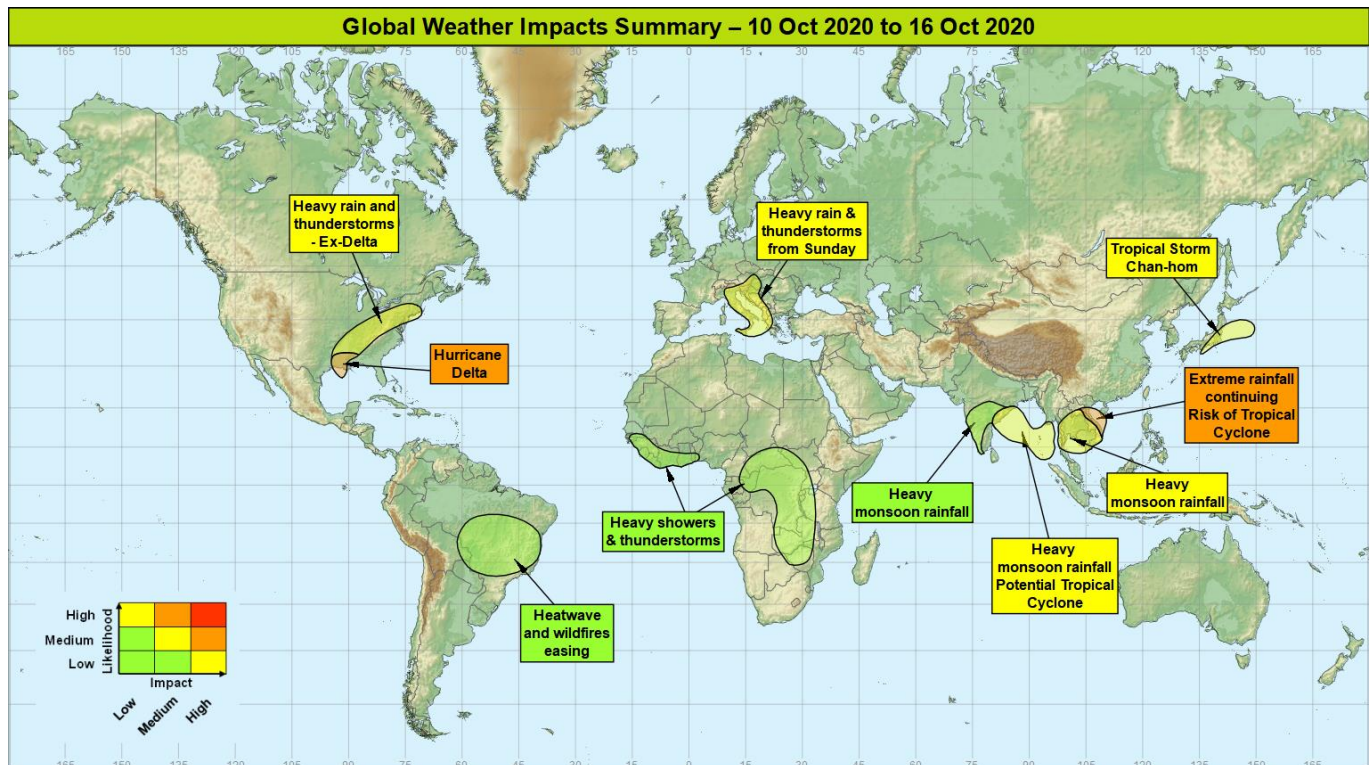


## Global Weather Impacts – Saturday 10<sup>th</sup> to Friday 16<sup>th</sup> October 2020

Issued on Saturday 10<sup>th</sup> October 2020

### HEADLINES

- Hurricane Delta made landfall on Friday night and will steadily weaken today.
- Heavy rainfall impacting large parts of Southeast Asia, especially in Vietnam – possible TC developments too.
- Typhoon Chan-hom affecting Japan through the weekend.



### Tropical Cyclones

#### Hurricane Delta (Gulf of Mexico and southern USA)

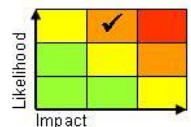
##### Weather

Hurricane Delta made landfall over southwestern Louisiana on Friday night with sustained winds of around 105mph (Category 2), but is now weakening quickly with winds at 0300 UTC down to around 75 mph. Delta is expected to continue on a north-northeastwards track through while undergoing extra-tropical transition. Although winds associated with Delta are likely to ease, the system will still bring some very heavy rain and thunderstorms this weekend as it journeys northeastwards (see further details on this in N. America section)

##### Discussion

The very high SSTs in the Gulf of Mexico and a low vertical wind shear environment has provided conducive environmental conditions for Delta to maintain its strength on Friday. However, the system encountered lowering SSTs overnight as it moved across the northern Gulf, which led to some weakening prior to landfall. Increased vertical wind shear and land interaction will rapidly weaken Delta today, but the plume of very high WBPT and PWC associated with Delta's remnants will be engaged by the mid-latitude jet while becoming increasingly baroclinic, bringing a very wet spell of weather in its path with embedded convection in the warm plume. Some areas could see 400 to 500mm falling by early next week.

##### Expected Impacts



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Inland and coastal flooding is expected due to rainfall and storm surge. Destructive winds will cause significant damage to structures which may already have been weakened by previous hurricane impacts in recent months. As Delta's remnants head northeast, the associated rainfall is likely to result in some river and flash-flooding.

## **Tropical Storm Chan-hom (Western Pacific and Japan)**

### **Weather**

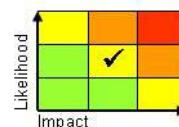
Chan-hom currently lies roughly 100 miles south of the mainland of Japan and has recently weakened below typhoon strength, with 10-minute sustained winds of 65 mph at 0300 UTC. Chan-hom is expected to steadily track steadily east-northeast through the next few days, and will probably not make landfall, most likely staying just offshore from southern Japan. Nonetheless, during the weekend some very strong winds could affect the south coast of southern Japan, along with large waves, but it looks like the rainfall could be the most impactful element with the potential for up to 300 mm of rain to accumulate in the next few days, which is more the usual average October rainfall.

### **Discussion**

Chan-Hom has slowly moved north around the sub-tropical ridge during the past few days. During the next few days Chan-hom will meet the mid-latitude jet and will track more quickly east or northeast as it weakens and becomes extra-tropical.

### **Expected Impacts**

Damaging winds and storm surge flooding are possible today. Flooding due to intense rainfall is the most likely impact, along with landslides, which could affect some of the more populated parts of Japan.



*The following areas are being monitored for significant tropical cyclone development in the coming days:*

## **South China Sea, Vietnam, Laos and southern China**

### **Weather**

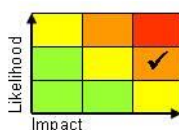
An active period in the monsoon will affect these areas in the coming days. There is the potential for the development of a weak tropical cyclone in the South China Sea this weekend or early next week, with any development likely to track west or west-northwest into northern Vietnam early next week before dissipating. Regardless of the development of a tropical cyclone, the main impact will be from heavy rainfall that could produce 400 mm in just a day or two early next week, with parts of Vietnam seeing close to 800-1000mm by the middle of next week which is around twice the entire October average in this area.

### **Discussion**

The monsoon trough is likely to become enhanced in the coming days, thanks to an active Rossby wave in the area, with a monsoon depression likely to form, possibly leading to a cyclone developing thereafter. Some exceptional rainfall totals are expected in the coming days, whether a tropical cyclone develops or not – especially over parts of Vietnam

### **Expected Impacts**

Flooding due to intense rainfall is the most likely impact, with both flash and river flooding expected, along with enhanced landslide impacts to this region. There is a much lower likelihood of wind and storm surge impacts.



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**Bay of Bengal, Andaman Islands and eastern India****Weather**

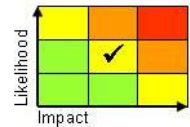
There is the potential for the development of a tropical cyclone in the Bay of Bengal this weekend, with any development likely to track west into eastern India on Sunday and then move across central India early next week. Any system looks likely to be weak in terms of wind, but there is the potential for around 200 mm of rain widely (up to twice the average October rainfall) in a short period of time, with a few spots in eastern India seeing up to 400 mm.

**Discussion**

An Equatorial Rossby Wave could help influence the development of a tropical storm this weekend in the Bay of Bengal. All models produce this type of signal and for a westward track into eastern India. Again, regardless of development, in a very warm and moist airmass, some very heavy rain and thunderstorms are expected.

**Expected Impacts**

Flash flooding is likely in places, with some river flooding too, but with a lower likelihood of wind or storm surge damage.



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**Europe****Areas around the Adriatic Sea including Italy & The Balkans****Weather**

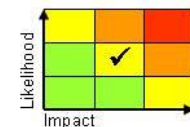
An area of heavy showers and thunderstorms will develop in this region from Sunday to the middle of next week. Severe thunderstorms are also possible with up to 100 mm of rain falling in just 12 hours along with a large hail, frequent lightning and strong winds threat. Gales or even severe gales are possible in places for a time.

**Discussion**

The extension and eventual disruption of an upper trough across central Europe will result in strong upper forcing engaging a cold front across this region. This will result in the development of a tight low pressure area that could produce 50kt gradients. The upper forcing across very warm waters will produce high CAPE, large wind shear type convection that will pose a threat of severe storms. Tornadoes and waterspouts are possible.

**Expected Impacts**

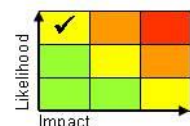
Flash flooding and landslides are likely. Damage and disruption from frequent lightning and large hail looks possible. Increased chance early next week of impacts from strong winds including dangerous coastal conditions from large waves.

**North America****Southern USA** – See *Tropical Cyclones* section.**Central and eastern USA****Weather**

The remains of Hurricane Delta will transfer northeast from the Gulf States up across the northeast of the USA this weekend and into the start of next week. This system will still have some strong winds, but it will be the heavy rain and thunderstorms that will be the most impactful element, with up to 100-200 mm of rain possible in 24 hours as this ex-tropical system moves across the eastern part of the USA which usually sees 75-125 mm of rain through the whole of October.

**Discussion**

All models suggest a corridor of very heavy rainfall that will pose a significant threat of flooding northeast from Louisiana towards the highly populated areas of the northeast of the USA over the coming days, thanks to the remnants from Hurricane Delta.



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## Expected Impacts

Flash flooding, with possible river flooding. Landslides possible too.

## Central America and Caribbean

Nil

## South America

### Bolivia, northern Paraguay and parts of southern Brazil

#### Weather

There are now good signals that the heatwave conditions, coupled with strong winds and numerous wildfires of late, should ease early next week with many places seeing some heavy thunderstorms and rain, which will help to dampen the wildfires. Maximum temperatures currently in the mid to high 30s Celsius (locally into the low 40s Celsius) will return to normal at the same time.

#### Discussion

The sub-tropical ridge which has been acting to suppress rainfall recently will decline a little in the coming days, allowing some deep tropical convection to develop. An upper trough will push a cold front north into this region which will also help cool the temperatures.

#### Expected Impacts

Heat health impacts on vulnerable demographics, particularly given that this heatwave has been so prolonged. Wildfires bringing poor air quality. However, less impactful conditions developing this weekend.



## Africa

### Parts of Western Africa

#### Weather

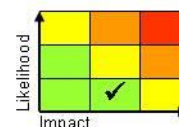
Further periods of heavy showers and thunderstorms will affect the region at times over the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 150 mm build up. The gradual decline in activity looks likely to continue this week, with rainfall less heavy and widespread than a few weeks ago.

#### Discussion

Many parts of this area have experienced floods and flooding impacts in what has been an active period for African Easterly Waves (AEW). Further AEWs are expected in the coming days, although the main axis of heavier rainfall continues to move south away from where some of the worst flooding has been reported. Thus the potential for impacts are lower but some of these areas are still saturated following an active monsoon season so further flooding remains possible.

#### Expected Impacts

The potential for further flash and riverine flooding across much of the region, although any impacts likely to be less severe and/or widespread compared to recent weeks.



### Central parts of Africa

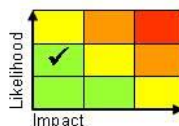
#### Weather

More widespread and heavier showers and thunderstorms are expected in this part of Africa through the next week, particularly from tomorrow onwards. Up to 50-75 mm of rain could fall in a day, with a weekly rainfall accumulation of 150 mm possible in places. The average October rainfall in this region is between 75 and 150 mm.

#### Discussion

All models show an increased thunderstorm and rainfall signal in central parts of Africa through the next week as a very warm and moist airmass has developed, and is expected to become engaged with a large-scale upper trough to the south. This combined with a gradual fall in temperature above 500hPa will also destabilise the atmosphere.

#### Expected Impacts



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Flash flooding and landslides are possible.

## Middle East

Nil

## Asia

**Japan, as well as Vietnam, Laos, southern China, Bay of Bengal, Andaman Islands and eastern India** – See *Tropical Cyclones* section.

### **Parts of southwestern and central India**

#### **Weather**

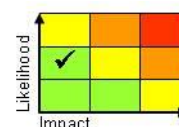
A period of heavy rainfall is expected this weekend into early next week due to heavier and more widespread showers and thunderstorms. In excess of 300 to 400 mm (up to twice the average October rainfall) could accumulate in the wettest places.

#### **Discussion**

An enhanced low level moist westerly flow thanks to a monsoon trough to the north will produce a period of deeper convection for the Western Ghats of India this weekend. The same trough will also be responsible for the enhanced rainfall over central India.

#### **Expected Impacts**

Enhanced threat of flash flooding and landslides, especially coming at the end of an active monsoon season.



### **Parts of Myanmar, Thailand, Laos and Cambodia**

#### **Weather**

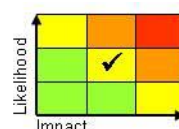
Another period of frequent and heavy thunderstorms associated with the monsoon is expected in the coming days

#### **Discussion**

An active phase of the monsoon trough will bring enhanced rainfall to this area, and could be further enhanced should a tropical depression or cyclone form east of Vietnam (See Tropical Cyclone section).

#### **Expected Impacts**

Enhanced threat of flash flooding and landslides, especially coming at the end of an active monsoon season.



## Australasia

Nil

## **Additional Information**

### **Northeastern Pacific Ocean – Tropical depression Norbert**

#### **Weather**

Former Hurricane Norbert is now dying in the northeast Pacific and is not expected to affect land.

#### **Discussion**

Norbert is now over much lower SSTs and will likely dissipate imminently.

#### **Expected Impacts**

Nil.

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**Cox's Bazar, southeast Bangladesh**

There will be the threat of a heavy shower or thunderstorm on most days through the next week, but with rainfall amounts generally below expectations for October, but there will still be a low likelihood of local flash flooding should thunderstorms occur.

**Yemen**

The development of very isolated, heavy showers is possible over the Western Highlands, more especially in the south. Activity is expected to be around or below average for this time of year meaning many places will remain dry.

**Sudan/South Sudan**

The bulk of the shower activity will be seen in southern South Sudan through the next 7 days. 25-50mm of rain per day possible from daily showers and thunderstorms, with a lower likelihood of 75-100mm at any one location over the course of the coming week, especially from Saturday. This is fairly typical for the rainy season which is now on the decline. Most of Sudan will be dry, although the South Sudan border region could see sporadic, locally heavy showers.

**Issued at:** 100300 UTC

**Meteorologists:** Chris Almond / Paul Hutcheon

**Global Guidance Unit**

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

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