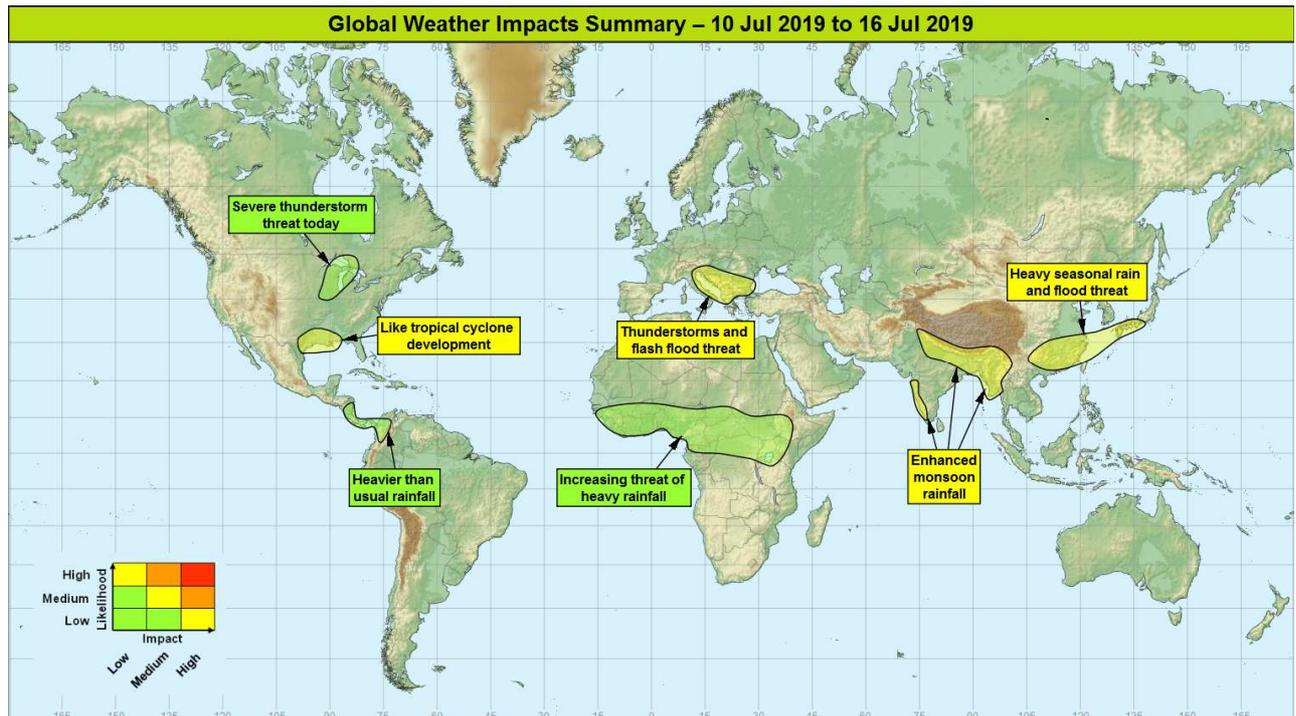


## Global Weather Impacts – Wednesday 10<sup>th</sup> to Tuesday 16<sup>th</sup> July 2019

Issued on Wednesday 10<sup>th</sup> July 2019

### HEADLINES

- Heavy monsoon rains continue across many parts of southern and eastern Asia, including a significant threat for Cox’s Bazar in southeastern Bangladesh.
- High likelihood of tropical storm formation in the northern Gulf of Mexico in the coming days.



### DISCUSSION

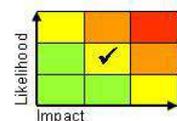
#### Tropical Cyclones

*There are no named tropical cyclones at present, but the following area is being monitored for possible tropical cyclone development:*

#### Gulf of Mexico and the Gulf coast states of the USA

##### Weather

A disturbance has recently moved from the eastern Florida Panhandle into the Gulf of Mexico overnight. During the next few days the associated thunderstorms are expected to become better organised, with the National Hurricane Center forecasting a 90% chance of a tropical cyclone formation in the next 48 hours. If this happens, it could impact the Gulf coastline from Mississippi to Texas from Friday and over the weekend, before moving inland early next week. There is an increasing likelihood of the system reaching hurricane strength (sustained winds of 74 mph or higher) prior to landfall. Regardless of development, increasingly heavy rain is expected to affect the region, with 750-1000mm of rainfall possible during the next week over the Gulf of Mexico and adjacent Gulf coast, mainly Louisiana and into eastern Texas.



##### Discussion

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

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An upper vortex (which has tracked southward into the southeastern USA) is leading to widespread destabilisation of the high WBPT airmass over the region, allowing intense and long-lived thunderstorms to break out. Later in the week, as the vortex weakens and vertical wind shear drops, the formation of tropical storm is increasingly likely in the region, aided by warmer than average sea surface temperatures. All the main deterministic models now signal the development of a significant tropical system to develop, The sea surface temperatures are around 2 degrees Celsius above average, which is likely to contribute to a stronger system, although there are model differences regarding the strength of this system. The track and landfall location is also uncertain, mainly due to the prediction location of the upper high to the west across Texas and New Mexico.

### Expected Impacts

The most significant Impacts are still likely to be from heavy rainfall, with flash flooding the primary hazard. However, there is an increasing likelihood of some wind damage, coastal flooding and dangerous sea conditions due to the increasing likelihood of a stronger tropical cyclone. Cities such as New Orleans and Houston could see significant impacts, with possible disruption to aviation and the industry in the region.

## Europe

### Southeastern Europe

#### Weather

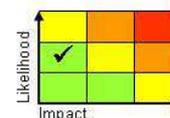
Areas of thunderstorms are expected in this region today and into Thursday, then again this weekend, producing up to 40-74 mm of rainfall in a few hours, along with large hail, gusty winds and frequent lightning.

#### Discussion

An active cold front will transfer south on Wednesday and onto Thursday, with an upper trough extension engaging a plume this weekend to produce a renewed deep convective threat. MCS events look increasingly likely this weekend, due to enough vertical wind shear and large CAPE will lead to the risk of hail, with significant precipitable water values allowing for a flash flood threat.

### Expected Impacts

Flash flooding, large hail and damaging winds are possible where intense thunderstorms form.



## North America

### Western Great Lakes region

#### Weather

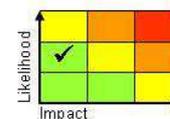
There is the continued threat of severe thunderstorms across the western Great Lakes region today (Wednesday). These storms could produce 50-100 mm of rain in a few hours, along with frequent lightning, large hail and strong winds, and a tornado threat.

#### Discussion

The combination of an eastward-travelling upper trough and a significant northward push of very high WBPT air will result in a significant likelihood of severe storms, with forecast profiles showing up to 3000J/Kg of CAPE and large vertical windshear.

### Expected Impacts

Flash flooding looks likely in places, with potential for power and aviation disruption too. There is also a low likelihood of structural damage from high winds or tornadoes.



**Gulf of Mexico and the Gulf coast states of the USA** – see *Tropical Cyclone* section

## Central America and Caribbean

**Nicaragua, Costa Rica and Panama** – see *South America* section.

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## South America

### Western Colombia, Nicaragua, Costa Rica and Panama

#### **Weather**

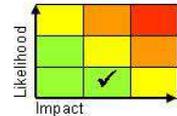
Increased frequency of heavy showers and thunderstorms are expected in this region through the period, especially early next week. Up to a further 150 mm of rain could fall in places, which is well in excess of the average monthly rainfall at this time of year in southern parts of Central America.

#### **Discussion**

The westward progression of African Easterly Waves will enhance seasonal rainfall in this region at times. In addition the potential formation of Central American Gyre is signalled in southern parts of Central America next week, with these systems possibly leading to exceptional rainfall accumulations during the rainy season.

#### **Expected Impacts**

An enhanced threat of flash flooding and landslides will be the most likely impacts this week.



## Africa

### Central and western parts of Africa

#### **Weather**

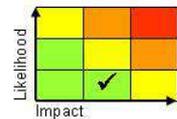
There will be an increasing likelihood of more widespread heavy showers and thunderstorms through the coming week across these central latitudes of Africa and transferring to western Africa. Up to 75-100 mm of rain could accumulate in just a few hours, with a threat of strong winds. The strong winds could lift dense dust storms on the northern edge of this active shower region which still has a dry ground state.

#### **Discussion**

The presence of the MJO across the region will likely act to enhance the convective rainfall across central latitudes of Africa along the ITCZ. This will result in more frequent and/or active African Easterly Waves, as well as a higher likelihood of large MCS events.

#### **Expected Impacts**

Flash flooding is the most likely impact, with a lower likelihood of wind damage. Dense dust storms on the northern edge of this region will produce hazardous air quality.



## Middle East

Nil.

## Asia

### Northern India, Nepal, Bangladesh, Bhutan and western / northern Myanmar

#### **Weather**

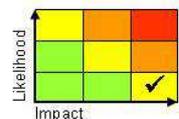
There is a significant threat of further very heavy monsoon rainfall in this region during the coming week with up to 500-750 mm of rain accumulating in places during this period, which will see many places seeing the equivalent of a month's worth of rain within a week, coming after a very wet previous week. Most places will see over 200-300 mm during this time. The rain will come in the form of very heavy showers and thunderstorms, and could produce 100 mm of rain in a few hours. From Thursday drier conditions are expected to slowly move northwards across India, and then across parts of Myanmar and Bangladesh from the weekend and into next week.

#### **Discussion**

A monsoon low pressure system across northern India will tend to decay through the next few days, allowing the active monsoon pulse to ease from the south from the next 5 to 7 days.

However, an anomalously strong, very moist and unstable southwest monsoon flow will still produce heavy monsoon rains into coastal parts of Bangladesh and Myanmar for some time yet, with Cox's Bazar humanitarian camps continuing to be at risk of disruptive rainfall. The easing of the active monsoon pulse from the south is consistent with an MJO that is expected to move into the Indian Ocean next week, heralding a break period in the monsoon.

#### **Expected Impacts**



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There is a continued threat of flooding and landslides in this region, which includes Cox's Bazar humanitarian camps. The vulnerability of these camps is thought to be much reduced compared to 12 months ago, due to the actions of international organisations (the relocation of people from the more hazardous areas, re-vegetation programs to improve land stability, improved drainage/water supply, and making materials available to improve shelters). As a result, the likelihood of international resources (additional to those already present) being required to assist with the impacts of this event is assessed to be low.

## **Western India**

### **Weather**

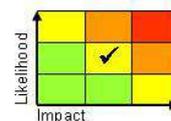
The heavy monsoon rain that has affected this region for the past week or so is expected to ease from Thursday. However, up to a further 250 mm of rain could fall in places in the coming 48 hours, which is towards 50% of the average July rainfall.

### **Discussion**

The active phase of the Indian Summer Monsoon is expected to cease from, midweek due to the MJO progression across Africa. This signal is supported by all models.

### **Expected Impacts**

Torrential rain will increase the threat of flooding and landslides up to midweek.



## **Southern China and southwestern Japan**

### **Weather**

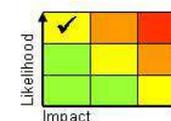
Torrential rain and severe thunderstorms associated with the seasonal rains will affect this region through much of the week ahead, with 150-250 mm widely, locally as much as 400 mm falling. This is around a month to two month's worth of rain for some locations.

### **Discussion**

Strong convergence along the Mei-yu/Baiu front will continue to provide a focus for intense rainfall and a threat of severe storms. A succession of upper troughs will engage the northern edge of the monsoon frontal plume through much of the coming week, resulting in persistent, heavy rains in places.

### **Expected Impacts**

Both fluvial and flash flooding is possible, with an additional risk of landslides in mountainous areas. Disruption to transport and infrastructure is likely in what is a densely populated area due to the slow-moving seasonal heavy rainfall.



## **Australasia**

Nil.

## **Additional information**

Parts of southern and central Alaska are continuing to experiencing a significant heat wave with temperatures in some places reaching the low to mid 30s of Celsius – Bethel Airport in the far southwest reported a maximum of 35°C on Saturday. Temperatures are currently running at 15 to locally 20 degrees Celsius above normal. The heat may trigger some thunderstorms, and brings a significantly increased risk of wildfires resulting in poor air quality. However, temperatures are expected to slowly return closer to, but still above, normal by the weekend.

**Issued at:** 100715 UTC **Meteorologists** Tony Wardle / Paul Hutcheon

**Global Guidance Unit**

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