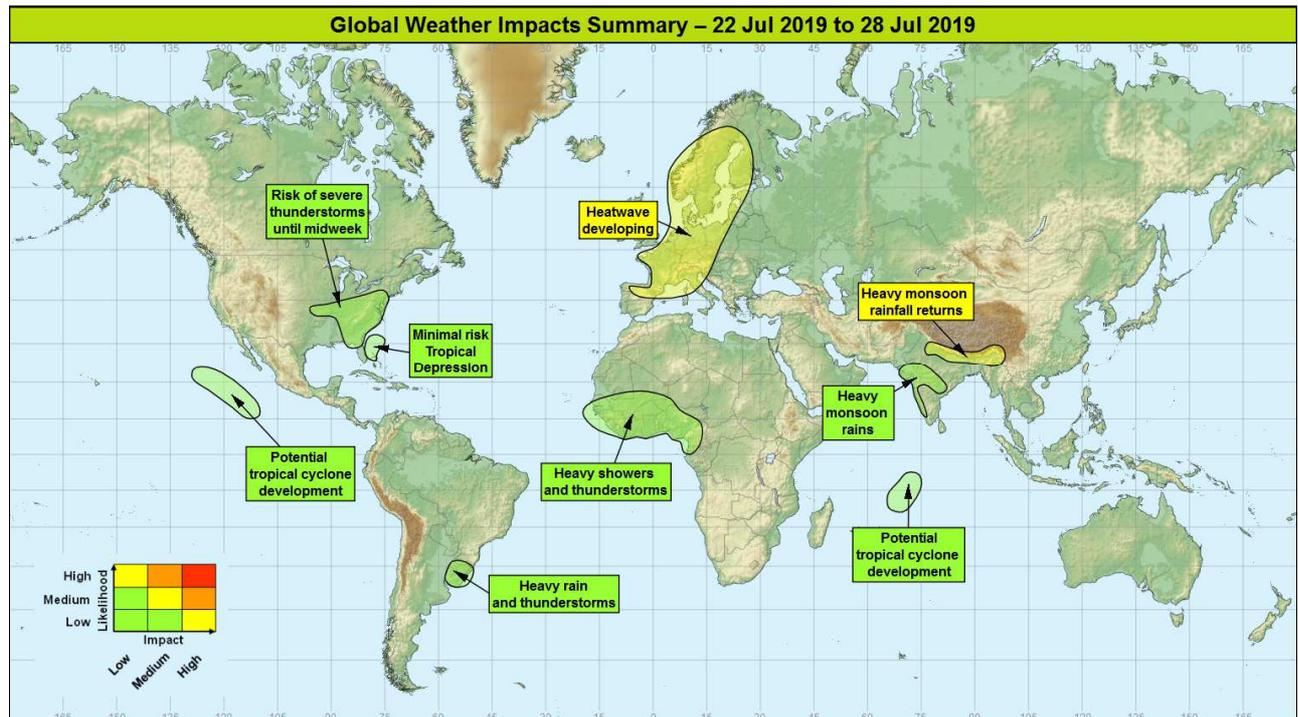


## Global Weather Impacts – Monday 22<sup>nd</sup> to Sunday 28<sup>th</sup> July 2019

Issued on Monday 22<sup>nd</sup> July 2019

### HEADLINES

- A heatwave will develop across large parts of central and western Europe this week.
- Heavy rainfall returns to the foothills of the Himalayas.



### DISCUSSION

#### Tropical Cyclones

There are currently no active tropical cyclones. The following areas are being monitored for potential development:

#### Eastern North Pacific

##### Weather

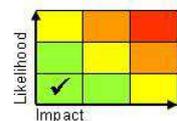
A cluster of thunderstorms is currently moving westward across the Eastern North Pacific with strong potential for gradual development into a tropical cyclone in the next few days, although any system that does develop is expected to remain away from land.

##### Discussion

Several African Easterly Waves (AEW) have crossed Central America emerged into the Pacific, one of which has moved into favourable environmental conditions to develop into a tropical cyclone (low vertical wind shear, and high SSTs etc). NHC is currently monitoring this area.

##### Expected Impacts

None.



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

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## Central southern Indian Ocean (close to the British Indian Ocean Territories)

### **Weather**

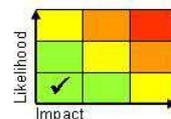
There is a low likelihood that a weak tropical cyclone will form in this region and track south-westward close to several of the islands that comprise the British Indian Ocean Territories over the next day or so. Any system that does form is most likely to be weak, with the primary hazard being heavy rainfall with 75-150 mm possibly falling through Monday as the system moves away south-southwestwards, resulting in an event total of up to 250 mm. This area typically sees 130 mm of rainfall through July.

### **Discussion**

Thunderstorms near the Equator are signalled to begin slow organisation around a shallow depression, this slowly sinking south or south-south-westward whilst becoming more organised, with Coriolis increasing allowing the convergent surface winds to generate increasing cyclonic vorticity. There is a low chance that it will briefly attain tropical storm strength, but heavy rain is likely to be more of a hazard.

### **Expected Impacts**

Potential for some minor flash flooding, although the small size of the islands (and quick discharge of rainwater to the sea) should mean the rainfall likely to be unproblematic. Winds likely to generate some rough seas in the region, but impacts over land expected to be minimal.



## Western tropical North Atlantic (The Bahamas)

### **Weather**

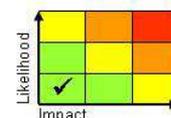
An area of heavy showers and thunderstorms has the potential to become better organised as it passes close to The Bahamas today, and Florida tomorrow. There is a very low likelihood that this could develop in a tropical depression. Regardless of development, heavy rainfall is likely to affect the region with up to 50 mm places.

### **Discussion**

An AEW will pass across the region over the next few days bringing heavy rainfall. Atmospheric conditions are not particularly conducive to development, but it plausible that some modest development could take place, with a very low likelihood of tropical cyclogenesis. From Wednesday onwards upper winds become unfavourable and are likely to lead to dissipation of any system.

### **Expected Impacts**

Flash flooding is possible, although not expected to be widespread and severe.



## Europe

### Western and northwestern Europe

### **Weather**

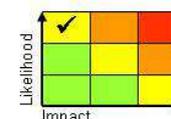
Very high temperatures will become increasingly widespread through this week. Initially the hottest weather will be across Spain and France, but by midweek Benelux, Germany and large swathes of Scandinavia will become anomalously hot. Temperatures will rise widely into the mid- to high-30s°C, with low 40s°C possible in some locations. Some all time national maximum temperature records will be under threat, especially in the Benelux region. Across Spain and France conditions will gradually turn less hot later in the week, as this change occurs severe thunderstorms will become more frequent across this area later in the week.

### **Discussion**

An upper ridge will amplify across western and central Europe early next week, building a surface anticyclone over Scandinavia by the end of the week. This will allow a gradual rise in temperatures through the result of strong day-on-day sensible heating, and warming through large-scale subsidence. This airmass will become increasingly unstable towards the later part of this week, with severe thunderstorms expected to become frequent.

### **Expected Impacts**

The main impact is likely to be health implications with an increased risk of heat and sunstroke (and other heat related conditions), with particular concern for vulnerable groups such as the elderly, very young, and people not acclimatised. Through the area there is likely to be an enhanced risk of wildfires. Particularly towards the end of the week a variety of impacts from thunderstorms are likely to become more prevalent.



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## North America

### Parts of NE USA from Midwestern into the Mid-Atlantic states

#### **Weather**

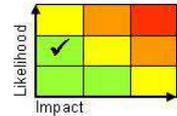
Severe thunderstorms will be a threat across this region of North America for the next few days. These storms could produce 50-100 mm of rain in a few hours, as well as producing hail, damaging winds and possibly even isolated tornadoes.

#### **Discussion**

A strong baroclinic zone and strong jet will be the focus for pulses of severe storm development. The upper pattern will amplify over the next few days, allowing the cold front southeast, where it will continue to become a focus for severe storms until it reaches Eastern Seaboard on Wednesday.

#### **Expected Impacts**

Flash flooding and isolated damaging gusts look to be the most likely impacts, but with additional hazards of frequent lightning, hail and the odd tornado also possible.



## Central America and Caribbean

### Turks and Caicos Islands and The Bahamas – see *Tropical Cyclones* section

## South America

### Uruguay and South Brazil

#### **Weather**

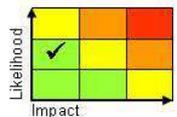
Rain, often heavy, will persist across the region through much of this week. The heaviest rainfall is likely over the next few days when around 100-250 mm could accumulate. Occasional thunderstorms will also develop in places, giving short spell of intense rainfall with 50-100 mm possible in a day.

#### **Discussion**

The South Atlantic Convergence Zone will be rather active through this week, particularly over the next couple of days. In addition to heavy rainfall, thunderstorms will develop, mainly in the north of the region, where there is abundant CAPE and some evidence of sufficient wind shear to organise storms.

#### **Expected Impacts**

Minor impact will be flash flooding, although hail and wind damage is also possible to crops and property.



## Africa

### West Africa inland from the Gulf of Guinea to Sahel region

#### **Weather**

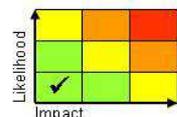
Areas of thunderstorms will progress westward across this zone through the coming week. These storms may bring in excess of 50 mm of rainfall in a short period of time, with 100-200 mm possible if a location experiences several storms. In addition to heavy rainfall, strong damaging winds may be associated with this area, especially towards the Sahel.

#### **Discussion**

Several active AEW are forecast to transfer across the area stretching from the Sahel to down close to the Gulf of Guinea coastline. These features are expected to remain fairly coherent through to their exit into the Atlantic.

#### **Expected Impacts**

Flash flooding from short duration heavy rainfall is possible, especially if the rainfall affects any urban centres. The rainfall will also enhance the risk of landslides where terrain is steep. In the north of the region strong winds may also accompany storms, these able to damage poorly built structures and lift areas of dense sand and dust.



## Middle East

Nil significant.

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## Asia

### Northern India, Nepal, Bhutan and northern Myanmar

#### **Weather**

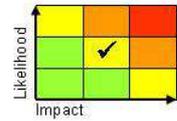
Following a short respite in the very wet period, a resurgence of heavy shower and thunderstorm activity is expected this week, with an increased frequency of storms again capable of producing in excess of 100 mm per day in some locations (especially over the southern slopes of the Himalayas). This could extend to New Delhi later in the week.

#### **Discussion**

There is good model agreement for an increase in rainfall due to a strengthening southerly flow which will again draw heat and moisture northwards from the Bay of Bengal. As it reaches the foothills of the Himalayas, the forced ascent will release deep skinny CAPE, with high precipitable water (PWAT) allowing these fairly frequent cells to produce large precipitation accumulations. The shallow monsoon low (see following section) could enhance precip around New Delhi later in the week, with deep moist convection raising the risk of torrential downpours and thunderstorms here.

#### **Expected Impacts**

After a very wet period, flooding and landslides have been reported across a wide area. Although rainfall has eased over the last few days, reports of impacts from river flooding are likely to continue. The return of heavy showers and thunderstorms will once more enhance the threat of flash flooding and landslides, and will increase the likelihood of further river flooding.



### Western, and central India

#### **Weather**

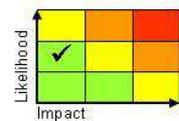
Heavy monsoon rains will continue in the coming few days, with rainfall accumulations reaching up to 400 mm in places, although more typically in the range 100-250 mm. At the same time, a weak monsoon depression over the centre of the country will focus heavy showers/severe thunderstorms to bring 100-150mm in places. Towards the middle of week this rainfall should start to ease.

#### **Discussion**

There is a consistent signal from all models for a continued strong southwest monsoon flow, aided across India by a shallow monsoon low pressure system. Within this system, potential for extremely deep convection (tops as high as 55,000ft) to bring torrential downpours and thunderstorms over the weekend. There is also a strong signal for this rainfall event to ease through the course of next week as the strongest flow moves away northwards.

#### **Expected Impacts**

Some localised flash and fluvial flooding will be likely, with an enhanced risk of landslides in mountainous regions.



## Australasia

Nil.

## Additional information

Nil.

**Issued at:** 220800 UTC     **Meteorologist:** Brent Walker / Nick Silkstone

**Global Guidance Unit**

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