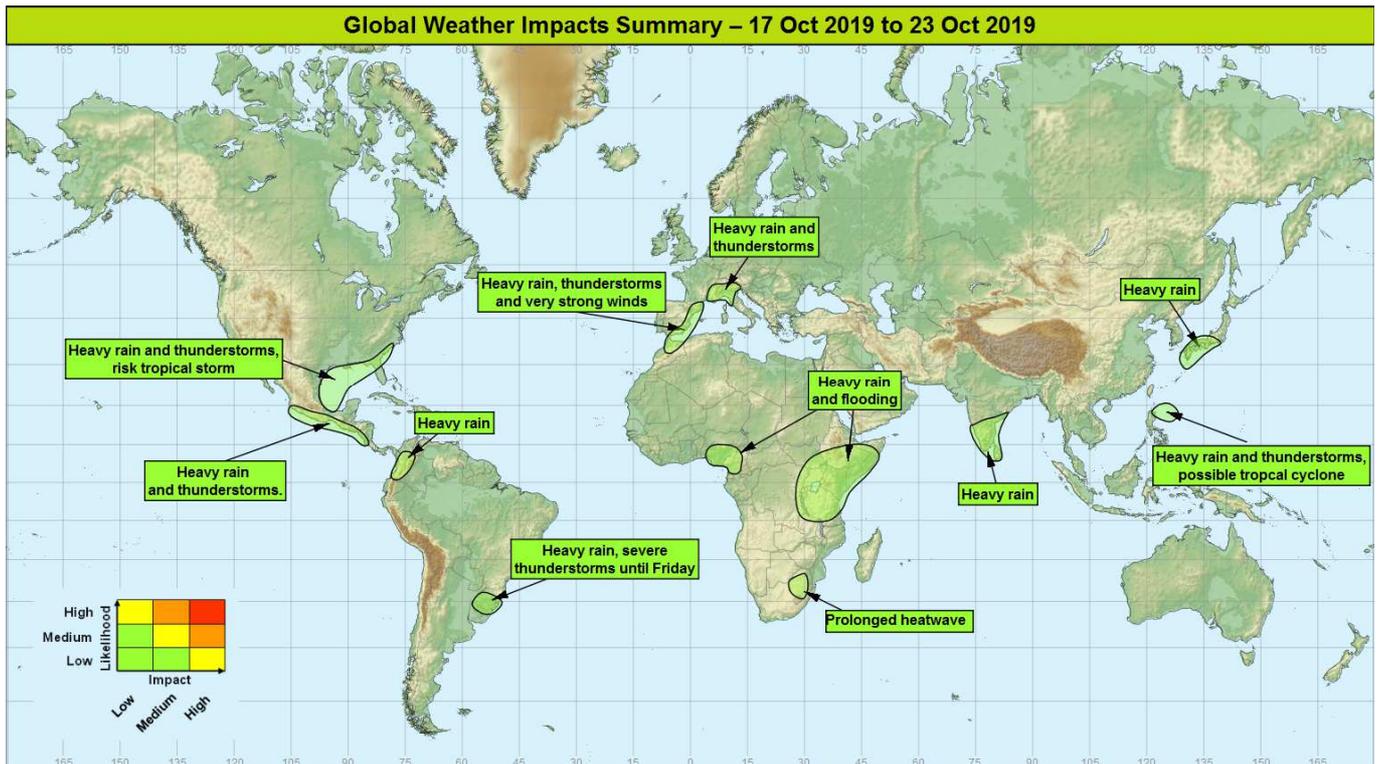


Global Weather Impacts – Thursday 17th to Wednesday 23rd October 2019

Issued on Thursday 17th October 2019

HEADLINES

- Heavy rain and flooding continues across parts of Central America, equatorial Africa and parts of India.
- High likelihood of a tropical cyclone forming over the Gulf of Mexico then moving toward the south-eastern USA.
- Turning increasingly unsettled across south-western Europe from this weekend.



DISCUSSION

Tropical Cyclones

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

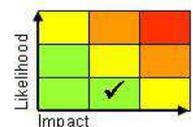
The following areas are currently being monitored for possible development that may affect land over the next week:

Gulf of Mexico and south-eastern U.S. States

Weather

Heavy showers and thunderstorms over the Bay of Campeche are showing signs of becoming better organised and here is a high chance (National Hurricane Centre 70%) that this system could become a tropical or sub-tropical cyclone as it crosses the Gulf of Mexico over the next couple of days. Initially bringing heavy rainfall (100 locally 200 mm) to the eastern coast of Mexico on Thursday, the system is then expected to track north-eastwards towards the south-eastern USA by the weekend likely affecting northern Florida and parts of inland Alabama and Georgia, then eventually The Carolinas by early next week bringing heavy rainfall, strong winds and rough seas.

Discussion



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Imagery confirms increasingly organised deep convection associated with a trough of low pressure located over the western Gulf of Mexico. Environmental conditions are conducive for some development, perhaps into a tropical or sub-tropical storm as the system moves across the Gulf of Mexico. NHC has increased the likelihood of this system becoming a tropical or sub-tropical cyclone to 70%, with models in fairly good agreement for any development to lie off the coast of the south-eastern USA by Saturday.

Expected Impacts

Risk of flash flooding to parts of north-eastern Mexico through Thursday causing damage to property and infrastructure, as well as travel disruption. By the weekend there is a risk of flash flooding, damaging winds, rough seas and travel disruption to parts of the south-eastern USA.

Philippines

Weather

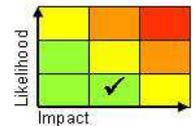
An area of thunderstorms is expected to move towards northern Luzon, Philippines in the coming days. This may develop into a tropical cyclone as it tracks west, although the main impacts are likely to be from heavy rainfall. 100-200mm per day is associated with this feature, mainly affecting northern parts of Luzon from this weekend.

Discussion

Imagery shows an area of organised deep convection across the Western Pacific and may have been enhanced by the passage of a Rossby wave in the last day or so. As this tracks gradually westwards towards the northern Philippines the environment is favourable for further development and may form into a tropical cyclone on Thursday or Friday as it approaches Luzon.

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

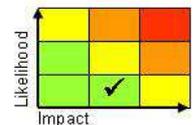
Heavy rain and thunderstorms are expected to develop across this region during the weekend, and could last into the start of next week. 100-150mm mm of rainfall per day is possible with some locations seeing in excess of 200-300 mm over a period of a few days.

Discussion

A slow moving frontal zone will be repeatedly engaged by forcing associated with the broadscale upper vortex 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.

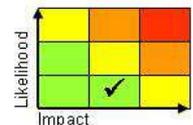


Western Mediterranean – Eastern Spain, southwest France and northern Morocco

Weather

There is a signal for heavy rainfall, thunderstorms and strong winds to develop across the western Mediterranean on Tuesday and into Wednesday. There is the potential for some severe thunderstorms with frequent lightning and hail, plus very strong and gusty winds. 50-100mm of rain could fall in a few hours associated with these storms. Given the range there is still some uncertainty in detail, however the worst affected areas could be across parts of eastern Spain which saw severe flash flooding in September.

Discussion



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A major disrupting upper trough is expected to engage a baroclinic zone across the region on later on Monday and into Tuesday. Models suggest the development of a surface low over northern Morocco which then emerges northwards into the western Mediterranean, with some solutions allowing this to deepen into a major feature by the middle of next week. Profiles would suggest the potential for some severe thunderstorms within the 18C WBPT plume. Unsurprisingly there are detail differences at this range.

Expected Impacts

Risk of flash flooding, with frequent lightning, hail and very strong winds causing damage to property and infrastructure, as well as travel disruption for aviation, and marine transport due to rough seas. Landslides are also possible in areas of more steeply sided terrain.

North America

South-eastern USA – See *Tropical Cyclones* section.

Central America and Caribbean

Western coast of Mexico

Weather

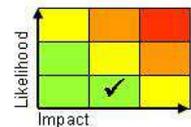
An area of heavy showers and thunderstorms will continue to affect the Pacific coast in the next 5 days. Event totals are likely to exceed 100 mm along much of the coast, with some locations receiving as much as 200-300 mm of rain, equivalent to around double the October average rainfall for this region.

Discussion

Remnant moisture from an area which was being monitored for potential tropical cyclone development will bring very heavy rainfall to parts of the western coast of Mexico through until the weekend. The topography of the region will constrain most of this to the coastal area.

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.



Guatemala, El Salvador and Nicaragua, western Colombia and northwest Venezuela

Weather

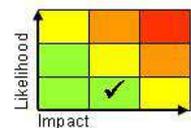
Further frequent heavy showers and thunderstorms are expected to affect the Pacific coastal region of Central America through this week. This follows a period of above average rainfall over the past month with some locations recording double their October rainfall. Over the next week, much of the region 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.

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.

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Far South of Brazil and northern Uruguay

Weather

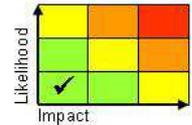
Further spells of heavy rain and locally severe thunderstorms are expected to affect the region today (Thursday). Parts of the far south of Brazil may receive up to 150 mm of rain from these events, often falling in a few hours. October rainfall in Porto Alegre is 138 mm. Additional hazards include frequent lightning, large hail, strong winds and one or two tornadoes. Thereafter more normal rainfall patterns are expected.

Discussion

The South Atlantic Convergence Zone is expected to remain active today as a long wave 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 and northern Cameroon

Weather

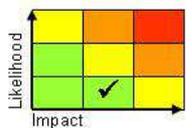
Over the past 3 months, much of this region has seen above average rainfall leading to increased susceptibility to further impacts as the wet season draws to a close. Further heavy showers and thunderstorms will develop over the next week which are expected to be more numerous than normal.

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

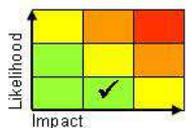
Above average rainfall is expected to continue through this week and beyond across the region with frequent heavy showers and thunderstorms. Whilst rainfall amounts will inevitably vary from place to place, some locations may receive their entire average October rainfall in a few hours.

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

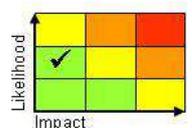
Continued increased likelihood of flash flooding along with land/mudslides in areas of more steeply-sided terrain.



Morocco - See Europe section

Gauteng, South Africa

Weather



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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. By Monday temperatures returning to more normal values.

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. On Monday a cold front will move north across the area, allowing temperatures to return to more normal values for the season.

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

Nil.

Asia

Southwest and eastern India, and Sri Lanka

Weather

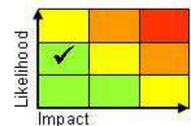
Whilst the southwest monsoon is now retreating across the northern half of India, above average shower and thunderstorm activity is expected to continue, more especially across the south and east of the country, and Sri Lanka through the coming week. Many locations are likely to receive a further 100-200 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. There is the potential for a tropical low to develop on the Arabian Sea which would further enhance rainfall into western India.

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

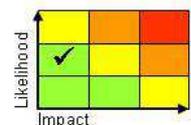
A spell of heavy rain is expected to affect the region affected by Typhoon Hagibis until the weekend. A further 100-200 mm of rainfall is likely to fall across southern portions of Honshu over 24-36 hours, with in excess of 300 mm in places.

Discussion

Amplification of both the upper and surface pattern across eastern Asia will allow pressure to build across north-eastern Japan which will draw a plume of high WBPT (>21C) air northwards across western Japan. This is then engaged by an approaching upper trough producing very heavy rainfall across the region. 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, although the highest rainfall totals may well be to the west of the areas worst affected last weekend.

Expected Impacts

Increased sensitivity following the passage of Typhoon Hagibis is likely to lead to 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.

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Additional Information

Nil.

Issued at: 170750 UTC **Meteorologists:** Tony Wardle/ Mark Sidaway

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