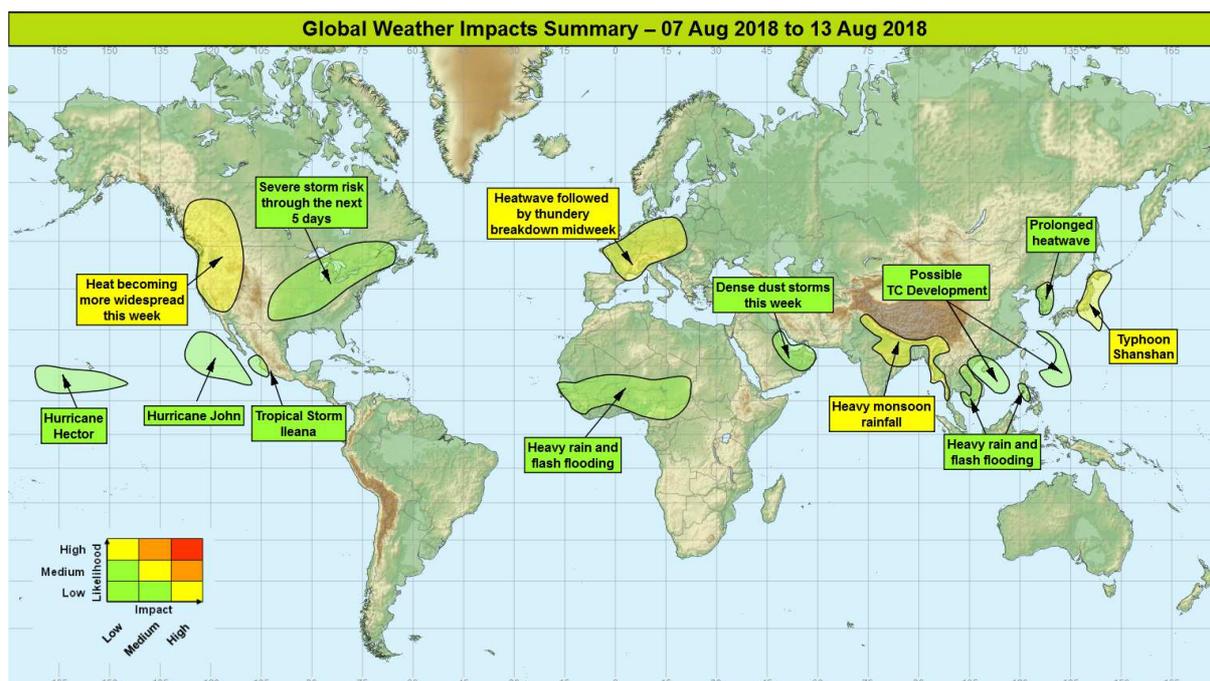


## Global Weather Impacts – Tuesday 7<sup>th</sup> to Monday 13<sup>th</sup> August 2018

Issued on Tuesday 7<sup>th</sup> August 2018

### HEADLINES

- The continental European heatwave cooling off this week with a thundery breakdown.
- Heatwave conditions developing across western North America.
- Heavy monsoon rainfall continues across parts of Southern Asia, especially Myanmar.
- Typhoon Shanshan potentially affecting southern Japan, including Tokyo, mid-week.



### DISCUSSION

#### Tropical Cyclones

##### Typhoon Shanshan (Western North Pacific)

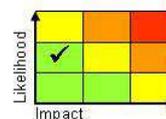
Typhoon Shanshan, located near 30.8N 144.1E at 0300UTC, formed in the Western Pacific on Friday and has been steadily intensifying since then, with estimated sustained winds of 80 mph and gusts of 115 mph. There is good agreement that this storm will remain around this intensity for the next few days as it tracks steadily north-northwest towards Tokyo. From Wednesday there is reduced confidence for the evolution of Shanshan due to differences in how this system interacts with the mid-latitude upper flow, but the most likely scenario is for Shanshan to weaken and track away to the northeast.

Typhoon Shanshan, in the West Pacific, will continue to move north or northwest towards Tokyo during Tuesday, with sustained wind speeds of up to 80 mph and gusts to 115 mph. Through Tuesday night and Wednesday (GMT) Shanshan will threaten parts of Honshu, Japan with up to 300mm of rain and hurricane force winds, before this system weakens and then, most likely, moves away to the northeast.

Impacts are likely to be mainly from very strong damaging winds as well as heavy rainfall, with the potential for flash flooding across the island of Honshu. There is also the potential for storm surge flooding and large waves (6-7m) as Shanshan approaches Japan. There is the potential for these impacts to affect Tokyo.



##### Hurricane Hector (Eastern North Pacific)



**This forecast may be amended at any time**

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Hector was located near 15.7N 144.7W at 0300UTC with sustained winds of 155 mph making it a category 4 hurricane, moving WNW at around 16 mph. There is good model agreement for Hector to continue westwards, with the preferred track, by the National Hurricane Center, remaining just to the south of Hawaii as it slowly weakens through the coming 7 days.

Hector is a category 4 storm with maximum sustained winds of 155 mph. The hurricane is likely to continue moving west through the next week, gradually weakening as it passes just to the south of Hawaii around the middle of the week.

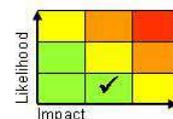
As the system tracks to the south of Hawaii on Wednesday a large swell is likely to affect Big Island. There is also the possibility of Hector producing some heavy rainfall across the southern islands of Hawaii, possibly producing flash flooding and an enhanced risk of landslides.

### **Tropical Storm Ileana (Eastern North Pacific)**

Tropical Storm Ileana has formed from an African Easterly Wave, and was located near 18N 104.9W at 0300UTC with sustained winds of around 60 mph, moving NW at around 17 mph. Ileana is unlikely to strengthen much due to the development of Tropical Storm John just to the west, which is likely to become the dominant system.

Ileana will track northwestwards just offshore from southwestern Mexico during the next few days. It will enhance the thunderstorm activity along this part of the Mexican coastline, producing the risk of 100 mm of rain falling in a 12-24 hour period, possibly affecting tourist resorts such as Acapulco.

Flash flooding across southwestern Mexico is possible during the next few days.

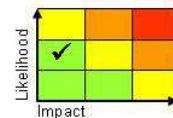


### **Hurricane John (Eastern North Pacific)**

Hurricane John also formed from an African Easterly Wave, and was located near 16.7N 108.6W at 0300UTC with sustained winds of 75 mph, moving NW at around 8 mph. There is good model agreement for the development and track of this tropical storm into a major hurricane later this week, with all tracks keeping it offshore.

This hurricane will strengthen during the next few days, likely reaching major (category 3) strength, but will remain offshore.

Impacts from this system are likely to be limited to large swell and strong rip currents affecting the coasts of southwestern Mexico through the next few days.

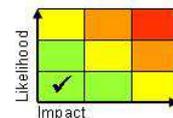


### **Tropical Depression Thirteen**

Tropical Depression Thirteen formed over the eastern Pacific on Tuesday morning, and was located near 14.5N 124.3W at 0500UTC with sustained winds of 35 mph, moving W at 10 mph.

This tropical depression will strengthen through Tuesday, intensifying slowly over the next couple of days.

As this system is expected to remain over the open ocean, no impacts to land are expected.

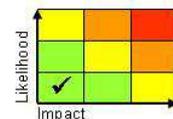


### **South China Sea**

The UKGM continues to produce a signal for a tropical storm development in the South China Sea. However, there is less support from the EC and GFS, although a tropical depression is likely to develop.

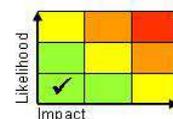
Tropical storm formation is possible in the South China Sea over the next 5 days. Any system that does form is most likely to track towards the southwest coastline of China.

As a system is yet to form in the South China Sea, impacts are difficult to assess at this stage. However, there is an increased likelihood of heavy rainfall, causing flash flooding, across parts of southwest China.



### **West Pacific**

The UKGM and other models show the potential for a tropical storm to develop over the West Pacific, to the northeast of Philippines over the next 48-60hrs. There is reasonable confidence in this development, but some uncertainty over its exact track beyond Thursday.



This forecast may be amended at any time

An area of deep convection to the east of the Philippines may develop into a tropical storm over the next few days, and then move northwestwards to affect the far south of Japan over the weekend. This is likely to produce heavy rainfall over the Ryuku Islands – particularly Okinawa.

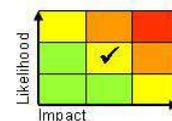
At this stage impacts are expected to be low and mainly from heavy rainfall resulting in localised flash flooding and an increased likelihood of landslides.

## Europe

### Central and western Europe

A plume of high 1000-850hPa partial thickness with values around 140-144dam is expected to transfer northeast across much of western and central Continental Europe during the next few days, leading to the peak temperatures of this heatwave. From Wednesday a sharp upper trough will move in off the Atlantic and interact with the hot air mass to produce a risk of severe thunderstorms ahead of a cold front. This front, prone to some waves, will erratically move east across western Europe later in the week, allowing less hot conditions to eventually become established.

Very high temperatures are expected through the next few days across large parts of central and western Europe. Temperatures are expected to be 5 to 10°C above the average for early August, with temperatures reaching the high 30s°C, close to record level in places. As less hot conditions arrive from the west, there is potential for severe thunderstorms to break out in places during the midweek period. Not only will these bring torrential downpours (up to 75mm in 3 hours), but also large hail and strong winds. The heatwave will likely have impacts on vulnerable populations, as well as tourists who may not be acclimatised to such high temperatures and there may be some impacts on travel, particularly to railways. During the middle of the week, severe thunderstorms could bring significant flash flooding, along with potential damage to property and crops from large hail and strong winds.



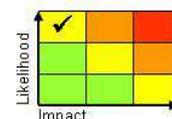
## North America

### Western USA

The Pacific jet stream is expected to weaken during the next few days, allowing an upper ridge to rebuild strongly across western parts of North America through the rest of the week. This will allow heat to build and very high temperatures to become more widespread again, with 1000-850hPa thickness approaching 147dm as far north as southern parts of British Columbia and Alberta. Calgary has a record high temperature of 36.1°C (set in 1919 and 1933), and this could be broken later this week.

After a recent somewhat less hot interlude, temperatures are expected to increase again and by the end of next week be widely 10°C above normal. This will result in temperatures peaking into the mid-40s°C in the southwestern USA and high-30s°C in the northwest USA and southwest Canada. There is the possibility of record high temperatures being set in parts of the Pacific Northwest later this week.

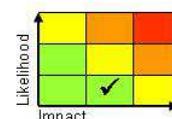
Wildfires still burn from Alaska to California, with the most significant fires in California. More widespread high temperatures from midweek onwards are likely to exacerbate the current situation across western parts of North America. Furthermore, no significant rain is expected until the weekend and wildfires seem likely to become more of an issue. Smoke from existing and recent wildfires is resulting in poor air quality in places, adversely impacting on human and animal health.



### Central and eastern USA and SE Canada

A cold front will slowly transfer southeast, being engaged by short wave upper trough to produce some severe thunderstorms through the next 5 days.

Severe thunderstorms are expected at times this week across the central and northern plains of the USA, through the Great Lakes region across the SE of Canada and far NE of the USA. These storms will produce a risk of torrential rain (up to 75 mm in 3 hours), along with large hail, strong winds and the threat of tornados.



**This forecast may be amended at any time**

Flash flooding, along with wind and hail damage are likely impacts, with aviation likely to see impacts from large areas of thunderstorms across this part of North America.

### Central America and Caribbean

See the Tropical Cyclones section for impacts on Central America.

### South America

Nil significant

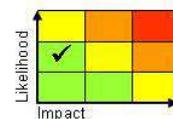
### Africa

#### Equatorial West Africa

A succession of active AEWs are expected to contribute to above average rainfall across the region over the next week.

Further areas of frequent thunderstorms are expected to affect parts of West Africa over the next week. These thunderstorms are likely to produce 75-100 mm of rain in just a few hours. Whilst thunderstorms are not uncommon at this time of the year, they are expected to be slightly more numerous than normal.

Heavy rainfall, often falling in a very short period, will result in an increased likelihood of flash flooding and landslides. Strong winds from thunderstorms can also cause damage to crops and properties, and lift dense dust storms across the Sahel region.



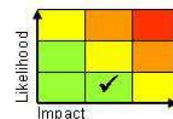
### Middle East

#### Kuwait south across Bahrain, Qatar, UAE and Oman

A strong Shamal will develop this week, lifted dense dust storms and pushing them across the Arabian Peninsula and Persian Gulf.

Dense dust storms are likely to develop through the coming week across the Arabian Peninsula, greatly reducing visibility at times.

The main impacts will be on aviation operations at the major hub airports in the region, but there will also be surface transport network and marine transport issues, along with human health issues due to the extensive, long lived dust storms this coming week.



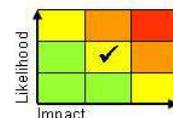
### Asia

#### Northern India, NE Pakistan, Nepal & Myanmar

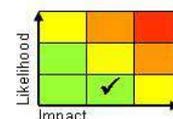
An enhanced southwest monsoon flow will persist across the Bay of Bengal through the next few days, bringing high rainfall accumulations over hills that face into the prevailing wind. Meanwhile another monsoon low pressure system will move slowly west-northwest across northern India bringing further periods of very heavy rainfall.

Persistent heavy monsoon rain and thunderstorms are expected to continue through the next few days. Around 50-100 mm of rainfall may occur each day within this region, with some locations likely to record totals approaching 300 mm over the period. The heaviest rainfall is expected to be across western Myanmar; here up to 700 mm may accumulate in places. From around midweek, conditions are likely to turn much drier across the bulk of region, although western Myanmar is likely to continue to have further spells of heavy rainfall. The Cox's Bazar region of Bangladesh may see a further 50-75 mm on Tuesday, but conditions should turn much drier from Wednesday.

A high likelihood of further flooding and landslides, posing a danger to life, as well as damage to property and infrastructure. However, this is the wet season, and so these impacts are expected in the region at this time of year. The most significant flooding impacts are likely to be across Myanmar, where impacts from flooding have been particularly severe this monsoon season.



### Central & northern Philippines, parts of Cambodia, Vietnam and Laos



**This forecast may be amended at any time**

A persistent south-westerly Monsoon flow will maintain moist, deep convection to parts of Cambodia, Laos and Viet Nam, perhaps augmented by the development of a South China Sea tropical storm. Meanwhile, across the Philippines the southwesterly flow across the South China Sea will lead to very heavy rainfall, particularly across western Luzon, including Manila.

Enhanced monsoon rains will affect the region through much of the next week. Most locations should have daily precipitation accumulations of 25-50 mm, with peaks of the order 100-150 mm each day. The risk of very heavy rainfall is likely to return this coming week to the Manila area in the Philippines.

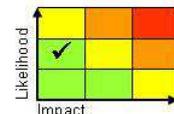
Flash and river flooding likely, along with an enhanced likelihood of landslides in mountainous areas.

### **Korean Peninsula**

The Meiyu-Baiu front will remain displaced well to the north of its usual position for the time of year and be fairly inactive. This will allow heat to build over the Korean Peninsula beneath a strong upper ridge.

Near-record breaking temperatures are likely to persist across the Korean Peninsula over the next couple of days, before conditions gradually turn slightly less hot through the rest of this week. Last Wednesday (1<sup>st</sup> August) a new all-time record maximum temperature, 40.7°C was reached at Hongcheon. Meanwhile a new record was also set at the capital Seoul of 39.6°C.

The longevity of the excessive heat will likely have impacts on vulnerable populations and there may be increased demand on power supplies.



### **Australasia**

Nil significant

### **Additional Information**

Nil significant.

**Issued at:** 070700 UTC

**Meteorologist:** Ele Hunt

**Global Guidance Unit**

**This forecast may be amended at any time**

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