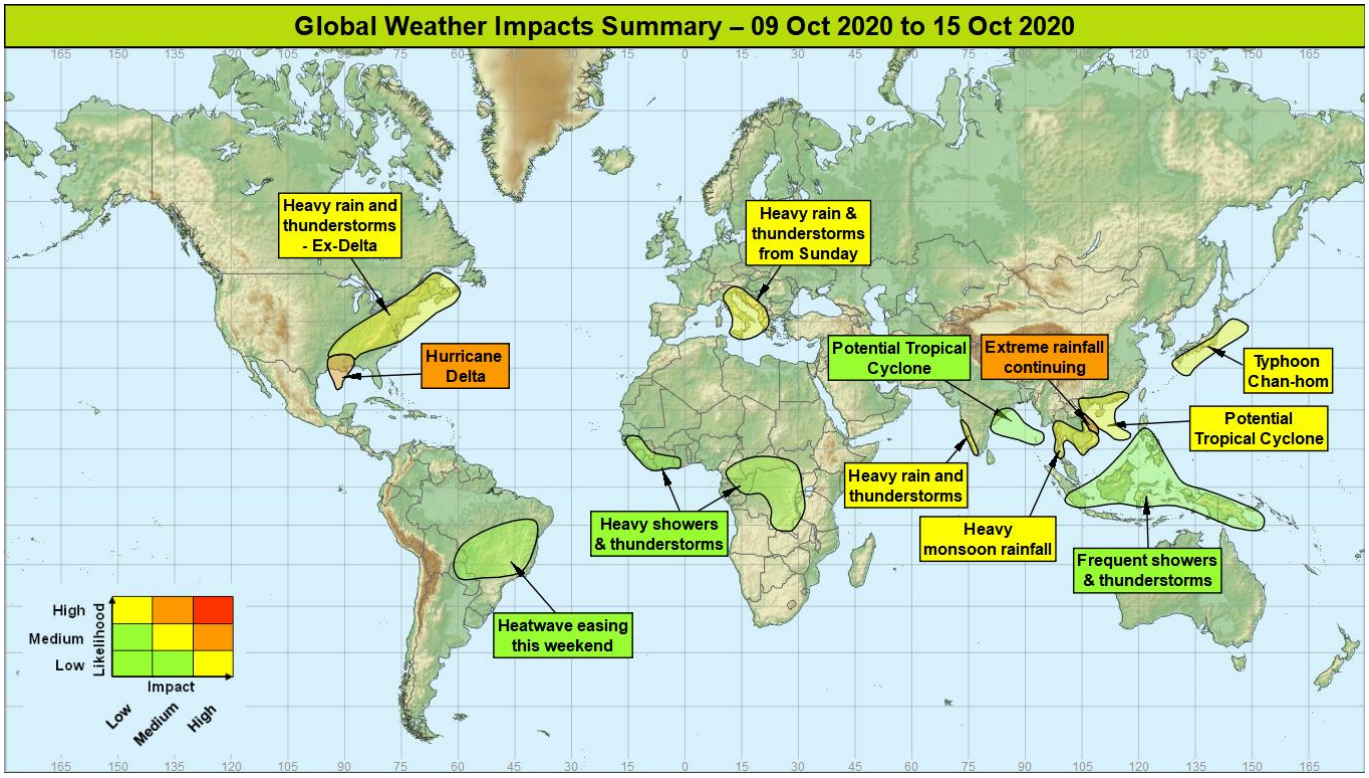
Daily Global Weather Impacts Assessment

Global Weather Impacts – Friday 9th to Thursday 15th October 2020

Issued on Friday 9th October 2020

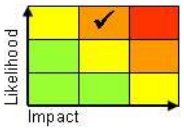
HEADLINES

- Hurricane Delta affecting the US Gulf Coast today.
- Heavy rainfall impacting large parts of Southeast Asia, especially in Vietnam.
- Typhoon Chan-hom affecting Japan through the next few days.
- Severe thunderstorm threat from Sunday across parts of southern Europe.



Tropical Cyclones

Hurricane Delta (Gulf of Mexico and southern USA)



Weather

Hurricane Delta has strengthened during its passage across the Gulf of Mexico on Thursday, with 1-minute sustained winds of 120 mph at 0600 UTC, making this a category 3 major hurricane. Delta is expected to make landfall on the Louisiana coastline later on Friday, but is likely to weaken slightly (to category 2) before landfall. However, Delta will bring hurricane force winds and large storm surge of up to 3 meters (in and east of the eye) and large rainfall totals in excess of 300 mm in the worst affected areas. Delta is a large hurricane, and so its effects will be felt across a large part of the southern USA. 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 has provided conducive environmental conditions for Delta strengthen through Thursday. 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, but is likely to be a little weaker than this. 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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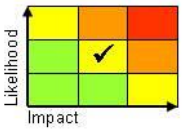
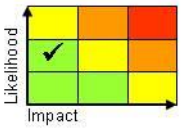
Inland and coastal flooding is expected due to rainfall and storm surge. Destructive winds will cause significant damage to structures which may already have been weakened by previous hurricane impacts in recent months.

Typhoon Chan-hom (Western Pacific and Japan)



Weather

Chan-hom currently lies roughly 100 miles south of the mainland of Japan and continues to be a typhoon, with 10-minute sustained winds of 8(JTC. Chan-hom is expected to steadily track steadily east-northeast through th s, and may not make landfall, perhaps staying just offshore from southern Jap is expected to weaken during the coming few days. It is possible that hurrica could affect the south coast of southwestern Japan today, with strong winds further east along the south coast during the next few days. However, 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, with is more the usual average October rainfall.



Discussion

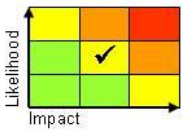
Chan-Hom has slowly moved north around the sub-tropical ridge during the past few days. During the next few days Chan-hom will meet the mid-latitude jet and will track more quickly east or northeast as it weakens and becomes extra-tropical. The exact timing of the interaction of the jet and Chan-Hom will determine whether it makes landfall or just remains offshore.

Expected Impacts

Damaging winds and storm surge flooding are possible today. 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 or southern China early next week. It looks like the main impact will be from heavy rainfall that could produce 400 mm in just a day or two early next week.

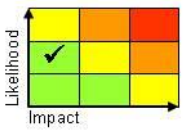
Discussion

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. There is a much lower likelihood of wind and storm surge impacts.

Bay of Bengal, Andaman Islands and eastern / central 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 then move across central India early next week. Any system looks likely to be weak, but there is the potential for around 200 mm of rain (up to twice the average October rainfall) 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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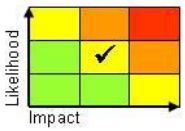
Europe

Areas around the Adriatic Sea



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.

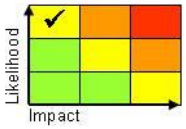
Expected Impacts

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 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

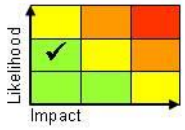
Flash flooding, with possible river flooding. Landslides possible too.

Central America and Caribbean

Nil

South America

Bolivia, northern Paraguay and parts of southern Brazil



Weather

Heatwave conditions, coupled with strong winds at times will continue for another day or two. 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.

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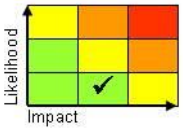
Expected Impacts
Heat health impacts on vulnerable demographics, particularly given that this heatwave has been so prolonged. Wildfires bringing poor air quality. However, less impactful conditions developing this weekend.

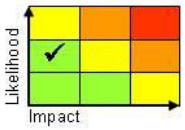
Africa

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 7 days. 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 rainfall signal in central parts of Africa through the next week. This could be due to increased tropical wave activity in the region.
Expected Impacts
Flash flooding and landslides are possible.

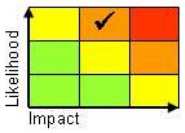
Middle East

Nil

Asia

Japan, Vietnam, southern China, Andaman Islands and eastern / central 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.*
Discussion

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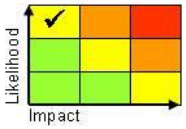
A very moist easterly flow will continue to feed in persistent heavy showers and thunderstorms. There is strong model agreement in this region seeing the largest rainfall totals, and although the GM's accumulations are highest (locally >1500 mm which is a recurring model characteristic in overdoing tropical 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.

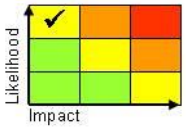
Discussion

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 rainfall is expected this weekend into early next week due to heavier and more widespread showers and thunderstorms. In excess of 350 mm (up to twice the average October rainfall) could accumulate in the wettest places, although most will see significantly less than this.

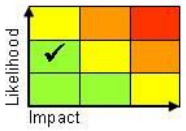
Discussion

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. The likely westward transfer of a tropical system across central India will likely maintain this wet regime.

Expected Impacts

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

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: 090730 UTC **Meteorologists:** Paul Hutcheon / Mark Sidaway **Global Guidance Unit**

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