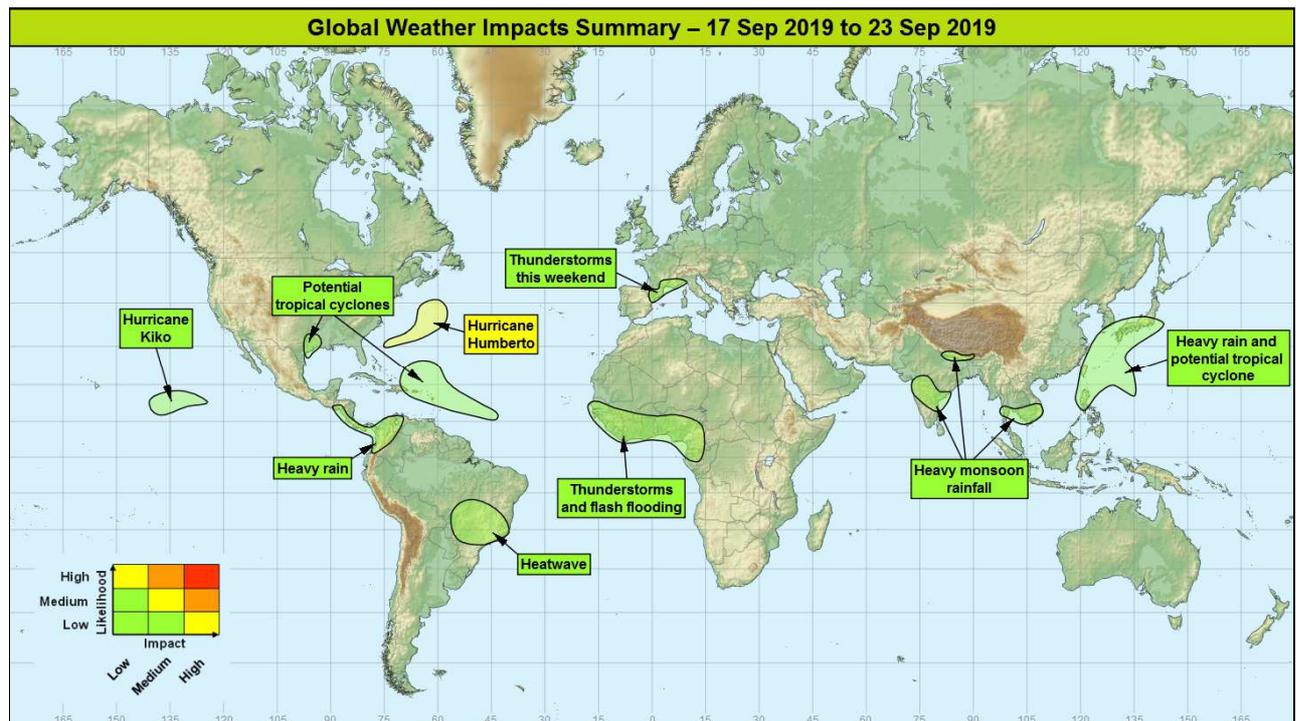


Global Weather Impacts – Tuesday 17th to Monday 23rd September 2019

Issued on Tuesday 23rd September 2019

HEADLINES

- Hurricane Humberto expected to pass close to Bermuda, most likely late Weds into Thurs.
- Potential formation of several tropical cyclones this week, most notably in the central Atlantic which poses a threat currently assessed as low to the northeast Caribbean this weekend.
- Heavy monsoon rains continue across parts of West Africa and South/Southeast Asia.



DISCUSSION

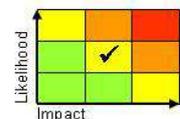
Tropical Cyclones

Hurricane Humberto – Atlantic Weather

Hurricane Humberto is now located close to 30 north, 75 west (around 200 miles northeast of the Bahamas). There is a consistent signal for Humberto to maintain hurricane strength over the next few days and track east/northeast close to Bermuda. The exact track and timings remains uncertain to some extent but any impacts at Bermuda are most likely late Wednesday and into Thursday. At this stage the heaviest rain (200-300mm) is most likely to miss to the northwest. However, there is still a chance of damaging or even destructive winds across Bermuda for a time.

Discussion

The evolution of Humberto becomes more complicated from Wednesday onwards resulting in increasing model spread. An extending trough from the mid-latitudes looks set to accelerate its northeastwards progress. The increased vertical wind shear should limit any further intensification although increasing baroclinic processes will likely maintain the system as a hurricane until the end of the week. There is a general consensus that Humberto will pass to the northwest of Bermuda but exactly how close is still unclear. In addition, most output suggests impacts at Bermuda during late Wednesday and early Thursday.



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Expected Impacts

Flash flooding is possible across Bermuda, although severity of flooding is still uncertain. Damaging winds and storm surge leading to coastal flooding are also possible with a lower probability of destructive winds damaging property and infrastructure. *A recent comparable event is Hurricane Nicole which impacted Bermuda during October 2016.*

Hurricane Kiko – central and eastern Pacific

Weather

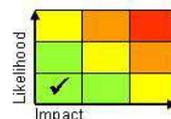
Kiko remains a hurricane over the eastern Pacific. Kiko is expected to track westwards and continue to weaken over the next few days, posing no threat to land. There is the potential for further tropical storms to form over the central and eastern Pacific during this week but again any of these developments are very unlikely to impact land.

Discussion

Kiko is forecast to slowly weaken over the next few days. Models are consistent in allowing Kiko to drift west before dissipating later in the week. A number of tropical waves (ERWs and AEWs) are moving west across the central and eastern Pacific which bring the potential for tropical cyclogenesis during this week.

Expected Impacts

Nil.



The following areas are being monitored for potentially impactful developments through the forecast period:

Atlantic Ocean

Weather

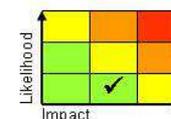
A number of tropical waves emerging into the tropical Atlantic from West Africa are being monitored for potential tropical cyclone development. There is now a shallow low pressure system located near 13 north, 50 west which looks favourable for development over the next few days. Should a tropical storm form here could impact the Lesser Antilles (more especially the northern Leeward Islands) later this week.

Discussion

Further African Easterly Waves will move west across the tropical Atlantic, with tropical cyclogenesis looking likely within the forecast period. Tropical cyclogenesis becomes increasingly likely by the time waves approach the Caribbean. Model solutions remain volatile in this potential but with conditions favourable the NHC now have an 90% chance of formation of a tropical cyclone in from this initial wave.

Expected Impacts

Very low likelihood of tropical cyclone impacts (heavy rain, strong winds, storm surge) from the coming weekend. Although the risk remains generally low, it is greatest towards the more northerly isles of the Lesser Antilles (e.g. Barbuda and Anguilla).



Gulf of Mexico

Weather

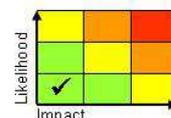
There is a small chance of an area of heavy showers and thunderstorms becoming better organised over the next 12-24 hours and perhaps developing into a weak tropical cyclone, as the whole system moves inland over the Texan coastline. Regardless of development a spell of torrential rain is probable across southern Texas and perhaps parts of Louisiana with 150 to 300 mm of rainfall over the coming few days.

Discussion

Gradual development of a cluster of thunderstorms is possible over the next 12-24 hours before the system moves inland. However, environmental conditions are not particularly favourable for development and this is unlikely to become a tropical cyclone before reaching the coastline of southwestern USA later this week.

Expected Impacts

Flash flooding is probable.



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Northwest Pacific
Weather

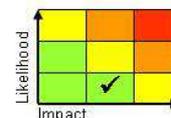
A depression in the northwest Pacific is forecast to gradually intensify over the course of the coming week with a tropical storm formation possible to the northeast of the Philippines. The primary result of this system will be to help focus heavy rain on the Philippines (see Asia section). Depending on its evolution which is currently very uncertain, this could also result in a spell of very heavy rain and damaging winds for southern parts of Japan, South Korea and/or Taiwan late this week and into the weekend.

Discussion

Whilst all models form a depression in this area as a result of a passing ERW whether it intensifies into a tropical storm remains uncertain. The current environment isn't favourable for development with high levels of vertical wind shear

Expected Impacts

Primarily flash flooding for the Philippines. At this stage, a very low chance of damaging winds.



Europe
Northeast Spain, southern France and northwest Italy
Weather

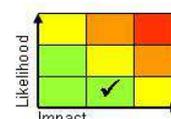
There is the potential for some severe thunderstorms to develop in these areas during the coming weekend. These could produce 50-75 mm of rainfall in a few hours, along with frequent lightning, large hail and gusty winds.

Discussion

Although there are differences between models, all suggest a plume of very warm air will be engaged by an upper trough across this region next weekend, with the potential for some severe storms to develop.

Expected Impacts

The main impacts would be from flash flooding. Large hail and frequent lightning are possible, perhaps disrupting travel and power supplies.



North America
Gulf Coast & Bermuda – See *Tropical Cyclones* section.

Central America and Caribbean
Caribbean – See *Tropical Cyclones* section.

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

South America
Brazil
Weather

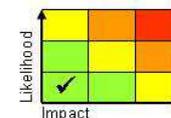
A heat wave is underway across large parts of central and eastern Brazil, continuing through this week. Temperatures are widely expected to be 5 to 10°C above average, reaching the mid-to-upper 30s°C and likely 40°C in a few places. This spell of hot weather is unusual being early in the season. For context the average daily maximum temperature in Sao Paulo for September is around 26°C. Temperature records for September could be broken.

Discussion

A strong and persistent surface- and upper-ridge will allow temperatures at the surface to rise, mainly through strong subsidence and cumulative sensible heating. By the middle of next week 1000-850hPa partial thickness will exceed 145dm quite widely.

Expected Impacts

Disruption to travel and power outages are possible. Heat stress will increase especially for vulnerable groups in the general population. The heat may also exacerbate ongoing issues with forest fires in the region.



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Colombia, Costa Rica, Panama and Nicaragua

Weather

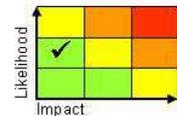
Showers and thunderstorms will be more widespread, frequent and intense than usual over the region during the next week. Daily accumulations of around 75-125 mm are possible, with up to 350 mm over the course of week in places.

Discussion

The MJO is expected to cross South America over the next week enhancing rainfall across the ITCZ, especially across western parts of the continent.

Expected Impacts

Increased incidents of flash flooding with perhaps an increase in the risk of landslides.



Africa

West Africa

Weather

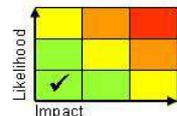
Much of this region has seen above average rainfall during the past 2-4 weeks courtesy of an unusually active West African Monsoon season, with reports of major flooding in countries such as Nigeria, Niger, Mali and Mauritania. Further heavy rainfall is expected with many locations experiencing periods of enhanced thunderstorm activity followed by a few days of quieter conditions. In the heaviest showers, 50-80 mm could fall in an hour, perhaps as much as 150 mm in a few hours.

Discussion

African Easterly Wave activity will continue to bring organised areas of deep convection/MCS activity westward through the next week, contributing to a further period of above average rainfall across parts of West Africa.

Expected Impacts

Ongoing enhanced risk of flash flooding and high river levels. Some further damage to property and infrastructure is possible.



Middle East

Nil.

Asia

Central and southern India

Weather

The focus of heavy monsoon rains will shift further south through the coming week. 50-80mm of rain will fall widely within the highlighted area with as much as 200-250mm in places by the end of the week. Much of this area typically receives 150-200 mm during September.

Discussion

Another shallow monsoon depression will run west across central parts India during the coming week helping to enhance and focus rainfall. Torrential downpours accompanied by gusty winds and lightning at times, are expected to continue.

Expected Impacts

Further flooding of homes, businesses, and impacts on agriculture. Damage to roads/rail transportation links.



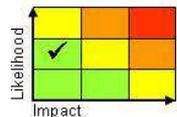
Northeast India as well as Nepal and Bhutan

Weather

Persistent and at times very heavy monsoon rainfall is expected to develop over the next few days in this region, with potential for 50-80mm per day and some locations seeing as much as 250mm by the middle of next week.

Discussion

Persistent southerly winds drawn in by the heat low over the Tibetan Plateau, encouraged by broad monsoon troughing over India, will see repetitious showers and thunderstorms triggered by both surface convergence and uplift over the foothills of the Himalayas over the next few days. Whilst showers will be generally hit and miss, and not all locations will see showers every day, rainfall totals of 100-200mm are expected quite widely in this region.



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Expected Impacts

Risk of localised flash and river flooding, landslides in areas of steeper terrain. Occasional frequent lightning/large hail causing damage to crops.

Parts of Southeast Asia

Weather

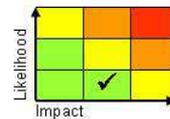
Above average rainfall is expected over the coming days associated with enhanced monsoonal flow in a broad region stretching from the southern Bay of Bengal through the South China Sea and into the western Philippines. Over the coming week the most exposed parts of the west Philippines could see up to 500 mm of rain, with some locations seeing in excess of 100mm within 24 hours.

Discussion

The north-easterly monsoon appears to have become quickly re-established across the South China Sea, this further encouraged by a broad monsoon depression centred over the NW Pacific. Along the southern flank a strong SW monsoonal flow extends from the Bay Bengal across the South China Sea and into the Philippines. Along this monsoon front rainfall will be heavy and persistent through this week, with western facing slopes most prone to the heaviest rainfall.

Expected Impacts

Flash flooding events possible, especially if showers affect a large urban centre such as Manila. As the week progresses an increasing likelihood of small river flooding and landslides.



Australasia

Nil.

Additional information

Nil.

Issued at: 170845 UTC **Meteorologists:** Chris Bulmer and Nick Silkstone **Global Guidance Unit**

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