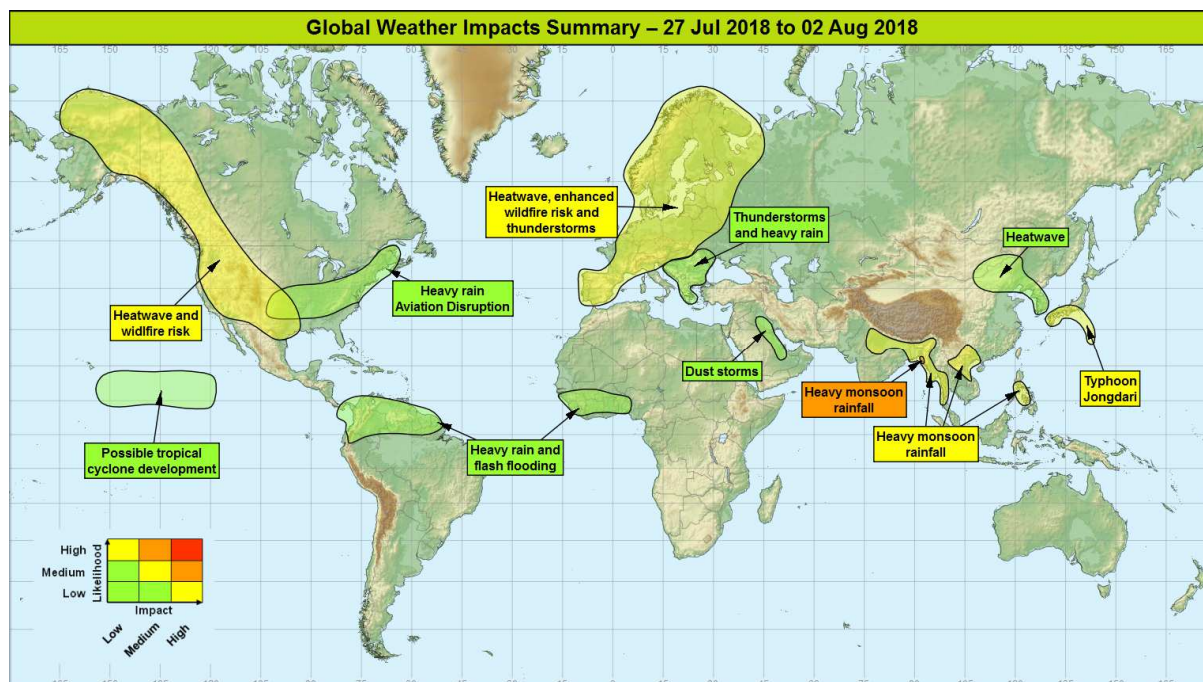


## Global Weather Impacts – Friday 27<sup>th</sup> July to Thursday 2<sup>nd</sup> August 2018

Issued on Friday 27<sup>th</sup> July 2018

### HEADLINES

- Typhoon Jongdari expected to make landfall on Honshu southwest of Tokyo this weekend.
- Heavy monsoon rainfall continues across parts of S Asia, including Cox's Bazar.
- Heatwave conditions and wildfire risk W North America and large tracts of Europe.



### DISCUSSION

#### Tropical Cyclones

##### Typhoon Jongdari (Western North Pacific)

##### **Discussion**

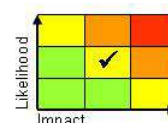
Jongdari was located around 650 miles south-southeast of Tokyo on Friday morning and is expected to begin a left turn towards the north and eventually northeast as it revolves in concert with an upper vortex to its north around their common centre of gravity. Now a typhoon (with sustained 10-minute mean wind speeds of 80mph), further slight strengthening is expected before it reaches lower sea temperatures around Japan and being to weaken. There is now very good agreement between models over its future track, which are consistent with the official guidance in making landfall on Honshu on Saturday (UK time) around 150 miles southwest of Tokyo – a direct hit on Tokyo remains a possibility but a very low prob.

##### **Weather**

Jongdari has strengthened over the past 24 hours to reach Typhoon strength (sustained winds in excess of 74mph) and is expected to affect Japan over the weekend, most likely making landfall to the southwest of Tokyo on Saturday before weakening. Very heavy rainfall (200-300mm) in 24 hours) is expected to affect large parts of Honshu as the system tracks westwards, and high seas/strong winds will accompany landfall.

##### **Expected Impacts**

There will be a likelihood of flash flooding, landslides, storm surge and destructive winds over the weekend – despite a direct hit on Tokyo being less likely heavy flooding rains are still possible here.



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

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## Central & Eastern North Pacific

### **Discussion**

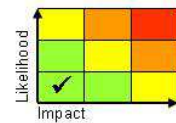
Several minor areas of low pressure with associated shower and thunderstorm activity can be seen on recent satellite imagery, with Tropical Depressions Eight-E and Nine-E forming over the past 24 hours. The environment is marginally conducive for development over the next 5 days as individual disturbances move slowly east, with Eight-E looking like the most likely candidate for developing into a Tropical Storm over the next 24 hours.

### **Weather**

There is a moderate chance of tropical cyclone development over the next 5 days to the southwest of Mexico and southeast of Hawaii but are not expected to pose a direct threat to land.

### **Expected Impacts**

None.



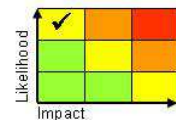
## Europe

### Northern Europe

A very blocked pattern over the Continent with High Pressure over northwestern Russia will remain in place through the next week. This will act to draw very warm continental air across northern Europe. Fresher air to the rear of a cold front will make a temporary incursion into northwest Europe over the weekend, but there are strong signals for ridging to rebuild allowing a day on day rise in temperatures here once again. Whilst there will of course be marked variations day on day and location to location, partial thicknesses within this airmass are likely to widely exceed 140dam, with a few spots seeing 143-144dam. This will bring temperatures of widely above 30°C, and further south some places are likely to exceed 40°C. Within this airmass, scattered thunderstorms are likely to develop some of which could be severe.

In recent days many parts of northwest Europe have seen record breaking temperatures. Temperatures across large tracts of Europe are likely to widely remain well above typical values for this time of year, although parts of France, the Low Countries and Germany are likely to become fresher temporarily over the weekend. Daily maximum temperatures within this large area are expected to range between high 20s to low 40s of Celsius, with overnight minimum temperatures of the low 20s Celsius. The high temperatures will trigger scattered thunderstorms, which could be severe and long-lived in a few places.

Prolonged heat will have impacts on vulnerable populations. Parts of Scandinavia have already seen record breaking heat in the past week, with Sweden in particular being affected by wildfires. Continued hot, dry weather will maintain an environment that will support rapid fire development in Scandinavia provided ignition, especially in association with periods of strengthening winds. There is also the possibility of human and animal heat stress becoming an issue, along with impacts of extreme temperatures on the transport network, especially the rail network. Severe thunderstorms that develop also have the potential to produce heavy rainfall, frequent lightning, large hail and perhaps one or two tornadoes which could cause additional damage to property and infrastructure.

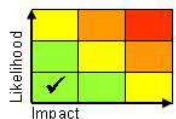


### Southeast Europe

A slow moving, complex upper vortex will continue to promote destabilisation of the low level very warm airmass, leading to the development of areas of thunderstorms through the next week.

Heavy showers and thunderstorms are expected to continue to affect parts of southeast Europe during the next week. These thunderstorms could last for several hours once they develop and generate 20-40mm in a short period of time, and possibly as much as 100mm through the next week. These storms will produce a risk of large hail, strong winds and Black Sea waterspouts.

Localised flash flooding and disruption to land and air travel is possible. Popular tourist resorts bordering the Black Sea could see flash flood impacts too.



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

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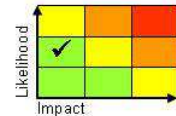
## North America

### **Central, Northeastern USA and Southeast Canada**

Following the slow moving high WBPT plume and areas of thunderstorms that affected E USA over the past few days, (this now having cleared out into the Atlantic), is another cold front that is expected to follow a similar track whilst becoming engaged by an upper trough over NE USA and SE Canada over the weekend. This will lead to the development of organised, locally severe thunderstorms, bringing a threat of heavy rain, strong winds and large hail. The front trails back into Central parts of the USA, and whilst confidence becomes lower there is a consistent inter-model signal for it to become engaged by an extending/disrupting part of the upper trough following upstream amplification. This will lead to further areas of heavy rain, with over 100mm likely in some places early next week.

Heavy, thundery showers will once again develop over the coming weekend over NE USA, including in the vicinity of some of the major aviation hubs of the Eastern Seaboard. These will clear into the Atlantic early next week, but leaves a trailing zone of warmth and moisture over Central parts of the US which may generate further areas of heavy rain and thunderstorms early next week. 50-80mm in a few hours is possible within the storms over the Northeast, whilst some places in Central US could see over 100mm in a day or two early next week.

Heavy rainfall will bring the risk of flooding, landslides in mountainous terrain, and storms are likely to cause some damage to property and infrastructure. Further disruption to aviation is possible over the weekend with the Eastern Seaboard hubs being affected.

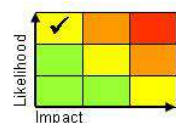


### **Western USA and Western Canada**

As is the case over Europe, a blocked (PNA positive type) pattern exists over North America, with upper ridging and a very warm airmass extending up the western side, as far north as Alaska. Temperatures are expected to be widely 10 to locally 15 degrees Celsius above the normal for the time of year. Death Valley, California, has seen temperatures into the low 50's Celsius earlier this week, and similar values are expected over the next few days. Temperatures exceeding 40 Celsius have been recorded widely in California, Nevada and Arizona, whilst 31.2°C was recorded as far north as Fort Good Hope Airport, Northwest Territories, Canada yesterday. With little change in the pattern expected, similar values will be experienced through this region over the next week. With the heat and dry weather, wildfire risk is high.

Exceptionally high temperatures have been recorded across many parts of Western North America over the past few days, and are expected to continue through the coming week.

Increased potential for serious heat-related illnesses, especially for the young and elderly, those performing outdoor activities, as well as those without access to air conditioning. Increased potential for power cuts, and elevated wildfire risk.



### **Central America and Caribbean**

Nil significant.

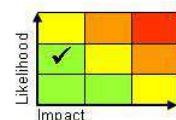
## **South America**

### **Northern Brazil, French Guiana, Suriname, Guyana, Venezuela, Colombia, Ecuador and Panama**

A succession of African Easterly Waves are expected to bring further pulses of heavy rain and thunderstorms across parts of northern South America over the next week.

Frequent heavy showers and thunderstorms are expected to lead to many places experiencing above normal rainfall over the next week. The heaviest rainfall is expected to fall across coastal parts of Colombia where 100-200mm of rain could fall in 24 hours from intense downpours.

Flash flooding and an increased risk of landslides in areas of more steeply sided terrain.



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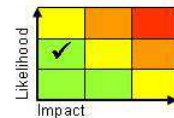
## Africa

### Equatorial West Africa

A succession of African Easterly Waves are expected to contribute to above average rainfall across the region over the next week.

Further spells of frequent, organised thunderstorms are expected to affect parts of West Africa over the next week. These thunderstorms are likely to produce 75-100mm 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.



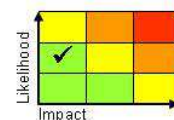
### Middle East

#### Central/Southeast Iraq, Western Persian Gulf States, Eastern Saudi Arabia

Following yesterday's dust storm, a further pulse in the northwesterly Shamal wind is forecast for today. This is likely to generate further dust storms, significantly reducing visibility. Wind strengths are expected to decrease over the weekend, with dust episodes becoming less severe.

Continued strong northwesterly winds is likely to generate significant dust storms, leading to markedly reduced visibility and air quality. Winds are expected to reduce over the weekend with conditions improving.

Mainly a hazard to aviation in the area.



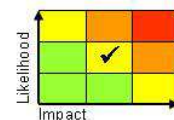
## Asia

### Parts of India, Nepal, Bangladesh and western Myanmar

An enhanced southwest monsoon flow will persist across the Bay of Bengal through the next week, bringing very high rainfall accumulations over upslopes and hills that face into the prevailing wind. At the same time, a monsoon low pressure system will become slow moving over northern India bringing a period of very heavy rainfall.

Persistent heavy monsoon rain and thunderstorms are expected to continue through the next seven days. Around 150-300mm of rainfall may occur each day within this region, with some locations likely to record totals of up to 750mm over the period.

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 what are expected in the region at this time of year.

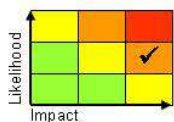


### Southeast Bangladesh (Cox's Bazar)

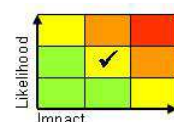
An enhanced southwest monsoon flow will persist across the Bay of Bengal through the next week, bringing persistent severe convection and very high rainfall accumulations over upslopes and hills that face into the prevailing wind. According to observations, Cox's Bazar has had a period of incredibly heavy rainfall over the past 3 days, with over 600mm of rain – including a 24 hour period where 444mm of rain fell. Whilst totals of this magnitude are not expected to be repeated, further heavy rainfall with totals of 50-100mm (on average) per day seems likely, and the rain may even intensify once again next week. A further 300-500mm over the next 7 days is a distinct possibility.

A sustained period of heavy rainfall is expected to follow a period of incredibly heavy rainfall which has seen over 600mm of rain in just 3 days.

Flooding, land/mudslides, destruction of shelters, and significant adverse affects on the over 1 million refugees in the area, including probable fatalities.



### Central and northern Philippines



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A persistent southwesterly Monsoon flow will maintain moist deep convection to some western parts of central and northern Philippines over the next few days. An Equatorial Rossby Wave recently passed by with this influence now waning – allowing the focus for heaviest rainfall to shift slowly south through the coming days.

Enhanced monsoon rains will affect in this region through the next few days. Most locations highlighted within the map should have daily precipitation accumulations of 25-50mm, with peaks of the order 150-200mm each day. Parts of the Greater Manila Metropolitan Area (GMMA) could see up to 200mm of rainfall through the remainder of the week, with the focus for the heaviest rainfall then gradually shifting south of the GMMA early next week.

There have been reports of significant flooding in parts of Luzon in recent days, with further flash flooding expected the next week. There will also be an increased likelihood of landslides in mountainous areas, along with an increased likelihood of river flooding and potential issues with rising water levels in dams across the region.

### **Korean Peninsula, Northeast China, Southeast Mongolia**

An extreme heat wave has affected much of central and western Japan and the Korean Peninsula over the past week. Temperatures have widely reached the mid to high 30s of Celsius. The high temperatures will slowly transfer E and NE into parts of NE China and SE Mongolia as day on day heating takes place, whilst Typhoon Jongdari will bring cooler and more unsettled conditions into Japan and E parts of the Korean Peninsula over the weekend. Humidity will be high and add to the extreme conditions.

Whilst temperatures will moderate across parts of Japan over the next few days, very high temperatures are also being experienced on the Korean Peninsula, where temperatures have been within a few degrees of the all time record of 40 Celsius and are likely to persist through the remainder of the week. Heat will gradually build further northwest, over parts of China and Mongolia, where temperatures into the high 30s of Celsius are likely by the early part of next week.

Prolonged heat will have impacts on vulnerable populations. The excessive heat will also impact transport networks such as railways.

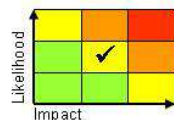


### **Northern Vietnam, southern China and Laos**

An enhanced onshore flow in the wake of Tropical Storm Son Tinh across the region is expected to maintain further frequent heavy showers and thunderstorms through the next week.

Frequent heavy showers and thunderstorms are expected to continue through the next week across the region. During this time, some places may receive 500-800mm of rain, much of which will fall in relatively short periods. This follows very heavy rainfall from a tropical storm (Son Tinh) last week. Rainfall is expected to also remain higher than normal around the site of the Attapeu Dam collapse in southern Laos.

Flooding impacts in Vietnam are expected to continue with an increased likelihood of further landslides and disruption to transport infrastructure. Crops are also likely to be adversely affected by prolonged heavy rainfall. Heavy rainfall in the catchment of the Mekong River could hinder recovery efforts around the Attapeu Dam as a consequence of further flash flooding and possible landslides.



### **Australasia**

Nil significant.

### **Additional Information**

Nil significant.

**Issued at:** 270600 UTC **Meteorologist:** Dan Harris

**Global Guidance Unit**

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