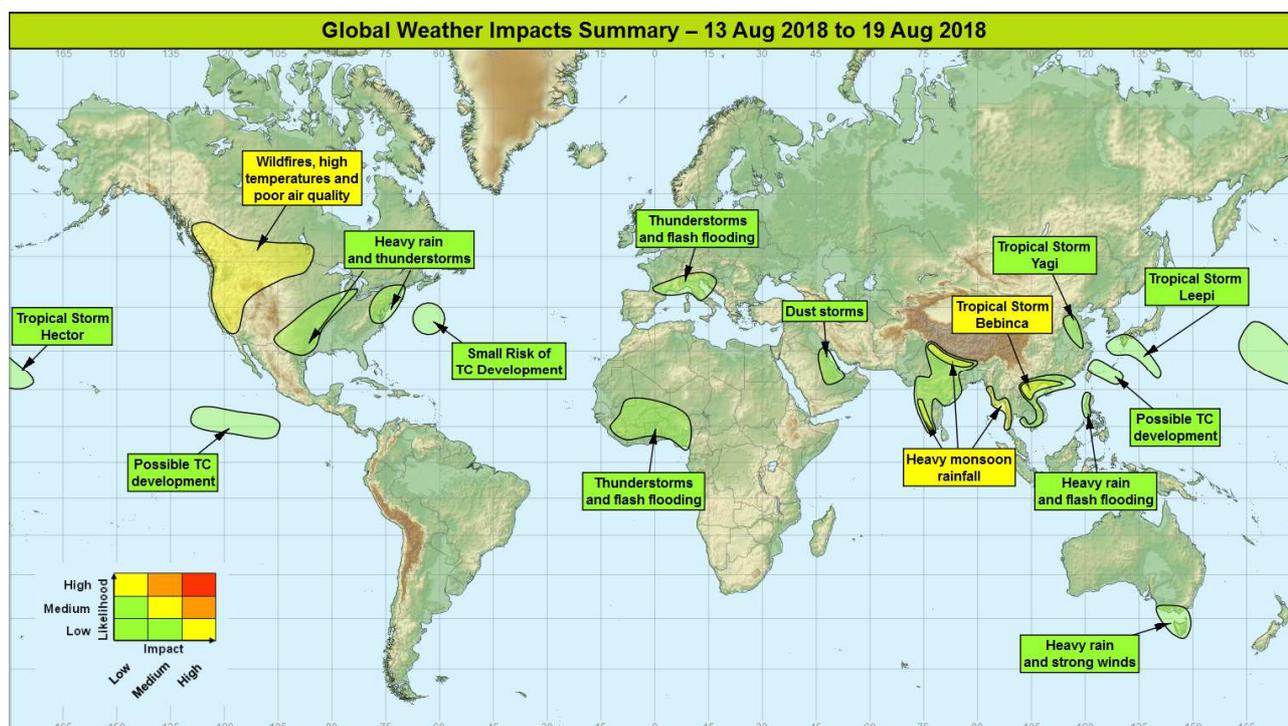


## Global Weather Impacts – Monday 13<sup>th</sup> to Sunday 19<sup>th</sup> August 2018

Issued on Monday 13<sup>th</sup> August 2018

### HEADLINES

- Heavy monsoon rainfall continues across parts of southern Asia, particularly SW India.
- Wildfires and poor air quality ongoing across parts of western North America.
- Tropical storms to affect parts of eastern Asia over the next week.



### DISCUSSION

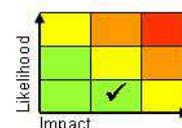
#### Tropical Cyclones

#### Tropical Storm Yagi (Western North Pacific)

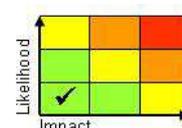
Yagi is now inland over eastern China having made landfall close to Wenzhou (around 200 miles S of Shanghai) on Sunday afternoon UK time. Interaction with land has significantly weakened the system, and it is now bare but the remnants will remain a focus for heavy rainfall well inland across NE China before merging with the Changma front by midweek.

Yagi was located around 170 miles west of Shanghai at 0300 UTC Monday morning, moving north-west at around 25mph with maximum sustained wind speeds of 40mph. Winds associated with Yagi are likely to weaken further over the coming hours, with the storm becoming a remnant depression. However the system will still bring some extremely heavy rainfall along its path through eastern China, with some locations seeing in excess of 200 mm over the next few days.

The main impact is expected to be from heavy rainfall leading to flash flooding and an increased risk of landslides across parts of eastern China until midweek. Some disruption to flights in the region is possible.



#### Tropical Storm Hector (Central Pacific)



This forecast may be amended at any time

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Increasing wind shear has led to a steady decline of Hector after having broken the record the longest consecutive time spent as a major hurricane in the Pacific basin. Hector is currently around 245 miles south of Midway Atoll close to the International Date Line. Hector is likely to slowly weaken as it track NW over the open ocean through the coming days.

Hector continues to move northwest across open water in the Central Pacific on Monday morning, and is expected to very slowly weaken over the next 5 days with little threat to land.

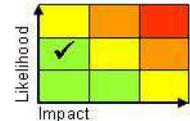
Hector will continue to produce swell that is affecting small islands and atolls in the central Pacific through the next couple of days. Otherwise Hector will have no impact on land.

### **Tropical Storm Leepi (Western North Pacific)**

Leepi continues to track northwest under the influence of the sub-tropical ridge. The system is now entering an area of increasing wind shear and subsidence will result in some weakening as it approaching southern Japan. There is good model agreement in the short term track, with Leepi likely to pass close to Kagoshima, SW Japan on Tuesday UK time. Thereafter the system is likely to weaken over the East China Sea.

Leepi was located around 620 miles south of Tokyo on Monday morning and moving north-west at around 15mph with maximum sustained wind speeds of 55mph. Leepi is expected to maintain similar strength through the next 24 hours, before gradually weakening as it approaches southern Japan on Tuesday. Leepi is expected to produce heavy rain along and north of its track with many places seeing around 50-75mm of rain, with locally 150-200mm over higher ground.

The main impact is expected to be from heavy rain leading to flash flooding and an increased risk of landslides across southern Japan on Tuesday through Thursday. Strong winds and rough seas may affect maritime activities in the region.

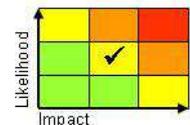


### **Tropical Storm Bebinca (South China Sea)**

The surface low associated with an area of heavy showers and thunderstorms between Hong Kong and Hainan has become better organised through the past 24 hours, and is now Tropical Storm Bebinca. At 0600 UTC on Monday morning Bebinca was almost stationary roughly 130 miles SSW of Hong Kong with sustained winds of 40mph. There is a good deal of spread in models regarding Bebinca's behaviour through the next few days. However the broad consensus is for a slow westward progression, passing north of Hainan into the Gulf of Tonkin. Toward the end of the week Bebinca (or remnants of) could reach NE Vietnam.

The main threat of significant impacts associated with Bebinca is likely to be associated with its rainfall. Already 296mm of rain was recorded in 24 hours to 1800UTC on Saturday in Yangjiang in Guangdong province, with Haikou seeing 126 mm in 24 hours up to 00Z Monday. As the system moves slowly westwards models suggest northern parts of Hainan and southern parts of Guangdong province, China could see in excess of 500 mm through the next few days. By the end of the week parts of NE Vietnam could see similar amounts of rainfall from Bebinca, although there is a large degree of uncertainty in the position of the system by this time.

There is an increased likelihood flash flooding and landslides. There remains some uncertainty as to where this will occur, but northern Vietnam, southern Guangdong and northern Hainan appear to be at greatest risk. Northern Vietnam saw significant flooding and landslides from Tropical Storm Son Tinh at the end of July.

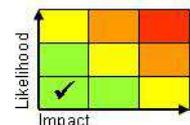


### **Western Atlantic**

A small, non-tropical low is located around 500 miles south of Cape Race, Newfoundland. Strong upper level winds are expected to inhibit significant development of the system through the next few days as it moves SSE over the open ocean.

A small low in the western Atlantic is producing some thunderstorm activity in its immediate vicinity. NHC Miami has just a low (20%) probability of this system developing into a named storm through the next five days.

Given that this system is expected to remain over the open ocean, with limited development no impacts to land are expected this period.



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

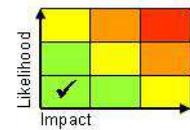
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## Eastern North Pacific

A tropical wave continues to produce numerous showers and thunderstorms just east of 140W. Upper level winds appear to become less conducive for development by the middle of the week, with NHC Miami rate the chances of a named system developing at just 10 %. Further east a second wave lies around 850 miles SSW of Baja California. Environmental conditions favour some development, with NHC Miami having a 40% chance of a named system developing through the next five days.

There is a moderate chance of a tropical storm developing over open water and well away from land through the next five days.

With any development likely over the open ocean, no impacts to land are expected at this time.



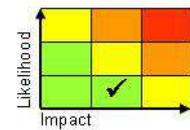
## Europe

### S France, N Italy and the N Balkans.

The seasonal warm plume resident across southern France and Italy is being engaged by a sharp upper trough moving across NW Europe through Monday, producing locally severe thunderstorms across southern France and The Alps. A second trough is likely to extend SE across France later Monday, before undergoing disruption west of Italy through Tuesday. This will bring further severe thunderstorms to The Alps, northern Italy and parts of the northern Balkans region on Tuesday, perhaps into Wednesday. The environment will be supportive of MCS development and isolated supercells which will likely persist into the evening and overnight hours.

Scattered heavy showers and thunderstorms are expected to develop over the next 2 to 3 days with locally severe thunderstorms producing a combination of heavy rain, large hail and strong winds. The focus for these thunderstorms will be across southern France and the Alps on Monday, then northern Italy and the northern Balkans on Tuesday. 30-50mm/hour of rain is possible but a few locations could see totals approaching 100 mm.

As seen with recent severe thunderstorm episodes in Europe, flash flooding is expected to be the main impact. Wind, hail and lightning damage are also possible whilst some minor delays to aviation are possible from airports such as Milan and Nice.



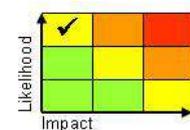
## North America

### NW USA and SW Canada

The plume of hot air that has been responsible for record breaking temperatures being observed across parts of SW Canada and NW USA has now been displaced to the SE as a cold front sinks across the region. However, a transient upper ridge will redevelop by midweek and allow temperatures to rise above normal for a time, though not to the extreme values seen recently. Meanwhile what rainfall there is will be in the form of showers and thunderstorms, with many places remaining dry.

The heat wave conditions resulted in all-time records being broken in both countries (including Calgary, Alberta on Friday). Cooler conditions for a time are expected, which may aid efforts to contain the wildfires which have developed across the region. However, further isolated thunderstorms are likely to develop through midweek which could trigger additional wildfires.

Several significant wildfires continue to burn across western North America, with the most significant fires in northern California (the Mendocino Fire Complex is the largest in state history with over 300,000 acres burnt) and SW Oregon. Ongoing wildfires are contributing to poor air quality across a larger region of western North America, whilst the wildfires themselves threaten to damage or destroy property and infrastructure in the region.



This forecast may be amended at any time

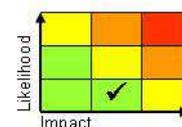
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## NE USA

A slow-moving as a cut-off low is engaging the warm plume across the NE USA, leading to the development of heavy showers and thunderstorms.

Scattered heavy showers and thunderstorms will continue to affect parts of the NE USA from New England southward into the Mid-Atlantic until Tuesday. These storms will produce locally heavy rain (up to 75mm in 3 hours).

Further localised flash flooding is expected. Flight delays have been reported over recent days from major hubs in the NE due to thunderstorm activity and this is expected to be the case again on Monday and Tuesday, including New York, Washington DC and Philadelphia.

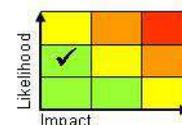


## Central USA

A cut-off low will continue to engage the resident warm plume across the region producing heavy showers and thunderstorms. The low is expected to be subsumed into the flow to the north through Tuesday, which will extend the risk of thunderstorms and associated flash flooding into parts of the Central Plains by Tuesday, then further NE toward the Great Lakes region by the mid to latter part of the week.

Further scattered showers and thunderstorms are expected over the next 2-3 days which are likely to produce 75-100mm of rain over a few hours in some locations. The focus for the heaviest rainfall is expected to move northeast into the Central US Plains by Tuesday, then the Great Lakes toward latter part of the week.

Flash flooding is expected to be the main impact, although the above average rainfall will be partially welcome given the ongoing drought across much of Texas, Oklahoma and Kansas. Later this week there is the potential for some disruption to aviation to major hubs, including Chicago.



## Central America and Caribbean

Nil significant.

## South America

Nil significant.

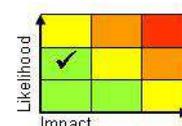
## Africa

### Equatorial West Africa

Further 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.

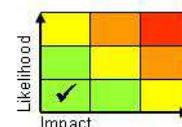


## Middle East

### Persian Gulf

The strong Shamal event is expected to continue through Monday and Tuesday. However, the Shamal is expected to ease around midweek.

Over the last few days there were areas of lifted dust across the Persian Gulf and adjacent nations as a result of a strong Shamal (NW) wind. Another pulse in the Shamal is expected to continue until around midweek which will bring a renewed threat of dust storms.



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

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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

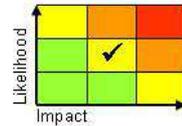
See *Tropical Cyclones* section.

### India, Nepal and Myanmar

An enhanced southwest monsoon flow will persist across the Bay of Bengal and SW India through the next few days, bringing high rainfall accumulations over hills that face into the prevailing wind. Meanwhile, the remnants of a monsoon depression is bringing heavy rainfall to northern India as well as Nepal. A second, potentially more intense, monsoon depression looks likely to affect eastern and central India through this week.

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 and SW India, where 500-600mm may accumulate in places. The remnants of a monsoon depression will bring further heavy rainfall to northern India and western Nepal on Monday before a further depression moves inland into eastern and central India this week, this also likely to produce around 500 mm of rainfall in places.

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 and SW India. High water levels at some dams in Kerala has resulted in some water being released, inundating communities downstream.

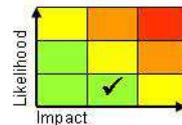


### N Philippines, parts of Cambodia, Vietnam and Laos

A persistent south-westerly monsoon flow will maintain moist, deep convection to parts of Cambodia, Laos and Vietnam, perhaps augmented by the development Tropical Storm Bebinca. Meanwhile, across the Philippines the south-westerly 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. Rainfall totals will be quite variable owing to the nature of showers, but it is across western Luzon on Monday and Tuesday where as much as 200-300mm of rain could fall. On Saturday, 270mm of rain fell in Manila with widely in excess of 100mm recorded across western Luzon.

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



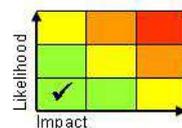
## Australasia

### Victoria and Tasmania

A strong 200 knot jet stream will drive a vigorous depression well to the south of Australia on Tuesday and allow a large swathe of strong winds to develop on its northern flank into Wednesday. The heaviest rainfall is expected to be across western Tasmania, although this is largely unpopulated compared to the sheltered east.

A deep area of low pressure will bring a further spell of very strong winds to parts of southeast Australia through midweek with coastal severe gales likely producing wind gusts of 60-70mph to southern Victoria and Tasmania. This will be accompanied by heavy rain, the heaviest of which is likely to be across western Tasmania.

The main impact is expected to be from strong winds and follow a particularly unsettled spell of weather that led to one fatality earlier in the week. Further fallen trees and power interruptions seem likely, whilst disruption to air and sea travel in the region is also possible,



## Additional Information

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

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Nil significant.

**Issued at:** 130700 UTC

**Meteorologist:** Mark Sidaway

**Global Guidance Unit**

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

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