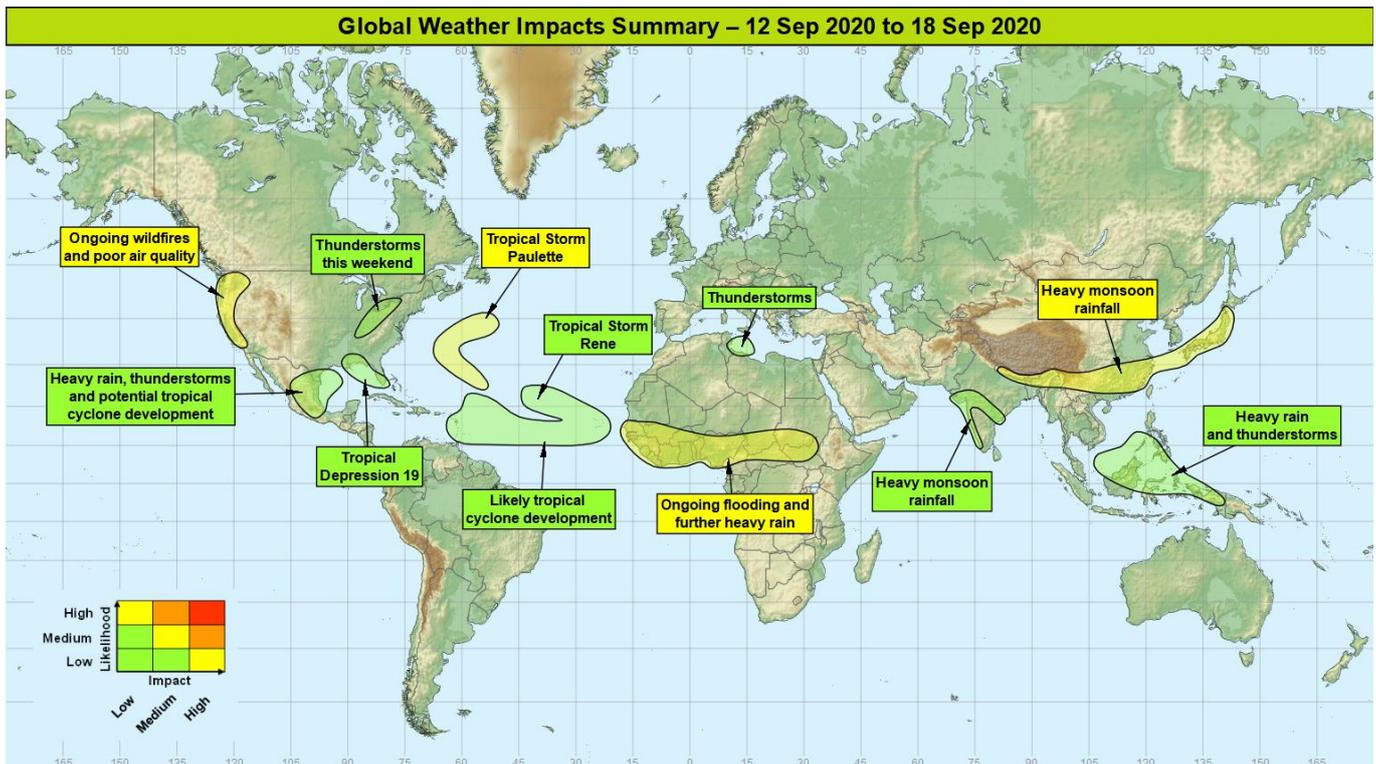


Global Weather Impacts – Saturday 12th to Friday 18th September 2020

Issued on Saturday 12th September 2020

HEADLINES

- Tropical Storm Paulette expected pass close to Bermuda as a hurricane on Monday.
- Ongoing flooding likely to be exacerbated across parts of Africa by further rainfall.
- Likely tropical cyclone development in the Gulf of Mexico and Atlantic Ocean this weekend.
- Wildfires ongoing across the western USA maintain poor air quality.



Tropical Cyclones

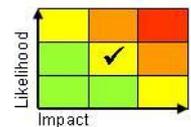
Tropical Storm Paulette (North Atlantic including Bermuda)

Weather

Tropical Storm Paulette is expected to approach Bermuda later this weekend as a hurricane and pass close to or over the island on Monday. Given the size of the island, the confidence of Bermuda experiencing the strongest winds and heaviest rainfall is inherently low at this time. That said, the likelihood of impacts from strong winds, storm surge and heavy rainfall has increased over recent days. Close to the centre, Paulette is likely to have maximum sustained winds of around 105 mph (category 2) in the vicinity of Bermuda with 150-250 mm of rain falling within around 50 miles of the centre (Hamilton, Bermuda typically records 130 mm of rain in September). However, there is a low likelihood of Paulette undergoing a period of more rapid intensification which brings a low likelihood of it acquiring major hurricane status (category 3+, >111 mph).

Discussion

Despite significant wind shear across Paulette on Friday, the system remained a tropical storm and shear is now beginning to decrease. As it moves northwest towards Bermuda, shear is to remain low with warm SSTs and should allow continued intensification into a hurricane today. Whilst rapid intensification is currently not anticipated, it is likely to reach peak intensity as a category 2 hurricane near Bermuda on Monday. Paulette is expected to recurve sharply in the vicinity of the island lending considerable uncertainty to its track, exacerbated by the relatively small land mass of Bermuda. From Tuesday, Paulette will pose no further threat to land.



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Expected Impacts

Were the centre of Paulette pass close to or over Bermuda (considered a low but increasing likelihood), hurricane force winds are likely to cause damage to property and infrastructure. Storm surge and heavy rain are likely to cause a combination of surface water and coastal flooding will extend much further away from the centre.

Tropical Storm Rene (North Atlantic)

Weather

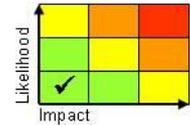
Rene weakened considerably on Friday and whilst the system is likely to re-intensify over the weekend, it will do so over open waters remote from land. A more concerted weakening trend is expected next week.

Discussion

Dry air and the upwelling of cooler SSTs by Paulette appears to have led to marked weakening of Rene during Friday but the system is expected to persevere within an otherwise conducive environment for some re-strengthening this weekend. However, this is fairly immaterial given it poses no imminent threat to land.

Expected Impacts

Nil.



Tropical Depression 19 (Gulf of Mexico including Florida, Mississippi, Alabama and Louisiana)

Weather

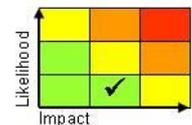
An area of thunderstorms over south Florida has continued to become better organised and is likely to become a tropical storm over the weekend as it moves into the Gulf of Mexico. There is a moderate likelihood of this developing into a hurricane prior to landfall along the south USA coast (Mississippi/Alabama/eastern Louisiana). This would be to the east of the area around Lake Charles which was significantly affected by Hurricane Laura.

Discussion

Dynamical and statistical model guidance points to continued development of Tropical Depression 15 over the northeast Gulf of Mexico this weekend with most models suggesting landfall along the Deep South coast on Tuesday. Given the small size of the system, high resolution models such as HWRF may provide better intensity guidance; and lends a higher likelihood of a hurricane developing prior to landfall than global model guidance.

Expected Impacts

Irrespective of the degree of intensification, there is an increased likelihood of flash flooding across southern Florida, Alabama, Mississippi and eastern Louisiana. There is a low likelihood of hurricane force winds developing and, should this occur, would cause damage to property and infrastructure from a combination of strong winds and large waves.



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The following areas are being monitored for potential tropical cyclone development affecting land:

North Atlantic (including Lesser Antilles)

Weather

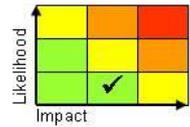
A large area of heavy showers and thunderstorms near Cabo Verde is expected to develop into at least one tropical cyclone over the weekend. This initial development is likely to track westward with no imminent threat to land until the middle of next week. There is significant uncertainty of the track and intensity of this system by Wednesday. There is a low likelihood that this could develop into a hurricane and affect the Lesser Antilles although the more probable outcome at this time is for the system to either be weaker or curve towards the north. Meanwhile, a second tropical depression may develop as it passes over Cabo Verde on Sunday. Irrespective of development though frequent thunderstorms and heavy rain is expected across the island archipelago until Monday.

Discussion

A strong African Easterly Wave has emerged into eastern Atlantic. Whilst shower and thunderstorm activity is fairly disorganised currently, the overwhelming majority of dynamical models support development into a tropical cyclone this weekend. The main uncertainty is its future track next week which is a function of the strength of the subtropical ridge which builds in the wake of Paulette. Significant spread exists in a potential weakness at around 40-50W. At this stage, there is a preference for the system to drift north before reaching land but a low likelihood (~20%) is maintained for a westward trajectory to be maintained towards the Lesser Antilles. The tropical wave following this is less robust with some development signalled over the next 36 hours possible in the vicinity of Cabo Verde.

Expected Impacts

Increased likelihood of flash flooding and landslides over Cabo Verde over the weekend and early next week. Low likelihood of tropical cyclone impacts affecting the Leeward Island from Wednesday but uncertainty in the track and intensity is considerable.



Gulf of Mexico (including southern USA and eastern Mexico)

Weather

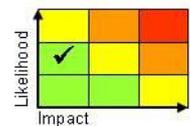
Another disturbance south of the Mississippi Delta is expected to move slowly southwest towards northeast Mexico next week with a low likelihood of tropical cyclone development. Whether this develops into a tropical cyclone or not, above average rainfall is expected across much of eastern Mexico and south Texas over the next week. 150-200 mm of rain is expected quite widely along the coast from Corpus Christi to Veracruz.

Discussion

The second disturbance south of Louisiana has a lower likelihood of development, the broad circulation will maintain enhanced onshore flow along the Gulf of Mexico coast from south Texas and along the Caribbean coastline of Mexico.

Expected Impacts

Increased likelihood of flash flooding, particularly for coastal cities of south Texas and eastern Mexico. Should a tropical cyclone develop, then impacts from large waves and strong winds are also possible.



Europe

Malta, Tunisia and northwest Libya

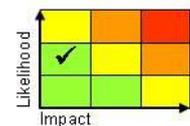
Weather

Slow-moving thunderstorms are expected to develop across the region over the weekend into the first half of next week affecting Malta and coastal parts of Tunisia and northwest Libya. 50-75 mm of rainfall is locally possible, often falling in under 2-3 hours.

Discussion

A cut-off low that was responsible for flooding in Cagliari, Sardinia on Thursday will migrate southeast into the central Mediterranean over the weekend and draw upon the abundant low-level moisture to trigger slow-moving thunderstorms that will move onshore and/or develop over land in response to diurnal heating. The upper trough eventually degenerates into an upper trough as a more significant disruption takes place across western Europe by midweek.

Expected Impacts



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Localised flash flooding causing damage to property and infrastructure.

North America

Southern USA and eastern Mexico – see *Tropical Cyclones* section.

Western USA

Weather

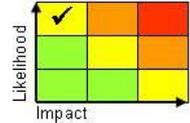
Whilst fire weather conditions have temporarily improved, persistent hot and dry conditions will continue to pose issues for existing wildfires. Through Sunday and next week, winds are likely to steadily increase across the region leading to an increase in wildfire-spread potential. Air quality is expected to remain very poor across a wider part of western USA, particularly California, Oregon and Washington.

Discussion

At first an upper ridge will maintain warm and dry conditions before an increasingly cyclonic regime develops across the west which will support an increase in gradients across the region. Whilst model guidance increases through the middle of next week, dry and windy conditions become increasingly likely in all output by Thursday.

Expected Impacts

Wildfires will continue to burn in the region, leading to reduced air quality with little wind to disperse particulates at first. Winds are likely to increase next week which is likely to make fire containment more difficult.



Tennessee, Kentucky and Ohio, USA

Weather

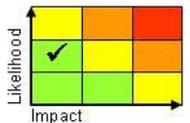
Some severe thunderstorms are likely to break out in this area later today and Sunday, before easing next week. Some organisation of convection is likely with very gusty winds, hail and lightning strikes all potential hazards.

Discussion

The very warm plume of tropical air over southeastern parts of the USA ahead of a marked baroclinic zone will be engaged by an approaching upper trough from the west over this weekend. Profiles are showing a reasonable amount of CAPE, wind-shear and PWC which are the ingredients needed for severe, organised convection.

Expected Impacts

Increased risk of flash flooding, gusty winds (low prob. of tornadoes) lightning and hail could damage to property.



Central America and Caribbean

Lesser Antilles – see *Tropical Cyclones* section.

South America

Nil.

Africa

Cabo Verde – see *Tropical Cyclones* section.

Tunisia and northwest Libya – see *Europe* section.

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Sub-Saharan Africa

Weather

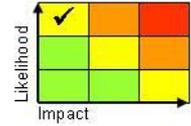
Further periods of prolonged, heavy showers and thunderstorms will affect the region at times in the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 200-300 mm build up. This does tend to be the wettest time of the year in the region, but the forecast rainfall will still be significant, especially given recent flooding events in the past week.

Discussion

The monsoon trough currently lies close to its climatological northern extent from roughly Senegal towards southern Sudan and Ethiopia. Along and to the south of this trough lies moisture-laden air, with the African Easterly Jet periodically buckling due to the passage of African Easterly Waves.

Expected Impacts

The potential for further flash and riverine flooding across much of the region, with an enhanced risk of landslides in areas where terrain is steep (such poorly located settlements on the edge of expanding cities). Along the northern boundary of the highlighted region strong wind gusts from thunderstorms will likely trigger dust storms reducing air quality and impacting travel.



Middle East

Nil.

Asia

Nepal, northeast India, northern Bangladesh, Bhutan, northern Myanmar, southern China and Japan

Weather

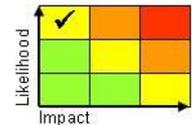
Further spells of heavy rain and thunderstorms are expected over large parts of southern and southeastern Asia in the coming week thanks to an active monsoon. It won't be wet all the time, there will be drier interludes between the rains, but the intensity and frequency of showers will bring some large totals of rain over the next week, after what has already been a particularly wet monsoon season. The heaviest rainfall is expected across Nepal, Bhutan and northeast India where 100-150 mm falling in a few hours in some locations is expected.

Discussion

A developing La Niña and negative Indian Ocean Dipole pattern is projecting similar to a phase 3/4 MJO across southern Asia and is likely to maintain above average rainfall here through the next week. Meanwhile, upper troughs within the mid-latitude flow further north will bring spells of heavy rain to Japan as it draws upon the retreating monsoon moisture here.

Expected Impacts

Increased risk of flash flooding and landslides in mountainous areas. Risk of flash flooding and riverine flooding in small catchments and urban areas.



Southern and central India

Weather

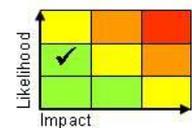
An active pulse in monsoon rains is expected over the next week across much of southern India. Overall the highest rainfall totals are likely to build up over the Western Ghats with 200-300mm building up in places over the next few days. Elsewhere, many areas will see 100-150 mm of rain.

Discussion

The Monsoon trough to the north will strengthen the southwesterly flow over the coming days bringing an abundance of warm and moist air onshore, this combined by orography and large scale ascent provided by the withdrawing MJO, will lead to some heavy and prolonged showers and thunderstorms in the coming days.

Expected Impacts

Increased risk of flash flooding in places.



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Indonesia, Malaysia, southern Philippines and Brunei**Weather**

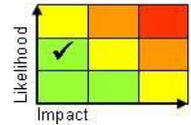
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal over the coming few days. Around 50-75 mm of rain could fall in a couple of hours in places, with overall accumulations through the week of around 150-250 mm.

Discussion

Higher than normal SSTs in the region, and enhanced easterly trade winds, in part due to the developing La Niña like conditions, is fuelling deep convection, with showers and thunderstorms more intense and frequent than is usual for the time of year.

Expected Impacts

Slight increase in the risk of flash flooding, and landslides in mountainous areas.

**Australasia**

Nil.

Additional Information**Cox's Bazar, southeast Bangladesh**

Whilst showers and thunderstorms can't be ruled out each day, drier than average conditions are expected over the next week. This will reduce the risk of impacts from flash flooding.

Yemen

The development of isolated heavy showers is likely to remain focused over the Western Highlands. Activity is expected to be slightly below average for the time of year.

Sudan/South Sudan

Daily heavy showers and thunderstorms are expected through the next week across South Sudan and the south of Sudan. Probably wettest in parts of South Sudan with 75-125 mm building in a few locations. This is now the latter part of the wet season which means localised flash flooding events are a little more likely where the heaviest showers fall.

Mainland Europe, away from Iberia

Whilst not likely to cause too many impacts, a late-season heatwave is likely for parts of Mainland Europe, developing this weekend and peaking early next week. Temperatures are likely to be widely some 5-8 °C above normal, with parts of France seeing temperatures some 8-12 °C above normal. This would bring maximum temperatures into the high 30s °C in places.

Issued at: 120830 UTC

Meteorologists: Matthew Lehnert / Ele Hands

Global Guidance Unit

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