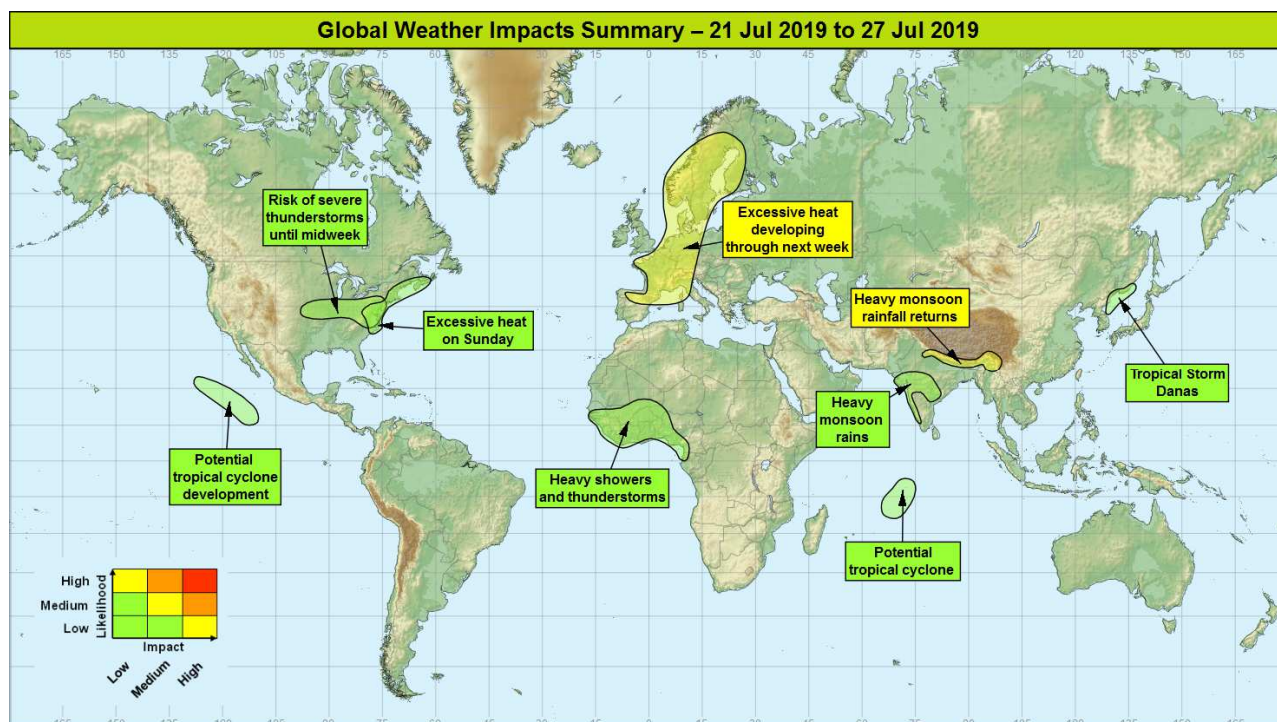


## Global Weather Impacts – Sunday 21<sup>st</sup> to Saturday 27<sup>th</sup> July 2019

Issued on Sunday 21<sup>st</sup> July 2019

### HEADLINES

- A heat wave will develop across western Europe early next week; while the heat wave across the eastern US declines.
- Heavy rainfall returns to the foothills of the Himalayas this weekend.



### DISCUSSION

#### Tropical Cyclones

##### Tropical Storm Danas – North-eastern North Korea, far southeast Russia

##### **Weather**

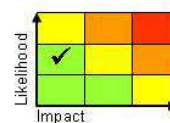
Danas has moved out into the Sea of Japan, strengthening into a Tropical Storm again after having weakened upon its passage across the Korean Peninsula. Danas will continue to bring heavy rain to the area on Sunday with a further 50 to locally 150mm of rain possible, whilst degenerating into a tropical low once more. By Monday Danas is expected to become absorbed by a mid-latitude system over southeast Russia.

##### **Discussion**

Following a brief reinvigoration Danas continues to move into a lower-SST higher shear environment which will lead to imminent dissipation of the system.

##### **Expected Impacts**

Primary impacts would likely be from continuation of heavy rain (flooding, threat of landslides) over the mountainous areas and islands of the region. Strong winds close to the system's centre will create rough seas, potentially affecting shipping in the vicinity.



This forecast may be amended at any time

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*The following areas are also being monitored for potential Tropical Cyclone 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.



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

### **Weather**

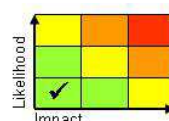
There is a low likelihood that a weak tropical cyclone will form in this region today (Sunday) and track south-westward close to several of the islands that comprise the British Indian Ocean Territories. Any system that does form is most likely to be weak, with the primary hazard being heavy rainfall with 75-150 mm possibly falling over the next couple of days 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. This may last over BIOT into the start of next week, but the system is expected to then continue to move away over open water whilst weakening.

### **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.



## **Europe**

### **Western and northwestern Europe**

#### **Weather**

Much higher than normal temperatures will develop across northern Spain, much of France and into other adjacent countries through the first half of next week. Temperatures will rise widely into the mid to high 30s, some favoured areas seeing maxima into the low 40s Celsius. As the week goes on the excessive heat will extend east and north-eastward, including into Scandinavia where temperatures in the low to mid 30s will be possible (and more unusual). Overnight temperatures are also expected to be much higher than normal.

#### **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.

#### **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, tourists not acclimatised (without access to air conditioning). Through the area there is likely to be an enhanced risk of wildfires.



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## North America

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

#### **Weather**

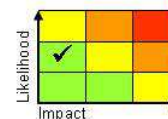
Severe thunderstorms will be a threat across this region of North America until Tuesday. These storms could produce 50-100 mm of rain in a few hours, as well as producing hail, damaging winds and possibly even isolated tornadoes.

#### **Discussion**

A strong baroclinic zone and strong jet will be the focus for pulses of severe storm development on Sunday, generally moving eastward across this region. Early next week the upper pattern amplifies, sending the cold front southeast, where it will continue to become a focus for severe storms until it reaches Eastern Seaboard by the middle of next week.

#### **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.



### Eastern Seaboard of the US into far southeast Canada

#### **Weather**

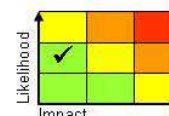
Very hot conditions will continue on Sunday across the US Eastern Seaboard and up into far southeast Canada, with temperatures 5-10°C above normal. The hottest conditions are likely to be in the US states covered by the region described, with temperatures into the high 30s Celsius expected. Into southeast Canada, peak temperatures could reach the low 30s.

#### **Discussion**

1000-850hPa thicknesses >142dam associated with a tropical warm plume across central US will continue to advect eastwards, temperatures increasing all the while through insolation, and large scale dynamical compression beneath a strong ridge. The heat wave will come to an abrupt end, in places turning thundery, as a cold front clears south-south-eastward by midweek.

#### **Expected Impacts**

Human health impacts, mainly on vulnerable demographics such as the young, sick and elderly. Increased energy demands as air conditioning use increases dramatically, and a strain on local resources. Increased risk of wildfires.



## Central America and Caribbean

Nil significant.

## South America

Nil significant.

## Africa

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

#### **Weather**

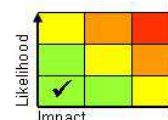
Areas of thunderstorms will progress westward across this zone through the coming week. These storms may bring in excess of 50 mm of rainfall in a short period of time, with 100-200 mm possible if a location experiences several storms. In addition to heavy rainfall, strong damaging winds may be associated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



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**Middle East**

Nil significant.

**Asia**

**North-eastern North Korea, far southeast Russia** – see *Tropical Cyclones* section.

**Northern India, Nepal, Bhutan and northern Myanmar****Weather**

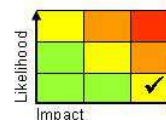
Following a short respite in the very wet period, a resurgence of heavy shower and thunderstorm activity is signalled next week, with an increased frequency of storms again capable of producing in excess of 100 mm per day in some locations (especially over the southern slopes of the Himalayas). This could extend to New Delhi later next 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 the 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 over the weekend will once more enhance the threat of flash flooding and landslides, and will increase the likelihood of further river flooding.

**Southwest, and central India****Weather**

Heavy monsoon rains will continue in the coming few days, with rainfall accumulations by the early part of next week reaching up to 400 mm in places inland from the western coast, with widespread accumulations of 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 next 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:** 210430 UTC **Meteorologist:** Laura Ellam

**Global Guidance Unit**

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