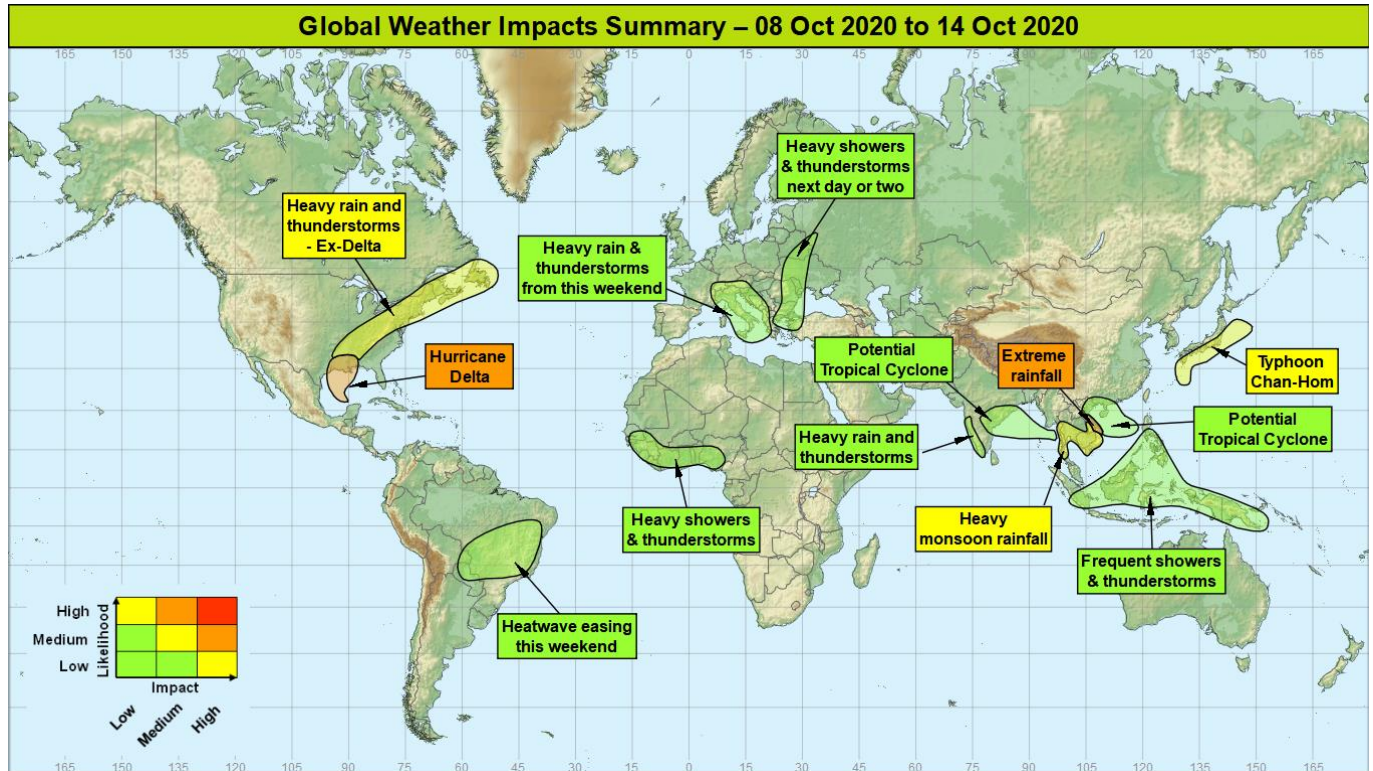


Global Weather Impacts – Thursday 8th to Wednesday 14th October 2020

Issued on Thursday 8th October 2020

HEADLINES

- Hurricane Delta affecting the Gulf of Mexico and the US Gulf Coast.
- Heavy rainfall impacting large parts of Southeast Asia, especially in Vietnam.
- Typhoon Chan-Hom affecting Japan through the next 3 or 4 days.



Tropical Cyclones

Hurricane Delta (Gulf of Mexico and southern USA)

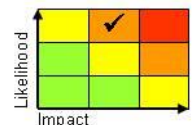
Weather

Hurricane Delta made landfall across the northeastern Yucatan Peninsula on Wednesday which weakened the system a little. However, Delta has since moved into the Gulf of Mexico and has strengthened again, with 1-minute sustained winds of 100 mph, making this a category 2 hurricane. Delta is expected to continue strengthening through Thursday as it tracks north across the western Gulf of Mexico, and is likely to become a major hurricane. Delta is likely to make landfall on the Louisiana and eastern Texas coastline on Friday, but may weaken slightly before landfall. However, Delta will bring hurricane force winds and large storm surge (in and east of the eye) and large rainfall totals of up to 300 mm in the worst affected areas. Thereafter, Delta will quickly weaken as it tracks north and northeast across the USA (see - *North America* section)

Discussion

The very high SSTs in the southern Gulf of Mexico and a low vertical wind shear environment will provide conducive environmental conditions for Delta strengthen on Thursday and into Friday. However, through Friday the system will encounter lowering SSTs as it moves across the northern Gulf, 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 fairly good agreement regarding track. Thereafter, increased vertical wind shear and land interaction will rapidly weaken Delta.

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.

Typhoon Chan-Hom (Western Pacific and Japan)

Weather

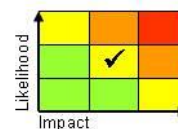
Chan-hom currently lies roughly 250 miles south of the mainland of Japan and has strengthened to become a typhoon during the past 24 hours, with 10-minute sustained winds of 75 mph. Chan-Hom is expected to slowly track north close to the southwest of Japan through the next few days, but looks most likely to turn to the north-east prior to making landfall, instead staying offshore. Through the weekend this system is expected to move quickly east-northeast just south of Japan or along the south coast as a weakening system. It is possible that hurricane force winds could affect the south coast of southwestern Japan and the small island group to the south during the next few days, with strong winds further east along the south coast this weekend. However, the rainfall could be the most impactful element with the potential for up to 500 mm of rain to accumulate in 2 or 3 days, with is twice the usual average October rainfall.

Discussion

Chan-Hom will slowly move north around the sub-tropical ridge during the next few days, with increasing vertical wind shear and cooler sea temperatures likely slowly weakening the system. During the weekend Chan-Hom will meet the mid-latitude jet will track quickly east or northeast as it weakens and becomes extra-tropical. The exact timing of the interaction of the jet and Chan-Hom will determine whether it makes landfall or just remains offshore.

Expected Impacts

Damaging winds and storm surge flooding are possible, especially during the next few days. Flooding due to intense rainfall is the most likely impact, along with landladies, which could affect some of the most populated parts of Japan.



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

South China Sea, northern Vietnam, and southern China

Weather

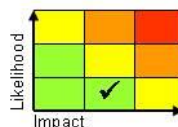
There is the potential for the development of a weak tropical cyclone in the South China Sea this weekend, with any development likely to track west or west-northwest into northern Vietnam early next week.

Discussion

An Equatorial Rossby Wave could help influence the development of a tropical storm this weekend in the South China Sea. All models produce this type of signal and for a west or west-northwest track into northern Vietnam, although any system looks likely to be weak.

Expected Impacts

Any tropical cyclone will bring enhanced flood and landslide impacts to this region, see *Asia section for details on this event*. There is a lower likelihood of wind and storm surge impacts.



Bay of Bengal, Andaman Islands and eastern India

Weather

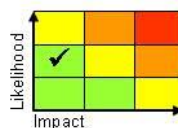
There is the potential for the development of a tropical cyclone in the Bay of Bengal on Friday and Saturday, with any development likely to track west into eastern India on Sunday and into next week. Any system looks likely to be weak, but there is the potential for around 200 mm of rain in just 24 hours which could produce some impacts.

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.

Expected Impacts

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



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**Europe****Parts of Eastern Europe****Weather**

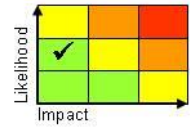
Areas of heavy rain and thunderstorms will continue across parts of this area during the next day or two days before conditions improve into the weekend. Most areas will avoid the heaviest rain but some torrential downpours are possible bringing 50-75 mm of rain in a short period. Thunderstorms may bring 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 due to an upper trough extending and disrupting 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**

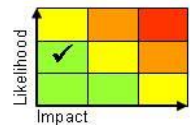
From this weekend into early next week areas of heavy rain and thunderstorms look likely to develop across parts of this area. Whilst it is currently unclear where will see the heaviest rain, there is the potential for 50-100 mm to fall in places within a short-period (a few hours), with some mountain 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**

Southern USA – See *Tropical Cyclones* section.

Central and eastern USA and the far southeast of Canada**Weather**

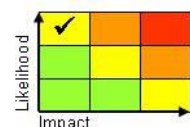
The remains of Hurricane Delta will transfer northeast from the Gulf States up across the northeast of the USA this weekend and into the start of next week. This system will still have some strong winds, but it will be the heavy rain and thunderstorms that will be the most impactful element, with up 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

There are still some model differences regarding the exact track of ex-Delta this weekend and into next week, but all models suggest a corridor of very heavy rainfall that will pose a significant threat of flooding.

Expected Impacts

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

**Central America and Caribbean**

Nil

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

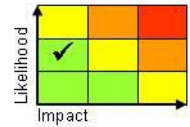
Heatwave conditions, coupled with strong winds at times will continue through the next 2 or 3 days. Maximum temperatures widely in the mid to high 30s Celsius, locally into the low 40s Celsius, which is 7-12°C above average. Conditions are conducive to the spread of wildfires, of which there are numerous within this region. However, temperatures will return to normal through the weekend, with this and some rainfall helping to dampen the wildfires.

Discussion

A sub-tropical high will persist across the region acting to suppress rainfall through the next few days. This will maintain high partial thicknesses into the weekend. However, an upper trough will push a cold front north into this region to cool the temperature and bring showers or thunderstorms.

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**

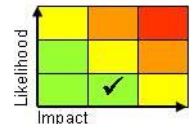
Further periods of heavy showers and thunderstorms will affect the region at times over the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 150 mm build up. The gradual decline in activity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

**Middle East**

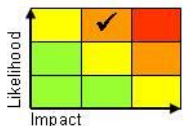
Nil

Asia

Japan, Vietnam, southern China, Andaman Islands and eastern India – See *Tropical Cyclones* section.

Central Vietnam**Weather**

Frequent, heavy showers and thunderstorms will be a persistent feature of the weather over the next 3-4 days. Parts of this region recorded 250-300 mm of rain on Tuesday, with this region likely to see a further 600 mm, but some places possibly as much as 1000 mm 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 could develop in the South China Sea this 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.



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Discussion

The depression described in the section below (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 >1500 mm which is a recurring model characteristic in overdoing tropical rainfall amounts), all global output suggests areas exceeding 500 mm which could easily translate to locally 1000 mm 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.

Cambodia, Laos, Thailand and southern Vietnam

Weather

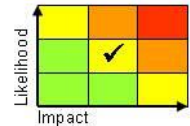
Showers and thunderstorms will continue to be more frequent, intense and widespread than usual. Thunderstorms are likely to become organised and long-lived at times leading to some torrential downpours and very high rainfall accumulations. Accumulations of 200-300 mm over the course of the next 4-5 days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

Expected Impacts

Increasing risk of flash and riverine flooding along with landslides.



Southwest India

Weather

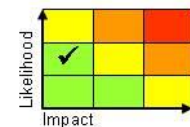
A period of heavy rain is expected this weekend into early next week due to heavier and more widespread showers and thunderstorms. In excess of 300 mm could accumulate in the wettest places, although most will see significantly less than this.

Discussion

An enhanced low level NW'ly flow will combine with a westward moving Equatorial Rossby Wave to produce a period of deeper convection for the Western Ghats of India this weekend.

Expected Impacts

Enhanced threat of flash flooding and landslides



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

Weather

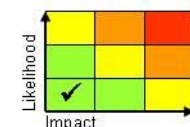
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal in the next few days. Within the broad area highlighted some spots in most of these countries will be at risk of seeing 100-150 mm of rainfall.

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

Nil

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Additional Information**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.

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: 080730 UTC

Meteorologists: Paul Hutcheon / Mark Sidaway

Global Guidance Unit

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