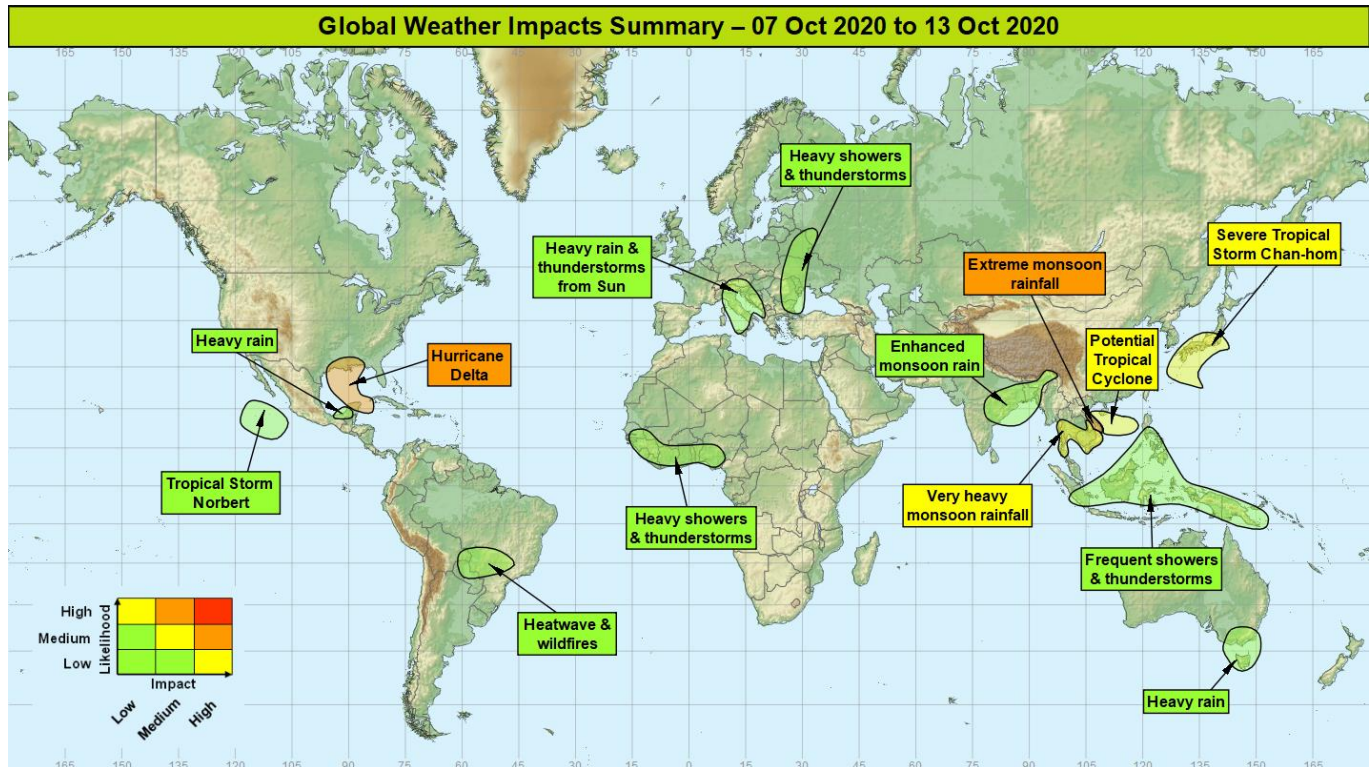


## Global Weather Impacts – Wednesday 7<sup>th</sup> to Tuesday 13<sup>th</sup> October 2020

Issued on Wednesday 7<sup>th</sup> October 2020

### HEADLINES

- Hurricane Delta impacting the Yucatan Peninsula before continuing towards the US Gulf Coast.
- Heavy rainfall across large parts of Southeast Asia, flooding is likely in Vietnam.



### Tropical Cyclones

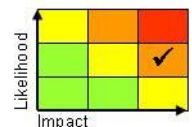
#### Hurricane Delta (Caribbean Sea - primarily Southeast Mexico and southern USA)

##### Weather

Hurricane Delta has gone through a remarkable strengthening phase over the last 24 to 36 hours becoming a major hurricane. Heavy rain will continue to affect parts of the Cayman Islands and western Cuba today but the most severe conditions are expected for parts of the Yucatan Peninsula. Delta is expected to track northwest across the northeast tip of the peninsula, most likely near or even over Cancun during today. This will bring likely destructive winds within its path as well as a storm surge to the coast and torrential rain to a wider area. Conditions should improve for southeast Mexico during Thursday as Delta moves out over the Gulf of Mexico. There still some uncertainty in exact timings, track and intensity but Delta is then likely to bring severe conditions to some southern parts of the USA on Friday and Saturday (landfall currently looks most likely over Louisiana).

##### Discussion

Very high SSTs and conducive environmental conditions have seen the very compact Delta strengthen at an almost unprecedented rate over the last 24-36 hours. Delta looks likely to make landfall as a cat 3 hurricane, bringing extremely dangerous conditions, before moving back offshore. Some intensification over the southern Gulf is expected before the system will encounter lowering SSTs as it moves across the northern Gulf on Friday, likely leading to some weakening prior to a US landfall on Friday. It still has the potential to make landfall as a major hurricane over southern USA. Models are in relatively good agreement regarding track.



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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

© Crown copyright 2020. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

**Expected Impacts**

Significant to danger to life during today for parts of the Yucatan Peninsula from both destructive winds and a storm surge bringing extremely dangerous coastal conditions. Whilst Delta will move north on Thursday, damage or even destruction of infrastructure could mean impacts are much longer lasting. Torrential rain brings an additional risk of flash flooding and landslides/mudslides. This has the potential to bring similar impacts to hurricane Wilma in 2005. There is also the potential for significant impacts across southern parts of the USA on Friday/Saturday.

**Severe Tropical Storm Chan-Hom (Western Pacific)****Weather**

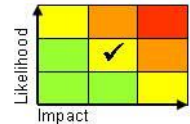
Chan-hom currently lies 300-400 miles south of the southwest mainland of Japan. It is expected to head generally northwest over open waters over the next day before starting to recurve north then northeast. Thereafter it is most likely to start to impact south and southwest parts of Japan from Friday through to the weekend. Its exact track and strength still a little uncertain but most likely intensifying into a typhoon over the next or so, before weakening as it accelerates northeast over the weekend. So the extent of damaging or even potentially destructive winds for mainland Japan remains uncertain. Despite this a large area can be expected to see a spell of heavy rain (100-150 mm).

**Discussion**

Chan-hom resides in weak steering flow with a slow meandering likely over the next day or so before probably accelerating N then NE under increasing mid-latitude influence. The initial meandering leads to low confidence in the track by the time it potentially reaches land, with ensembles maintaining a fairly decent spread in both its exact track and intensity. That said, confidence is growing that impacts will be restricted to Japan.

**Expected Impacts**

Increased risk of strong winds as well as some small scale flooding and landslides should the system make landfall later this week. Dangerous coastal conditions from storm surge and large waves likely.

**Tropical Storm Norbert (Eastern Pacific Ocean)****Weather**

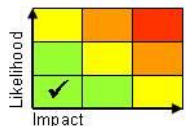
Tropical Storm Norbert is currently over the open eastern Pacific, but does not pose a threat to land.

**Discussion**

There is the potential for further developments in this region but again no sign of any potential systems impacting land.

**Expected Impacts**

Nil.



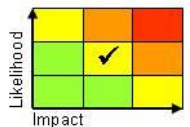
*The following areas are being monitored for significant tropical cyclone development in the coming days:*

**South China Sea, northern Vietnam, and Hainan Island, China****Weather**

An area of showers and thunderstorm activity just to the west of the Philippines may gradually develop into a tropical cyclone as they are steered slowly northwestwards over the weekend. These remnants are likely to reach Vietnam and perhaps brush past Hainan Islands early next week. The most likely landfall location of any system which develops is across northern Vietnam, where a separate amber area has been drawn for exceptionally heavy rain in the region. This tropical cyclone could bring a further 150-300mm to the region it makes landfall.

**Discussion**

Vorticity along the retreating monsoon frontal is likely to aid the organisation of showers activity in the South China Sea over the coming days, with this area located in a region where environmental conditions are favourable for a tropical cyclone to develop. Any cyclone would likely be steered northwestwards by the sub-tropical upper high over the western Pacific, likely reaching northern Vietnam early next week.



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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

## Expected Impacts

An enhanced risk of flooding and landslides, especially with any cyclone likely to affect a similar region which will be experiencing extremely heavy monsoon rainfall over the coming days, see *Asia section for details on this event*.

## Europe

### Parts of Eastern Europe

#### Weather

Areas of heavy rain and thunderstorms will develop across parts of this area over coming days before conditions improve into the weekend. Most areas will avoid the heaviest rain but some torrential downpours are possible bringing 50-75 mm of rain in a short period. Thunderstorms may bring additional hazards of hail, frequent lightning and strong wind gusts.

#### Discussion

A slow moving cold front draped across eastern Europe will be the focus for heavy rain and thunderstorm development over the coming days. During Wednesday through to Friday an upper trough will extend and disrupt across SE Europe potentially leading to the development of some areas of organised severe thunderstorms.

#### Expected Impacts

A minor increase in the risk of flash flooding and landslides in places.



### Italy as well as parts of Central Europe and the Balkans

#### Weather

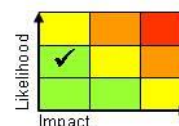
From Sunday and into early next week areas of heavy rain and thunderstorms look likely to develop across parts of this area. Whilst it is currently unclear where will see the heaviest rain, there is the potential for 50-100 mm to fall in places within a short-period (a few hours), with some mountain snowfall on the northern edge of the system (above ~1500 M). In addition, there is potential for an active low pressure system to develop early next week which could lead to strong winds across many parts of this area.

#### Discussion

As the upstream pattern amplifies latter this week this will cause an upper trough to extend and disrupt over central and southern parts of Europe. The details are unclear at this range but in addition to areas of deep convection, the synoptic set up brings the potential for cyclogenesis over/in the vicinity of Italy.

#### Expected Impacts

Increased risk of flash flooding and landslides in places. Early season snowfall may cause some minor travel disruption across mountainous regions. Increased chance early next week of impacts from strong winds including dangerous coastal conditions from large waves.



## North America

**Mexico and southern USA** – See *Tropical Cyclones* section.

### Southeast Mexico

#### Weather

The remnants of former tropical storm Gamma will bring locally heavy rain to the Tabasco and Campeche regions of Mexico on Wednesday before easing on Thursday. Many areas will see 100-150 mm of rain falling in this time with perhaps as much as 200 mm in some places. This would be roughly equivalent to a month's worth of rain for Campeche.

#### Discussion

Gamma has now decayed but with its remnants remaining slow-moving near the Mexico coast. As hurricane Delta tracks to the northeast of this area, this will lead to a NW'ly flow across these areas, helping to push heavy showers inland.

#### Expected Impacts

A slight risk of flash flooding and an enhanced risk of land and mudslides. Some disruption to transport and isolated wind damage is possible to poorly-built structures.



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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

**Central America and Caribbean**

**Western Cuba** – See *Tropical Cyclones* section.

**South America****Bolivia, Paraguay and southwest Brazil****Weather**

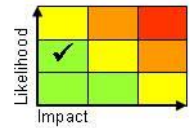
Heatwave conditions, coupled with strong winds at times will continue this week. Maximum temperatures widely in the mid to high 30s Celsius, locally into the low 40s Celsius, which is 7-12°C above average. Conditions will become increasingly conducive to the spread of wildfires, of which there are numerous within this region.

**Discussion**

A sub-tropical high will persist across the region acting to suppress rainfall through the next several days. This will maintain high partial thicknesses although some easing of conditions is expected next weekend. However, with the progression towards the summer half of the year, these temperatures, although extreme, become a little less unusual for many parts of this region through October.

**Expected Impacts**

Heat health impacts on vulnerable demographics, particularly given that this heatwave has been so prolonged. Increased likelihood of wildfires bringing poor air quality.

**Africa****Parts of Western Africa****Weather**

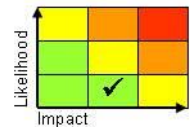
Further periods of heavy showers and thunderstorms will affect the region at times over the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 150 mm build up. The gradual decline in activity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

**Middle East**

Nil.

**Asia**

**Japan** – See *Tropical Cyclones* section.

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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

© Crown copyright 2020. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.



## Eastern India and Bangladesh

### **Weather**

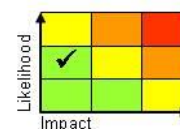
Heavy rain and thunderstorms will continue to affect the region for much of this period. Later this week and over the weekend a monsoon depression looks likely to move west across the Bay of Bengal (BoB), this likely to lead to enhanced rainfall across many parts of the region but the focus of the heaviest rain is likely to be over eastern India on Sunday and Monday with the potential for in excess of 100 mm to fall in places each day. Over the course of the next week many areas will see 50-100 mm of rain with parts of eastern India potential seeing 200-300 mm building up in places. Whilst these sorts of rainfall totals aren't unusual during the monsoon season, for northern parts of the region it does highlight the delayed southward retreat of the summer monsoon.

### **Discussion**

The current weak depression over eastern India will tend to decay over the next couple of days. There is strong model agreement for a more active depression to develop and move east over the BoB during the coming weekend, its development associated with an ERW. Whilst over the BoB there is also a chance that the depression could intensify sufficient for a tropical storm to develop. Whilst its intensity is uncertain, all solutions that a more intense development to take place see it tracking into eastern India.

### **Expected Impacts**

Risk of flash flooding in places.



## Cambodia, Laos, Thailand and Vietnam

### **Weather**

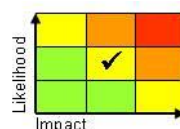
Showers and thunderstorms will continue to be more frequent, intense and widespread than usual. Thunderstorms are likely to become organised and long-lived at times leading to some torrential downpours and very high rainfall accumulations. Accumulations of 200-300mm over the course of the next 4-5 days are expected.

### **Discussion**

Background La Niña state is leading to generally enhanced convection across this part of southeast Asia. A cold surge in the wake of the monsoon front moving south across the South China Sea has enabled the development of a depression, which is signalled to move across the region, further enhancing rainfall.

### **Expected Impacts**

Increasing risk of flash and riverine flooding along with landslides.



## Vietnam

### **Weather**

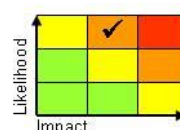
Frequent, heavy showers and thunderstorms will be a persistent feature of the weather over the next 4-5 days. The region highlighted is likely to see widely 600mm, but some places possibly as much as 1000mm in total, close to 2 months' worth of rain for Da Nang. These worst case rainfall totals include the impacts of a potential tropical cyclone which is likely to develop in the South China Sea over the weekend, further enhancing the east to northeasterly flow into this region, with a small chance of direct impacts from the cyclone early next week. – See *tropical cyclone section for further details*.

### **Discussion**

The depression described in the previous section (Cambodia, Laos...) will provide a strong easterly flow with abundant moisture, feeding in persistent heavy showers and thunderstorms. There is strong model agreement in this region seeing the largest rainfall totals, and although the GM's accumulations are highest (locally >1500mm which is a reoccurring model characteristic in overdoing tropical rainfall amounts), all global output suggests areas exceeding 500mm which could easily translate to locally 1000mm in prone locations.

### **Expected Impacts**

Severe flooding, landslides, significant transport disruption. If a significant tropical cyclone develops there is the potential for damage from strong winds in the region early next week.



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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

## Parts of Indonesia, Malaysia, Philippines, Brunei and Papua New Guinea

### **Weather**

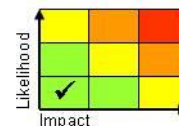
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal in the next few days. Within the broad area highlighted some spots in most of these countries will be at risk of seeing 100-150 mm of rainfall.

### **Discussion**

Higher than normal SSTs in the region and enhanced easterly trade winds, due to the ongoing La Niña event, is providing good conditions to fuel deep and organised convection. This pattern is likely to persist for the foreseeable future.

### **Expected Impacts**

Increase in the risk of flash flooding, and landslides in mountainous areas.



## Australasia

### Southern Australia

### **Weather**

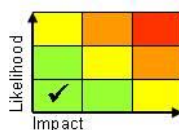
A further spell of heavy rain will affect parts of South Australia and Victoria during Wednesday and Thursday. 40-60 mm of rain will fall fairly widely with up to 100 mm possible across inland parts of Victoria. This amount of rain is equivalent to over a month's worth at this time of year. Major urban areas such as Adelaide and Melbourne are likely to be affected.

### **Discussion**

A slow moving cold front has been bringing pulses of heavy rainfall to central and southern parts of Australia this week. A significant wave depression is expected to develop and run southeast over the next couple of days. In its wake, temperatures will also be around 5-8°C below average.

### **Expected Impacts**

Flash flooding the main risk with some disruption to travel around the region possible.



## Additional Information

### Cox's Bazar, southeast Bangladesh

Heavy showers will affect the area again today before drier conditions develop on Thursday and Friday. An increase in activity is expected over the weekend in association with a monsoon depression tracking west across the Bay of Bengal. There is a slight chance that this system will spin up into a tropical storm but there is a strong consensus that should this occur it will continue to track west and is very unlikely to directly impact Bangladesh.

## 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. 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:** 070730 UTC

**Meteorologists:** Chris Bulmer / Nick Silkstone

**Global Guidance Unit**

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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

© Crown copyright 2020. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.