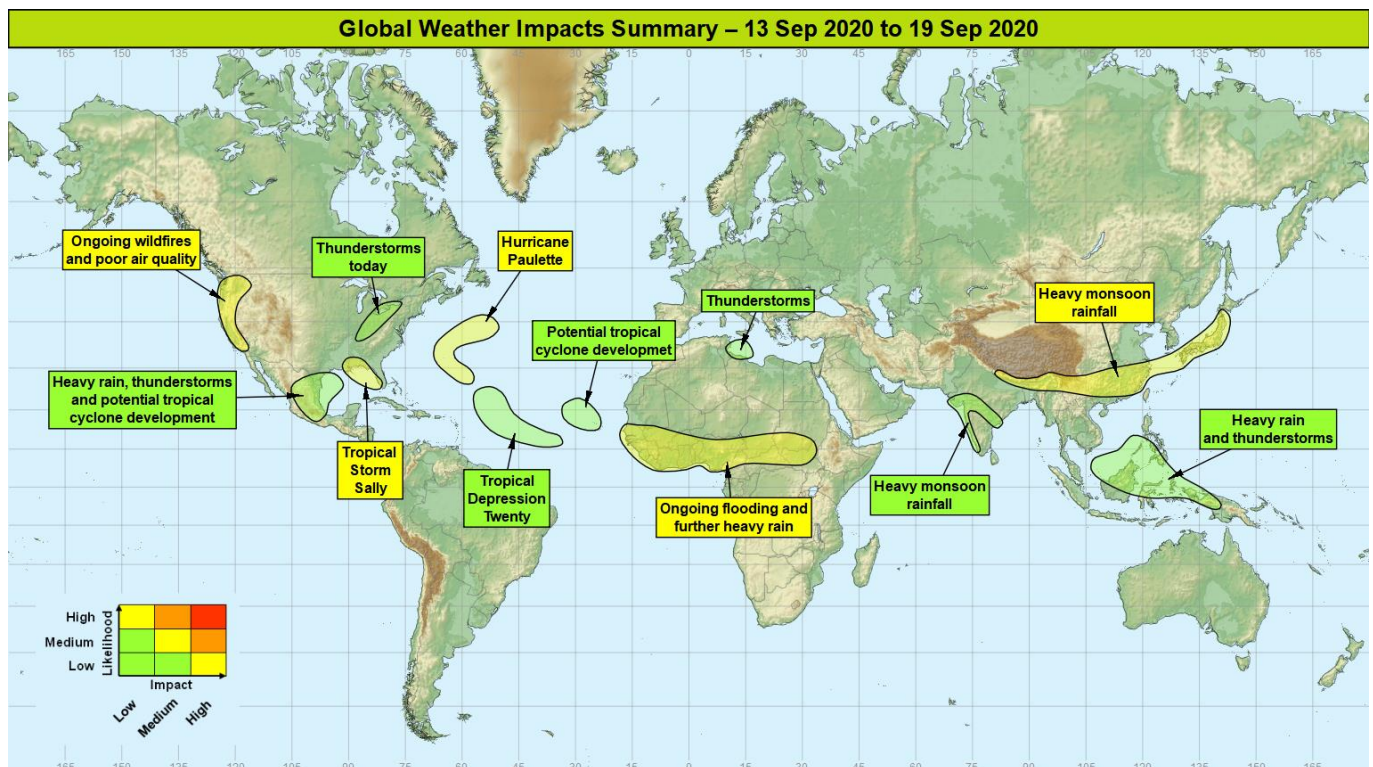


Global Weather Impacts – Sunday 13th to Saturday 19th September 2020

Issued on Sunday 13th September 2020

HEADLINES

- Hurricane Paulette expected pass close to Bermuda on Monday.
- Tropical Storm Sally likely to make landfall as a hurricane near New Orleans on Tuesday.
- Ongoing flooding likely to be exacerbated across parts of Africa by further rainfall.
- Wildfires ongoing across the western USA maintain poor air quality.



Tropical Cyclones

Hurricane Paulette (North Atlantic including Bermuda)

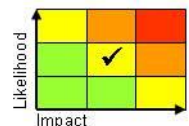
Weather

Hurricane Paulette is expected to approach Bermuda later today and pass close to or over the island on Monday. The exact track of Paulette relative to a fairly small island is critical to the strength of winds experienced. The likelihood of impacts from strong winds, storm surge and heavy rainfall continues to increase since it is now increasingly likely the centre will pass very close to if not over the island. 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). Paulette is expected to continue strengthening into Tuesday but this will be over open water to the northeast of Bermuda.

Discussion

A decrease in shear through Saturday allowed Paulette to gain hurricane status as it tracked northwest overnight. As it continues towards Bermuda, shear is to remain low with warm SSTs and should allow continued intensification today. Paulette is likely to reach peak intensity as a category 3 hurricane northeast of Bermuda early on Tuesday, although is currently expected to pass by Bermuda as a category 2 hurricane. Paulette is expected to recurve sharply in the vicinity of the island, acting to increase the duration of rainfall and strong winds. From Tuesday, Paulette will pose no further threat to land.

Expected Impacts



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Were the centre of Paulette pass close to or over Bermuda (considered a moderate 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 Sally (Gulf of Mexico including Florida, Mississippi, Alabama and Louisiana)

Weather

Sally is now moving out into the northeast Gulf of Mexico but is expected to move northwest towards the Louisiana/Mississippi coast, probably in the vicinity of New Orleans on Tuesday. Before making landfall, Sally is likely to strengthen into a hurricane with maximum sustained winds of around 85 mph (category 1). There is a low likelihood that Sally undergoes rapid intensification resulting in a narrow swathe of winds exceeding 100 mph. Whilst there remains some uncertainty in the exact track and intensity, impacts from winds, storm surge and heavy rainfall are expected to extend far from the centre. The heaviest rainfall is likely to affect the coast region from New Orleans (Louisiana) to Pensacola (Florida) where 250-300 mm, locally 500 mm, is possible. For context, this region typically receives 130-150 mm in September.

Discussion

Dynamical and statistical model guidance points to continued development of Sally 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 (and low likelihood of major hurricane) than global model guidance implies.

Expected Impacts

Sally is expected to produce surface water and riverine flooding across portions of the Gulf coast from eastern Louisiana to western Florida through to the middle of next week which is likely to cause flooding property and damage to infrastructure. Hurricane conditions are expected to develop along this coastline late on Monday in association with a life threatening storm surge from the mouth of the Mississippi River east to the Alabama/Florida border. There is a low likelihood of more significant impacts affecting this region in the event Sally undergoes rapid intensification.

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

North Atlantic (including Tropical Depression 20)

Weather

Tropical Depression 20 developed around 2000 miles east of the Lesser Antilles on Saturday evening and is expected to slowly strengthen into a tropical storm by Sunday night. Whilst continued strengthening into a hurricane is expected through next week there is now a lower likelihood of this system now affecting the Lesser Antilles next week.

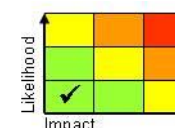
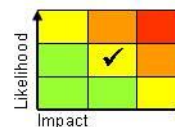
Meanwhile, an area of heavy showers and thunderstorm located over Cabo Verde has a moderate likelihood of developing into a tropical cyclone as it moves away from land through Sunday and early next week. Irrespective of development, further frequency thunderstorms and heavy rain are expected to affect the islands until Monday.

Discussion

The westernmost portion of a strong African Easterly Wave has now developed into a tropical depression and is expected to undergo continued strengthening as it moves west over the next few days. There appears to be stronger support for a weakness to appear in subtropical ridge, in part due to the effect of Paulette moving into the midlatitudes. Consequently, the threat to this tropical cyclone affecting the Caribbean has reduced compared to 24-36 hours ago. Meanwhile, the easternmost portion of this tropical wave is currently affecting Cabo Verde. However, development into a tropical cyclone is unlikely to pose a direct threat to land.

Expected Impacts

Ongoing risk of flash flooding and landslides over Cabo Verde through to Monday. The risk of tropical cyclone impacts affecting the Lesser Antilles has decreased compared to recent days.



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Gulf of Mexico (including southern USA and eastern Mexico)

Weather

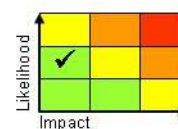
Another disturbance south of Louisiana will move slowly southwest towards northeast Mexico next week with a low likelihood of tropical cyclone development. Whether this develops into a tropical cyclone or not, above average rainfall is expected across much of eastern Mexico and south Texas over the next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

Discussion

The disturbance south of Louisiana has a lower likelihood of development compared to that which spawned Sally but 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

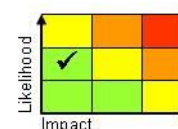
Slow-moving thunderstorms are expected to continue to develop across the region today and into the first half of next week affecting Malta, coastal parts of Tunisia and northwest Libya. 50-75 mm of rainfall is locally possible, often falling in under 2-3 hours.

Discussion

A cut-off low that was responsible for flooding in Cagliari, Sardinia on Thursday will continue to migrate southeast into the central Mediterranean 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

Localised flash flooding causing damage to property and infrastructure.



North America

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

Western USA

Weather

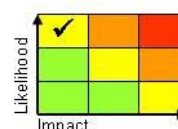
Whilst fire weather conditions have temporarily improved, persistent hot and dry conditions will continue to pose issues for existing wildfires. Through Sunday and next week, winds are likely to steadily increase across the region leading to an increase in wildfire-spread potential. Air quality is expected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

Discussion

The upper ridge will give way to an increasingly cyclonic regime across the west which will support an increase in gradients across the region. Whilst model guidance increases gradients through the middle of next week, dry and windy conditions become increasingly likely in all output by Thursday.

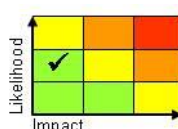
Expected Impacts

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



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Severe thunderstorms are expected to continue today (Sunday), before easing next week. Continued 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 continue to be engaged by an upper trough today (Sunday). 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.

Sub-Saharan Africa

Weather

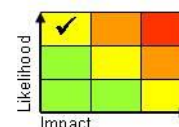
Further periods of prolonged, heavy showers and thunderstorms will affect the region at times in the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 200-300 mm build up. This does tend to 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 as 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.

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

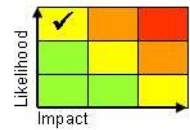
Further spells of heavy rain and thunderstorms are expected over large parts of southern and southeastern Asia in the coming week thanks to an active monsoon. It won't be wet all the time, there will be drier interludes between the rains, but the intensity and frequency of showers will bring some large 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**

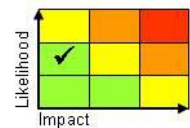
An active pulse in monsoon rains is expected over the next week across much of southern India. Overall the highest rainfall totals are likely to build up over the Western Ghats with 200-300mm building up in places over the next few days. Elsewhere, many areas will see 100-150 mm of rain.

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.

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

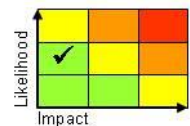
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal over the coming few days. Around 50-75 mm of rain could fall in a couple of hours in places, with overall accumulations through the week of around 150-250 mm.

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.

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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: 130320 UTC **Meteorologists:** Ele Hands / Matthew Lehnert

Global Guidance Unit

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