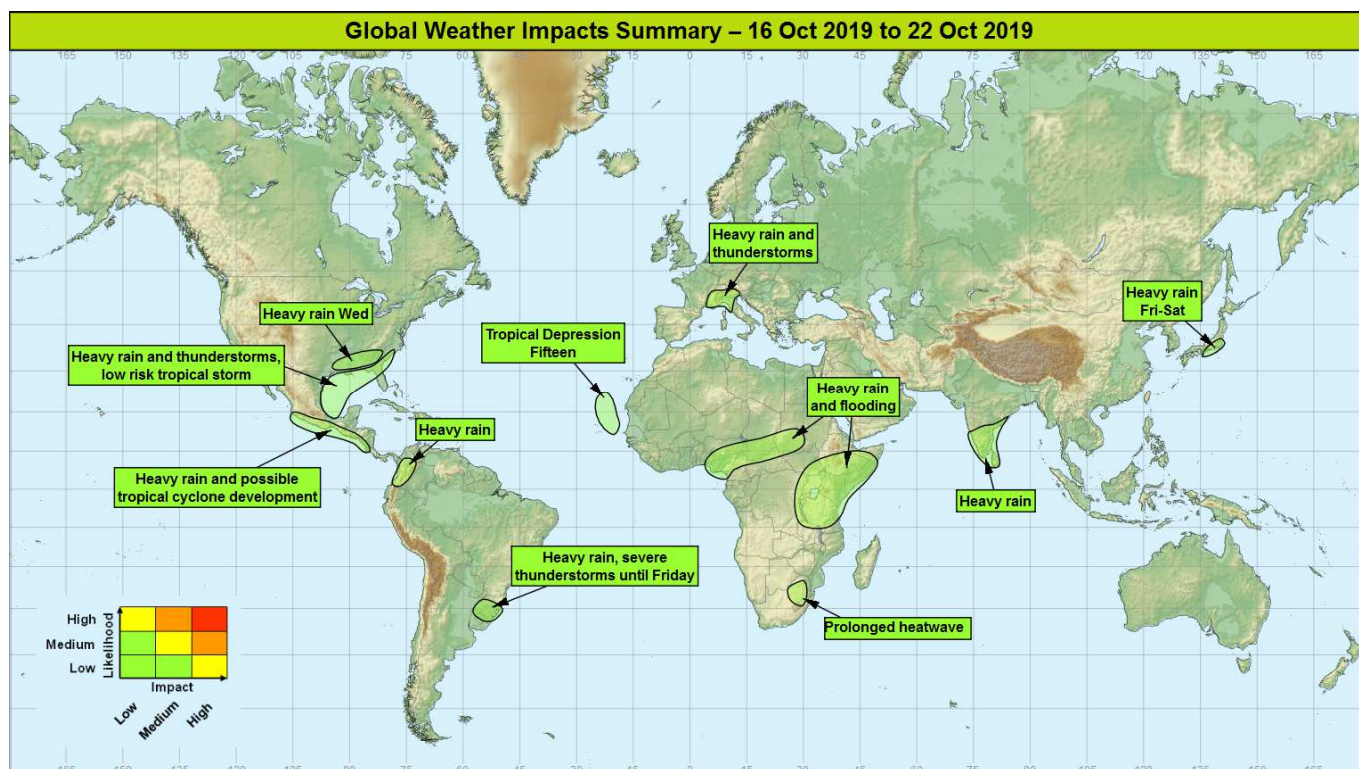


Global Weather Impacts – Wednesday 16th to Tuesday 22nd October 2019

Issued on Wednesday 16th October 2019

HEADLINES

- Heavy rain and flooding continues across parts of Central America and equatorial Africa.
- Tropical Depression Fifteen affecting Cabo Verde over the next 12-18 hours.
- Heavy rain and a possible tropical cyclone may impact Western Mexico



DISCUSSION

Tropical Cyclones

There are currently no named tropical cyclones forecast to pose a threat to land.

The following areas are currently being monitored for possible development that may affect land over the next week:

North Atlantic (including Cabo Verde)

Weather

Areas of organised thunderstorms associated with Tropical Depression Fifteen continue to drift slowly north-westwards across eastern parts of Cabo Verde. Winds around the centre of the system are around 35 mph, and the system may briefly become a tropical storm. Irrespective of development, the system is expected to further heavy rain (up to 125 mm) and strong winds to the eastern islands in particular. Already Sal has reported over 250 mm of rainfall within the past 48 hours. If confirmed this would make it the wettest October on record for this location.

Discussion

Tropical Depression Fifteen is gradually moving northwest and warm SSTs and decreasing shear during Wednesday could mean some strengthening into a tropical storm before a more hostile environment develops on Thursday. Latest imagery shows a strong jet near to the Canary Isles and this, with cooler SST's, should mean that TD 15 declines as it moves north-westwards. It seems likely that the centre will pass close to or immediately east of the eastern islands of Cabo Verde.



This forecast may be amended at any time

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Expected Impacts

Increased likelihood of flash flooding causing damage to property and infrastructure, as well as travel disruption. Low risk of damaging winds, mainly across eastern Cabo Verde through today.

Mexico, Guatemala and El Salvador

Weather

An area of heavy showers and thunderstorms associated with Tropical Depression 17 west of Guatemala is likely to gradually develop into a tropical storm over the next 24 hours as it moves northwest towards southern Mexico. Heavy rain affecting Guatemala and El Salvador is expected to extend northwest along the coasts of Chiapas to Jalisco states from Tuesday to Friday. Event totals are likely to exceed 100 mm along much of the coast, with some locations receiving as much as 300-500 mm of rain, equivalent to double the October average rainfall for this region.

Discussion

Tropical Depression 17 lies over warm sea surface temperatures in a low shear environment. Some strengthening is expected as the system tracks toward the Mexican coast, and it may well become a tropical storm briefly before likely moving inland during Wednesday. The remnant moisture from the system could well bring very heavy rainfall to parts of the south—western coast of Mexico through to the end of the week.

Expected Impacts

Increased likelihood of flash flooding causing damage to property and infrastructure, as well as travel disruption. Landslides are also possible in areas of more steeply sided terrain immediately inland from the coast.



Gulf of Mexico and southeastern U.S. States

Weather

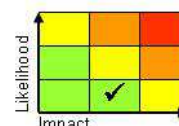
Heavy showers and thunderstorms are expected to develop across the Gulf of Mexico in the next few days. Initially affecting the eastern coast of Mexico on Thursday, before transferring northeastwards towards the coasts of the U.S. Gulf states, including northern Florida and parts of inland Alabama and Georgia, then eventually southern Carolina by early next week. At the same time some strong winds, and associated rough seas, are likely to develop to affect parts of the coasts of the northwestern Gulf and southeastern Atlantic coasts. There is a medium chance (NHC 40%) that this system could become a tropical cyclone as it crosses the Gulf of Mexico.

Discussion

Imagery shows an area of showers and thunderstorms associated with a trough of low pressure located over parts of Central America and the northwestern Caribbean Sea. In the next few days this is expected to emerge over the Bay of Campeche and then turn northward. During this time environmental conditions could become a little more conducive for some development, perhaps into a tropical storm when the system is over the northwestern Gulf of Mexico during the weekend. There are significant model differences for the evolution of this feature at this time and confidence in any development is low. Currently the NHC assesses the chance of formation as 40%.

Expected Impacts

Increased likelihood of flash flooding causing damage to property and infrastructure, as well as travel disruption.



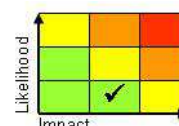
Europe

South-eastern France, Switzerland and northern Italy

Weather

Heavy rain and thunderstorms are expected to develop across this region next weekend, and could last into the start of next week. 100 mm of rainfall per day is possible with some locations seeing in excess of 200 mm over a period of a few days.

Discussion



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A slow moving frontal zone will be repeatedly engaged by forcing associated with the broadscale upper vortex close the the British Isles through a period of a few days producing waves of heavy rain and thunderstorms.

Expected Impacts

Increased likelihood of flash flooding causing damage to property and infrastructure, as well as travel disruption. Landslides are also possible in areas of more steeply sided terrain.

North America

Southern and eastern Mexico, plus the Gulf and southeastern States – See *Tropical Cyclones* section.

East and southeast USA**Weather**

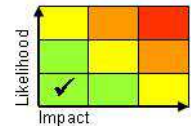
Heavy rain and thunderstorms are expected to transfer east on Wednesday. Whilst most places will receive 30-60 mm of rain in 24 hours, some locations may receive 100-150 mm which would be equivalent to the entire October average rainfall.

Discussion

A slow-moving frontal zone currently lies across the south-eastern USA is being engaged by an upper trough progressing east. The orientation of the forcing to the underlying thermal pattern supports training of convective cells which will likely enhance rainfall totals across parts of northern Louisiana to western Georgia in particular.

Expected Impacts

Much of southeast USA (except central/southern Florida) is experiencing abnormally dry conditions and so this rainfall would generally be welcome. However, localised higher rainfall amounts are likely to lead to flash flooding causing some property and infrastructure damage. Some temporary disruption to aviation into the eastern hubs is possible.

**Central America and Caribbean****Guatemala, El Salvador and Nicaragua, western Colombia and northwest Venezuela****Weather**

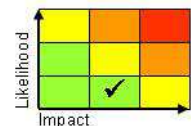
Frequent heavy showers and thunderstorms are expected to affect the Pacific coastal region of Central America through this week. This follows a period of above average rainfall over the past month with some locations recording double their September rainfall. Over the next week, much of the region is likely to receive a further 75-125 mm of rain, locally 250-300 mm.

Discussion

A series of tropical waves will be supportive of enhanced convection across parts of Central America and the northwest of South America. The development of tropical depression 17 running up the coast of Mexico over the coming days is likely to enhance the onshore flow along the Pacific coast before weakening later in the week.

Expected Impacts

Continuation of flooding impacts are likely across the region with more mountainous areas at heightened risk of landslides due to saturated ground.

**South America**

Western Colombia and northwest Venezuela – See *Central America and Caribbean* section.

Far South of Brazil and northern Uruguay**Weather**

Spells of heavy rain and locally severe thunderstorms are expected to affect the region through the next week, particularly on Wednesday and Thursday. Parts of the far south of Brazil may receive up to 200 mm of rain from these events, often falling in a few hours. October rainfall in Porto Alegre is 138 mm. Additional hazards include frequent lightning, large hail, strong winds and one or two tornadoes.

Discussion

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The South Atlantic Convergence Zone is expected to remain active until Friday as a longwave trough engages the sub-tropical warm plume on the northern side of it. Forecast profiles exhibit sufficient instability and deep layer shear to support supercell and upscale development into one or more MCS producing a variety of severe thunderstorm hazards.

Expected Impacts

Increased likelihood of flash flooding causing damage to property and infrastructure, as well as travel disruption. Localised damage and disruption is also possible from a combination of lightning, hail and strong winds.

Africa**Nigeria, northern Cameroon, southern Chad and Sudan****Weather**

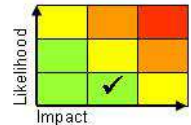
Over the past 3 months, much of this region has seen above average rainfall leading to increased susceptibility to further impacts as the wet season draws to a close. Further heavy showers and thunderstorms will develop over the next week which are expected to be more numerous than normal.

Discussion

Whilst the West African Monsoon is now showing signs of withdrawal to the coastal region above average rainfall is expected across the region through the coming week. This comes at a time where river levels are near an annual maximum and further rainfall can produce disproportionate impacts compared to earlier in the season.

Expected Impacts

Increased likelihood of surface water and river flooding along with land or mudslides in areas of more steeply-sided terrain. Antecedent conditions contributing to increased sensitivity.

**East Africa****Weather**

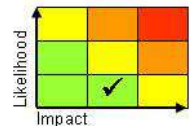
Above average rainfall is expected to continue through this week and beyond across the region with frequent heavy showers and thunderstorms. Whilst rainfall amounts will inevitably vary from place to place, some locations may receive their entire average October rainfall in a few hours.

Discussion

A strong positive Indian Ocean Dipole event is now underway. This is probably responsible for the above average rainfall signal in these areas over the coming week. Based on the strength of the positive IOD event (largest since at least 2001) this could lead to above average rainfall in these areas for the next 2 to 3 months which may gradually make impacts more likely.

Expected Impacts

Continued increased likelihood of flash flooding along with land/mudslides in areas of more steeply-sided terrain.

**Gauteng, South Africa****Weather**

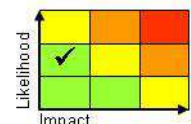
A prolonged period of hot sunshine will cause temperatures in two of South Africa's largest cities, Johannesburg and Pretoria, to rise to between 30-35 deg C, close to record levels for this early in the season and nearly 10 deg C above normal.

Discussion

The Indian Ocean Dipole (IOD) is causing excessive rain to fall in E Africa close to the equator, and keeping the weather dry, hot and sunny in much of SE Africa, especially the NE of South Africa. With light winds this will make the heat feel quite oppressive.

Expected Impacts

Utilities will be under strain due to high air conditioning requirements, and water demands will be high in a region still waiting for the first rains of the spring/summer season.

**Middle East**

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Nil.

Asia

Southwest and eastern India, and Sri Lanka

Weather

Whilst the southwest monsoon is now retreating across the northern half of India, above average shower and thunderstorm activity is expected to continue across the south and east of the country, and Sri Lanka through the next week. Many locations are likely to receive a further 100-200 mm of rain over the next week.

Discussion

Whilst the South Asian Monsoon commenced its withdrawal some 49 days later than normal across northwest India the retreat has accelerated over the past week. That said, above average rainfall compared to a usual withdrawal is expected over the coming 7 days.

Expected Impacts

Increased likelihood of surface water and river flooding along with land/mudslides in areas of more steeply-sided terrain. Coming at the end of the monsoon season this event will contribute to increased sensitivity.



Southern Japan

Weather

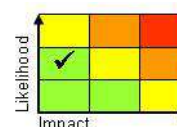
A spell of heavy rain is expected to affect the region affected by Typhoon Hagibis through Friday and Saturday. Whilst more benign conditions are expected to continue over the next 4 days, a further 80-120 mm of rainfall is likely to fall across southern portions of Honshu over 24-36 hours.

Discussion

A slow-moving frontal zone lying south of Japan over the next 4 days is expected to be engaged by an upper trough emerging from China later in the week. Some model uncertainties exist in the timing and location of the heaviest rainfall, but there is reasonable confidence that the area affected by Typhoon Hagibis will receive further heavy rain, albeit nowhere near the volume seen in recent days (939.5 mm in 24 hours fell in Hakone near Mount Fuji).

Expected Impacts

Increased sensitivity following the passage of Typhoon Hagibis is likely to lead to a greater impacts than otherwise expected. Flash flooding and renewed river flooding are possible, in addition to landslides in areas of more steeply-sided terrain.



Australasia

Nil.

Additional Information

Nil.

Issued at: 160920 UTC **Meteorologists:** Chris Tubbs/ Mark Sidaway

Global Guidance Unit

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