	31.4	31.5	31.6	31.6
87	30.6	30.6	30.7	30.7	30.8	30.8	30.9	30.9	31.0	31.1
86	30.0	30.1	30.1	30.2	30.2	30.3	30.3	30.4	30.4	30.5
85	29.4	29.5	29.6	29.6	29.7	29.7	29.8	29.8	29.9	29.9
84	28.9	28.9	29.0	29.1	29.1	29.2	29.2	29.3	29.3	29.4
83	28.3	28.4	28.4	28.5	28.6	28.6	28.7	28.7	28.8	28.8
82	27.8	27.8	27.9	27.9	28.0	28.1	28.1	28.2	28.2	28.3
81	27.2	27.3	27.3	27.4	27.4	27.5	27.6	27.6	27.7	27.7
80	26.7	26.7	26.8	26.8	26.9	26.9	27.0	27.1	27.1	27.2
79	26.1	26.2	26.2	26.3	26.3	26.4	26.4	26.5	26.6	26.6
78	25.6	25.6	25.7	25.7	25.8	25.8	25.9	25.9	26.0	26.1
77	25.0	25.1	25.1	25.2	25.2	25.3	25.3	25.4	25.4	25.5
76	24.4	24.5	24.6	24.6	24.7	24.7	24.8	24.8	24.9	24.9
75	23.9	23.9	24.0	24.1	24.1	24.2	24.2	24.3	24.3	24.4
74	23.3	23.4	23.4	23.5	23.6	23.6	23.7	23.7	23.8	23.8
73	22.8	22.8	22.9	22.9	23.0	23.1	23.1	23.2	23.2	23.3
72	22.2	22.3	22.3	22.4	22.4	22.5	22.6	22.6	22.7	22.7
71	21.7	21.7	21.8	21.8	21.9	22.0	22.0	22.1	22.1	22.2
70	21.1	21.2	21.2	21.3	21.3	21.4	21.4	21.5	21.6	21.6
69	20.6	20.6	20.7	20.7	20.8	20.8	20.9	20.9	21.0	21.1
68	20.0	20.1	20.1	20.2	20.2	20.3	20.3	20.4	20.4	20.5
67	19.4	19.5	19.6	19.6	19.7	19.7	19.8	19.8	19.9	19.9
66	18.9	18.9	19.0	19.1	19.1	19.2	19.2	19.3	19.3	19.4
65	18.3	18.4	18.4	18.5	18.6	18.6	18.7	18.7	18.8	18.8
64	17.8	17.8	17.9	17.9	18.0	18.1	18.1	18.2	18.2	18.3
63	17.2	17.3	17.3	17.4	17.4	17.5	17.6	17.6	17.7	17.7
62	16.7	16.7	16.8	16.8	16.9	16.9	17.0	17.1	17.1	17.2
61	16.1	16.2	16.2	16.3	16.3	16.4	16.4	16.5	16.6	16.6
60	15.6	15.6	15.7	15.7	15.8	15.8	15.9	15.9	16.0	16.1
59	15.0	15.1	15.1	15.2	15.2	15.3	15.3	15.4	15.4	15.5
58	14.4	14.5	14.6	14.6	14.7	14.7	14.8	14.8	14.9	14.9
57	13.9	13.9	14.0	14.1	14.1	14.2	14.2	14.3	14.3	14.4
56	13.3	13.4	13.4	13.5	13.6	13.6	13.7	13.7	13.8	13.8
55	12.8	12.8	12.9	12.9	13.0	13.1	13.1	13.2	13.2	13.3
54	12.2	12.3	12.3	12.4	12.4	12.5	12.6	12.6	12.7	12.7
53	11.7	11.7	11.8	11.8	11.9	11.9	12.0	12.1	12.1	12.2
52	11.1	11.2	11.2	11.3	11.3	11.4	11.4	11.5	11.6	11.6
51	10.6	10.6	10.7	10.7	10.8	10.8	10.9	10.9	11.0	11.1
50	10.0	10.1	10.1	10.2	10.2	10.3	10.3	10.4	10.4	10.5

FAHRENHEIT TO DEGREES CELSIUS

F	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C
50	10.0	10.1	10.1	10.2	10.2	10.3	10.3	10.4	10.4	10.5
49	9.4	9.5	9.6	9.6	9.7	9.7	9.8	9.8	9.9	9.9
48	8.9	8.9	9.0	9.1	9.1	9.2	9.2	9.3	9.3	9.4
47	8.3	8.4	8.4	8.5	8.6	8.6	8.7	8.7	8.8	8.8
46	7.8	7.8	7.9	7.9	8.0	8.1	8.1	8.2	8.2	8.3
45	7.2	7.3	7.3	7.4	7.4	7.5	7.6	7.6	7.7	7.7
44	6.7	6.7	6.8	6.8	6.9	6.9	7.0	7.1	7.1	7.2
43	6.1	6.2	6.2	6.3	6.3	6.4	6.4	6.5	6.6	6.6
42	5.6	5.6	5.7	5.7	5.8	5.8	5.9	5.9	6.0	6.1
41	5.0	5.1	5.1	5.2	5.2	5.3	5.3	5.4	5.4	5.5
40	4.4	4.5	4.6	4.6	4.7	4.7	4.8	4.8	4.9	4.9
39	3.9	3.9	4.0	4.1	4.1	4.2	4.2	4.3	4.3	4.4
38	3.3	3.4	3.4	3.5	3.6	3.6	3.7	3.7	3.8	3.8
37	2.8	2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.2	3.3
36	2.2	2.3	2.3	2.4	2.4	2.5	2.6	2.6	2.7	2.7
35	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2
34	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.6
33	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.1
32	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5
31	— 0.5	— 0.5	— 0.4	— 0.4	— 0.3	— 0.3	— 0.2	— 0.2	— 0.1	— 0.1
30	— 1.1	— 1.1	— 1.0	— 0.9	— 0.9	— 0.8	— 0.8	— 0.7	— 0.7	— 0.6
29	— 1.7	— 1.6	— 1.6	— 1.5	— 1.4	— 1.4	— 1.3	— 1.3	— 1.2	— 1.2
28	— 2.2	— 2.2	— 2.1	— 2.1	— 2.0	— 2.0	— 1.9	— 1.8	— 1.8	— 1.7
27	— 2.8	— 2.7	— 2.7	— 2.6	— 2.6	— 2.5	— 2.4	— 2.4	— 2.3	— 2.3
26	— 3.3	— 3.3	— 3.2	— 3.2	— 3.1	— 3.1	— 3.0	— 2.9	— 2.9	— 2.8
25	— 3.9	— 3.8	— 3.8	— 3.7	— 3.7	— 3.6	— 3.6	— 3.5	— 3.4	— 3.4
24	— 4.4	— 4.4	— 4.3	— 4.3	— 4.2	— 4.2	— 4.1	— 4.1	— 4.0	— 3.9
23	— 5.0	— 4.9	— 4.9	— 4.8	— 4.8	— 4.7	— 4.7	— 4.6	— 4.6	— 4.5
22	— 5.6	— 5.5	— 5.4	— 5.4	— 5.3	— 5.3	— 5.2	— 5.2	— 5.1	— 5.1
21	— 6.1	— 6.1	— 6.0	— 5.9	— 5.9	— 5.8	— 5.8	— 5.7	— 5.7	— 5.6
20	— 6.7	— 6.6	— 6.6	— 6.5	— 6.4	— 6.4	— 6.3	— 6.3	— 6.2	— 6.2
19	— 7.2	— 7.2	— 7.1	— 7.1	— 7.0	— 6.9	— 6.9	— 6.8	— 6.8	— 6.7
18	— 7.8	— 7.7	— 7.7	— 7.6	— 7.6	— 7.5	— 7.4	— 7.4	— 7.3	— 7.3
17	— 8.3	— 8.3	— 8.2	— 8.2	— 8.1	— 8.1	— 8.0	— 7.9	— 7.9	— 7.8
16	— 8.9	— 8.8	— 8.8	— 8.7	— 8.7	— 8.6	— 8.6	— 8.5	— 8.4	— 8.4
15	— 9.4	— 9.4	— 9.3	— 9.3	— 9.2	— 9.2	— 9.1	— 9.1	— 9.0	— 8.9
14	—10.0	— 9.9	— 9.9	— 9.8	— 9.8	— 9.7	— 9.7	— 9.6	— 9.6	— 9.5
13	—10.6	—10.5	—10.4	—10.4	—10.3	—10.3	—10.2	—10.2	—10.1	—10.1
12	—11.1	—11.1	—11.0	—10.9	—10.9	—10.8	—10.8	—10.7	—10.7	—10.6
11	—11.7	—11.6	—11.6	—11.5	—11.4	—11.4	—11.3	—11.3	—11.2	—11.2
10	—12.2	—12.2	—12.1	—12.1	—12.0	—11.9	—11.9	—11.8	—11.8	—11.7
9	—12.8	—12.7	—12.7	—12.6	—12.6	—12.5	—12.4	—12.4	—12.3	—12.3
8	—13.3	—13.3	—13.2	—13.2	—13.1	—13.1	—13.0	—12.9	—12.9	—12.8
7	—13.9	—13.8	—13.8	—13.7	—13.7	—13.6	—13.6	—13.5	—13.4	—13.4
6	—14.4	—14.4	—14.3	—14.3	—14.2	—14.2	—14.1	—14.1	—14.0	—13.9
5	—15.0	—14.9	—14.9	—14.8	—14.8	—14.7	—14.7	—14.6	—14.6	—14.5
4	—15.6	—15.5	—15.4	—15.4	—15.3	—15.3	—15.2	—15.2	—15.1	—15.1
3	—16.1	—16.1	—16.0	—15.9	—15.9	—15.8	—15.8	—15.7	—15.7	—15.6
2	—16.7	—16.6	—16.6	—16.5	—16.4	—16.4	—16.3	—16.3	—16.2	—16.2
1	—17.2	—17.2	—17.1	—17.1	—17.0	—16.9	—16.9	—16.8	—16.8	—16.7
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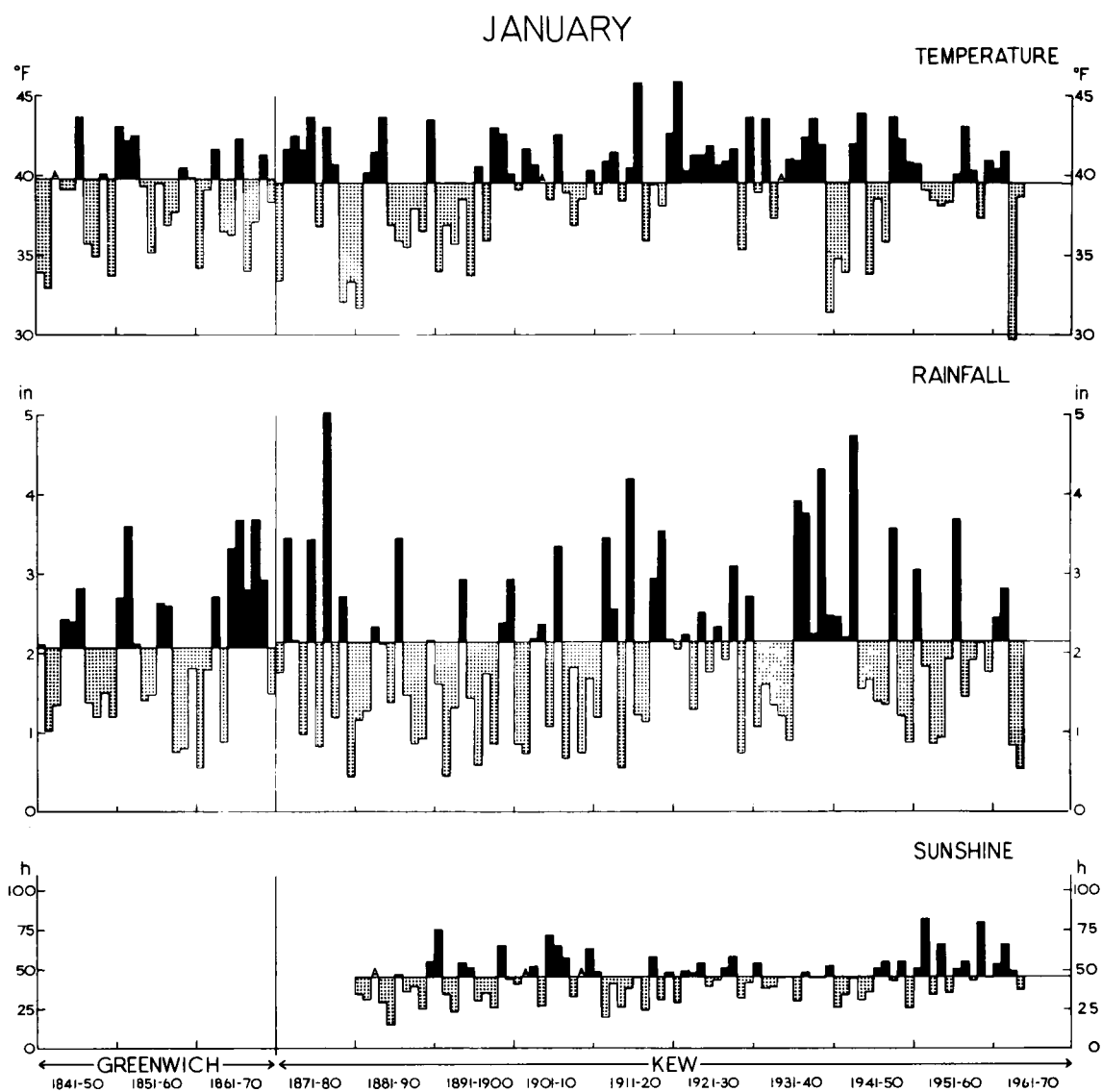


PLATE III. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN JANUARY 1841-1964
 A=average

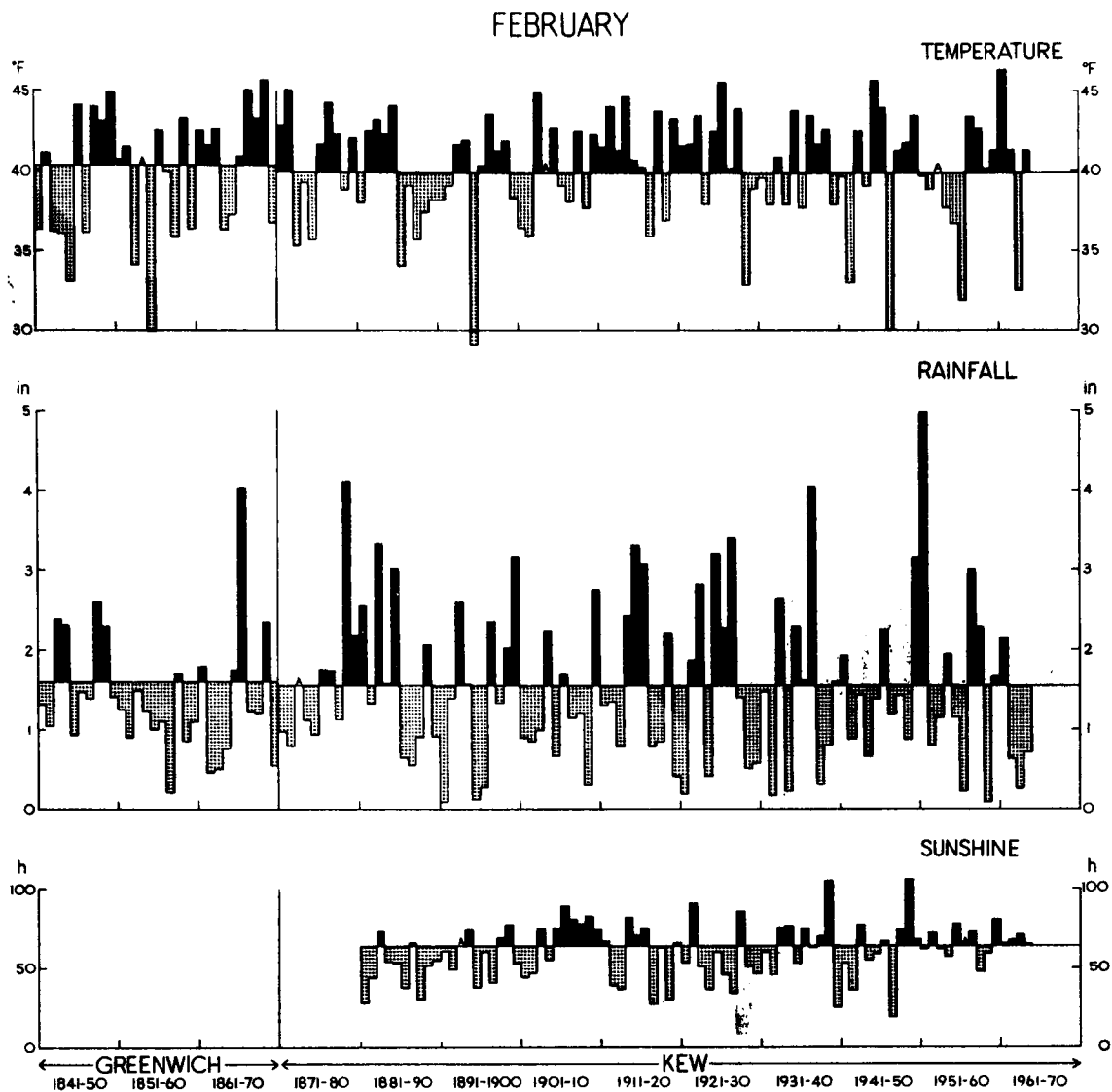


PLATE IV. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN FEBRUARY 1841-1964
A=average

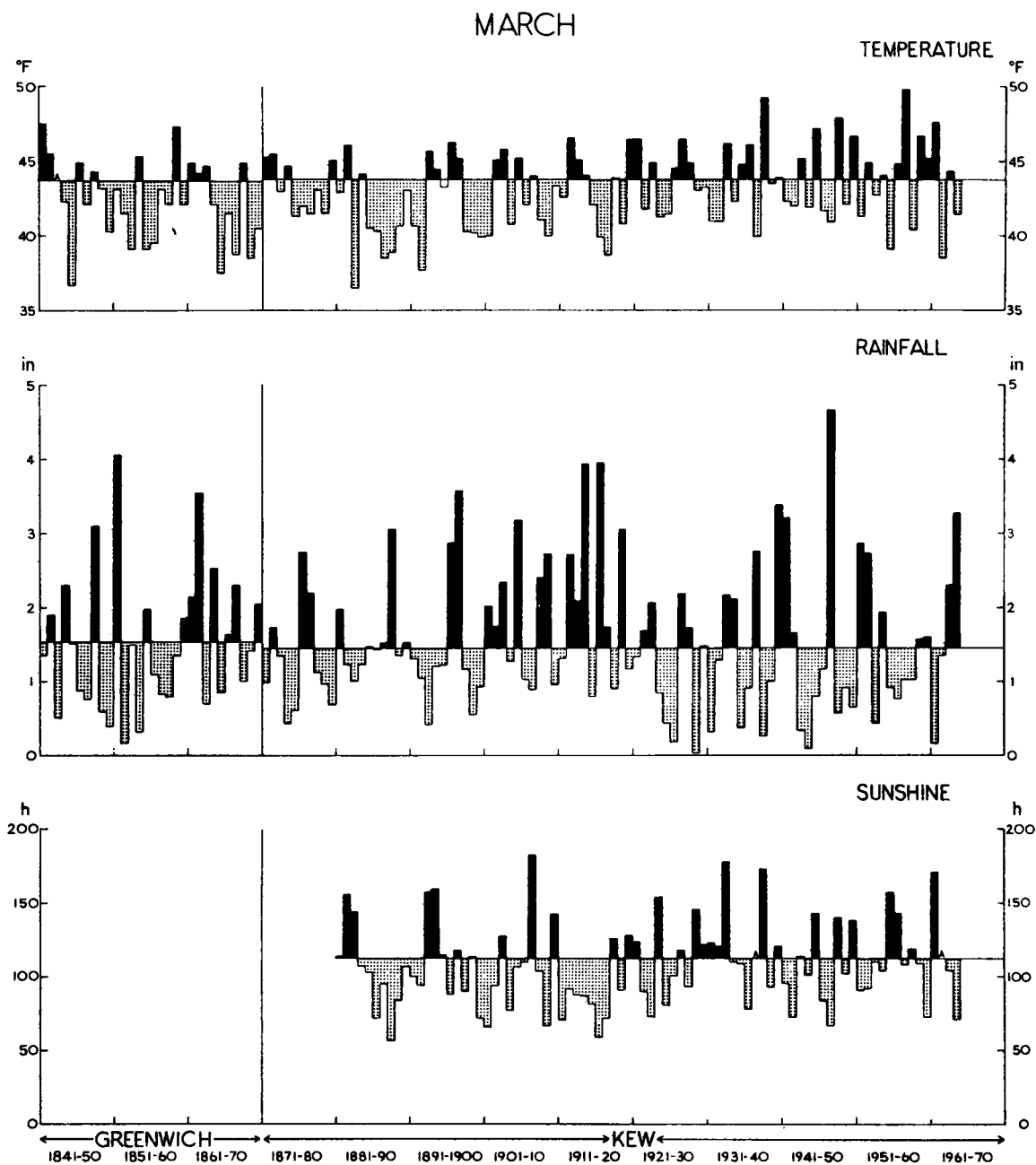


PLATE V. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN MARCH 1841-1964

A=average

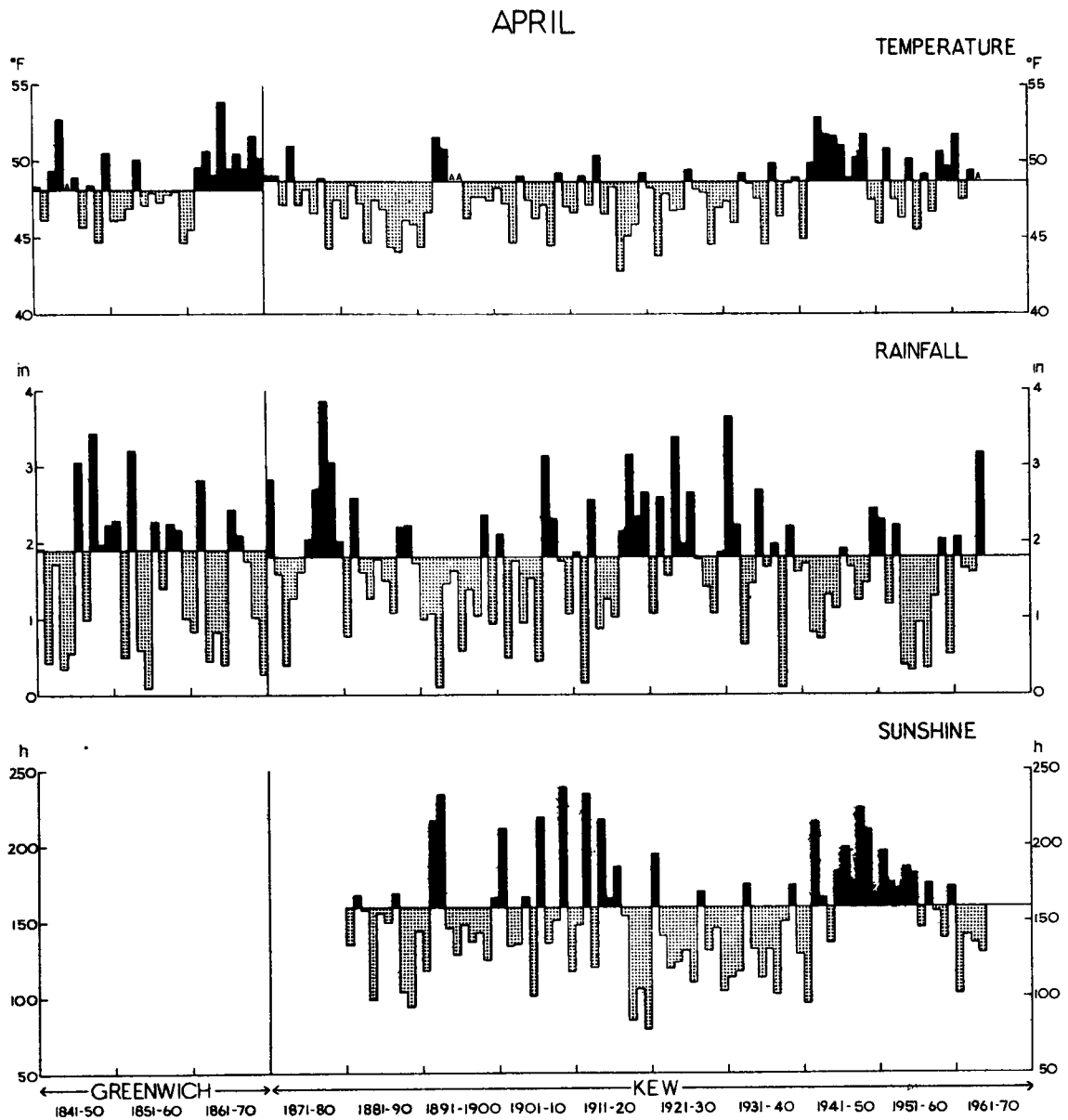


PLATE VI. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN APRIL 1841-1964
 A=average

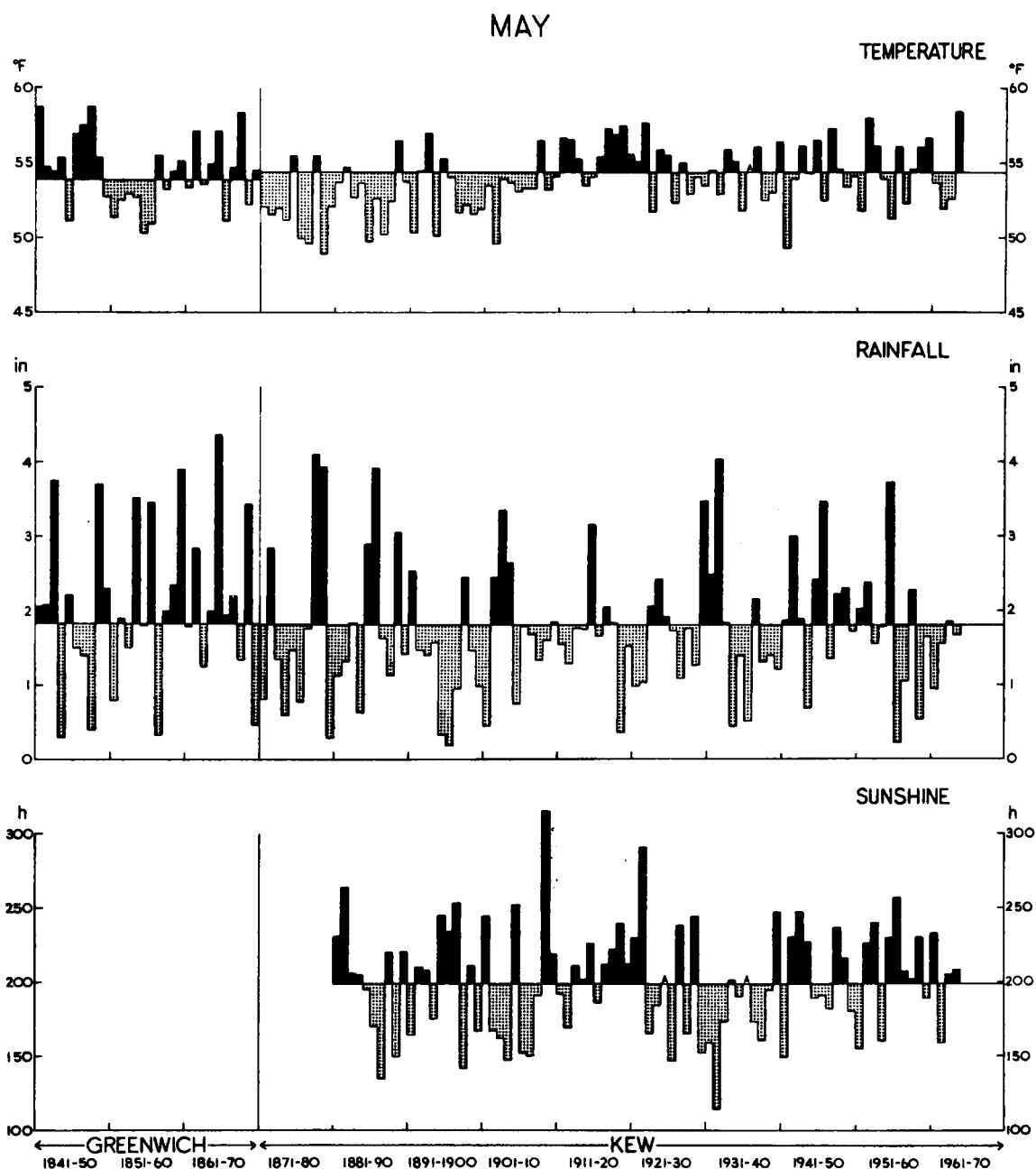


PLATE VII. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN MAY 1841-1964

A=average

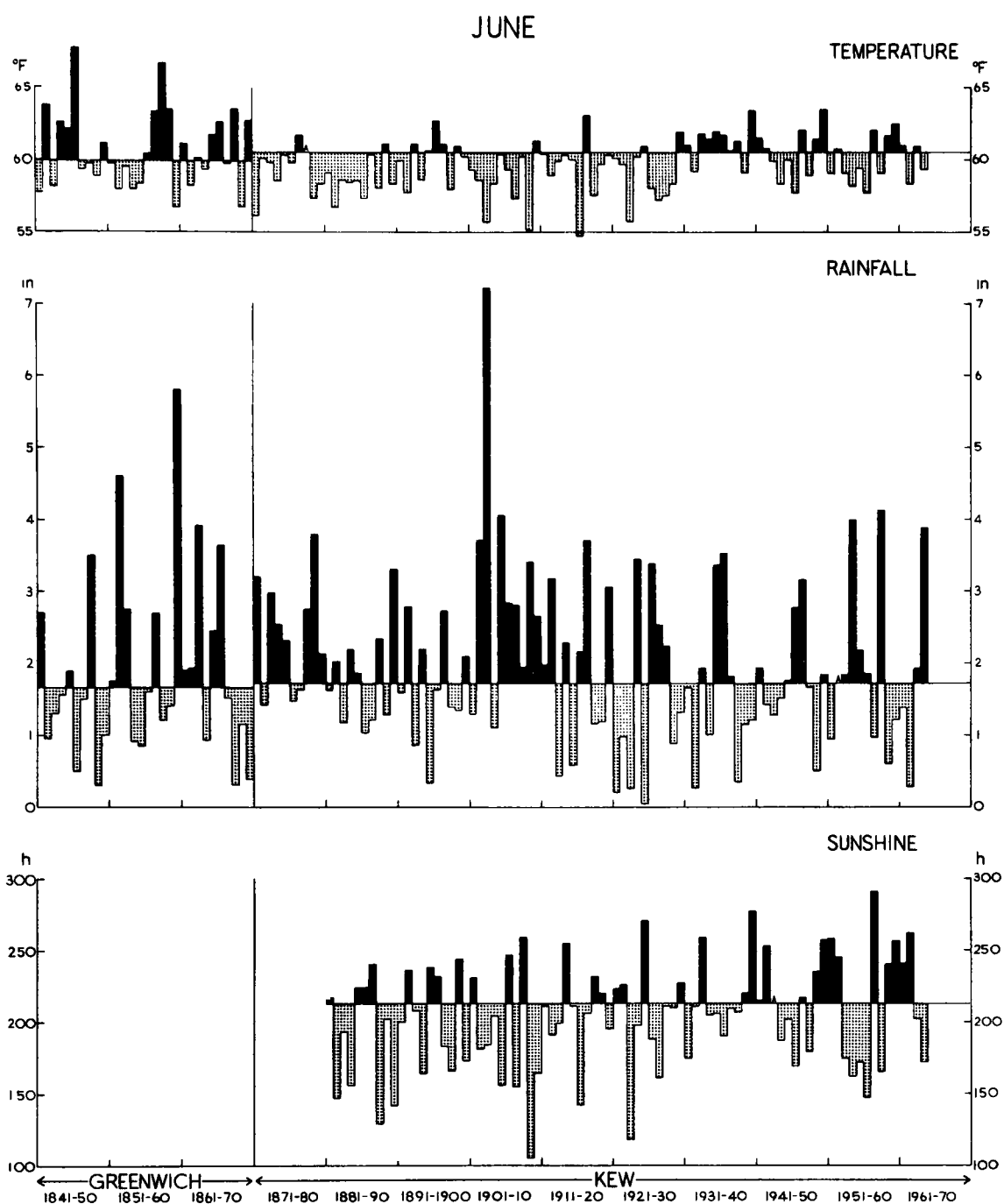


PLATE VIII. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN JUNE 1841-1964

A=average

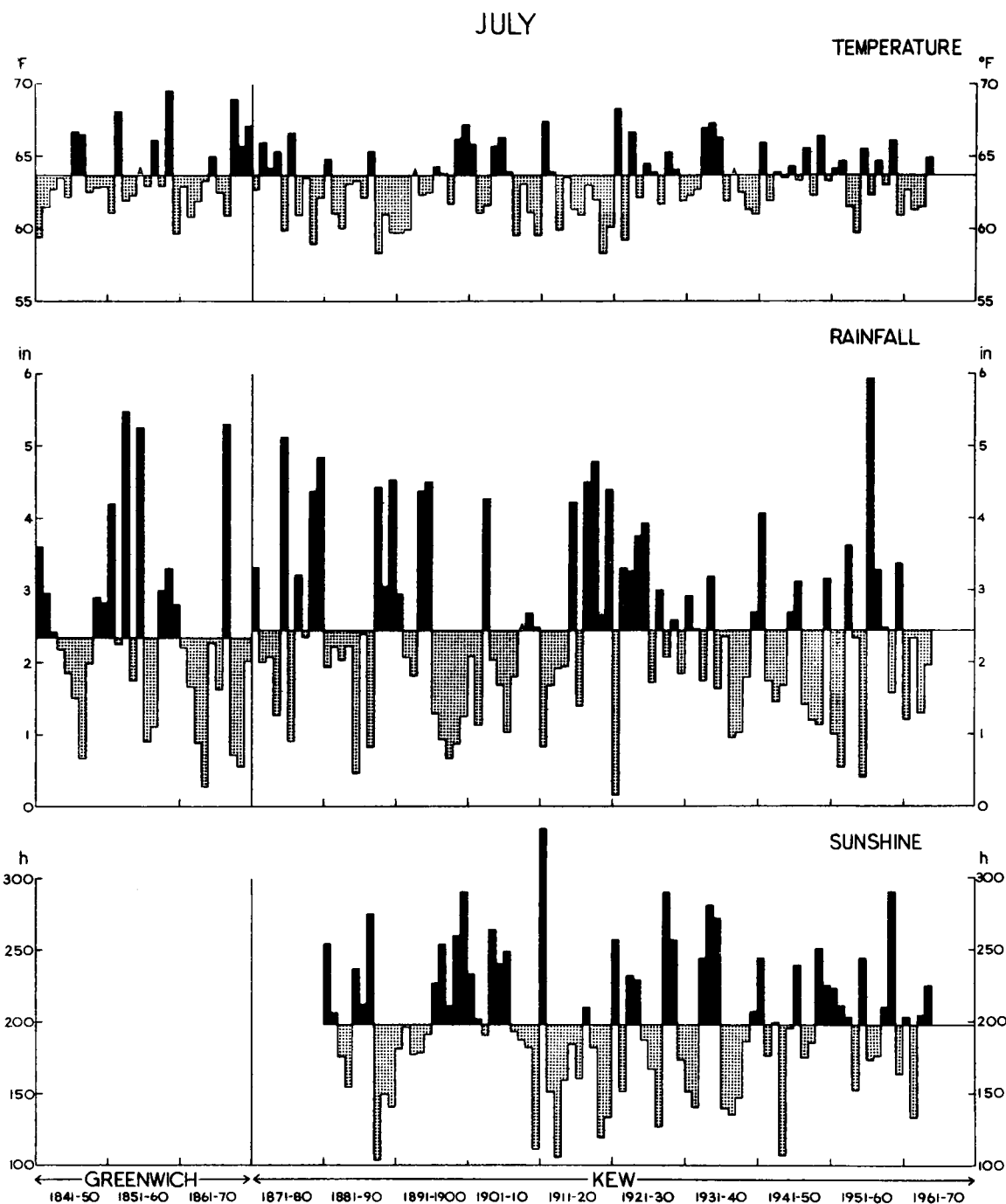


PLATE IX. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN JULY 1841-1964
 A=average

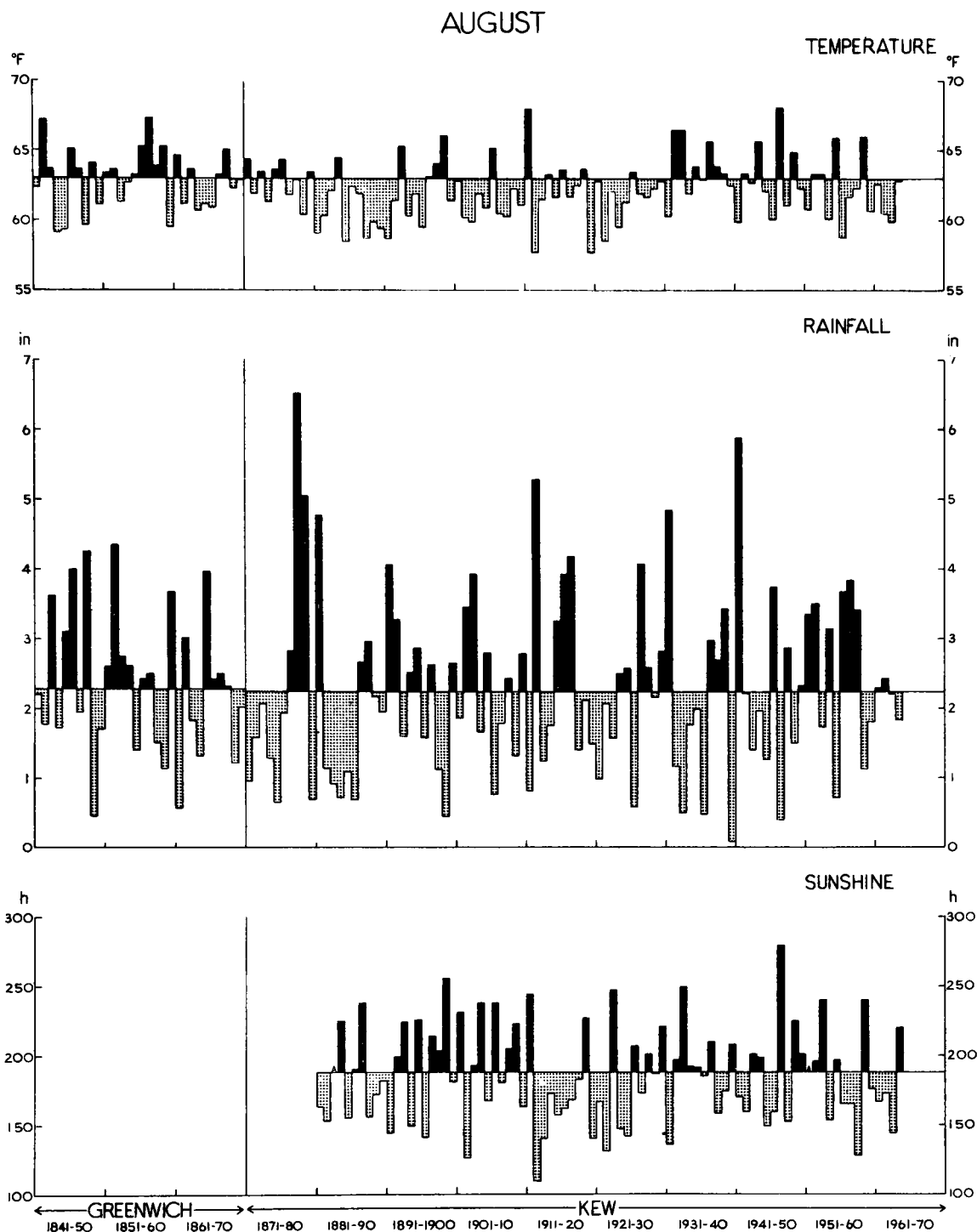


PLATE X. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN AUGUST 1841-1964
A=average

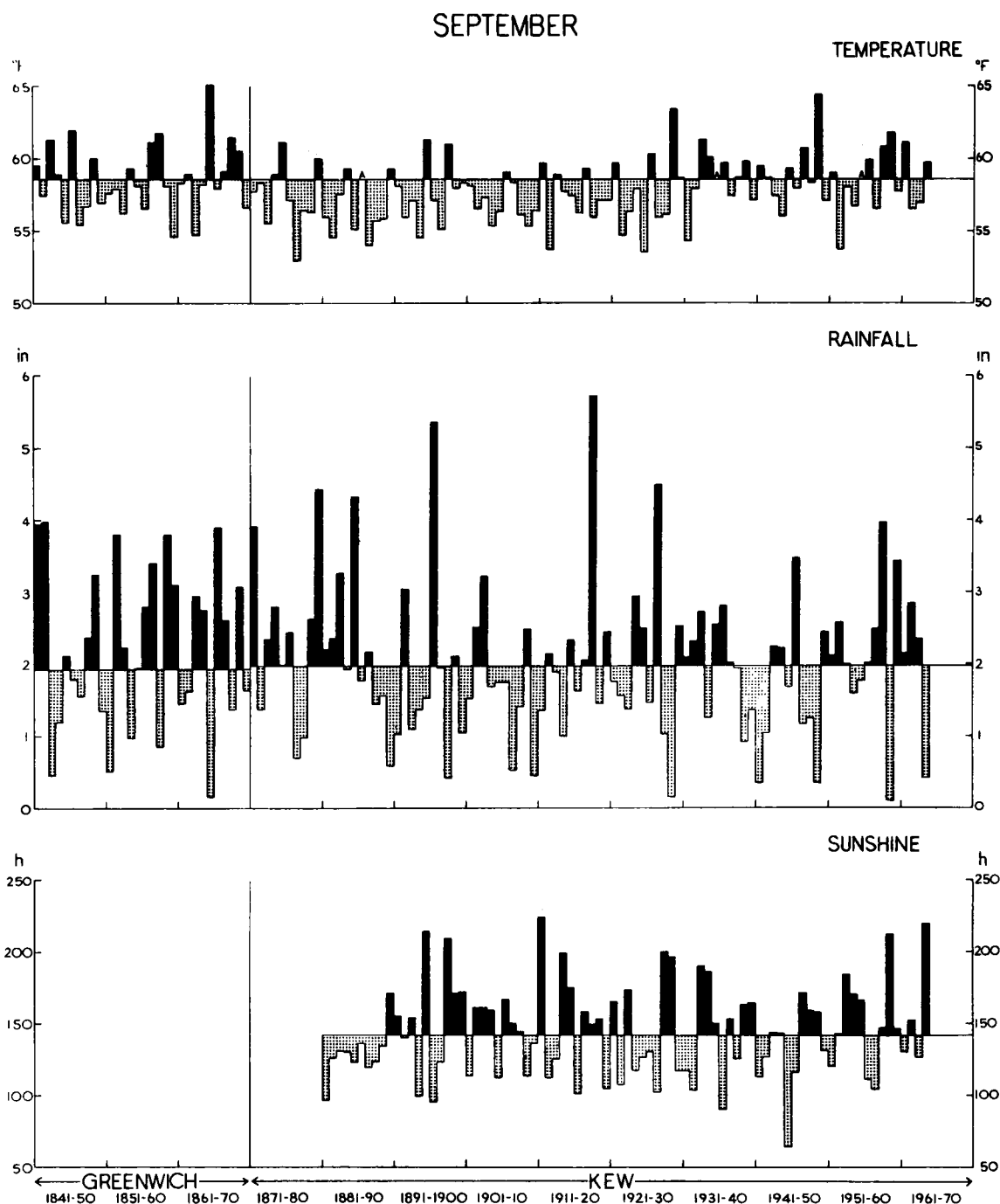


PLATE XI. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN SEPTEMBER 1841-1964
 A=average

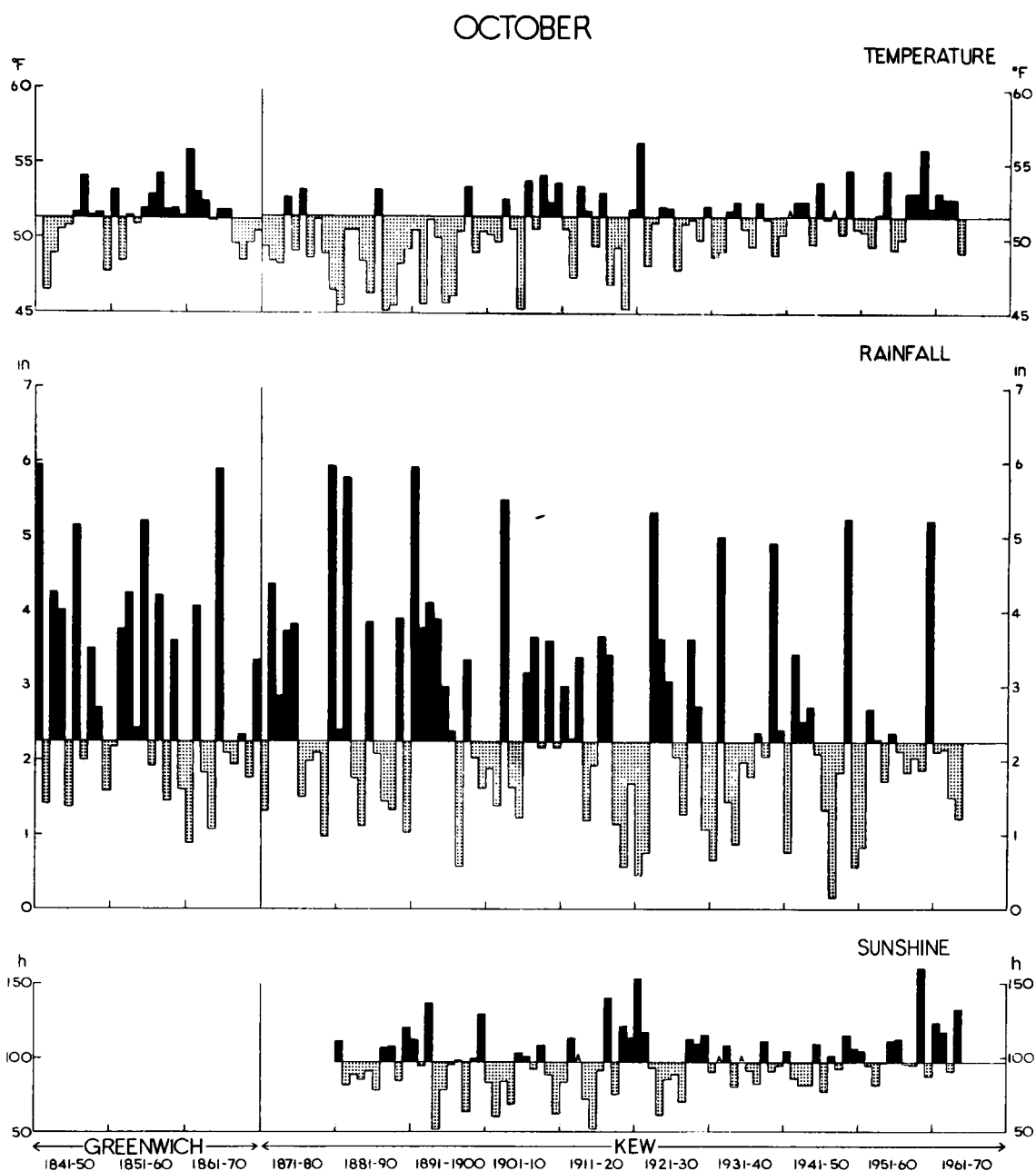


PLATE XII. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN OCTOBER 1841-1964
A=average

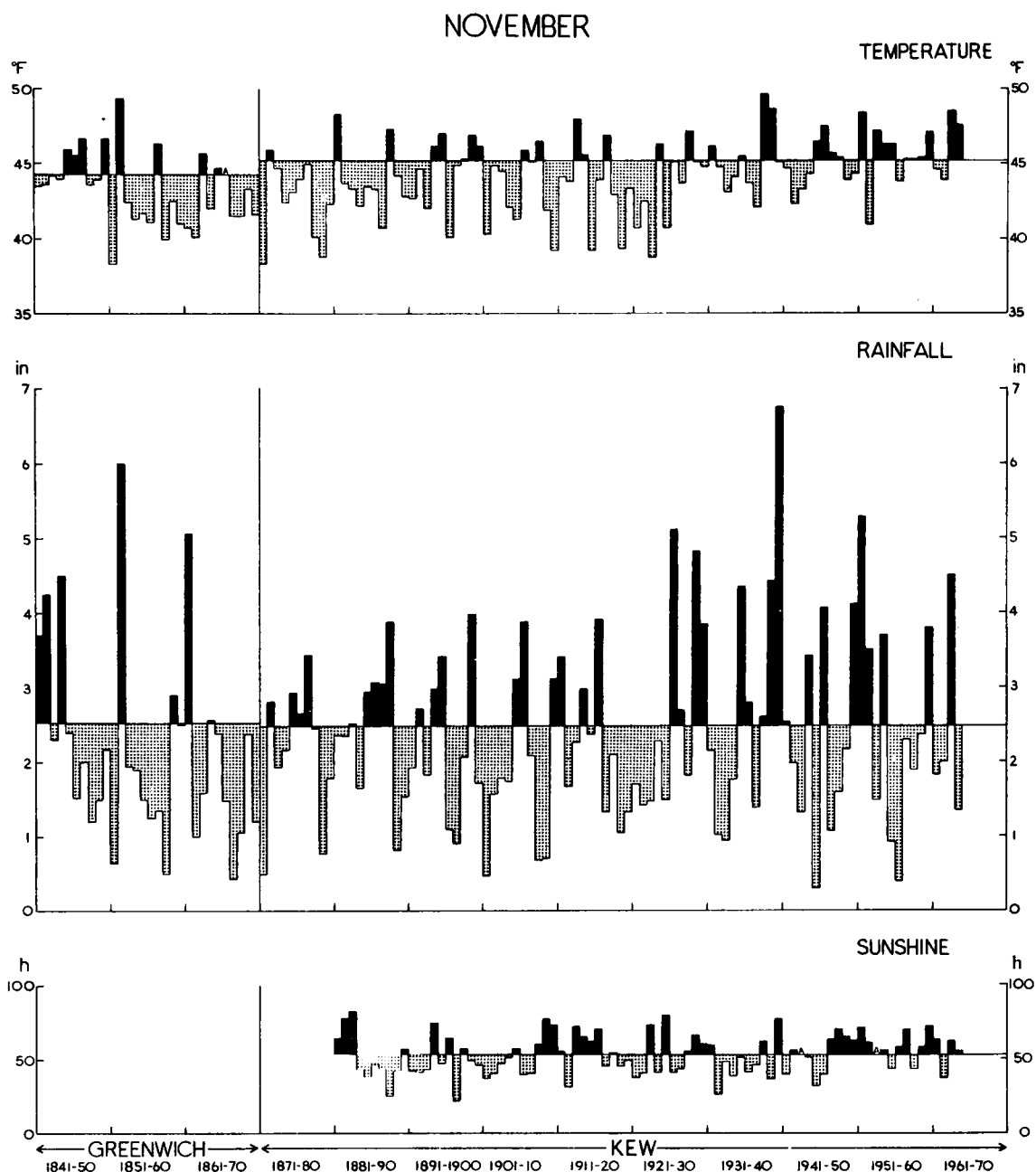


PLATE XIII. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN NOVEMBER 1841-1964
A=average

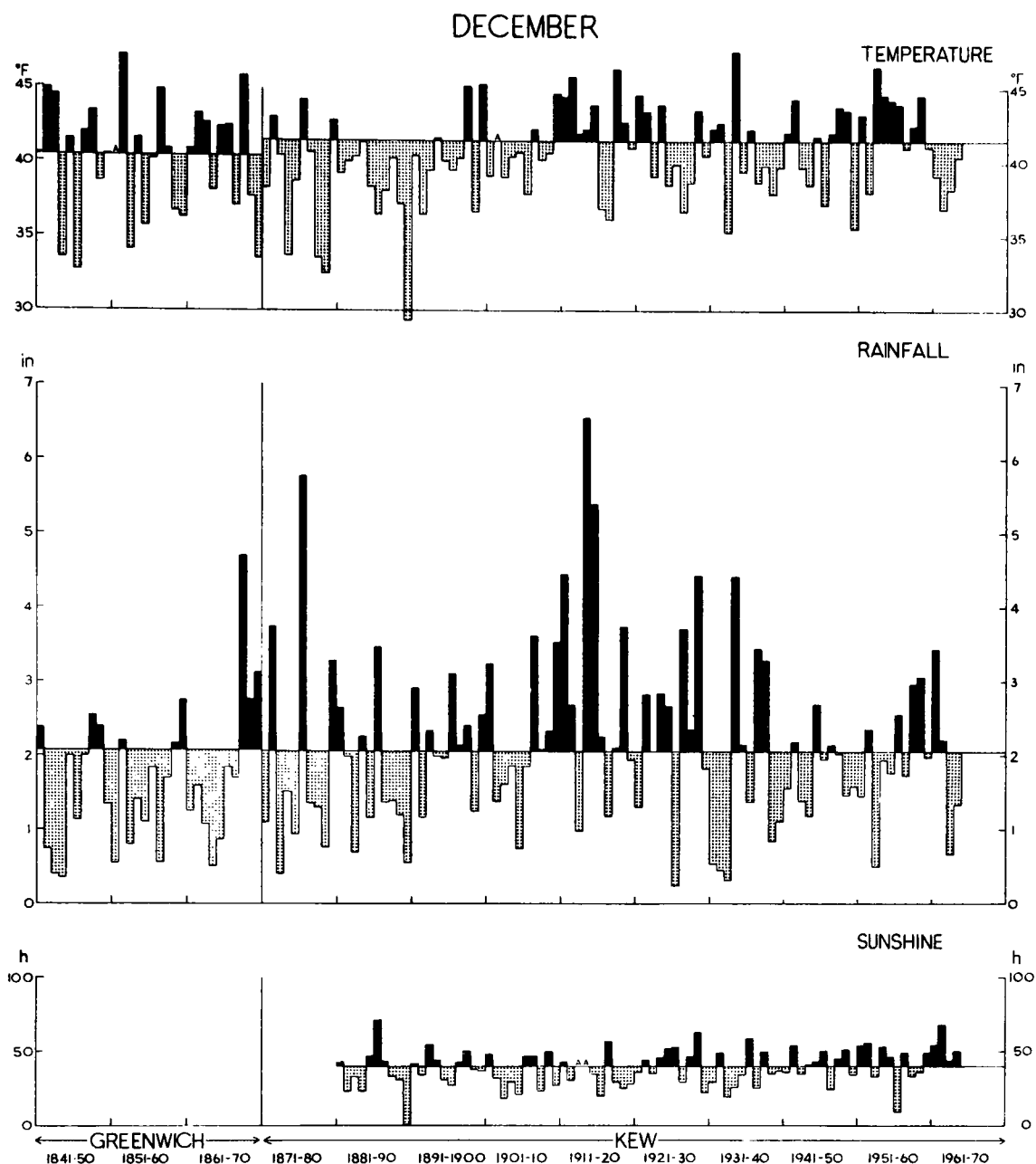


PLATE XIV. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN DECEMBER 1841-1964

A=average

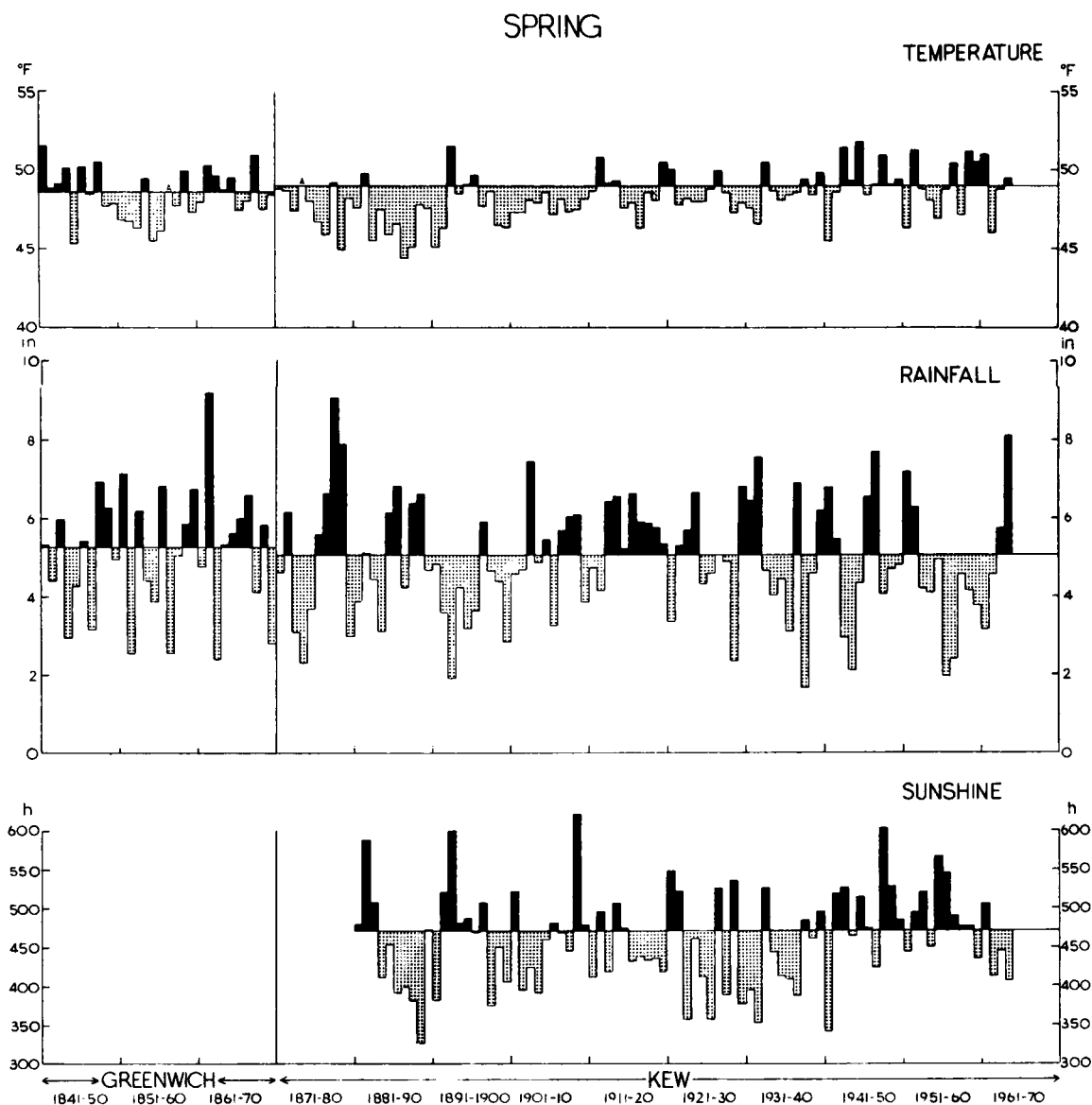


PLATE XV. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN SPRING 1841-1964
A=average

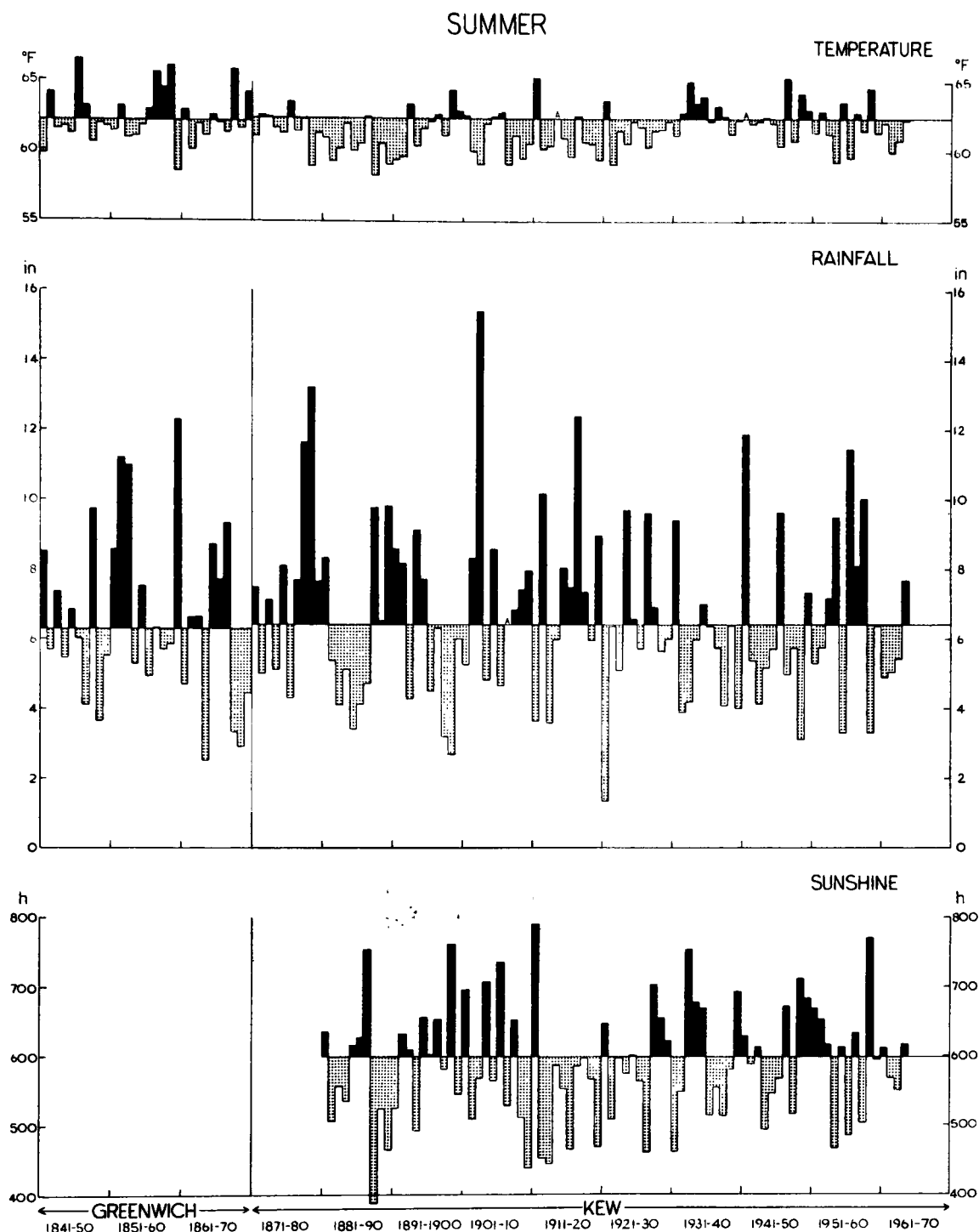


PLATE XVI. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN SUMMER 1841-1964
A==average

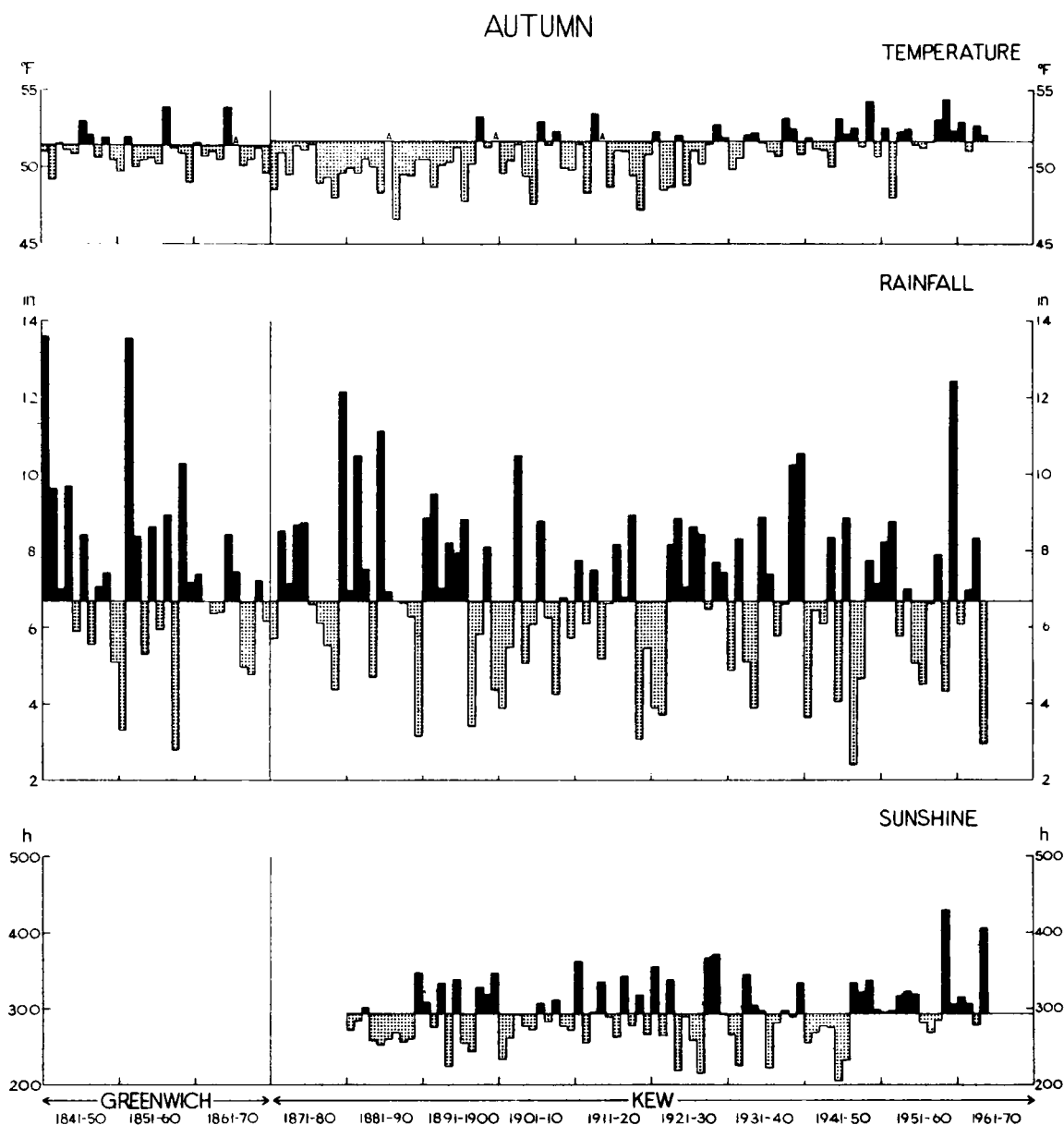


PLATE XVII. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN AUTUMN 1841-1964
A=average

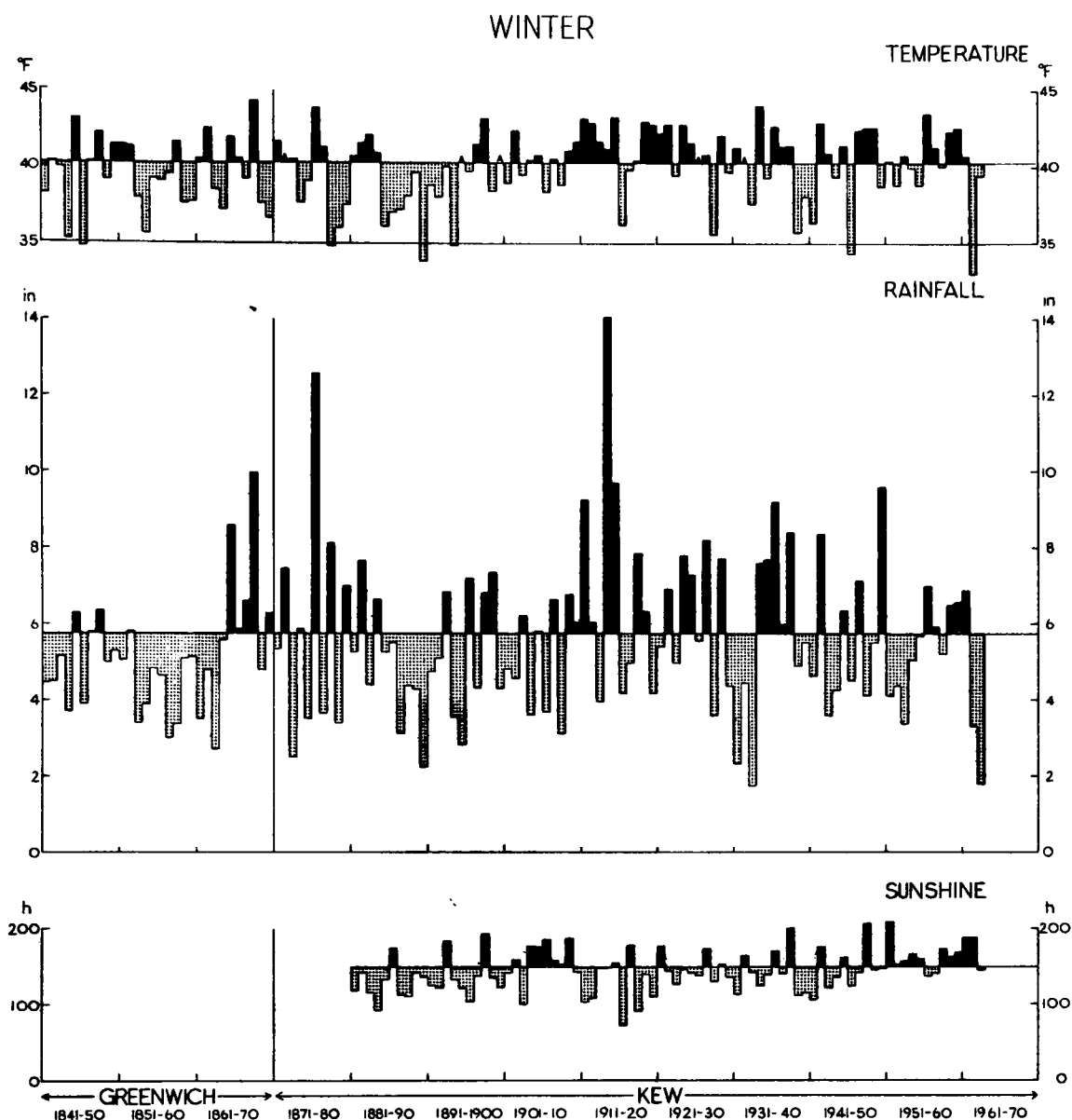


PLATE XVIII. MEAN TEMPERATURE, RAINFALL AND SUNSHINE IN WINTER 1841-1964
 A=average

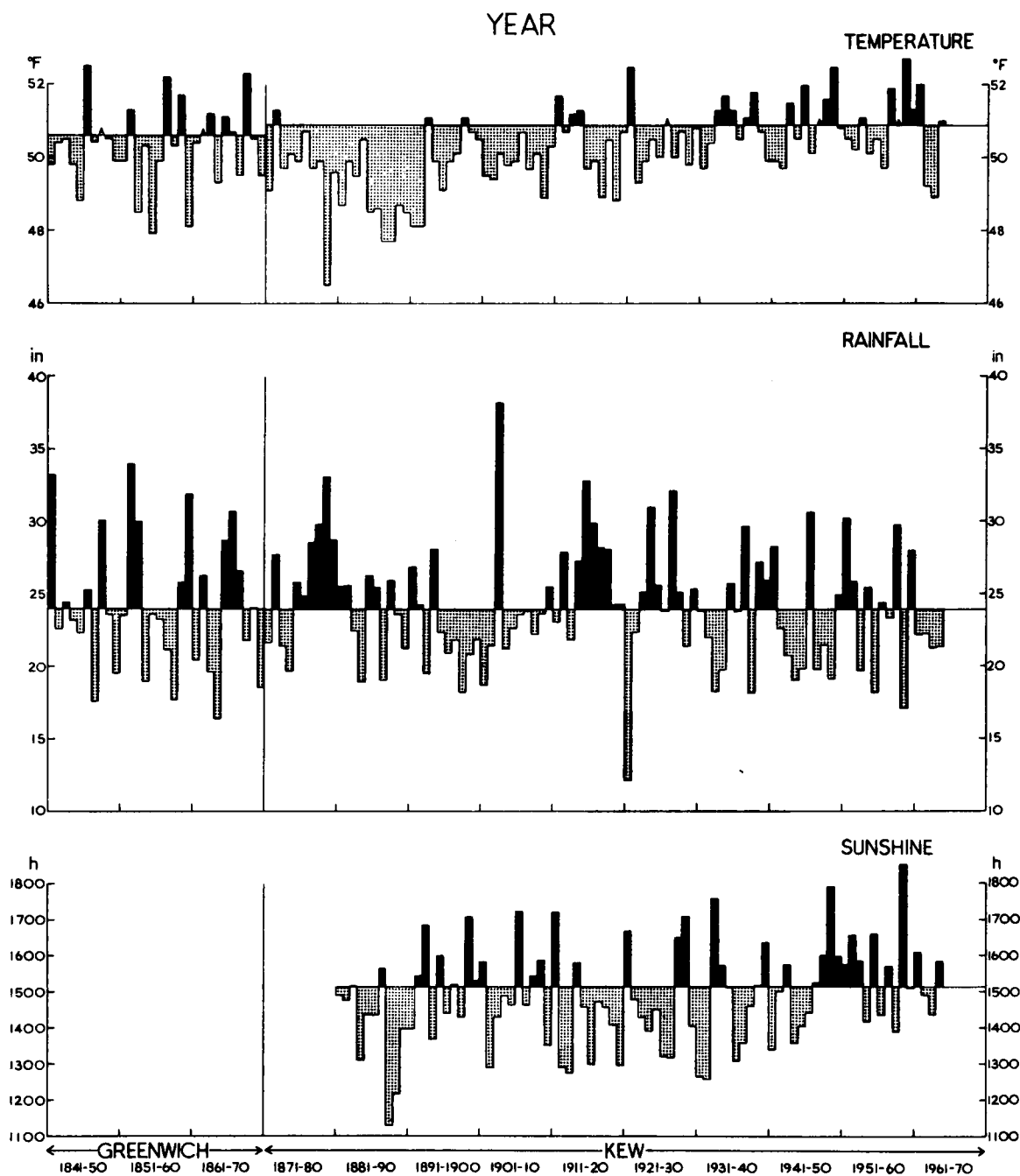


PLATE XIX. MEAN TEMPERATURE, RAINFALL AND SUNSHINE FOR THE YEARS 1841-1964
A=average

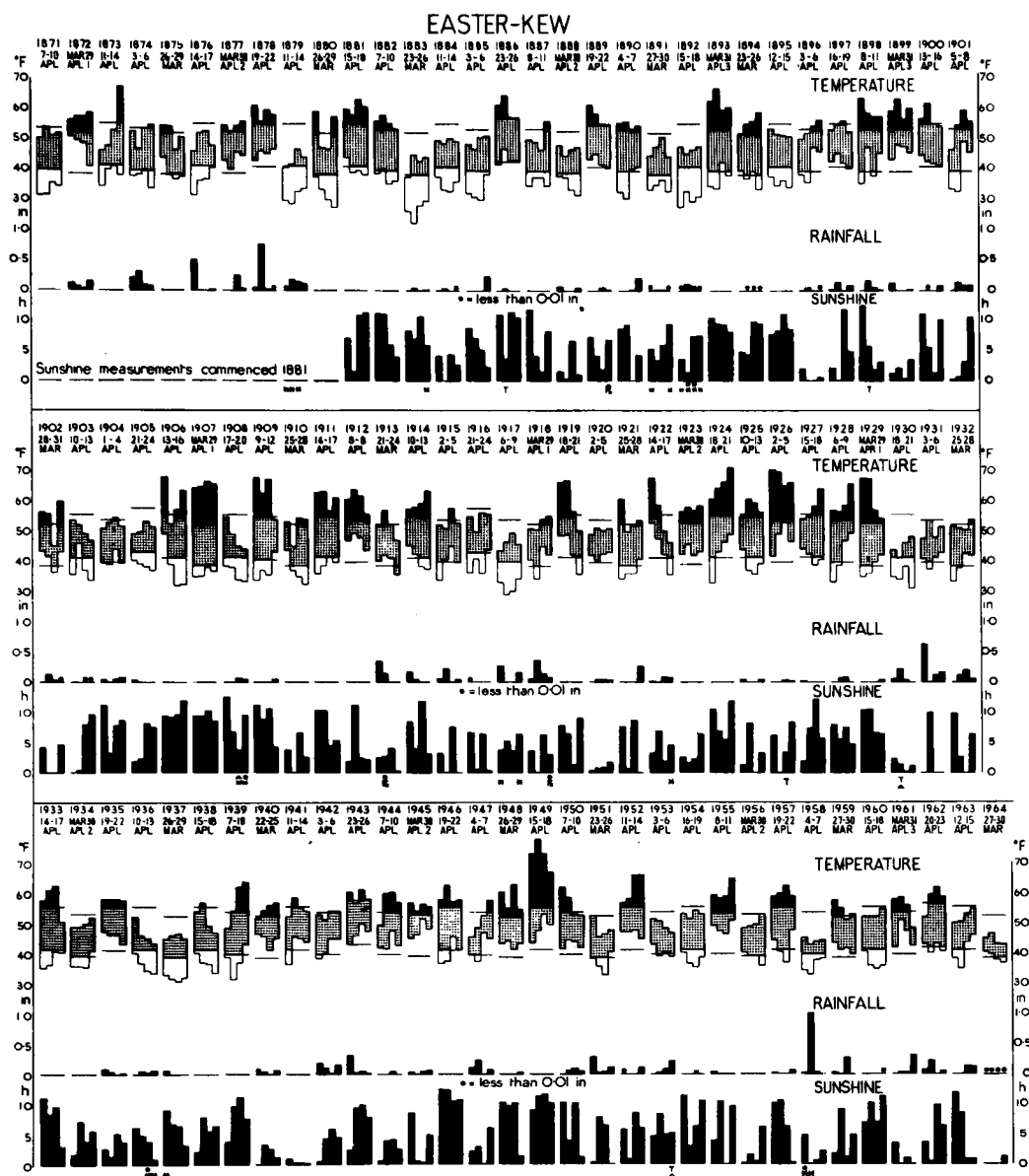


PLATE XX. WEATHER DURING EASTER AT KEW 1871-1964

Note. The broken lines are the appropriate 10-day maximum and minimum temperatures at Kew for the period 1921-50.

Weather. T=thunder heard; Δ=hail; ★=snow; ⚡=thunderstorm;
★=snow and rain or drizzle.

PLATE XXI. WEATHER DURING
 WHITSUN AT KEW 1871-1964

Note. The broken lines are the
 appropriate 10-day maximum and
 minimum temperatures at Kew
 for the period 1921-50.

- Weather. T=thunder heard;
- △=hail;
 - ★=snow;
 - ☒=thunderstorm;
 - ⬤=snow and rain or drizzle.

WHITSUN-KEW

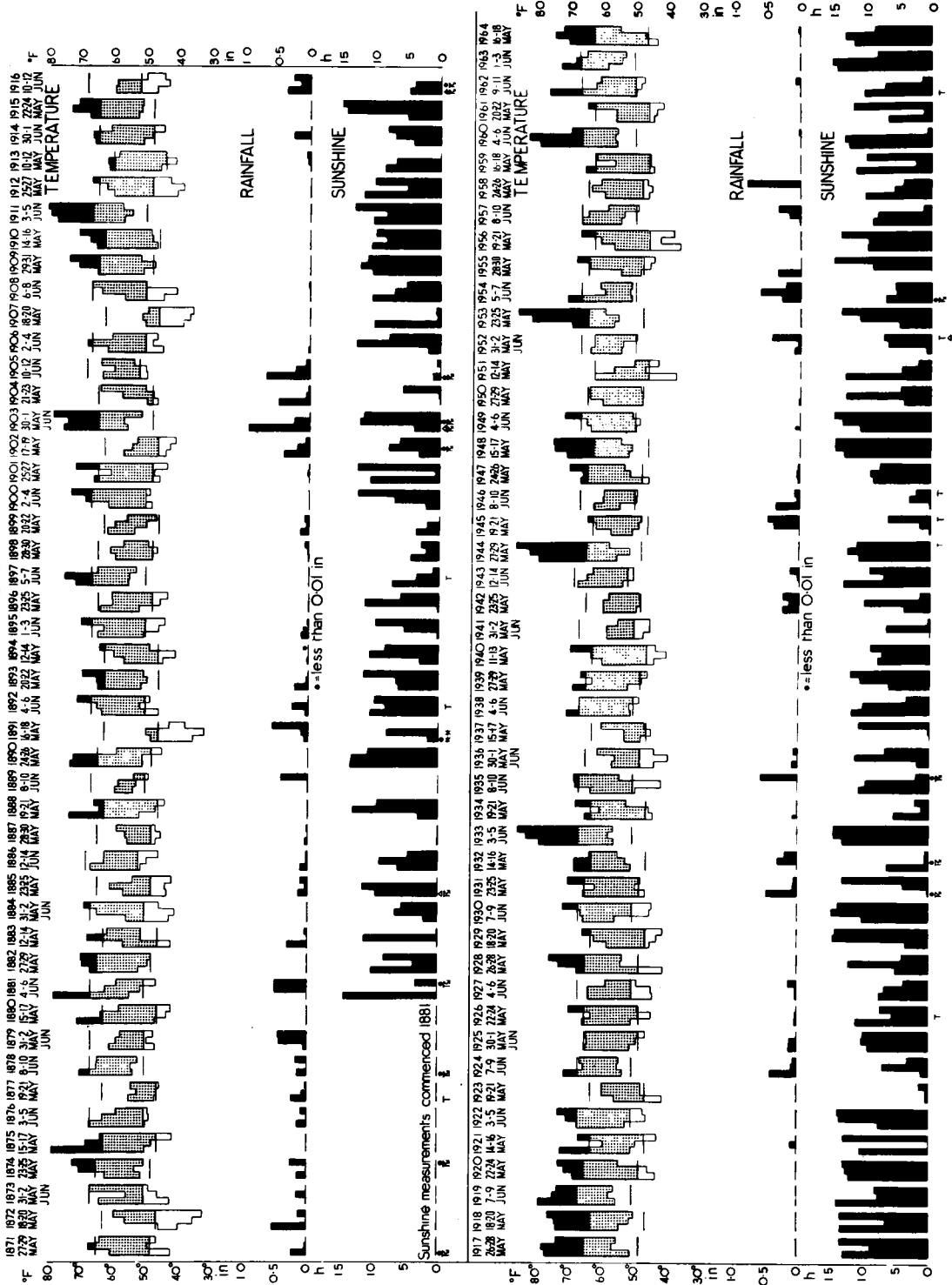


PLATE XXII. WEATHER DURING

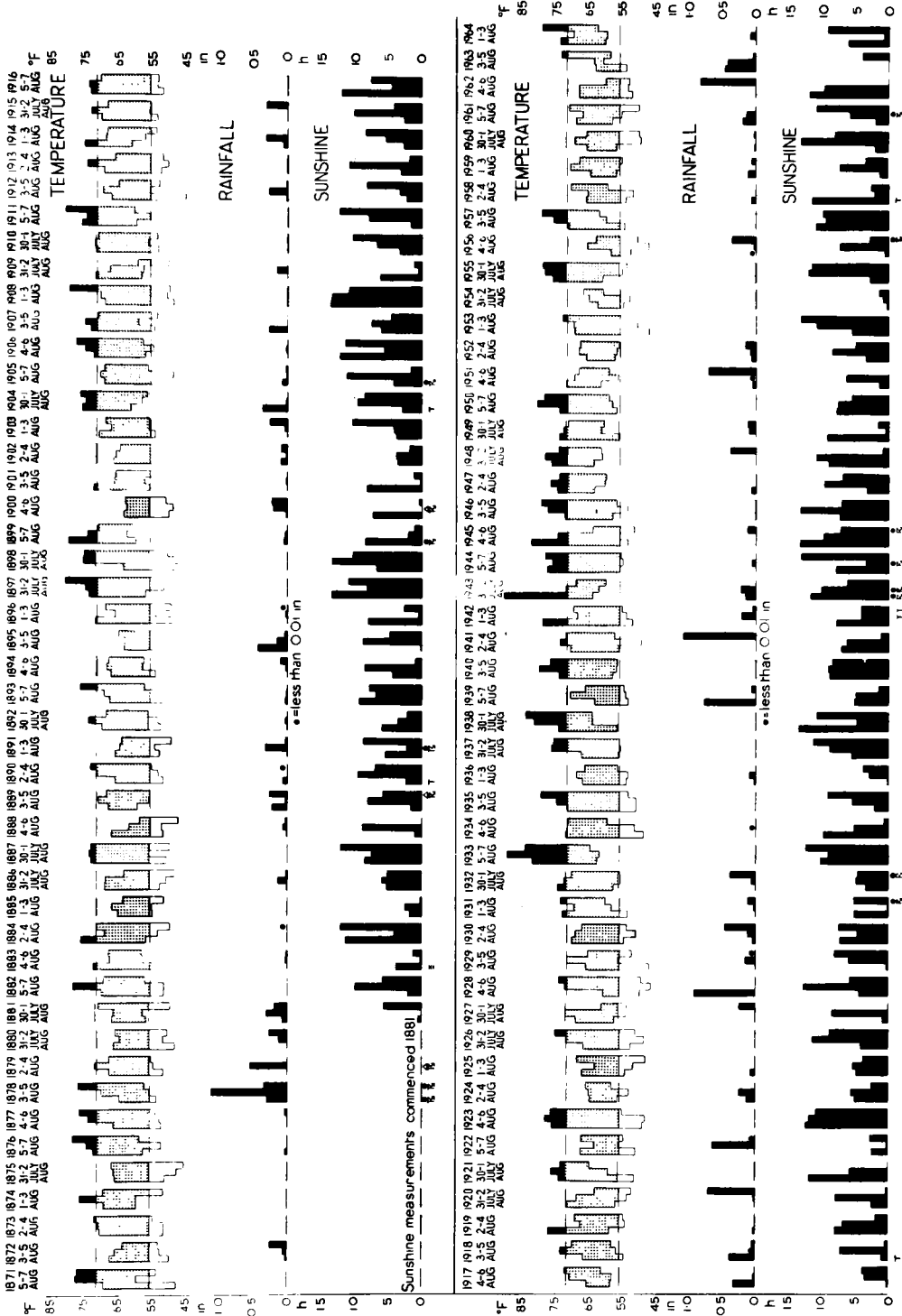
AUGUST BANK HOLIDAY AT KEW
1871-1964

Note. The broken lines are the appropriate 10-day maximum and minimum temperatures at Kew for the period 1921-50.

Weather. T = thunder heard;
⚡ = thunderstorm;

⚡ = thunderstorm with hail;
≡ = fog.

AUGUST BANK HOLIDAY-KEW



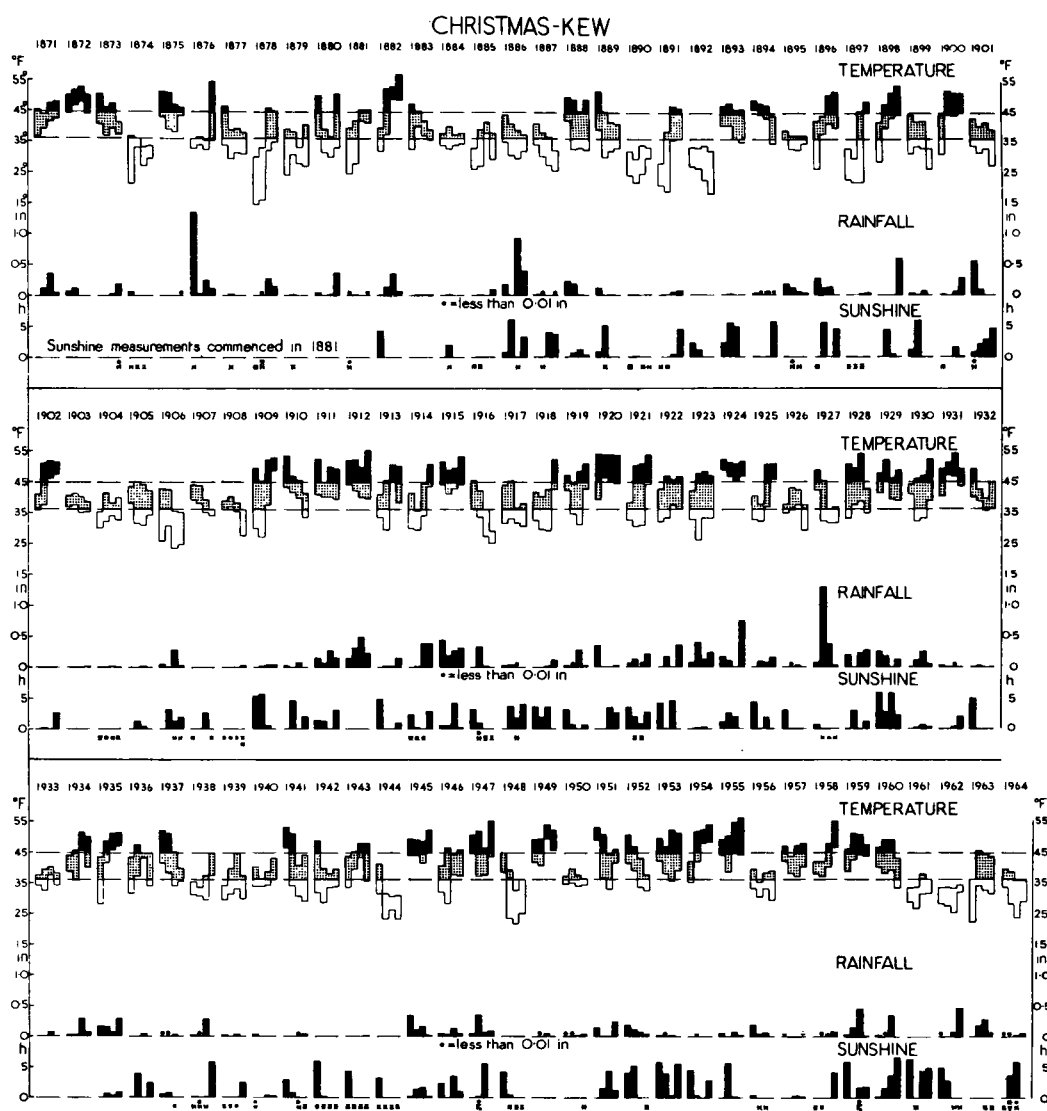


PLATE XXIII. WEATHER DURING CHRISTMAS HOLIDAYS AT KEW 1871-1964

Note. The broken lines are the appropriate 10-day maximum and minimum temperatures at Kew for the period 1921-50.

Weather. ★ = snow and rain or drizzle; ☆ = snow; ≡ = fog; = = mist; ⚡ = thunderstorm.