The Marine Observer

A quarterly journal

October 2001

Volume: 71 No: 354

The Marine Observer

Vol. 71 No. 354 October 2001

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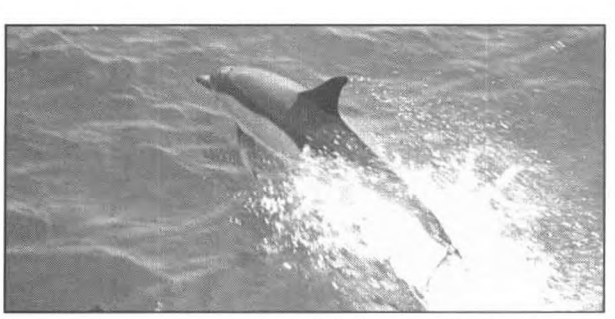

Cover photo: *A common dolphin by I.C. Oke.*

Features

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Met.O. 1029

LONDON: THE STATIONERY OFFICE

Excellent Awards 2000

This round of awards covers the year ending 31 December 2000 and we are pleased once again to acknowledge the time and effort given to compiling marine weather observations by observers in the UK Voluntary Observing Fleet. Many thousands of observations were received in real time during the year, and these were fully utilised in forecast products. These observations have also been stored for future use in climatological and research programmes.

The importance of high quality weather observations cannot be over-emphasised; it would be true to say that weather forecasters would much prefer to assimilate a single accurate ship observation than a selection containing inaccuracies. With quality of content in mind, all the logbooks received during 2000 have been assessed, and the following ships have been identified as those whose observers have maintained the highest standards in meteorological work.

In order of merit, the top three 'Selected' ships for 2000 are:

1 ***Al Samidoon*** (Kuwait Oil Tanker Company S.A.K.). Captain P.J. Ward
Principal Observers: A. Al Sulaihem and E. Blaza

2 ***Western Bridge*** (Furness Withy (Shipping) Ltd). Captain I.C. Gravatt
Principal Observers: W. Aponsu and M.L.N. Geetharathna

3 ***Eye of the Wind*** (Adventure Under Sail). Captain A.R. Timbs
Principal Observer: G. Wilson

Vessels in coastal and near-continental waters reporting in the MARID code (sea temperatures and other non-instrumental elements) also deserve mention. Once again the *Marine Explorer* (Eidesvik Shipping UK Ltd) has attained top place in this category, with *Aptity* (F.T. Everard & Sons Ltd) and *Petro Avon* (International Marine Transportation Ltd) not far behind.

Our thanks go to all observers. The lists on pages 155 to 156 show all the nominees for 2000, while photographs of the top ships appear on page 190. At the time of publication of these lists an official letter of notification will already have been sent to each person named, but we would ask that all observers check for their names here, subsequently contacting us if they appear but have not received their notification.

We look forward to receiving your claims. Any UK Port Met Officer will be pleased to assist, or alternatively, claims can be e-mailed to **obsmar@metoffice.com**, or faxed to the Marine Networks section of the Met Office on +44 (0)1344 855873.

Nominations for 2000

The following have been nominated to receive an award in recognition of the high standard of weather observations received during 2000. Those named are advised that the closing date for the receipt of claims for book awards is 30 April 2002. The names of Masters are shown in **bold** face.

Excellent Awards for the year ending 31 December 2000

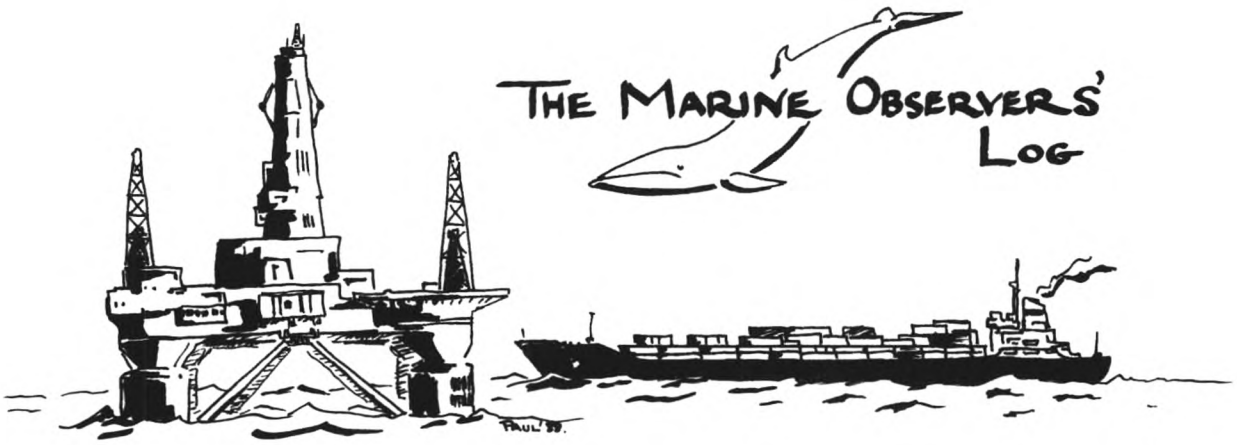
Name and Company (See Note 1)		Name and Company (See Note 1)		Name and Company (See Note 1)	
Ahmed, S	39	Cheesbrough, L-J	26	**Goodchild, PF**	20
Al Enezi, A	21	Chipperfield, BV	26	Goswell, WB	24
Al Sulaihem, A	21	Cinco, JMC	09	Graham, A	26
Alagon, DR	09	Clemente, JB	09	**Gravatt, IC**	15
Alcazar, F	24	Codera, NF	25	Grey, G	11
Allen, D	07	**Cooke, NJ**	33	Griffiths, B	26
Almasan, A	14	Cox, R	09	Gulati, G	39
Amados, GC	25	**Craddock, D**	05	**Gundersen, JT**	10
Andrews, TA	05	**Craggs, AS**	14	Guthrie, G	37
Anthony, MAGS	30	Crerar, DJ	28	Hale, JA	26
Aponsu, WMI	15	D'Arcy, R	29	Halewood, R	26
Arachchige, AUKL	22	**Davies, CJ**	39	**Hardy, KS**	26
Argyle, GH	26	**Davies, GA**	20	Harrell, C	08
Astridge, RM	14	Davies, L	11	**Harris, JC**	26
Avery, KO	23	Dawar, A	39	Hart, KT	26
Azim, S	26	Dawson, J	10	Hartigan, D	24
Bahnan, NRS	39	Delarosa, D	26	Hatto, AG	14
Baily, DJ	26	Desai, AP	39	Hayes, JF	13
Baker, M	18	Devarpalli, PS	39	Hegde, PS	05
Banerjee, A	39	Devereux, L	19	Henderson, A	27
Banton, RM	37	**Dick, JA**	32	Hepburn, A	06
Barba, JP	34	**Dodworth, JM**	26	Hill, GT	26
Barnes, JJ	37	Donnelly, MP	31	**Hill, IM**	26
Batchelor, DL	26	Doolan, CP	12	Hill, MK	26
Baweja, DS	39	Doshi, R	39	**Hodson, K**	19
Bell, J	09	**Duncan, W**	27	Holmes, JC	23
Berry, Z	26	Eleria, WC	09	Holmshaw, J	26
Bhadkamkar, V	21	Ellison, RH	26	Hubbard, CJB	33
Bhathena, SD	39	**Ellsmoor, RM**	39	**Hubers, D**	08
Birt, SJ	37	Enriquez, CD	25	**Hughes, CJA**	26
Bismonte, EJ	18	Evans, DG	26	Irani, DB	39
Blaza, E	21	Feleppa, G	26	Irani, ZS	39
Blythe, B	12	Fennell, MG	26	Jabay, N	18
Bolton, R	10	**Ferguson, IGC**	04	**Jackson, JW**	08
Bore J	36	Fernandez, E	39	Jalos, HJ	25
Boynton, DG	31	**Fletcher, LJ**	26	Jassim, KF	26
Brockbank, C	20	Foster, SN	26	**Jewell, MCJ**	31
Brooks, P	20	Fraser, SG	09	Johns, CC	12
Broughton, JR	26	**French, PC**	26	**Johnson, LHM**	26
Brown, PW	20	Fuller, KE	26	Johnson, LP	20
Bryson, GW	25	**Furneaux, PA**	26	**Jones, CP**	14
Bunyan, DW	09	**Fyfe, D**	07	**Jones, DJ**	25
Bustamante, P	05	Garcia, EPB	19	Julao, RS	26
Campbell, KD	26	Geddes, JC	26	Kagadan, JC	26
Canete, N	26	Geetharathna, MLN	15	**Kelly, PD**	24
Canete, RM	25	Gen, ZX	38	**Kendall, RJ**	22
Canon, NR	25	Go, F	26	**Kennedy, J**	26
Catanyag, M	26	Golson, PG	20	**Krishnan, KRA**	38

Nominations for 2000 (contd)

Name and Company (See Note 1)		Name and Company (See Note 1)		Name and Company (See Note 1)	
Krysczuk, K	14	Nielsen, PC	06	Shetty, NR	39
Lahiri, AA	39	Noble. RGC	26	Silva, GAAB	30
Lane, AJ	12	Nonesco, H	18	Simpson, BR	26
Lapitan, LC	17	**Nordfjord, SK**	05	**Sinha, A**	39
Liden, T	18	Ntorinkansah, OI	01	Sivakumaran, C	30
Long, GM	23	**O'Neill, A**	17	Siyukov, A	03
Lovesy, NA	37	Olsen, IK	10	Smith, M	36
Lowcock, S	19	Orcales, DC	17	Smith, KR	26
Lowicki, AW	20	Oriatto, J	32	Sorra, M	18
Lumby, K	26	Owoso, TA	23	Speirs, S	27
MacAlpine, JY	12	Paceno, RA	24	**Spencer, NCE**	28
MacCauley, J	27	Pagente, MA	05	Stabile, S	16
Mackenzie, A	26	**Pallister, EM**	03	Stage, G	27
MacLeod, DM	37	Patricio, EB	34	Stammers, AJ	03
MacPherson, AD	03	**Payton, CMJ**	05	**Standerline, B**	36
Mair, G	30	**Pereira, FX**	39	Stratford, A	10
Malik, MA	21	Perera, PJ	30	Surez, R	29
Mannath, A	05	Perovic, R	16	Tandog, PT	18
Mariblanca, E	25	**Philip, V**	39	**Tanguy, R**	05
Mathias, G	26	Piggott, AW	26	Teodoro, DC	09
McCracken, G	12	Pinney, IH	20	Thevar, G	39
McKenzie, ID	19	Platt, RJ	26	Thompson, J	04
McMahon, F	37	Porublev, D	03	**Tibbott, A**	25
Medrano, P	25	Prakash, D	39	**Timbs, AR**	02
Mehendale, AV	39	**Pridmore, SR**	26	Tonog, N	18
Mendez, EO	05	Quiambao, R	09	**Tucker, B**	36
Mendis, DA	30	Ray, N	39	Urbano, AP	05
Mercado, FF	25	Rayburn, A	26	Uyammi, WG	05
Miley, PA	39	Read, AJ	26	**Venning, W**	36
Miller, BD	20	Read, NH	20	Vicic, V	18
Miller, F	07	Rees, BE	08	Villacorte, EL	19
Milner, JA	26	Renders, I	26	Vuycankiat, F	26
Minnis, IJ	18	Reynolds, M	26	Wade, GE	26
Misiek, D	12	Richards, PR	25	**Walker, MJ**	39
Mitchell, J	23	**Riddick, KC**	26	Wallace, SJ	03
Monton, JS	25	Ridyard, OR	26	**Ward, PJ**	21
Moore, MD	26	Roach, AJ	06	**Watts, M**	26
Morrice, DNA	12	**Roberts, DNR**	11	Wearne, D	06
Morrison, A	37	**Robinson, D**	09	Westall. SD	26
Morrison, RA	26	Rocha, A	17	Whalley, RH	28
Mortimer, SG	25	Rodrigues, SS	39	**Wheeler, D**	27
Morton, AJ	30	Roemmele, IJ	36	Wilson, G	02
Mottram, CA	19	Russell, ME	04	**Wilson, JL**	30
Moulin, MJ	29	**Saban, B**	16	**Winter, B**	34
Moxon, R	26	Salazar, DD	19	**Wood, R**	13
Munro, FH	26	Sapulpaya, SA	26	**Worthington, K**	26
Nacu, NC	22	**Scott, S**	06	**Wright, HS**	17
Nair, RS	37	Senador, PF	25	**Wrigley, J**	01
Narj-Appiah, J	01	Sequeira, LP	33	**Yardley, P**	32
Narraway, EI	37	Sharp,NJ	26	**Yensen, JR**	06
Newton, PW	23	Shaw, DM	36	**Young, KN**	20
Nicholls, G	39	Shenai, UC	39	Young, RG	13

Note 1. The digit(s) entered after nominees' names indicate the employing shipping company, manager or operator according to the following list.

01 Acomarit (UK) Ltd
02 Adventure Under Sail
03 Andrew Weir Shipping Ltd
04 BUE North Sea Ltd
05 Bergesen d.y. ASA
06 Boston-Putford Offshore Safety Ltd
07 Caledonian MacBrayne Ltd
08 Carisbrooke Shipping plc
09 Celtic Marine Ltd
10 Cunard Seabourn Ltd
11 Curnow Shipping Ltd
12 Dorchester Maritime Ltd
13 Eidesvik Shipping UK Ltd
14 FT Everard & Sons Ltd
15 Furness Withy (Shipping) Ltd
16 Gearbulk (UK) Ltd
17 Great White FLeet Ltd
18 Holy House Shipping AB
19 International Marine Transportation Ltd
20 James Fisher (Shipping Services) Ltd
21 Kuwait Oil Tanker Co. S.A.K.
22 London Ship Managers Ltd
23 NERC Research Vessel Services
24 Mobil North Sea Ltd
25 Norbulk Shipping UK Ltd
26 P&O Nedlloyd Ltd
27 P&O Scottish Ferries Ltd
28 P&O Ship Management (Irish Sea) Ltd
29 Princess Cruises Inc.
30 Ropner Ship Management Ltd
31 Scottish Fisheries Protection Agency
32 Sealion Shipping Ltd
33 Shell Marine Personnel (IOM) Ltd
34 Sosema S.A.
35 Standard Marine Services Ltd
36 Stephenson Clarke Shipping Ltd
37 The Maersk Company Ltd
38 International United Shipping Agency Ltd
39 Zodiac Maritime Management Services



This section of *The Marine Observer* comprises reports of interest and scientific value contributed by individual observers or as part of a ship's meteorological logbook. All reports are welcome in the Marine Networks section and, wherever possible, they are forwarded to relevant sources of expertise for comment and analysis.

Responsibility for the content of any item offered for publication rests with the contributor, although texts may be subject to amendment at the discretion of the Editor.

All temperatures in this publication are given in degrees Celsius unless otherwise stated, and the barometric pressure is given in millibars (mb) although the standard international unit is the hectopascal (hPa) which is the numerical equivalent. Where mentioned, 'mile' and 'miles' are to be taken as the nautical mile.

Depression
North Sea
28/30 October 2000

- **m.v. *York***
- **Dalrymple Bay to Tees**
- **Captain F.X. Pereira**
- **Observers: Captain Pereira, S. Gupta (Chief Officer), S. Mathews (2nd Officer), B. Agustine (3rd Officer) and ship's company**

As the vessel approached Tees anchorage during the afternoon of the 28th, forecast charts and weather bulletins warned of a complex depression (central pressure 970 mb) centred at 51° N, 20° W, which was expected to be passing over Scotland by 0000 UTC on the 29th. Another shallow frontal feature was moving eastwards very rapidly and was expected to be at 51° N, 30° W by that time.

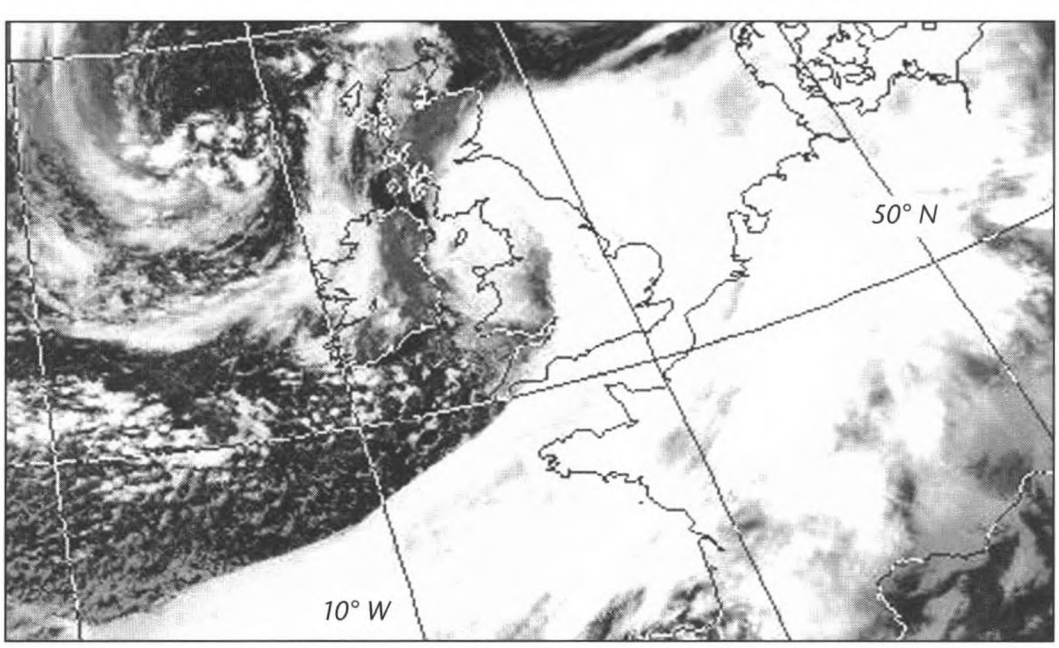
By 1600 on the 28th the wind had started to increase and the pressure began to fall. Intermittent rain commenced at 1700 and the wind was reaching gusts of 50 knots by 1900. After that, the wind began to veer to SW'ly and, by 2200, steady SW'ly winds of storm force 10 were being experienced. By this time the sky was continually overcast and there were frequent rain showers, the vessel was also shipping heavy spray all over the main deck.

The vessel dropped anchor at a few minutes after midnight on the 29th and was able to 'enjoy' the effects of the depression as it passed. The following table shows extracts from weather observations made at the time.

Date and time (UTC)	Pressure (mb)	Wind	
		Dir'n	Force
29th 0000	986.6	SW	8
0600	985.7	SSW	8
1200	990.8	SW	7
1800	984.9	S¥W	5/6
30th 0000	981.0	SW	5/6
0200	978.5	SW	5
0400	974.6	S	4/5
0600	964.2	ENE	6
0800	960.1	ENE	7/8
0900	955.1	N¥W	9/10
1000	959.2	WNW	9/10
1200	965.9	W	9
1600	969.4	S¥W	6/7

After the depression had departed, the wind remained predominantly SW'ly for two days and stayed above force 6 throughout that period.

Editor's note. The infrared image below is of the depression at 0619 UTC on 30 October 2000.



Satellite image courtesy of Dundee Satellite Receiving Station, Dundee University, Scotland: www.sat.dundee.ac.uk/

This storm was also encountered by the *Duhallow* when approaching Immingham on 30 October. Seas of 10 m were reported and the vessel was obliged to heave to in order to reduce heavy rolling and pitching. Anchorage was eventually made on 31 October.

Depression
North Atlantic Ocean
5 November 2000

- **m.v. *Scottish Star***
- **Puerto Cortes to Honduras**
- **Captain J.F. Dobson**
- **Observers: Captain Dobson and ship's company**

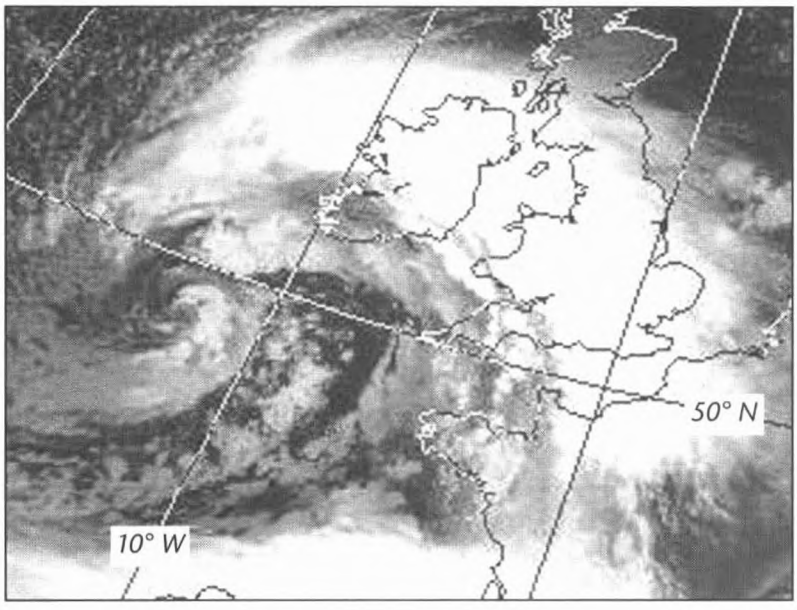
The vessel was proceeding on a rhumb line course from the northern end of the Straits of Florida to Fastnet Rock. On 4 November at 1000 UTC weather advice was received from the Met Office, which stated that a deep depression would be affecting the vessel's passage.

Weather conditions gradually deteriorated and, by 0000 on the 5th, the pressure had fallen to 994.6 mb while the wind was W×S'ly, force 6, and the sea state was moderate to rough. The wind increased to force 8 or 9 by 0800 by which time the sea had become very rough, and by 1100 the pressure had fallen to 971.6 mb.

The ship's position at 1200 was 49° 50′ N, 14° 44′ W. At this time the persistent rain that had been falling then ceased and the sky cleared. The swell, which had been running at 8–10 m from the south-west with a period of 13–14 seconds, also eased somewhat. During the afternoon of the 5th the pressure started to rise, and had reached 974.1 mb by 1600, the wind at this time being NW×N'ly, force 6, while the seas remained rough.

At 1620 the sky to the north of the vessel became black and the wind veered rapidly to N'ly. The seas became very rough and the tops of swell waves were being blown backwards. By 1700 the wind was force 10 or 11, remaining at this strength for two hours before reaching force 12 at 1900 and then decreasing slightly to the previous level by 0200 on the 6th. The seas throughout this period were very rough.

The vessel was into the relative shelter of the Irish coast at 0400 although gale-force winds continued for the next 24 hours. This depression brought much rain into southern Ireland and southern England, causing severe flooding in many areas.



Editor's note. The infrared image (left) shows the depression on 5 November 2000 at 1541 UTC. The ship's position at 1600 was 50° 17′ N, 13° 09′ W. Associated with the storm was a band of rain that swept through southern England and Wales, depositing up to 50 mm of rain in places before moving north over northern Ireland, Scotland, the north of England and north Wales.

Satellite image courtesy of Dundee Satellite Receiving Station, Dundee University, Scotland: www.sat.dundee.ac.uk/

Typhoon 'Xangsane'
Eastern North Pacific
29/30 October 2000

- **m.v. *Colombo Bay***
- **Oakland to Kaohsiung**
- **Captain P.D. Davies**
- **Observers: A.G. Wilson (3rd Officer), M. Stewart (1st Officer), H.F. Radha (2nd Officer) and ship's company.**

On the above dates the vessel was challenged by a significant meteorological event with the onset of typhoon Xangsane. Information supplied on faxed weather charts was indispensable as measures were taken to avoid it.

The typhoon (at the time classified as a subtropical storm) was almost stationery during the 29th and 30th although it was set to deepen as it moved north into warmer seas, building up energy for what was to come. It was upgraded to typhoon status on the 30th, and within hours its movement was increasing noticeably, heading north but set to accelerate when it reached open unrestricted waters.

Observations and calculations combined with detailed forecasts from local weather services allowed for a relatively clear picture of the typhoon's progress to be plotted, even though its final destination was unknown.

During the 30th the ship's navigation charts were a mass of 2B pencil marks showing forecast and actual positions of Xangsane, all of which showed the general trend towards a possible landfall — Kaohsiung! As the hours passed, the barograph sat ticking away in its corner, producing the most vital piece of information in the form of the pressure tendency.

At 1800 UTC when the ship's position was 24° 00′ N, 126° 48′ E, the decision was made to divert from the ship's intended course and so avoid the typhoon. All options were considered and, at 1845, the course was altered to 200° towards the Balintang Channel. The plan was to steam up behind the typhoon and follow it to Kaohsiung.

All went to plan, with the typhoon gathering speed as it moved north-east, the vessel's course was altered again at 2100, to 279°, then later adjusted to take it up the south-west coast of Taiwan to Kaohsiung. Xangsane had been successfully avoided.

Editor's note. Typhoon Xangsane made landfall over the northern Philippines on the 27th before coming to a virtual halt when to the west of Luzon on the 29th and 30th, being downgraded for a while during this time. The storm was reclassified to typhoon status during its subsequent movement north-east towards Taiwan, whose eastern coast it skimmed on 31 October. No further landfalls were made, and Xangsane was downgraded again on 1 November before finally dissipating when west of South Korea later that day.

The maximum sustained wind speed associated with the typhoon was 90 knots, with gusts to 110 knots.

Squall
South Pacific
10 November 2000

- **m.v. *Maersk Somerset***
- **Panama to Geelong**
- **Captain C. Fitton**
- **Observers: S. Fenton (2nd Officer)**

At 2215 UTC whilst the vessel was on a heading of 243° at 16.8 knots in calm conditions with the wind at force 2, a squall about 1.5 miles long was seen approaching and heading west-north-westwards. Prior to the squall the sky was partly cloudy but quickly became heavily overcast with black clouds 300–900 feet above the sea surface. Whilst inside the squall the wind increased to force 6 with strong gusts at times, and the sea became choppy.

The squall reduced the ship's speed to 16.8 knots from 17.9 knots, and the visibility was reduced to half a mile in heavy rain, although within three or four minutes of the increase in wind, the rain had stopped. Associated with the squall was a sharp drop in the dry-bulb temperature from 28° to 22°. After 15 minutes the squall had passed and the wind and sea conditions returned to their original states. The ship's position at the time was 22° 57′ S, 125° 06′ W.

Squall
North Atlantic
18 November 2000

- **m.v. *British Hawk***
- **Sines to Cabinda**
- **Captain G. Hallett**
- **Observers: M. Pratt (3rd Officer) and P. Bronala (AB)**

When heading south-eastwards off the coast of Sierra Leone in position 07° 05.4′ N, 13° 30.4′ W, a 'band' of what appeared to be cloud showed on the 3-cm radar at 0150 UTC, at a distance of 24 miles. The vessel at this time was experiencing light airs with a clear sky and lightning observable to the north.

The band continued to approach the vessel, showing on the 10-cm radar at a distance of 15 miles. At this point a distinct dark line could be seen across the horizon ahead, extending to an elevation of 30°. At 0220 the vessel entered the squall and the wind picked up to NE'ly, force 8 (the ship's anemometer registered speeds in excess of 40 knots); there was also heavy driving rain that reduced visibility to about one mile.

The wind and rain abated after 25 minutes, and by 0250 conditions had improved to the extent that another vessel could be seen at a distance of 12 miles.

In brief: On 13 December 2000 when the *British Strength* was in the Strait of Malacca, two waterspouts were observed developing to one side of an area of precipitation falling from the base of a developing cumulonimbus cloud.

Second Officer A. Shearer and his colleagues watched as the smaller of them appeared to be circling the larger one, during which time a third waterspout formed on the other side of the precipitation. The first two spouts produced disturbance at the surface, but the third did not. The total duration of the event was 20 minutes.

Lunar rainbow
North Sea
14 December 2000

- **m.v. *Petro Fife***
- **Kittiwake Oil Field**
- **Captain A. Hodgson**
- **Observers: D. Campbell (2nd Officer) and W. Foulkes (AB)**

At 2125 UTC a faint, near vertical shaft of white light was observed to the west of the vessel at a distance of approximately three miles, close to the sea surface.

Over the next two minutes the shaft of light extended upwards in a curve and began to intensify. After five minutes a fully-formed lunar rainbow was clearly observable, and lasted for about four minutes after which time it quickly disappeared.

There was a three-quarter moon in the eastern sky at an elevation of 25° above the horizon at the time of the observation, and the cloud cover was 4 oktas although there was no precipitation at the vessel. No colours other than white were seen in this rainbow. Weather conditions at the time were: air temperature 8°, wet bulb 6.2°, pressure 994.7 mb, wind NNW'ly, force 8.

Lunar rainbow
Irish Sea
7 December 2000

- **m.v. *Stena Challenger***
- **Dublin to Holyhead**
- **Captain R. Hollows**
- **Observers: A. Burtt (2nd Officer) and J. Roberts (AB)**

Heading eastwards at 0015 UTC in position 53° 20.2′ N, 05° 20′ W, a three-quarter moon was astern whilst heavy rain showers could be seen on the radar, ahead of the ship and moving north. The horizon was just discernible in the moonlight.

Ahead, the observers noted what was taken to be the beam from a fishing boat's spotlight pointing up to the sky. The source of the light could not be seen, but a few minutes later another beam was noticed further north. At this point a complete arc was formed, and the observers realised they were watching a lunar rainbow, they were just able to make out some grading or different shades of white light.

The phenomenon lasted for about five minutes whereupon the rain moved away to the north.

Editor's note. Lunar rainbows are formed in exactly the same way, and in the same meteorological circumstances as their day-time counterparts. However, as they are characteristically pale in nature, many of these rainbows probably come and go undetected.

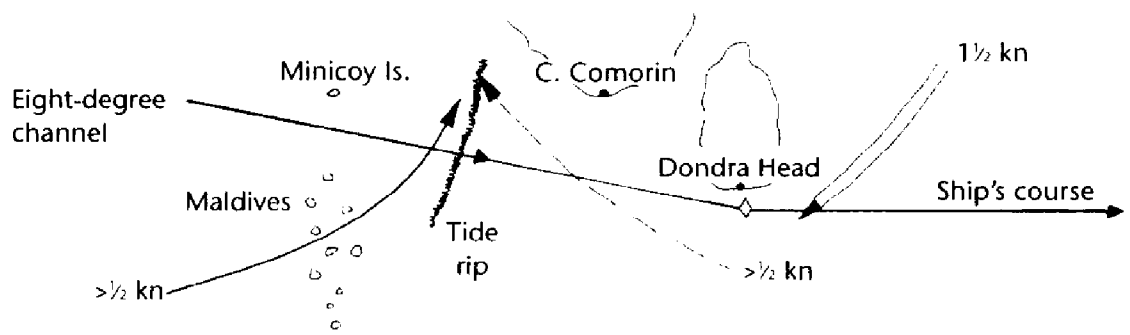
With a three-quarter moon as the light source, this rainbow was evidently quite noticeable. However, little colour is generally noted in lunar rainbows because the human eye lacks the sensitivity to detect colour in faint light; nevertheless, occasional reports of 'white shades' or weak colours are received, such as described above,. An alternative possible reason for the lack of colour (in solar or lunar rainbows) is small water droplet size.

Tide rips
Indian Ocean
10 November 2000

- **m.v. *P&O Nedlloyd Kobe***
- **Suez Canal to Singapore**
- **Captain D.J. Baily**
- **Observers: M.Grimshaw (1st Officer), J.A. Milner (3rd Officer) and I. Pulsford (SMS)**

When the vessel was between Eight Degree Channel and the Dondra Head traffic-separation scheme, heading 107°, tidal rips were encountered and could be seen from horizon to horizon as an area of broken and disturbed water about 10–15 m wide. The rips were also detected by radar as a line of sea clutter stretching right across the screen and the vessel's course line.

As the vessel passed through the disturbed water its speed suddenly reduced from 21.9 knots to 20 knots. It was unable to regain the previous speed and thus proceeded at 20 knots. The diagram below (taken from the *Indian Ocean Routeing Chart* for November) was drawn in order to explain the appearance of the tide rip.



It was thought to have occurred where two opposing currents met — the current coming south and then around Sri Lanka meeting the current moving north-east through the Maldives. The opposing current from Sri Lanka was thought to have contributed to the decrease in the ship's speed.

When the tide rip was first noted, the ship's position was 07° 06.8′ N, 76° 00.7′ E and the sea temperature was 29°.

Dolphins
South Atlantic Ocean
11 November 2000

- **m.v. *Berge Atlantic***
- **Saldanha Bay to Redcar**
- **Captain S.K. Nordfjord**
- **Observers: P.S. Hedge (3rd Officer)**

At about 0700 UTC, in calm conditions, a large number of weak echoes were noticed on the radar screen. Suspecting that they would be either fishing vessels or fishing buoys, the Third Officer started to scan the starboard side with binoculars and was then amazed to find that an extremely large school of dolphins had been encountered.

The number was estimated to be anywhere between 150 and 200, and was the largest school the observer had seen at one time. Although they were not very large in size (their length was estimated to be between 80 cm and 1.20 m), they were in an exceptionally playful mood and preferred to take the 'aerial' route more often than swimming through the water.

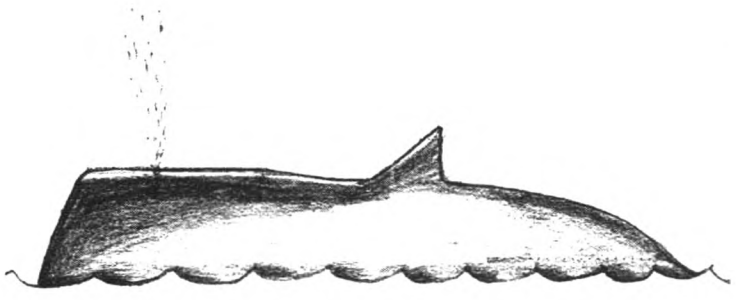
The ship's position at the time was 25° 14′ S, 10° 45′ E on a heading of 322° at 15.8 knots.

In brief: On 14 November 2000 at 1945 UTC a group of around 12 Dall's porpoises was spotted by Captain R.B. Gurney and Third Officer S.D. Westall on the *Newport Bay*. The observers could identify them by the distinctive white patch some way behind their flippers, and the prominent dorsal fin with its grey-white tip. On seeing the vessel the porpoises approached to ride the bow wave, even though the vessel's speed at the time was 22 knots. They stayed with the vessel for about 15 minutes before leaving, perhaps because it was moving too fast for them to keep up. The position of the sighting was 38° 08′ N, 123° 16′ W, and the wind was light and variable, force 1 to 2.

Sperm whale
North Atlantic Ocean
1 December 2000

- **m.v. *Buccleuch***
- **Dalrymple Bay to Port Talbot**
- **Captain S.D. Bhathena**
- **Observers: Captain Bhathena and P.S. Devarpalli (3rd Officer)**

Shortly before noon the Third Officer spotted a 'flat-headed' whale blowing about 2 miles off the port bow. The whale (a Minke *sic*) was approximately 9–11 m long, dark grey in colour and surfaced every two or three minutes. Its blows appeared from the front of the head, reaching a height of about 1–1.5 m, and seemed to come in very quick succession. The sketch indicates what was seen. Observed for about 10 minutes, the vessel passed the whale at a distance of 5 cables on the port side and the dorsal fin was observed partially in the slight seas.



Appearing to be travelling on a heading of 145°, the whale then 'sank' on an even keel into the depths of the Sierra Leone Basin some 160 miles west of Buchanan (Liberia) and was not seen again. At the time of the sighting, the ship was in position 03° 23.8′ N, 12° 13′ W on a heading of 323° at 13 knots in good visibility

Editor's note. Kelly MacLeod, of the Natural Resources Institute, University of Greenwich, said:

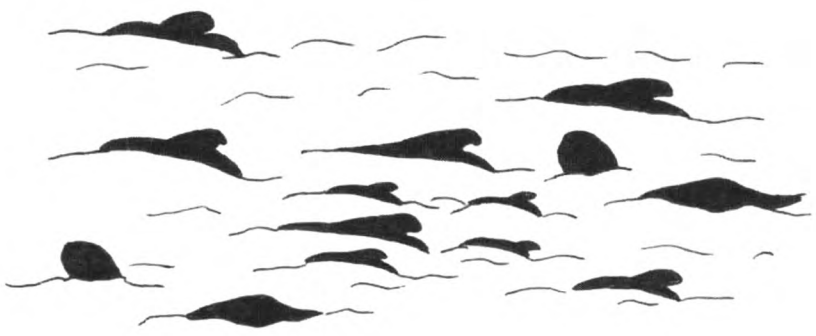
"The observers suggested that the sighting was of a Minke whale (*Balaenoptera acutorostrata*), but this is unlikely for a number of reasons. Firstly, the blow of the whale was sighted 2 miles away. The Minke blow is rarely seen and, if so, is only low and diffuse and would not be seen 2 miles away even in excellent conditions. Secondly, the observers describe the blow as coming from the front of the head; this is a characteristic of the Sperm whale which has a single left-side blow hole, raised on the end of the head. The Sperm whale is often seen travelling or resting near the surface and blowing in quick successions, perhaps every 10–15 seconds. The position of the whale, in the Sierra Leone Basin, is perfect habitat for the Sperm whale, which tends to prefer deep waters.

"At this latitude and considering the size of the Sperm whale at 9–11 m, it was most likely a female or young male. However, females and young of both sexes usually occur in groupings known as 'nursery' pods, and the fact that only a single whale was recorded during this sighting might suggest it was an old male, which tend to be solitary. Males reach lengths of 18 m and so the observers may have recorded the length of the visible portion of the whale only."

Pilot whales
North Atlantic Ocean
22 December 2000

- **m.v. *British Harrier***
- **Portland, Maine to Bonny**
- **Captain N.J. Grieg**
- **Observers: Captain Grieg and A. Ridgley (2nd Officer)**

The vessel was drifting for engine maintenance purposes off Cape Palmas in position 03° 51.3′ N, 09° 45.6′ W when, at 1230 UTC, a pod of Short-finned Pilot whales was noticed approximately 250 m off the starboard side. There were 15–20 in all, consisting of 10–12 adults that were 'logging' at the surface and also 'spy-hopping' occasionally, and eight calves. These were located at the centre of the pod, surrounded by the adults. An idea of this arrangement is shown in the Second Officer's sketch.



The pod stayed on the starboard side of the vessel for approximately 90 minutes before slowly swimming away in a north-easterly direction. Conditions during the period of observation were: wind SW'ly, force 3, overcast skies, slight seas with a swell of 1.5 m.

Dolphins and pilot whales
North Atlantic Ocean
10 November 2000

- **m.v. *City of Cape Town***
- **Bremerhaven to Cape Town**
- **Captain G.J.H. Peaston**
- **Observers: A.B. Hughes (2nd Officer) and supernumeraries**

At 1530 UTC the observers had gathered on the bridge for fire-drill just in time to see a group of dolphins, approximately 30 in number, jumping and being very active. As the vessel closed with them, more were noticed to be just lying on the surface, doing nothing.

All were passed at a distance of about 30 m; the active dolphins could not be identified but the inactive ones were found to be pilot whales, and there were about 25 of them. The whales lay very close to one another and were very still, but the dolphins continued with their antics in and around them as well as around the ship until it was clear of them all. The ship's position at the time was 11° 42′ N, 17° 34′ W.

Editor's note. Kelly MacLeod said:

"Pilot whale pods are often seen 'logging' at the surface. These pilot whales were likely the Short-finned type rather than Long-finned, which are found in cooler waters. These two species are perhaps impossible to tell apart at sea, but their ranges do not overlap which makes identification possible from the position of the sighting. Pods of Short-finned Pilot whales generally consist of 10–30 individuals. Dolphins, in particular the Bottlenose dolphin, have often been reported accompanying pilot whales.

"One study of cetaceans in the eastern tropical Pacific found that up to 40 per cent of mixed species pods were made up of Bottlenose dolphins and Short-finned Pilot whales. Whilst the pilot whales in this sighting appeared to tolerate the dolphins swimming around them, they have also been reported to act aggressively and attack them. The reasons for these associations are not understood. It is unlikely that they would be exploiting similar food resources as pilot whales are squid eaters and Bottlenose dolphins are primarily piscivorous [fish-eaters]."

Bird
North Pacific ocean
2 October 2000

- **m.v. *Repulse Bay***
- **Hong Kong to Kobe**
- **Captain K.S. Hardy**
- **Observers: Captain Hardy, J. Weber (2nd Officer), K.C.S. Gregory (3rd Officer) and L. MacLeod (Cadet)**

Whilst on passage the vessel was accompanied by various types of birds. Of particular interest was the sighting of a lone heron apparently enjoying the view out to sea from the top of a container. The heron was observed on several other containers for much of the afternoon on the 2nd, but by the following day it had abandoned the vessel on approaching the Japanese coast.

Other birds sighted included a vividly-coloured but unidentified character. The distinct markings of this one were in red, black and white flashes on the underside of its wings. Another visitor that paid visits to the bridge wing during the 8–12 watch was very small and seemed to be a typical small land-based species. Sadly it was later discovered dead. The ship's position when the heron was first sighted was 30° 29′ N, 131° 58′ E.

Bioluminescence
South Atlantic Ocean
16 December 2000

- **m.v. *Grafton***
- **Abbot Point to Tenerife**
- **Captain P.S. Ghuman**
- **Observers: D. Thapa (3rd Officer)**

At 2050 UTC luminous patches, slightly greenish in colour, were observed in close vicinity to the ship's sides, they were not flashes but remained visible from amidships to right astern. These patches were neither round nor square in shape — the larger ones appeared to be closer to ovals (their approximate thickness was about 15 cm).

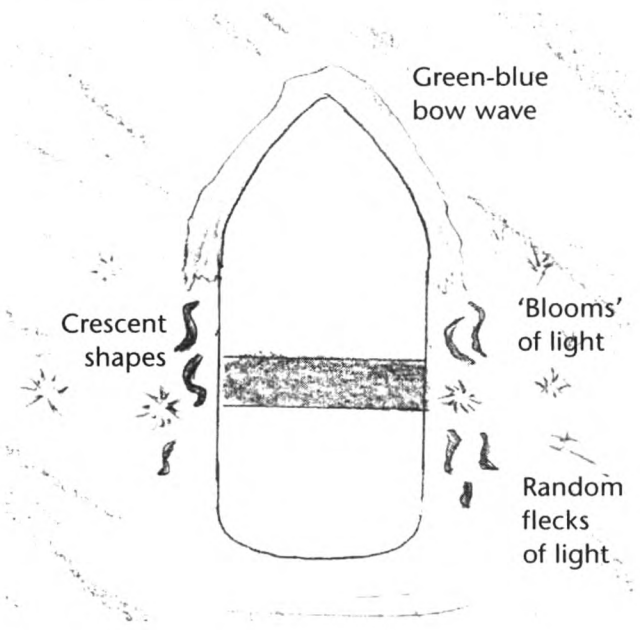
When the Third Officer used torchlight to view the shapes from the bridge wings (height of eye 17 m), he felt that definite objects were apparent just below the sea surface and that some of them seemed to be getting 'dissolved' by the breaking wavelets.

About 10 minutes later their concentration had reduced and it was possible to see only a few yellowish patches that appeared in flashes where the water was in contact with the ship's sides. At the time of the observation the skies were clear and starry, while the wind was S'ly, force 5 and the sea temperature was 19.4° The ship was in position 25° 29′ S, 09° 59′ E heading 320° at 13 knots.

Bioluminescence
Indian Ocean
22 November 2000

- **m.v. *Shenzhen Bay***
- **Colombo to Singapore**
- **Captain J.M Dodworth**
- **Observers: O. Ridyard (3rd Officer) and D. Elliott (Cadet)**

At 1445 UTC on a pitch-black night with no moon or starlight the Third Officer went to the starboard bridge wing to investigate a glow which was thought to be coming from the deck — but that was not the source — it was caused by a bright blue-green bioluminescent bow wave.



As shown in the sketch, several patterns were observed in the surf passing the bridge wing including crescent shapes, swirls and bursts like small fireworks.

In addition random 'flecks' of light were seen passing down the ship's sides. The show continued for about 30 minutes, leaving the observers in awe.

The ship's position at the time was 05° 48′ N, 83° 30′ E, and its heading was 089° at 21 knots. Weather conditions at the beginning of the display were: air temperature 28.2°, wet bulb 24.7°, sea temperature 29.5°, wind SW'ly, force 2. The sky was overcast.

Locusts
North Atlantic Ocean
21 December 2000

- **m.v. *Shun Kim***
- **Haypoint to Rotterdam**
- **Captain J.M Bhombal**
- **Observers: Captain Bhombal and A. Kumar (3rd Officer)**

At 0900 UTC in position 08° 58′ N, 15° 56′ W, whilst on a heading of 323° at 12.9 knots, the observers noted the presence of a few locusts on board. Within half an hour the number of these insects had increased drastically to an estimated 250. The majority of them were about 7 cm long and sandy in colour, but some were slightly smaller. The wind direction at 0900 was N'ly, force 4.

The number of locusts was unchanged by early afternoon, the insects being found on deck on the lee side and around the accommodation area although they were mainly on the bridge wing. They remained stationary for most of the time but would fly off and resettle close by if disturbed.

Editor's note. There was possibly a mass movement of locusts around this time since another report of the insects was received for 21 December at 0800 UTC from the *Berlin Express* in position 09° 12′ N, 16° 23′ W. The observer (L.P.V. des Landes, 2nd Officer) noted that there were "numerous locusts sighted on ship's decks, ranging in size from 30 mm to 100 mm long". One of the insects is shown on page 186.

Meteor

Arabian Sea

20 December 2000

- **m.v. *Heythrop***
- **Gladstone to Gijon**
- **Captain A.K. Prabhakar**
- **Observers: Captain Prabhakar, J. George (3rd Officer) and G. Nair(AB)**

At 1700 UTC the vessel was approaching a position 85 miles north of Socotra (14° 07.8′ N, 54° 07.2′ E) heading for Suez on a south-westerly course. There was hardly any traffic and both the observers were maintaining a vigilant lookout as numerous piracy attacks had been reported close to the area. Two crew members were also patrolling the decks for the same reason.

All of a sudden a 'shooting star' was seen streaking through the night sky, tracing a westerly course, and it seemed to light up the whole sky with its intensity as it approached what would be its final stage. The observers became mute spectators to one of the most amazing displays of pyrotechnics when the deck, which would otherwise have been clothed in darkness, was lit up for a fraction of a second when the meteor decided to end its path right above the vessel.

Those present watched in awe as the meteor finally disintegrated into an array of myriad sparks. This flaunting of nature lasted for only five or six seconds but the event was etched in their memories for all time.

Aurora borealis

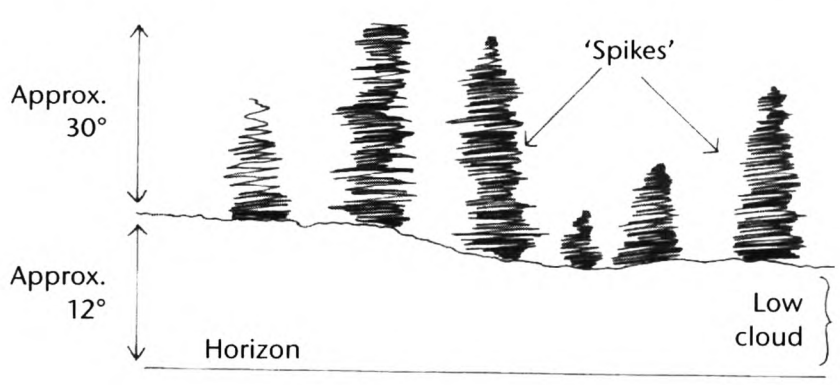
North Sea

4/5 October 2000

- **m.v. *British Hunter***
- **Wilhelmshaven to Hound Point**
- **Captain T.L. Cullen**
- **Observers: Captain Cullen, T. McDonald, (3rd Officer) and C. Duron (O/S)**

The vessel was proceeding in ballast towards the Firth of Forth (Scotland); there was low cloud all around the horizon and some small cumulus with stratocumulus overhead. At 2050 UTC the sky to the north was noted to be getting steadily brighter to a point where the tops of the low cloud on the horizon became clearly visible.

After a further five minutes a number of greenish 'spikes' became visible above the cloud. After consulting the *Marine Observer's Handbook*, it was agreed that these were most likely to be the highest tips of a rayed arc. The Third Officer's sketch indicates what was seen. The spikes grew more intense and then faded to be replaced by others in different positions in the sky. They were visible for about 25 minutes, but the sky remained bright until almost midnight.

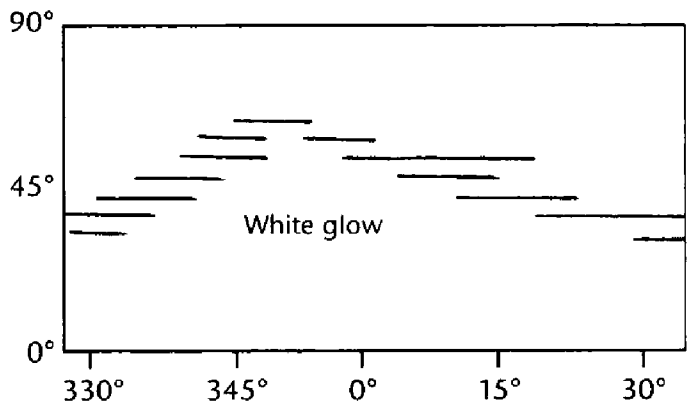


It was an amazing display of an impressive phenomenon.

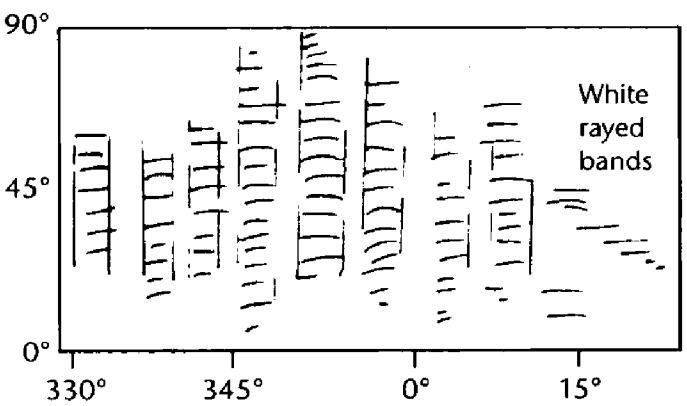
Aurora borealis
North Sea
6/7 November 2000

- **m.v. *Duhallow***
- **Coasting in Scottish Waters**
- **Captain A.M. Deshmukh**
- **Observers: D. Prakash (3rd Officer), A. Bannerjee (2nd Officer) and members of ship's company**

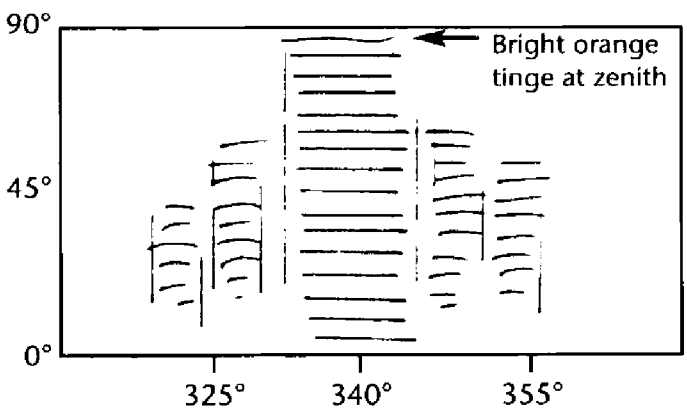
The aurora was first noticed as a bright white glow in the northern sky at 1800 UTC. Over the next hour the glow intensified to become bright white rayed bands projecting upwards to the zenith (at 1820), and peak intensity was reached at 1835 when bright orange or red tinges were clearly discernible racing along the white bands. See sketches (a), (b) and (c).



(a) 1800 UTC
Bright glow commences



(b) 1820 UTC
White rayed bands develop



(c) 1835 UTC
Bright orange or red tinges become visible.

A spectacular complete arc was formed at 1845, extending from 340° to 160°, with one end starting at an altitude of 5° and the other at 7°. The auroral display had dissipated into a few small patches here and there by 1930, but at 0030 on the morning of the 7th, the Second Officer witnessed a similar, but not quite so spectacular, display.

Correction

On page 111 of the July 2001 edition, two reports were included for the *British Resolution*. However, these were erroneously attributed to dates in September 2000, having actually taken place in 1996.

We apologise to those puzzled readers who have tried to reconcile the published dates with the fact that this vessel went to the breakers in 1999!

DID YOU KNOW...?

Contributions for *The Marine Observer* can be sent direct to the Editor by:

E-mail to obsmar@metoffice.com

or fax to +44 (0)1344 855873

'Obsmar' inbox — e-mailed reports

m.v. *Tobias Maersk*. Captain C. Robinson. Manzanillo to Cartagena. Observers: Captain Robinson and S. Eves (3rd Officer).

Whilst on passage luminescence was observed on 30 March 2001 at about 1700 UTC. Individual brilliantly-flashing spots surrounded the ship, the distance between them being 4–5 m whilst the period between flashes was approximately one second.

Unlike the usual luminescence caused by the disturbance of the ship's wake, these lights appeared to be below the surface and extended to a distance of about 50 m from the ship's sides. The position of the phenomenon when first sighted was 10° 02.4′ N, 77° 26.5′ W, the sea temperature was 28° and the wind was NE'ly, force 3.

Editor's note. Dr Peter Herring, of the Southampton Oceanography Centre, said:

"The flashes were clearly from a larger animal than [that causing] most wake and bow-wave luminescence; I think it likely that they were either jellies (particularly comb jellies which are especially bright) or lanternfish. Lanternfish have very fast flashes lasting only a few tenths of a second, often in volleys, whereas comb jellies have rather longer (usually single) flashes. The description sounds more like the latter. Either animal is likely to have been stimulated by the turbulence and shock-wave of the ship's movement, and would have been a few metres below the surface. Scattering of the light on its passage to the surface would make the flashes seem much larger than they really were (like all underwater lights seen from above the surface)."

m.v. *British Purpose*. Captain K. Peacock. Fujairah to Mina Al Fahal. Observers: Captain Peacock, J. Welford (3rd Officer) and members of ship's company.

A school of approximately 20 dolphins was observed on 30 May 2001at 0635 UTC on the starboard bow at a distance of approximately half a mile. The vessel's position at the time was 24° 44′ N, 57° 10′ E, on a heading of 130° at 15.5 knots, and the wind was SSW'ly, force 2.

The dolphins seemed to be heading for the bow of the vessel, where they bow-rode for a number of minutes before passing close down the starboard side and then 'playing' in the ship's wake. Approximately five young or juvenile dolphins were seen with the school, always next to an adult, or sandwiched between two adults. The dolphins were about 2 m in length (the juveniles were about half the size), with a prominent 'pointed' nose. They had a grey upper half and whitish belly, with a lighter stripe of grey leading from the head to the base of the dorsal fin. Some of the adults were observed to have a spotted 'mottling' on their underside. On post reference the dolphins were probably Striped dolphins. The school was observed to be 'wake-riding' and jumping high out of the water as the vessel passed by.

As the dolphins were being observed, two larger dark-coloured cetaceans were also seen jumping through the ship's wake. Although only a couple of sightings were made, these creatures were much larger (approximately twice the size) and had rounded heads, with a similar dorsal fin profile as the dolphins. Being much darker and larger than the dolphins, these were investigated, and were thought to be Pygmy Killer whales. The sighting of these cetaceans lasted about 15 minutes in total.

Editor's note. Kelly MacLeod agreed that given the distribution, behaviour and physical appearance of Striped dolphins and Pygmy Killer whales, the observers' identifications seemed to fit in well with the facts.

Special Long-service Awards for 1998

On 30 July 2001 the Met Office was pleased to welcome five shipmasters to Bracknell to be presented with specially inscribed marine barographs in recognition of long-standing contributions to the work of the UK Voluntary Observing Fleet.

These awards were introduced in 1948 by the then director of the British Meteorological Office, Sir Nelson Johnson KCH, DSC, and have been presented annually ever since. Initially, shipmasters with a total of 15 or more observing years were considered for these awards, but in 1980 the qualifying period was increased to 18 years while the formula used to assess ships' meteorological logbooks was adjusted so as to place a little more emphasis on quality rather than length of service alone. In order to qualify for an award it is also necessary for each nominee to have submitted at least one logbook for the award year in question, in this case the 12 months to the end of 31 December 1998.

In co-ooperation with Ian MacGregor (Archive Information Manager) the occasion was held in the Reading Room of the National Meteorological Office Library and Archive. At the invitation of Captain Eddie J. O'Sullivan (Manager, Marine Networks), Mr Peter Ewins (Chief Executive of the Met Office) made the presentations to the recipients, namely, Captain K. S. Hardy (nominated for an award in respect of 1997 but who had been unable to attend that presentation), Captain L.J. Fletcher, Captain L.J. Hesketh, Captain S.D. Smith and Captain K. Worthington. [See photographs on pages 188 and 189.]

- Captain Kevin S. Hardy first sent in a meteorological logbook from the Ocean Fleets vessel *Ajax* in 1971. In 24 observing years he contributed to 64 qualifying logbooks; of these, 35 were classified as excellent and Captain Hardy also received nine annual Excellent Awards between 1975 and 2000. He is a serving master on large container ships of P&O Nedlloyd Ltd, operating worldwide.
- Captain Lindsay J. Fletcher is also a serving master on large P&O Nedlloyd container ships. His first meteorological logbook was from the P&O container ship *Discovery Bay* in 1972 and he submitted a total of 57 qualifying logbooks during a period of 25 observing years. Of these books 29 have been classified as excellent, and Captain Fletcher has been nominated for an annual Excellent Award on four occasions, the latest being for 2000.
- Captain Leslie J. Hesketh has retired from the sea and now works as a marine surveyor. The first meteorological logbook bearing his name was from the New Zealand Shipping Company's *Paparoa* in 1969, and he amassed 63 valid logbooks during his 28-year observing career. Twenty of these were classified as excellent, and he received an annual Excellent Award on eight occasions.
- Captain Sidney D. Smith has recently retired from the P&O Nedlloyd Ltd container line [see page 196]. The first met logbook bearing his name was received from the container ship *Discovery Bay* in 1972. Since then, over an observing period of 25 years, he has submitted 63 qualifying meteorological logbooks, of which 30 were assessed as excellent. He received an annual Excellent Award on seven occasions.
- Captain Kelvin Worthington is also a serving master with the P&O Nedlloyd Ltd container line. His records show an observing career commencing on board the *Suevic* of the Shaw Savill Line, in 1973. Since then the Met Office has been the recipient of 58 logbooks bearing his name, of which 25 have been assessed as excellent. Captain Worthington has also received four annual Excellent Awards.

During the presentations the recipients were able to examine some of their early meteorological offerings in logbooks drawn from the archive. After lunch at a local hostelry the day was rounded off by a guided tour of the Met Office IT Operations Centre and the National Meteorological Centre.

The 'Additional Observations' of a seventeenth-century seafarer

Marine meteorological logbooks submitted to the Met Office contain a wealth of information. Of course, of primary interest to the meteorologist and the climatologist are the weather observations they contain, but the *Additional Observations* of meteorological phenomena and marine fauna and flora have similar significance for those whose interests lie within the variety of subjects in these areas.

In this latter category there is little now reported by shipborne observers that has not been seen before — waterspouts, bioluminescence, birds, fish, storms, whales, dolphins, to name but a few topics — can be commented upon or identified by specialists, with a high degree of confidence. To aid such analyses, today's specialist can call upon the collective knowledge of yesteryear, drawing upon the observations, research and findings of the past if need be.

Nevertheless, when the unusual does occur, whether it be (in the case of natural history) a 'common' species apparently no longer present in a previously favoured area, for example, or perhaps a 'rarity' seen in abundance, a large amount of interest can be generated, and specialists will want to account for the anomaly, or reach a conclusion about the identity of a species.

William Dampier

Imagine, then, a time when the far corners of the globe were still being discovered, when new lands were claimed and mapped in the name of sovereignty (and fought over for years afterwards); when the locations of sea areas and land masses had still to be fully understood; when seafarers had only a rudimentary knowledge of meteorology, and when there was only minimal collective knowledge upon which to draw when faced with unidentified phenomena and wildlife in far-flung places.

Welcome to the mid-seventeenth century — and enter one William Dampier. Born around 1651 in Somerset, he was apprenticed as a boy to a ship's master in Weymouth and, throughout an eventful life he was by turns at first a trader, a plantation manager in Jamaica, and then a log-cutter in Mexico. However, he found his greatest adventure sailing (as a private individual) with English buccaneers. Travelling with them provided food and shelter of sorts and also a convenient means by which to satisfy his inclinations to see the world and, between 1679 and 1691 he managed, unintentionally, and by a rather tortuous route to circumnavigate the globe.

Dampier's intention was, basically, to describe everything he came across in his travels — had there been a tourism industry in his day, then his observations would probably have been the equivalent of the detailed travel guides available today. In the rest of this article, we unashamedly dip into Dampier's journals to reveal some of the accounts from his own Additional Observations.

'Red lobsters'

In mid-November 1683, the buccaneers sailed from the "Coast of Guinea" heading for the Straits of Magellan via the Sibbel de Wards [Falkland Islands] where they would look for fresh water; Dampier found "nothing worthy remark" until 28 January 1684 when, 10 days out from the islands, he noted some flying-fish. After that, he says:

> "January 28, we made the Sibbel de Wards, which are 3 islands lying in the lat. of 51d. 25m. South, and 57d. 28m. West Longitude from the Lizard in England, by my account.

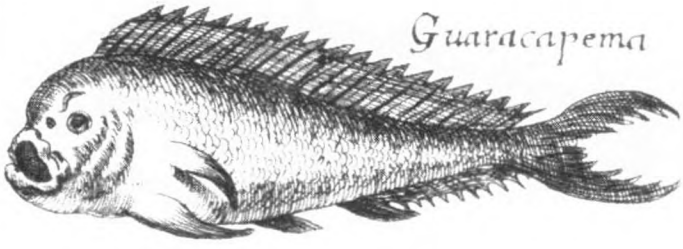
"The Day that we made these islands, we saw great shoals of small Lobsters which coloured the Sea red in spots for a Mile in compass, and we drew some of them out of the Sea in our Water-buckets. They were no bigger than the top of a Man's little finger, yet all their Claws, both great and small, were like a Lobster. I never saw any of this sort of Fish naturally red but here. For ours on the English Coast, which are naturally black, are not red till they are boiled. Nor did I anywhere else meet with any Fish of the Lobster-shape so small as these, except for maybe Shrimps or Prawns."

Dampier seems to have been at a loss to further identify these creatures. However, if he had had prior knowledge of the richness of life found in the cold waters of the South Atlantic Ocean, he might have been able to identify his 'red lobsters' as possibly either the squat lobster (*Munida subrugosa*) or a closely related species, or else the late larval stage of crabs. Around the Falkland Islands the adult squat lobsters have claws, swim and form swarms. The crabs in late larval stage also swim, have claws and swarm but their abdomens do not fold underneath as they do in the adult form.

In 1696 a marine fish catalogue was published in which was illustrated many fish and other marine species known at the time. Whether or not the illustrations were based upon whole or parts of physical specimens, first-hand accounts or just hearsay is not known, but these three examples serve to illustrate that the age of sea monsters was still very much alive.

In (a) is an apparent representation of a Dorado, frequently reported by modern shipborne observers.

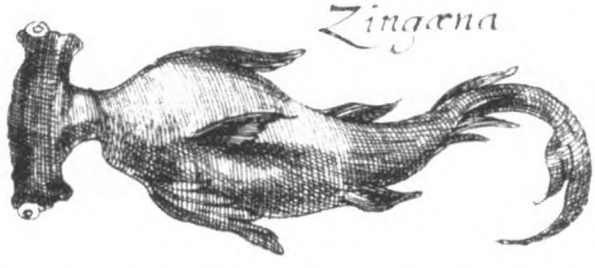
(a)



(NOAA Central Library)

A Hammerhead shark seems to be shown in (b) although this example has been given a defined neck for some reason; a tell-tale 'seam' around the neck almost suggests that the artist was presented with only part of the shark, and was therefore forced to invent the remainder of the body!

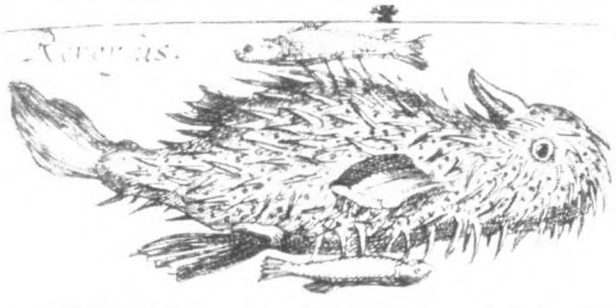
(b)



(NOAA Central Library)

In (c) the reader is best left to judge what the artist is trying to show — fish, bird or mammal?

(c)



(NOAA Central Library)

On the character of the Pacific Ocean

In April 1684, his ship was sailing up the western coast of South America, and Dampier recorded his thoughts about the conditions found in the South Pacific Ocean:

> "Our passage now lay along the Pacifick Sea, properly so called. For though it is usual with our Map-makers to give that Name to this whole Ocean, calling it Mare Australe, Mare del Zur or Mare Pacificum, in my Opinion, the Name of the Pacifick Sea ought not to be extended from South to North farther than from 30 to about 4 Deg. South Latitude, and from the American Shore Westward indefinitely. For with respect to my observation, I have been in these parts 250 Leagues or more from Land, and still had the Sea very quiet from Winds. For in all this Tract of Water of which I have spoken, there are no dark rainy Clouds, though often a thick Horizon, so as to hinder an Observation of the Sun with the Quadrant. And in the Morning there is frequently hazy Weather, and thick Mists, but scarce able to wet one. Nor are there in this Sea any Winds but the Trade Wind, no Tempests, no Tornadoes or Hurricanes (though North of the Equator, they are met with in this Ocean as well as in the Atlantick), yet the Sea itself, at the new and full of the Moon, runs with high, large, long Surges, which never break out at Sea, and so are safe enough, except for where they fall in and break upon the Shore and make it a bad landing."

The Galapagos Islands

The following month the buccaneers, having captured four ships, diverted their course towards the Galapagos Islands in order to avoid trouble with the authorities in Trujillo (Peru). Dampier's ship plus one other "anchored on the East-side of one of the Easternmost Islands, a Mile from the shore, in sixteen Fathoms Water, clean, white, hard Sand". He believed, however, that the English hydrographers had not charted the islands' location accurately, for he commented:

> "The Gallapagos Islands are a great number of uninhabited Islands, lying under and on both sides of the Equator. The Easternmost of them are about 110 leagues from the Main. They are laid down in the Longitude of 181, reaching to the Westward as far as 176, therefore their Longitude from England Westward is about 68 degrees. But I believe our Hydrographers do not place them far enough to the Westward. The Spaniards who first discovered them, and in whose draughts alone they are laid down, report them to be a great number stretching North-West from the Line, as far as 5 degrees N., but we saw no more than 14 or 15. Some of them are 7 or 8 Leagues long, and 3 or 4 broad."

He noted that the islands were not excessively hot even though they lay almost on the Equator, and also observed a continual fresh sea-breeze all day. Perhaps he was unwittingly aware of the effects of the yet undiscovered Peru (or Humboldt) Current that brings cold Antarctic waters northwards along the length of South America to wash close to the Galapagos Islands before becoming part of the South Equatorial Current.

Local effects of strong solar heating

Dampier also made observations of meteorological phenomena although he probably did not understand the physics behind them. While off the Pacific coast of Nicaragua in early August 1685, the buccaneers in an attempt on the port that then served Leon, had left their ships manned by skeleton crews. Dampier accompanied 520 men as they attempted to paddle 31 large canoes to the harbour "about eight Leagues from shore" [in this case one league is taken to be the old English measurement equivalent to approximately 2.2 km]. He says:

> "We had fair Weather and little wind till two o'clock in the Afternoon, then we had a Tornado from the shore, with much Thunder, Lightning, Rain and such a gust of Wind that we were all likely to be foundered. In this extremity we put right before the Wind,

every Canoe's Crew making what shift they could to avoid the threatening danger ... The fierceness of the Wind continued about half an hour and abated by degrees, and as the Wind died away, so the fury of the Sea abated. For in all hot countries, as I have observed, the Sea is soon raised by the Wind and as soon down again when the Wind is gone. Therefore there is a Proverb among Seamen: Up Wind, Up Sea, Down Wind, Down Sea."

Even though the sea was like a millpond by the evening, the canoes could not make land before darkness, and so they stayed offshore, being about 10 km away by daylight. Intending to stay offshore until darkness once more, the buccaneers sat out the daylight hours in the tropical heat, but during the afternoon they were hit by another tornado more fierce than the one experienced during the previous afternoon.

In both cases the term 'tornado' is taken to mean a sudden localised thunderstorm rather than either the land-based phenomenon that bears the name today, or tropical revolving storms. The cause might well have been intense solar heating and consequent convection which is a common trigger for the formation of thunderstorms around the time of maximum temperatures, particularly in the tropics. Had Dampier been able to carry a thermometer with him in his travels he might have worked out for himself the connection between strong solar heating and the incidence of local storms, and perhaps the buccaneers might have thought twice before committing themselves to their long-distance paddle. However, they did literally live to fight another day.

R.A. Kenchington

Orographic cloud

As with the aforementioned events that Dampier obviously could not fully explain, he met with a similar puzzle when he noted what we know as orographic clouds. Whilst the ship in which he travelled was in the North Pacific Ocean in May 1686 searching for the island of Guam in order to find much-needed food and water, hopes of a landfall were raised when some light rain was experienced. He noted that "... the Clouds settling in the West were an apparent token that we were not far from Land" and watched how low clouds particularly seem to move quite rapidly, but that sometimes clouds seen at the horizon do not move or change very much and might be associated with land. The phenomenon was evidently of interest to him because he also comments, "I have often taken notice of it, especially if it is high Land, for then you shall have the Clouds hang about it without any visible Motion".

A typhoon, bioluminescence and corposants

In June 1687, Dampier and his 'companions' arrived at the "Island Prata" [Dongshaondao, South China Sea] where they stayed for about five weeks. Although having little understanding of meteorology as a science, Dampier and the seamen of his day must have made use of a collective knowledge relating to the occurrence of particular natural phenomena and their association with subsequent meteorological events, and could act accordingly. At the beginning of July, Dampier had noted that the wind "had been whiffling about from one part of the Compass to another for two or three Days, and sometimes it would be quite calm"; as such behaviour was often a warning of a 'tempest', the ship was put to sea as a precaution.

Sure enough, two days later the storm arrived. Dampier's journal reads:

"But the day ensuing, which was the 4th Day of July, about Four o'clock in the Afternoon, the Wind came to the N. and freshened upon us. The Sky looked very black in that quarter, and the black Clouds began to rise apace and move towards us, having hung all the Morning on the Horizon. This made us take in our Top-sails, and the Wind still increasing, about Nine o'clock we reefed our Main-sail and Fore-sail. At Ten o'clock we furled our Fore-sail, keeping under a Main-sail and Mizzen. At Eleven o'clock we furled our Main-sail and ballasted [steadied] our Mizzen, at which time it began to rain, and by Twelve o'clock at Night it blew exceeding hard, and the Rain poured down as through a Sieve. It thundered and lightened prodigiously, and the Sea seemed all of a Fire about us, for every Sea that broke sparkled like Lightning. The violent Wind raised the Sea presently to a great height, and it ran very short and began to break in on our Deck".

He then describes how the seas "struck away the Rails of our Head, and our Sheet-Anchor ... was violently washed off, and was likely to have struck a Hole in our Bow, as it lay beating against it". The ship had to be manoeuvred before the wind so that the anchor could be retrieved, but conditions were then too dangerous to turn back into it for fear of foundering, so the ship continued "scudding right before Wind and Sea, from Two till Seven o'clock in the Morning [of 5 July]...".

The wind decreased so the ship was turned once more into the wind and sailed with only a mizzen, it then moderated further and a flat calm of two hours followed, but the storm blew up from the south-west accompanied by very heavy rain, and Dampier's ship was again forced to run before the wind under bare poles until the evening. The whole account appears to indicate a close encounter with an intense tropical depression, or even a typhoon.

During the morning (apparently some time after four o'clock) the rain and thunder had abated, and then St Elmos's fire had been seen. This phenomenon seems to have been associated with either good 'omens' or bad depending upon its location about the ship. The journal reads:

(NOAA Central Library)

"... and then we saw a Corpus Sant at our Main-top-mast Head, on the very Top of the Truck of the Spindle. This sight rejoiced our Men exceedingly, for the height of the Storm is commonly over when the Corpus Sant is seen aloft. But when they are seen lying on the Deck, it is generally accounted a bad Sign.

"A Corpus Sant is a certain small glittering Light. When it appears, as this did, on the very Top of the Main-mast or at a Yard-arm, it is like a Star. But when it appears on the Deck, it resembles a great Glow-worm. ... I have heard some ignorant Seamen discoursing how they have seen them creep, or, as they say,

travel about in the Scuppers, telling many dismal Stories that happened at such times. But I never saw any one stir out of the place where it was first fixed, except upon Deck, where every Sea washes it about. Nor did I ever see any except when we have had hard Rain as well as Wind, and I therefore believe it is some Jelly: ... "

The illustration opposite shows pitching sailing ships, storms and corposants. (from *Meteorologia philospohico-politica*, Franz Weiner (1661–1708) NOAA Central Library) and corposants can be seen on yard-arms. There seem to be two sources or varieties of the phenomenon in Dampier's account, but perhaps only one of them (that associated with the mast and yard-arms) is really the static electrical type. The form that is mentioned as being washed around the deck or in the scuppers might have been an organism(s) such as jellyfish which have often been reported displaying luminescence by modern seafarers, or perhaps a *pyrosoma* (a hollow cylindrical colony of individual organisms swimming as a single entity, and brightly luminescent). If such were washed on board in heavy seas, they would no doubt continue to show this light as they were tossed about on their way back to the scuppers, or else whilst sliding about on a wet deck. In darkness their true animal form would not be seen and it is supposed that they could have been interpreted as corposants ("Glow-worm") on deck. In the first part of Dampier's observation, the seas that were "all of a Fire" and that "sparkled like Lightning" might well have been a manifestation of bioluminescence too, probably caused by dinoflagellates at the surface.

A waterspout

Waterspouts were no doubt as frequent an occurrence in the seventeenth century as they are in the twenty-first, and modern seafarers will find much that is familiar in Dampier's observation of this phenomenon, in the Celebes Sea on 30 November 1687.

"A Spout is a small ragged piece of Cloud hanging down seemingly about a Yard from the blackest part of it. Commonly it hangs down sloping, or sometimes appears with a small bending or elbow in the middle. I never saw any hang perpendicularly down. It is small at the lower end, seemingly no bigger than one's Arm, but still fuller towards the Cloud from where it proceeds. When the Surface of the Sea begins to work, you shall see the Water for about 100 Paces in Circumference foam and move gently round till the whirling Motion increases. And then it flies upwards in a Pillar about 100 Paces in Compass at the bottom, but lessening gradually upwards to the smallness of the spout itself, until it reaches the lower end of the Spout, through which the rising Seawater seems to be conveyed into the Clouds. This visibly appears by the Cloud's increasing in bulk and blackness. Then you shall presently see the Cloud drive along, although before, it seemed to be without any Motion. The Spout keeps the same Course as the Cloud, and still sucking up Water as it goes along, they make a Wind as they go. Thus it continues for the space of half an Hour, more or less, until the sucking is spent. Then, breaking off, all the Water which was below the Spout, or pendulous piece of Cloud, falls down again into the Sea, making a great Noise with its fall, and a clashing Motion in the Sea."

L.J. Fletcher

Waterspouts are not a significant problem for modern seafarers, and are often reported upon in ships' meteorological logbooks as an interesting diversion, but they were considered a threat to sailing ships, and Dampier's like others, was kept at a great a distance as possible from them. Not without reason apparently, for he knew (or had been told) of an event where a ship had received what might be called a 'direct hit' from a waterspout and had lost not only its bowsprit but the foremast and mizzen mast too.

One method by which it was thought possible to weaken a waterspout that could not be avoided by a ship was to fire deck guns into it. However, Dampier is dismissive of such efforts — "But I never heard that it proved to be of any Benefit".

The halo

Optical phenomena can be seen approximately one day in three if the observer is keen enough not to look towards the sun or moon alone and is suitably placed to cast an eye around other parts of the sky. Nevertheless, haloes remain the most frequently reported examples of phenomena caused by the passage of light through ice crystals in cirriform clouds. Cirrus cloud invading the sky is often the first sign of an approaching depression, and so in Dampier's day it is understandable that the halo was seen as a precursor to bad weather. Strangely, more importance was placed on the appearance of a solar halo than of one around the moon.

On 18 May 1688, Dampier and his consorts were navigating from the Nicobar Islands towards Sumatra. In his journal he wrote of the halo:

> "It was indifferent clear till Noon and we thought to have had an Observation, but we were hindered by the Clouds that covered the Face of the Sun when it came on the Meridian. We also then had a very ill Presage, by a great Circle about the Sun five or six times the Diameter of it, which seldom appears without storms of Wind or much Rain ensuing. Such Circles about the Moon are more frequent but of less import. We commonly take great notice of those that are about the Sun, observing if there is any breach in the Circle, and in what Quarter the Breach is. From there we commonly find the greatest Stress of the Wind will come. I must confess that I was a little anxious at the Sight of this Circle, and wished heartily that we were near some Land."

A violent storm indeed followed, and it was bad enough for Dampier to believe that his end was imminent. He did survive, however, but no doubt he continued to regard the appearance of a solar halo with considerable apprehension.

Epilogue

Unknown to Dampier at the time of the search for Guam, in May 1686, the vessel had narrowly avoided a mutiny — or worse. The ship had been at sea for about two months and supplies were so low that the daily ration for each man was 10 spoons of boiled maize, and there was enough left for only three more days. He was to learn later that had the island not been found, then the crew had decided to kill the captain when the food had run out, and eat him followed by everybody who had sanctioned the voyage to the original destination of the Philippines.

Such a grisly end would have deprived later generations of his valuable contributions. As it happened, he eventually returned to England in 1691, and died in London in 1715 at the age of 63.

Acknowledgements

With thanks to Dr Frank Evans (Dove Marine Observatory) and Professor Peter Herring (Southampton Oceanography Centre) for their help and advice with 'Red Lobsters' and 'A typhoon, bioluminescence and corposants'.

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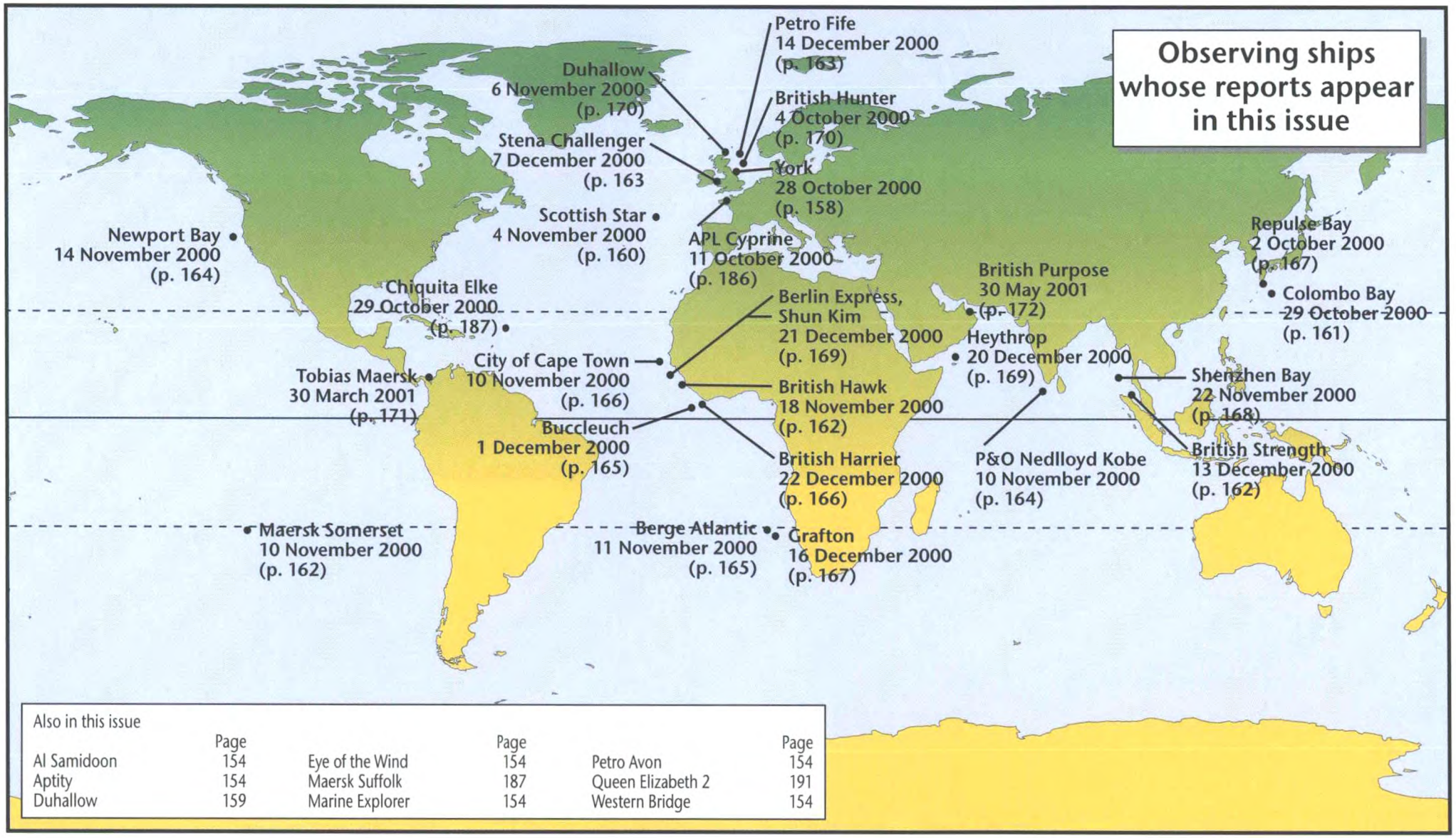
United States National Oceanic & Atmospheric Administration (NOAA). Website: www.photolib.noaa.gov/library



Also in this issue

Tsunami: waves of destruction*

What caused the tsunami that killed 2,200 people in Papua New Guinea?

Dave Tappin
(British Geological Survey)

On 17 July 1998 a massive earthquake struck the northern part of Papua New Guinea (PNG), an island lying just south of the equator in the south-west Pacific. Earthquakes are common in this geologically active area.

The July earthquake resulted in shaking onshore, damaging buildings and creating minor landslides and, offshore, a massive sediment pile was dislodged from the sea bed, forming a water wave that attained a maximum height of 15 metres on arrival at the coast. The wave was focused on a limited area 40 kilometres long. The onslaught left 2,200 people dead and many injured. Three complete villages were destroyed and four more badly damaged. Two years later the survivors are still living in temporary accommodation, too frightened to return to the scene of such destruction.

Harbour waves

Tsunami waves take their name from the Japanese word for 'harbour wave' because often they are most noticeable in harbours. They are common in Japan (25 per cent of tsunamis originate near there) although they can occur anywhere where the seabed is liable to rapid movement by earthquake rupture (faults), volcanic activity or collapse, or by sediment slumping (underwater landslides).

Since 1990 tsunamis have taken over 4,000 lives. Most studies have been made on tsunamis that begin in the eastern Pacific and, travelling westward, strike Hawaii or Japan. Earthquakes along the west coast of the Americas generate these tsunamis, termed 'far-field' because they originate far from where they come ashore.

Knowledge of the relationship between earthquake magnitude and tsunami wave height has resulted in a sophisticated warning system. An earthquake is registered by a global network of receiving stations, and if it generates a large tsunami, a warning is issued. Travel times across the Pacific of 12 to 24 hours should allow threatened coastal communities adequate time to evacuate to high ground.

Twelve events have struck Hawaii since 1895. In 1896 26,000 people died when a 25- to 35-metre-high tsunami struck the east coast of Honshu Island. Europe is not immune. In 1755 an earthquake off Portugal resulted in a 30-metre-high tsunami that engulfed Lisbon. That earthquake and its tsunami led to 60,000 deaths and the destruction of the city.

Volcanic eruptions can create tsunami. The most famous eruption was Krakatoa in 1883, when a wave drowned 30,000 people. Recently there has been much publicity about a potential volcano collapse in the Canaries, said to be capable of causing a tsunami wave hundreds of metres high. Sediment slumping on seabed slopes can also create a tsunami wave. The best known is the Grand Banks event of 1929 that was registered and its velocity timed by the breakage of telephone cables along its path.

Lots to learn

The Papua New Guinea event showed how much we have to learn about the mechanisms of tsunami waves that are created close to shore, the so-called 'local' events. Initial modelling based on the earthquake magnitude could not reproduce the

* Reprinted from 'NERC News' with kind permission of the Natural Environment Research Council

wave height measured by scientific teams investigating the tsunami immediately after it struck. Alternative mechanisms were sought, but we knew almost nothing about the character of the offshore area.

Above: The Shinkai 2000 submersible

Surveys were required, and at the request of the South Pacific Applied Geoscience Commission (SOPAC) three high-technology vessels and an international team of scientists were sent in to investigate. The vessels were generously provided by the Japan Marine Science and Technology Centre. Dave Tappin of the British Geological Survey has been a senior technical advisor to SOPAC for almost 20 years and (with Takeshi Matsumoto of JAMSTEC) was co-chief scientist on the survey.

The first survey used multibeam bathymetric mapping of the sea bed off the north coast of PNG. Multibeam mapping is rather like mowing the lawn. Swathes of seabed up to 15 kilometres wide are mapped as the ship steams back and forth at speeds of 15 knots. In 10 days 19,000 km^2 of sea bed were mapped, providing information never garnered before in this area.

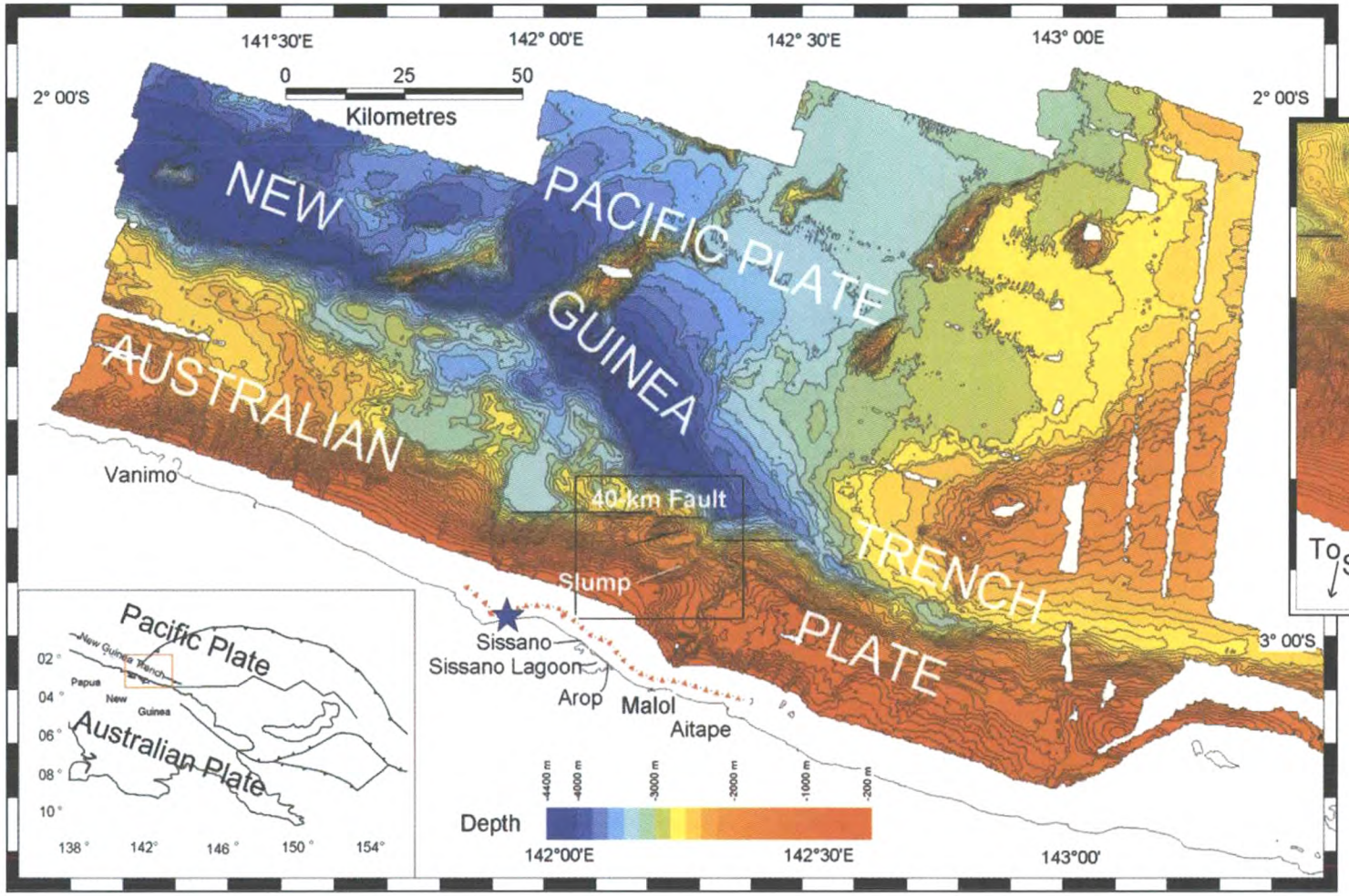
A spectacular picture was obtained as the New Guinea Trench was mapped. Here the Pacific Plate to the north converges with the Australian Plate to the south, causing volcanoes and earthquakes. The result is that the inner (southern) wall of the trench is subsiding and collapsing.

Offshore of the Sissano lagoon, where the tsunami struck with such ferocity, is an area where this collapse is most active. A projecting area of shallow seabed focuses incoming tsunami waves onto a narrow area of land. As soon as the tsunami wave approaches shallow water it begins to break. The shallower the water the more it breaks until it reaches land when it can form a towering edifice.

Above: The author before diving to 1,700 metres in the submersible

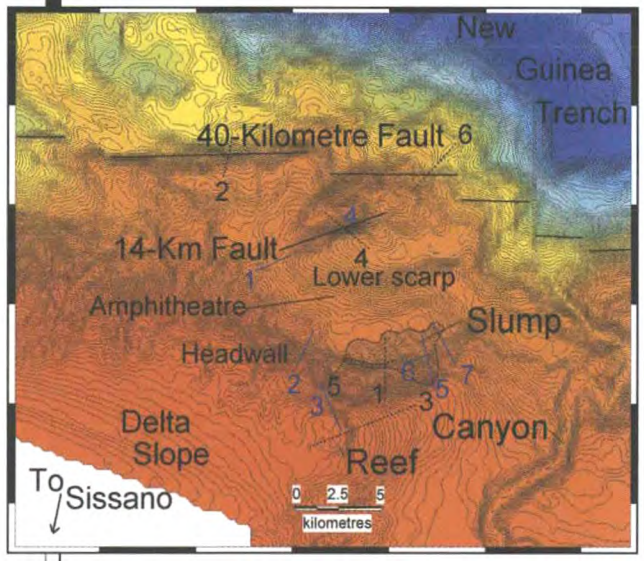
The seabed survey evidence proved that an earthquake was not the source of the tsunami. There were no major recent seabed dislocations (faults) that could have created the tsunami. The faults in the area were either too small or facing the wrong way. But 25 kilometres offshore we found an amphitheatre-shaped structure that had evidently formed by an underwater landslide.

This showed several periods of movement but it was almost impossible to date them without direct seabed evidence. So we carried out two seabed-imaging surveys. The first, using a towed vehicle, identified fresh looking fissures and vertical broken cliffs in the seabed along the headwall of the proposed slump.

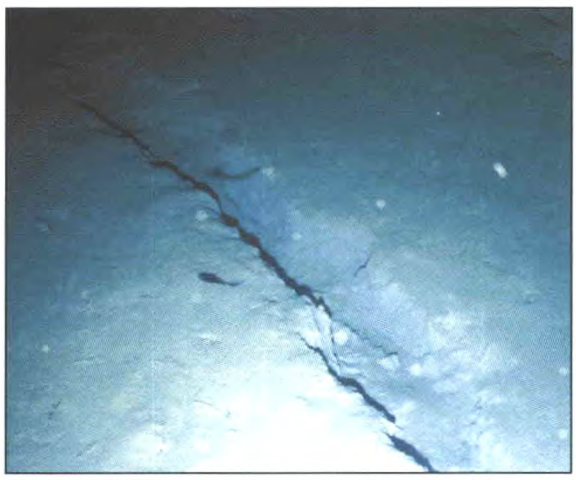


Above: The sea bed offshore northern Papua New Guinea. Red triangles show the main area devastated by the tsunami. The blue star is the probable location of the 17 July 1998 earthquake. The black box shows the area covered by the map above.

Inset map (above): Location of mapped area with main plate tectonic elements. Red box indicates area of offshore survey.



Above: The amphitheatre area off Sissano lagoon. The solid black lines show fault lines. The hatched slump area is where the tsunami was generated. The canyon would have amplified the wave. Dashed black lines and solid blue lines indicate the sea bed imaging surveys



Above: Seabed fissures on the headwall of the slump

A second seabed survey using a manned submersible discovered a concentration of fissures and biological communities in the eastern headwall of the amphitheatre. Their presence suggests that in this area seabed movement is likely to be very recent. Evidence from a listening station set up for nuclear test ban monitoring told us that a sound wave was produced in this area at the predicted time of the slump, supporting our theory that the slump caused the tsunami.

How does this help us?

The objective of all tsunami investigations is to further our understanding of these events so that we can develop strategies to save lives. The results from PNG have demonstrated that unstable sediment slopes offshore may collapse, with catastrophic results if they trigger a tsunami that strikes a nearby coast.

Detailed study of these events helps other areas to consider their own danger. In California the PNG event has acted as a wake-up call and already our results are being used to assess the threat off Los Angeles, where old sediment slumps have been identified. In Turkey after the great earthquake last year the realisation that future earthquake events may occur offshore has raised awareness of tsunami threats to the Istanbul area. Here in Britain, slumps have been identified off the north-west coast of Scotland. The British Geological Survey is investigating their threat to offshore oil exploration. As data accumulates our ability to identify tsunami risk increases. In the longer term we may be able to predict which areas are most at risk.

For more information contact Dave Tappin, British Geological Survey, Keyworth, Nottingham NG12 5GG. Tel: 0115 936 3449. E-mail: drta@bgs.ac.uk

Scene at sea

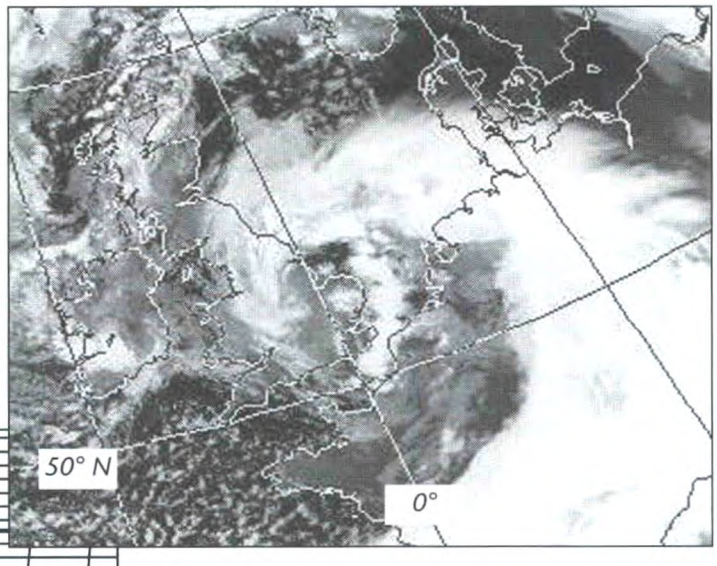
Left: One of the locusts found on board the *Berlin Express* on 21 December 2000. This example was about 100 mm long, but there was a range of sizes starting at about 25 mm long.

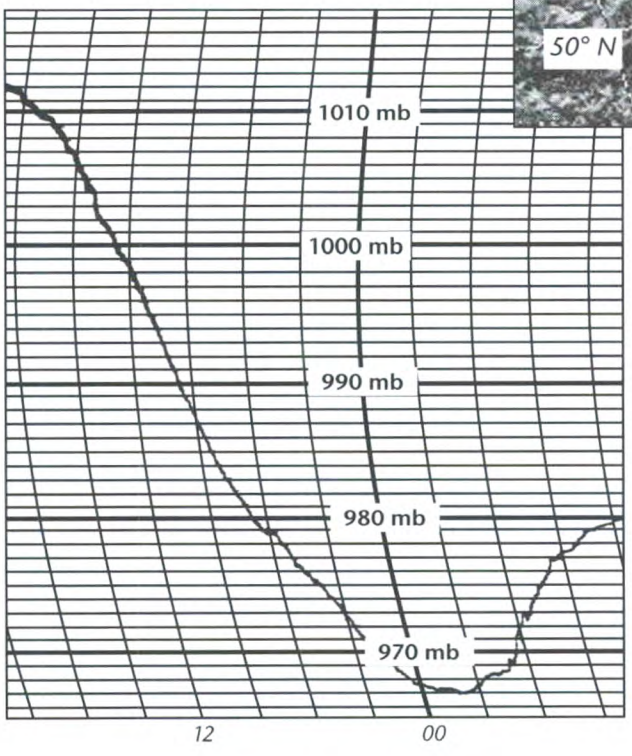
Locusts were also reported on the same day by observers on the *Shun Kim*.

[See page 169.]

Right: An infrared image of a deep depression on 11 October 2000 at 0539 UTC. This affected the *APL Cyprine* on 10 and 11 October 2000 when the vessel was entering the English Channel eastbound for Le Havre.

Satellite image courtesy of Dundee Satellite Receiving Station, Dundee University, Scotland: www.sat.dundee.ac.uk/





The barograph trace (left) shows the large and rapid fall in pressure that occurred between 1000 on the 10th and 0100 on the 11th (the minimum reading of 965.5 mb occurred at 0100). The ship's position at 0220 UTC on 11 October was 49° 53.5′ N, 02° 22′ W.

Left: The barograph trace from the *APL Cyprine*.

Scene at sea

M. Szalek

(a)

M. Szalek

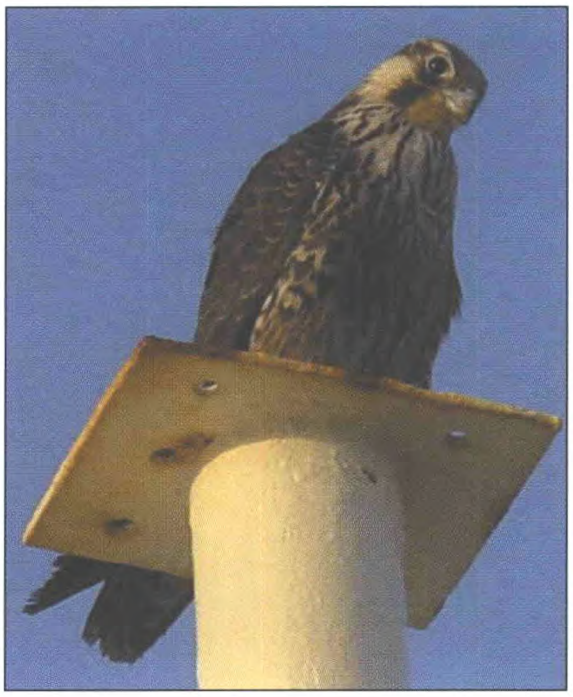
(b)

M. Szalek

(c)

Above and left: Three views of "a big object burning in the atmosphere" photographed from the *Chiquita Elke* on 29 October 2000. This description was given by the observers (Captain M. Szalek and Third Officer C. Contreras) who watched it from 2112–2124 UTC when the sun was setting behind clouds, the photographs being among those taken between 2121 and 2124 by Captain Szalek.

The object seemed to be travelling from north-east to south-west and appeared to head towards the coast of South America. The ship's position was 18° 20′ N, 57° 08′ W, and it was on a heading of 249° at 21 knots.



S. Gallaway

Left: A bird of prey [Ed. possibly a young Peregrine Falcon] that joined the *Maersk Suffolk* in mid-Atlantic on 12 November 2000. Chief Officer S. Gallaway noted that the foremast was its roost from which base it became the demise of many small birds also riding with the vessel.

In flight it seemed to be going everywhere in a rush, including trying to land on the foremast rails at speed while the ship was rolling and pitching with vigour. This invariably ended in a flurry of wings as the bird 'back-pedalled' to get speed off and grab at the moving rail.

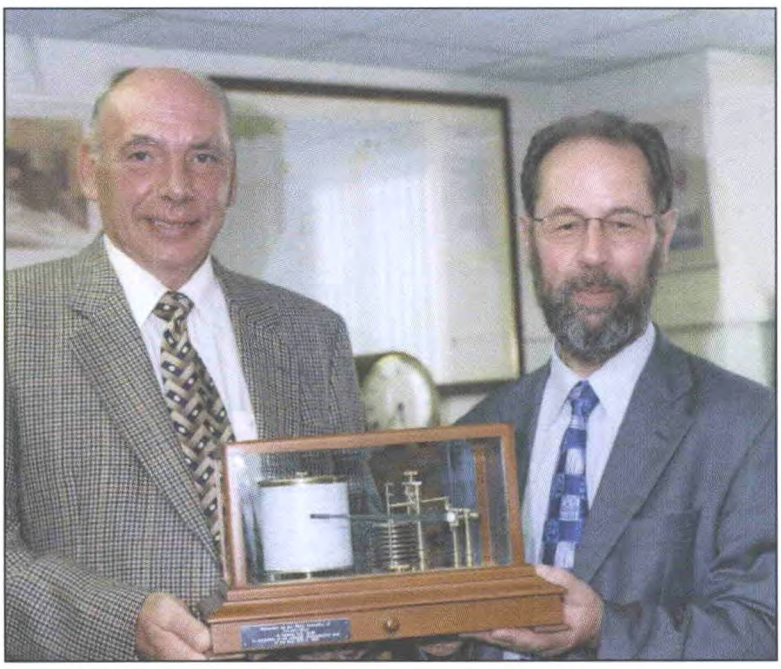
Part of its regular flight circuit involved ranging far out from the ship at a very low level, almost clipping the waves, then cruising down the full length of the ship on the windward side before swooping round the stern to cross the deck at bridge level and then return to the foremast.

Presentation of Long-service Awards for 1998

[see page 173]

Above: Recipients of long-service awards on 30 July 2001. Left to right: Captain K.S. Hardy, Captain L.J. Hesketh, Captain S.D. Smith, Captain L.J. Fletcher, Captain K. Worthington.

Inset: The recipients with their partners.



Left: Mr Peter Ewins (Chief Executive of the Met Office) presents an award to Captain Smith on the left.

Right: Captain Fletcher.

Below: Captain Worthington.

Right: Captain Hesketh.

Below: Captain Hardy.

Excellent Awards for the year ending 31 December 2000

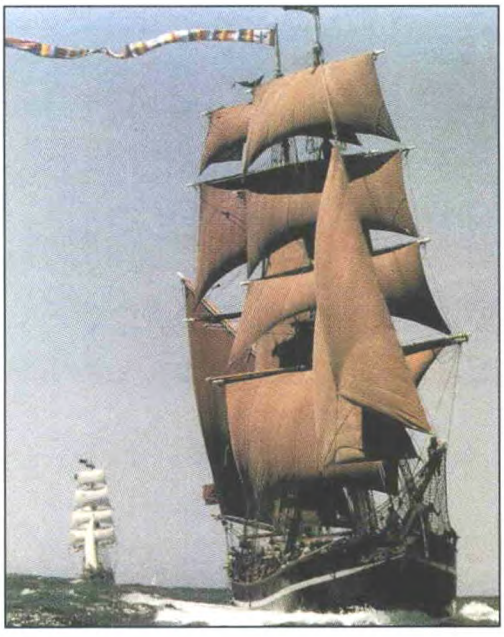
[See page 154.]

Above: *Al Samidoon* (Kuwait Oil Tanker Company S.A.K.) the top-placed vessel in the 'Selected' category.

Left: *Western Bridge* (Furness Withy (Shipping) Ltd)

[This photograph was taken when the vessel was under previous operators, Ropner Ship Management Ltd].

Right: *Eye of the Wind.* (Adventure Under Sail)



Below: *Marine Explorer* (Eidesvik Shipping UK Ltd) the top-placed vessel reporting in the Marid code.

Pigeon homes in on the *Queen Elizabeth 2*

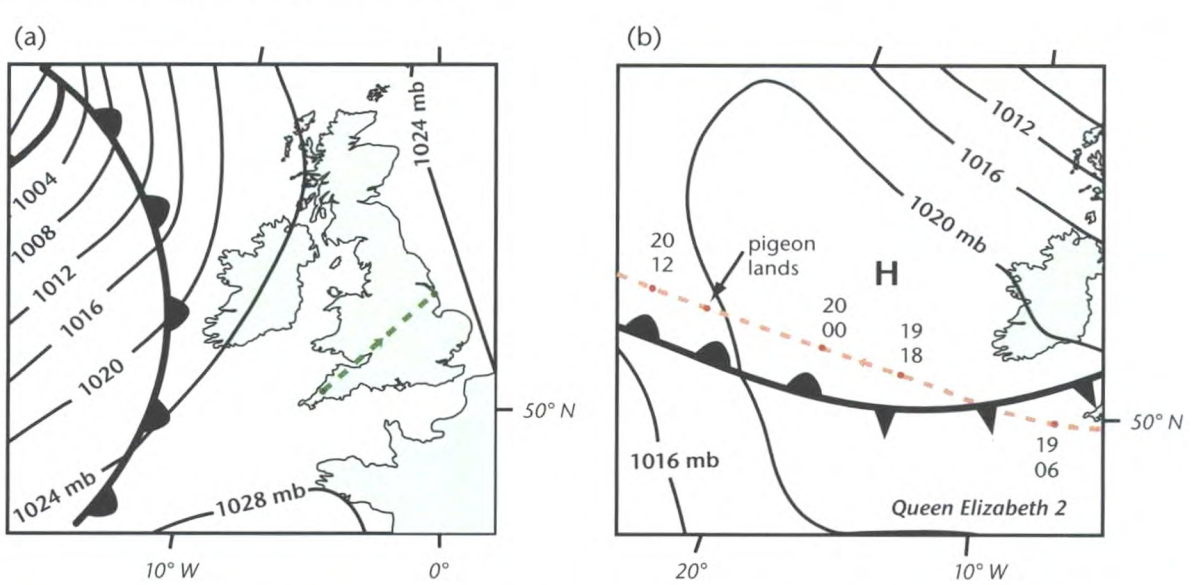
As the crow flies, the distance from Liskeard (Cornwall) to Cleethorpes (Lincolnshire) is about 300 miles — but when pigeon GB2000B23941 tried the same journey in a race it managed to cover 7,000 miles on the 'scenic' route, taking about two weeks in the process.

The pigeon was liberated for the race early on 18 June 2001, and was expected back in Cleethorpes later in the day; however, two days later it found itself over the North Atlantic Ocean in search of a loft — and the *Queen Elizabeth 2* was able to oblige. On 20 June at about 0730 UTC the pigeon, at this time approximately 1,100 miles away from home, landed on the bridge wing and then boldly walked into the wheelhouse to take control and organise some overnight accommodation. However, what the pigeon had failed to take into account was the fact that the liner was bound for New York at the time!

K. Boag

Captain R.W. Warwick and Roger Stoyles with the pigeon

The bridge staff escorted the visitor to the area where passengers' pets were looked after, and settled it into a temporary home under the care of Deck Steward Roger Skoyles. By all accounts the pigeon enjoyed the comforts of its superior loft for the rest of the voyage to New York, and also during the return leg to Southampton at which point it was liberated on 30 June for the second time in the same race. With all in-built navigation aids apparently now working correctly the pigeon headed for Cleethorpes and, according to the owners, was back in its home loft by first light on 1 July.



Above: In (a) is shown the synoptic situation for 0600 UTC on 18 June 2001. The hatched line indicates the race route from Liskeard to Cleethorpes. In (b) is shown the synoptic situation for 1200 UTC on 20 June. The track of the *Queen Elizabeth 2* has been added to show where the pigeon joined the liner two days after the race started.

The following questions and answers may be of use to concerned observers finding a stray racing pigeon

Q. Where has the pigeon come from?

A. All racing pigeons are ringed with coded registration details that enable their owners to be traced. The following ring prefixes apply to UK pigeon-racing organisations.

Prefix	Organisation (UK)
GB	Royal Pigeon Racing Association
AERC	All England Roller Club
EERC AICF/NYC	East of England Roller Club
MRPC	Midland Roller Pigeon Club
NPA	National Pigeon Association
NTU	National Tippler Union
NFTS	Norwich Flying Tumbler & Tippler Society
NBRC	National British Roller Club
WEFT/BSW	West of England Flying Tumbler Society
WHFC	Worcester Hi Fli Club
NRC	Northern Roller Club
NEHU	North of England Homing Union
SU	Scottish Homing Union
WHU	Welsh Homing Union
NWHU	North West Homing Union
IHU	Irish Homing Pigeon Union
NCFTTS	Northern Counties Flying Tumbler & Tippler Society

Q. How can UK birds' details be forwarded to pigeon-racing organisations?

A. For British pigeons prefixed with GB, there is an on-line form (at www.homingworld.cwc.net) that can be completed and mailed to the Royal Pigeon Racing Association. The RPRA has also offered to help with pigeons bearing other UK prefixes, and reports of these can be e-mailed to: strays@rpra.org

Q. What about other countries?

A. The following is a selection of overseas prefixes with associated organisations. Full contact details of these are also available on the internet at www.homingworld.cwc.net.

Prefix	Organisation
BELGE	Royal Federation Columbophile Belge
FRANCE	Federation Columbophile Francais
DV	Verband Deutscher Briefentaubenliebhaber
HOLL/NL	Bureau N.P.O.
PORT	Federacao Portuguesa de Columbophile
ARPU	American Racing Pigeon Union
MALTA	Federation of Pigeon Clubs Malta
SPAIN	Real Federacion Columbophilia Espana

Q. What food should be offered to stranded racing pigeons?

A. The Royal Pigeon Racing Association recommends that these birds be fed with corn, uncooked rice and grains, but not bread. Fresh water should also be made available.

Revised sea areas for Metareas I and II with effect from 4 February 2002

Martin W. Stubbs

With effect from 1200 UTC on Monday 4 February 2002 the United Kingdom will introduce a minor revision of the sea areas used in its forecasts for shipping (see Figure 1). This revision will be implemented at the same time as the implementation of a major revision of the sea areas used by France, Spain, Portugal and Morocco in forecasts issued to the marine community particularly via the medium of the Inmarsat SafetyNET™ and Navtex services.

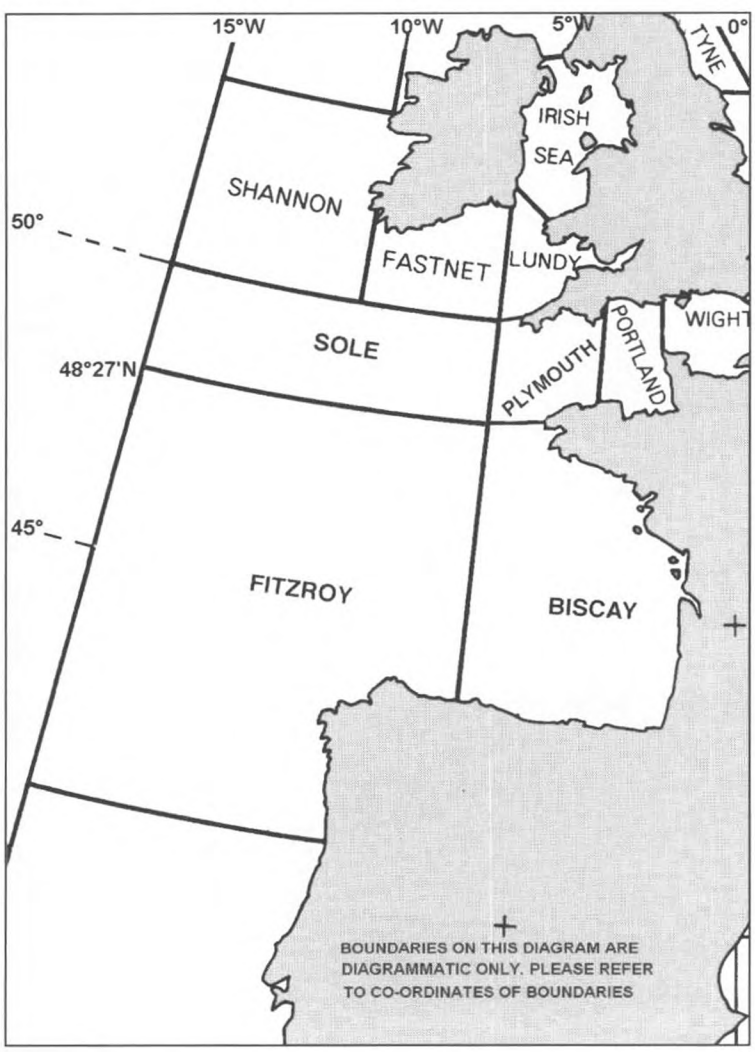


Figure 1: Revised sea areas in forecasts for shipping prepared in the UK, effective from 4 February 2002.

Under the arrangements for the dissemination of warnings and forecasts within the Global Maritime Distress and Safety System (GMDSS) it is a recommended practice of the World Meteorological Organization (WMO) that countries providing forecasts within a specific Metarea (boundaries of Metareas being the same as those for NAVAREAs) use a co-ordinated set of sub-areas within the Metarea if at all possible.

In Metarea I this exercise had already been implemented some years ago with the introduction of a co-ordinated set of sea areas in the North Sea (August 1984).

A similar exercise has been carried out by Météo-France, in consultation with the other countries providing forecasts for sea areas within Metarea II.

With effect from 1200 UTC on 4 February 2002 forecasts prepared by France, Spain, Portugal, and Morocco will use a newly agreed co-ordinated set of sea areas in the provision of forecasts for shipping (see Figure 2 overleaf).

The WMO also strongly encourages Member countries that have sea areas overlapping Metarea boundaries to redefine their areas so that boundaries of areas are aligned with the Metarea boundary. Thus the Met Office in consultation with Météo-France has agreed to realign the southern boundaries of *Plymouth* and *Sole* and the northern boundaries of *Biscay* and *Finisterre* with the Metarea I/II boundary at 48° 27′ N (see Figure 1).

This realignment will take effect at 1200 UTC on Monday 4 February 2002. At the same time the sea area *Finisterre* will be renamed *FitzRoy* since an area *Finisterre* used by Spain in its forecasts for shipping for many years will be retained in the new co-ordinated set of sea areas within Metarea II.

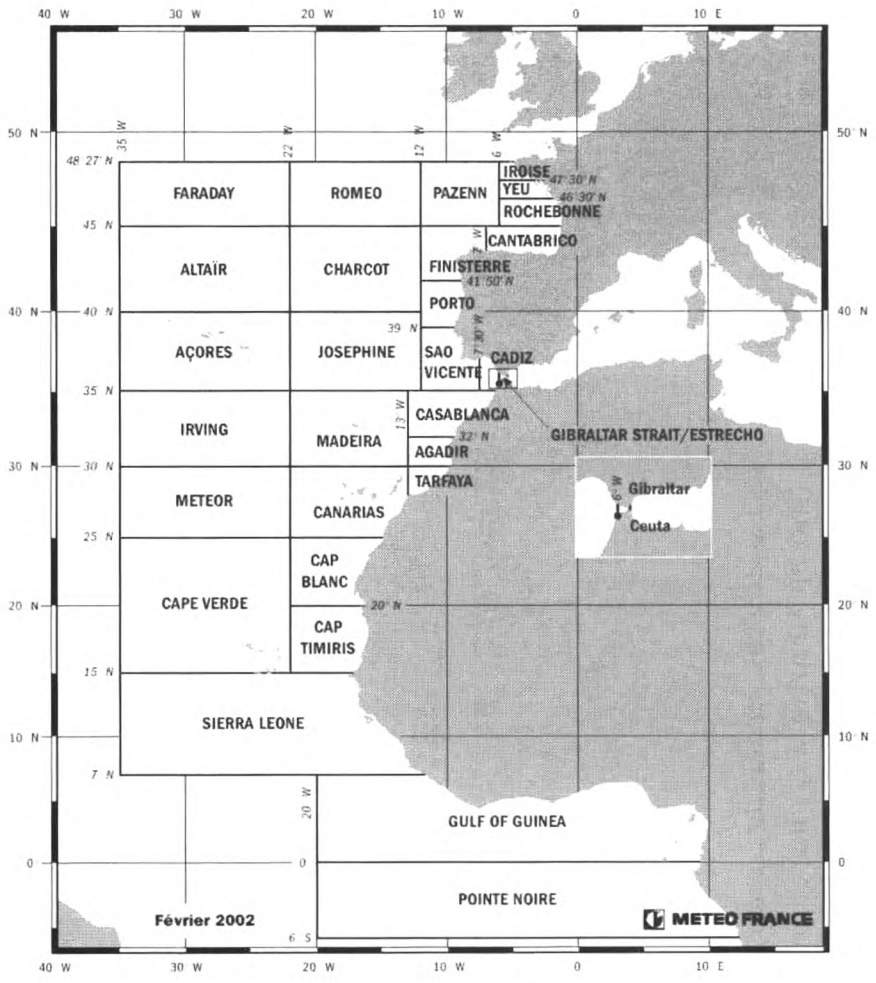


Figure 2: Sub-areas in Metarea II effective from 4 February 2002 (reproduced from *MetMar*, June 2001, p. 50, courtesy of Météo-France).

Details of the new areas in Metarea II will be published in *Admiralty Notices to Mariners* in due course.

Book review

Lighthouses of the Atlantic photography by Philip Plisson and Guillaume Plisson, text by Daniel Charles. 250 mm × 348 mm, *illus.*, 240 pp. Published in the UK by Cassell & Co Wellington House 125 Strand London WC2R OBB. ISBN: 0 304 35653 0. Price: £25.00.

Have you ever wandered past a photographer's shop window and admired those large framed pictures of lighthouses set amidst roaring seas or on isolated and picturesque headlands? If so, then this is the book for you.

Essentially it is a collection of exceedingly beautiful coloured photographs of lighthouses in all their various settings. That said, the book is also much more than simply a series of fine pictures. It traces the development from the first 'Pharos' in ancient Egypt to the present day. It explains why lighthouses were required, their function, their ability to adapt and meet the challenges of each technological demand in the past and, above all, it describes their ability to withstand the worst that nature can throw at them, not just once but over and over again.

The book is divided into the regions that border the North Atlantic Ocean (Scotland, Ireland, south-west Wales and Cornwall, France, Spain and Portugal). Each section is introduced by a map showing the locations of each light, followed by a potted history of the local Agency, and every lighthouse is included. The more notable lighthouses are described in greater detail, often with photographs of the interior and in some cases the men who manned them.

One soon realises as one reads through the well-illustrated pages that the real heroes of the lighthouses, were not the buildings themselves, striking although some of them were, but their keepers who dedicated their lives to that never ending struggle between man and nature. The ones who night after night and in inclement weathers, ensured that their beacon shone for all mariners to see. Many of them have now gone, paid off, retired or simply replaced by mindless automation. The qualities they developed of steadfastness, reliability and dedication and often — when demanded — bravery, are brushed aside by an accountant's pen.

Soon, even the lighthouses themselves will become defunct. The book foresees a time when these costly structures, so difficult to maintain, will be made as redundant as their keepers. Satellites with their Global Positioning Systems accurate to within a few yards will ensure the end of lighthouses, which as the book so adroitly expresses "were born in the age of steam". Let us all hope the book is wrong and that prudence shaped by our past experiences overcomes our conceit of wondrous new inventions and our sole reliance upon one single source of safe navigation.

Here then is a lasting tribute to that gallant and dedicated band of men and the often fantastic structures they built and inhabited. It celebrates the triumph of man over nature in an age when mankind was not so cocooned by artificial surroundings.

One cannot end without praising the photographers, Philip Plisson and his son Guillaume for their endeavours and skill. The lighthouses illustrated are beautifully captured for posterity in all their working glory.

This book will grace any library, whether in the home or at sea. A pure joy to open and study!

Captain James Roe
Port Met. Officer — South-west England

Retirement

Captain S.D. Smith retired on 31 December 2000 after a sea-going career spanning 43 years. Born in December 1949, Sidney Smith was educated at Aberdeen Academy and, in 1957, attended the National Sea Training School in Gravesend.

His first ship was Port Line's *Port Napier*, which he joined in 1957, and he stayed with that company for two years trading mainly to South Africa, Australia and New Zealand. Three years of working for different companies followed, during which time he saw more of the world, but a spell ashore commenced in 1962 and he switched careers to work in the paper-making industry. During this time he also joined the Territorial Army, serving in the Military Police. Returning to sea in April 1968, he resumed seagoing activities with the Port Line but then transferred to Overseas Containers Ltd in 1969 when he joined the *Botany Bay* at the end of her maiden voyage. He would serve on ships of this company, then P&O Containers Ltd, and finally P&O Nedlloyd Ltd for the rest of his career.

Gaining his Second Mates Certificate in March 1972, Captain Smith's observing career for the Met Office was launched when he joined the *Discovery Bay* as Third Mate in April that year. The first of his seven Excellent Awards was also earned later the same year through his contributions to observations from the *Jervis Bay*. By 1981 he was First Officer in the *Mairangi Bay* having gained his Masters Certificate in June 1979, but the opportunity of command did not come until 1989 when he was appointed Master of the *Nedlloyd Tasman* (the *Botany Bay* on a charter contract).

In the late 1980s Captain Smith was serving in *Providence Bay* during the Iran/Iraq conflict, and found himself in the war zone of the Persian Gulf during that time. In 1991 he was sailing between Jeddah and Suez as Master of the *Nedlloyd Tasman* when the Gulf War broke out, he recalls that this passage "was the fastest I ever made to Suez, and the first/only time I was allowed to join the northbound convoy direct from sea at 0600 hours". His penultimate voyage, in *Palliser Bay* in April 2000, was made memorable by a supplies drop to a long-distance rower that turned into a dramatic rescue. Captain Smith takes up the story:

> "I received a request from New Zealand agents to drop off some supplies to a French rower (M. J. le Guen) who was rowing the Pacific single-handed to highlight pollution at sea. Sailing from Port Chalmers to Cape Horn it was somewhat difficult to locate a small fibreglass boat in the vast expanse of the South Pacific, and just as difficult to manoeuvre a 42,000 tonne container ship alongside in a half gale and heavy swell.
>
> "When M. le Guen was brought on board we found his legs and feet in a dreadful mess, and it was obvious that he could not continue his attempt to row the Pacific. After consulting with SAR stations in New Zealand, Chile and the US, I decided to divert to Punta Arenas in the Magellan Strait and land him for urgent medical treatment. We were very fortunate in that we had two ex-nursing sisters on board (the wives of the Chief Engineer and Chief Officer) who, with advice from the Royal Naval Hospital at Portsmouth, were able to take very good care of the patient. Sadly, shortly after we landed M. le Guen, we were advised that all his toes were amputated owing to frost-bite and the onset of gangrene. It may be said that had we not found him and taken care of him he could well have lost his legs or even his life.
>
> "On a more positive note, I had sailed around Cape Horn more than 20 times, but had never seen the Magellan Strait, and very impressive it was too — even if it had taken me 43 years to get there!"

Captain Smith's final command was the *Sydney Star*, marking the end of his association with the UK Voluntary Observing Fleet, a period of 29 years. He was nominated to receive a special long-service award for his contributions up to the end of 1998, and the presentation of his award (and others) is covered on page 173 of this edition. We again extend our thanks to Captain Smith for his past efforts, and wish him well for the future.

Noticeboard

Digital camera images

The number of digital images received with Additional Observations is steadily increasing, being forwarded to us either on CDs, or via e-mail direct to our group address (obsmar@metoffice.com), or included in logbooks as hard copies. These are all very welcome and those received in electronic format simplify the preparation of illustrations for *The Marine Observer*.

However, although the images are of a resolution that will allow our consulting experts to make identifications of, for example, wildlife encountered at sea, not all are suitable for use in the journal because their resolution does not allow for good reproduction.

Therefore, we would kindly request users of digital cameras to set the resolution for their images to the best quality (i.e. use a high-resolution setting). Although the result will be a large file, it will allow for enlargement of the subject without substantial loss of definition.

FTP Mail Service — forecasts and warnings for shipping by e-mail

The FTP Mail Service provided by the National Weather Service (NWS) in Washington enables the mariner to request specific forecasts and graphical products by e-mail, the forecast or products requested then being sent back to the recipient. The system is automatic and success in retrieval of the product requested depends on the correct entry of the text in the request e-mail. The service is free (other than the cost to the recipient for the transmission/reception of the e-mail) and is provided by the NWS as a contribution to Safety of Life at Sea.

If use of the service is considered it should be remembered that e-mail services at sea require satellite links. Text messages are relatively short and do not entail long transmission times, thus costs are relatively low. However, graphics (charts) are very much larger files and may well require a considerable amount of time to download via a marine satellite service thus making transfer of charts very costly at the present time. Ashore the transfer of charts by request is simple and quick. Normally a request is sent back within an hour but when the server is busy the return time for the information requested can be longer.

A description of the service may be found on the NWS web site at http://www.nws.noaa.gov/om/marine/internet.htm. Scroll to 'National Weather Service Products Available Via E-MAIL (FTPMAIL)'.

Tables 1 and 2 (overleaf) summarise the texts required to access the High Seas forecasts for Metareas I, IV, XII and XVI and also the Shipping Forecast for the waters of the North-east Atlantic: The message text must be inserted exactly as indicated, in text format (not HTML) with each instruction on a separate line, no spaces after each instruction and no signature text at the end. Also note the capitalisation and where lower case is required.

To use FTP mail, address the e-mail to: **ftpmail@weather.noaa.gov**

Anything can be entered in the subject line of the e-mail, for example, '**request**'.

Table 1 — Requests for texts issued by the Met Office

Type the e-mail text as shown and substitute NNNNNN as required:

E-mail text	Forecast requested	NNNNNN
open **iwin.nws.noaa.gov** **cd data** **cd text** **cd NNNNNN** **get EGRR.TXT** **quit**	■ Shipping Forecast issued by the Met Office Bracknell	FPUK71
	■ High Seas forecast for the North-East Atlantic (Metarea I)	FQNT21
	■ Latest Storm Warning for Metarea I	WONT54

Table 2 — Requests for texts issued by the NWS

Type the e-mail text as shown and substitute NNNNNN as required:

E-mail text	Forecast requested	NNNNNN
open **cd data** **cd forecasts** **cd marine** **cd high_seas** **get NNNNNN** **quit**	■ Northwest Atlantic High Seas (Metarea IV)	north_atlantic.text
	■ Northeast Pacific High Seas (Metarea XII)	north_pacific.txt
	■ Peru High Seas (Metarea XVI)	east_pacific_3.txt
	■ 25° S to 0° N, 160° E to120° W, ■ South Central Pacific	south_hawaii.txt
	■ 30° to 60° N, east of 160° E (part of NE Pacific)	east_pacific_1.txt
	■ 0° to 30° N, E of 140° W (part of NE Pacific)	east_pacific_2.txt
	■ 0° to 30° N, 160° E to140° W (part of NE Pacific)	north_hawaii.txt

The forecast issued by the NWS for the sub-area of Metarea IV from 7° N to 31° N, west of 35° W including the Caribbean Sea and the Gulf of Mexico can be obtained using the following script in the e-mail:

open iwin.nws.noaa.gov
cd data
cd text
cd FZNT02
get KNHC.TXT
quit

Changes to Australian weather radio-facsimile services

The Bureau of Meteorology has for many years been supplying the maritime community with weather information in the form of charts broadcast via its AXM and AXI radio-facsimile services. The HF transmitters for this service are currently provided and operated by the Royal Australian Navy (RAN) at their stations near Darwin (AXI) and Canberra (AXM).

As a result of the RAN's changeover to its new HF radio communications facility in the next few years, the Bureau will be assuming broadcasting responsibility of AXI/AXM within the next 12 months. Arrangements have been made to continue the broadcasts from new transmitting sites located at Charleville (Queensland) and Wiluna (Western Australia) upon the closure of the RAN transmitted on 1 July 2002.

The first phase of this transition process will occur at 0000 UTC on 20 August 2001 when radio-facsimile transmissions will be temporarily consolidated out of one broadcasting station. In order to provide services with the best coverage possible:

- AXM frequencies will continue to be routinely used for the broadcasts;
- AXI frequency 7535 kHz will be used from 1100 UTC to 2100 UTC and 15615 kHz will be used from 2100 UTC to 1100 UTC.

To recap, the frequencies of the AXI/AXM broadcasts as of 20 August will be as follows:

AXM (kHz)		AXI (kHz)	
2628	Continuous	7535	(1100 UTC to 2100 UTC)
5100	Continuous	15615	(2100 UTC to 1100 UTC)
11030	Continuous		
13929	Continuous		
20469	Continuous		

The Bureau strongly advises users of AXI to monitor the Information Notice transmitted daily at 0054 UTC for further information confirming the AXI frequencies that will be used from 20 August 2001. Information updates will also be posted on the Bureau's Marine Page on the web: http://www.bom.gov.au/marine

Further advice will be given about the commencement of AXI from Wiluna and AXM from Charleville early in 2002.

For further advice, and in case of difficulties arising from this transition, please contact the Bureau on: tel +613 9662 2182; fax +613 9662 1223; e-mail opsgen@hom.gov.au

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Met. Office Observations Supply–Marine Networks
Fax: +44 (0)1344 855873 e-mail: obsmar@metoffice.com

Note: Offices in this list that hold stationery and instruments are indicated by *

UK:

South-east England *: Capt. Harry Gale
E mail: pmolondon@metooffice.com
Tel: 01375 859970 *Fax: 01375 859972*

Bristol Channel *: Capt. Austin P. Maytham
E mail: pmocardiff@metooffice.com
Tel: 029 2045 1323 *Fax: 029 2045 1326*

South-west England *: Capt. James P. Roe
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DENMARK — Copenhagen: L.O. Niesgsch
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Tel: (45) 39 15 7343 *Fax: (45) 39 15 7390*
Telex: 27138 metin

FALKLAND ISLANDS *: R. Gorbutt
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Met Office RAF Gibraltar
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Fax: (301) 96 28952
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Tel: (91) 44 560187 *Fax: (91) 44 827 1581*
Telex: 041 7286

JAPAN — Tokyo: Port Met Officer
Tel: (813) 3212 8341 *Fax: (813) 3211 6908*
Telex: 222 2163 METTOK J

Yokohama: Port Met. Officer
Tel: (8145) 621 1991 *Fax: (8145) 622 3520*

KENYA — Mombasa: A.J. Mafimbo
Tel: (254) 11 25685 or 43344
Fax: (254) 11 433440

MAURITIUS — Vacoas: S. Ragoonaden
Tel: (230) 686 1031/32 *Fax: (230) 686 1033*
Telex: 4722 METEO IW

NETHERLANDS:— De Bilt * (all ports):
J.W. Schaap
E-mail: Jan.Schaap@knmi.nl
Tel: (31) 30 220 6391 *Fax: (31) 30 221 0849*
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NEW ZEALAND — Wellington * (all ports):
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Telex: NZ 30636

NORWAY — Bergen: Port Met. Officer
Tel: (475) 552 36600 *Fax: (475) 552 36703*
Telex: 40427/42239

SAUDI ARABIA — Jeddah: M. Rajkhan
Tel: (966) 2 683 4444 Ext. 325
Telex: 601236 ARSAD SJ

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SOUTH AFRICA — Cape Town *:
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E-mail: Larry.Cain@noaa.gov
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Kodiak: R. Courtney
E-mail: Richard.Courtney@noaa.gov
Tel: 907 487 2102 *Fax: 907 487 9730*

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E mail: Bob.Webster@noaa.gov
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New Orleans: J. Warrelmann
E-mail: John.Warrelmann@noaa.gov
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Printed in the United Kingdom for The Stationery Office
TJ005552 10/01 640185 19585

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ISSN 0025-3251