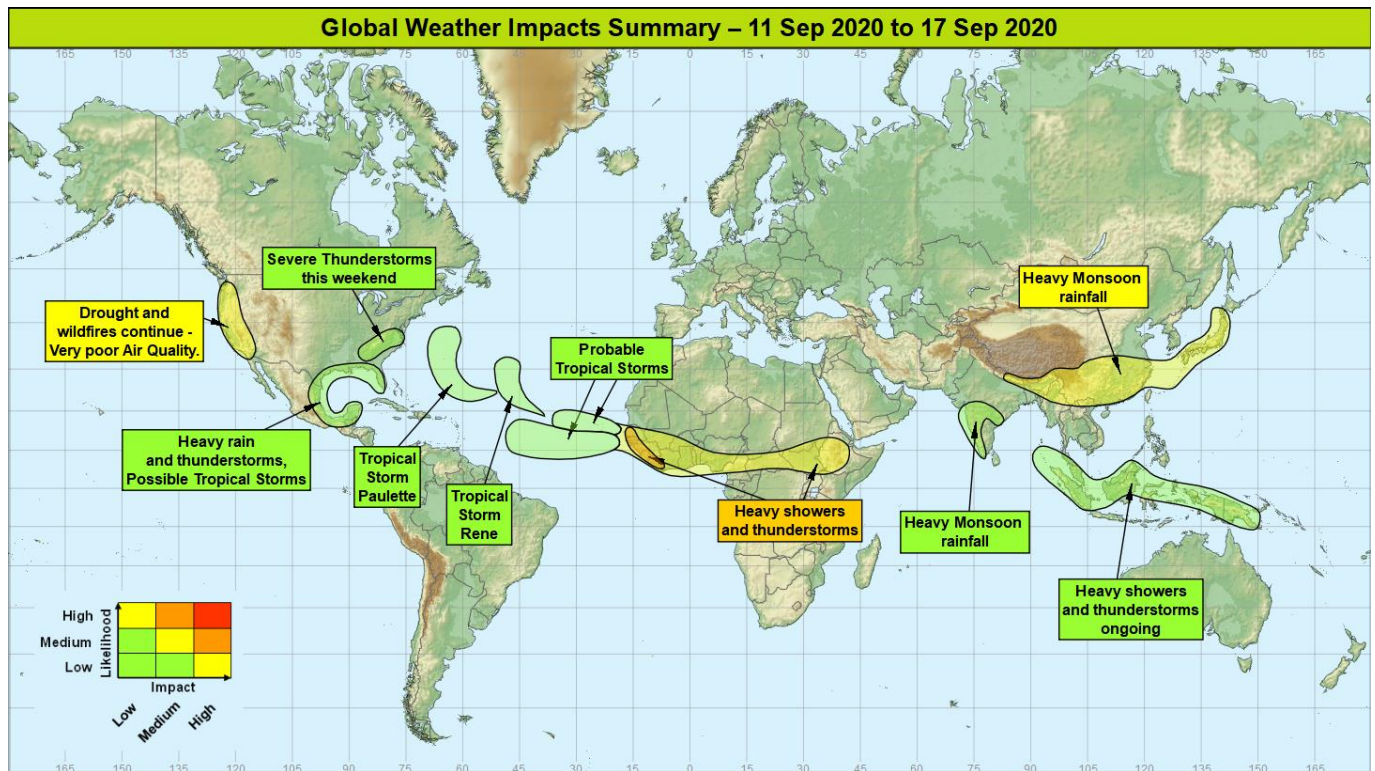


Global Weather Impacts – Friday 11th to Thursday 17th September 2020

Issued on Friday 11th September 2020 –

HEADLINES

- Active African Monsoon, spawning many African Easterly Waves (AEWs) leading to multiple areas for Tropical Storm genesis over the Atlantic in the coming week.
- Paulette expected to strengthen to a hurricane over the weekend, passing close to Bermuda.
- Heavy Monsoon rains continuing over parts of southern Asia.
- Drought with ongoing wildfires in western USA, very poor air quality.



Tropical Cyclones

Tropical Storm Paulette – North Atlantic, Bermuda Weather

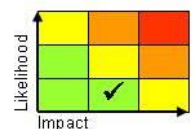
Tropical storm Paulette is expected to continue to drift northwest over the next few days, most likely maintaining tropical storm strength for another day or so. Latest NHC track guidance suggests Paulette could attain hurricane strength by Sunday, and track near Bermuda before heading northeast. Confidence in this aspect of the forecast is low, with interaction with other tropical features likely to dictate Paulette's track in a non-linear way.

Discussion

NHC have increased the likelihood of Paulette becoming a hurricane, this a change from earlier advisories which suggested shear would prevent significant development. There is high confidence that its track will remain over open water through the next three or four days, before the latest track guidance brings Paulette close to Bermuda early next week before it curves northeast around the sub-tropical high. By then confidence in track is low, with a wide range of solutions in MOGREPS and ECMWF ENS, partially due to other developments in the area, and also with the finer details of the sub-tropical high, where small differences in track initially could multiply quickly.

Expected Impacts

Potential for Paulette to track near Bermuda, which could bring impacts from strong winds and heavy rain, as well as rough seas.



This forecast may be amended at any time

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Tropical Storm Rene – North Atlantic

Weather

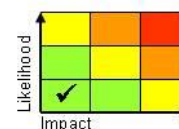
Over the coming days Rene is expected to track west-northwest over the open Atlantic before forward motion becomes very slow by the end of the weekend. Rene is not currently expected to attain hurricane strength and should remain over open waters.

Discussion

Over the next day or two, the system will move west over sea surface temperatures of around 28-29°C. This coupled with favourable atmospheric conditions (low vertical wind shear) means some intensification looks likely by the weekend. Uncertainty after this increases as it lies in the wake of Paulette, which may deepen the ocean mixed layer and reduce SSTs, as well as increasing environmental vertical wind-shear.

Expected Impacts

Nil.



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

North Atlantic

Weather

A particularly active spell of African Easterly Waves (AEWs) will lead to more than one area of interest in the Atlantic in the coming several days. One AEW is now moving off the west coast of Africa, producing a large area of showers and thunderstorms heading just south of Cabo Verde. Gradual development of this system is forecast, and a tropical depression is expected to form by this weekend or early next week while the system moves generally westward across the eastern and central tropical Atlantic. The NHC rate this as a 90% probability within the next 5 days.

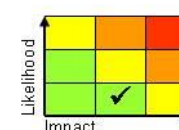
Another tropical wave is forecast to emerge off the west coast of Africa this weekend, so another tropical depression could form over the far eastern tropical Atlantic Ocean early next week while the system moves slowly westward.

Discussion

A very active period of tropical disturbances is beginning in the North Atlantic and this brings the potential for one or more to develop in to tropical storms or even hurricanes given the widespread high SSTs, small vertical shear and vigorous convection over western Africa in association with AEWs. There is higher than normal uncertainty though due to the number of developments and their interactions with each other.

Expected Impacts

Low risk of coastal and flash flooding over Cabo Verde with either storm possibly of affecting the islands, otherwise nil initially as the storms will stay over the ocean.



Gulf of Mexico coast, southern USA, eastern Mexico, Belize, Guatemala

Weather

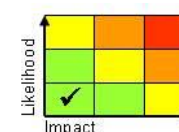
A tropical wave is forecast to move westward, crossing the Bahamas and Florida today, moving into the eastern Gulf of Mexico over the weekend. At the same time, another trough of low pressure has developed over the northeastern Gulf of Mexico and is producing a few disorganised showers and thunderstorms. This leads to a very complicated and uncertain setup, but regardless of any development – heavy rain and thunderstorm activity is likely to be enhanced in this area.

Discussion

With warm seas (over 30°C quite widely at the moment) and various shortwave disturbances moving around the sub-tropical high will provide the ingredients for some heavy thunderstorms, with the NHC forecasting a 50% chance that one of these will develop in to a tropical storm over the next 5 days.

Expected Impacts

Flash flooding and landslides in heavy thunderstorms, and low probability of large waves and more widespread heavy rain should a tropical storm form.



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Europe

Nil.

North America

Oregon and California (USA) and far northwest of Mexico

Weather

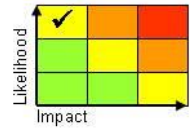
Although the very high temperatures have eased a little, there is no sign of any significant rain in the next week so wildfire conditions will continue for the next few days. Air quality is likely to remain poor, or even dangerous at times.

Discussion

This area is forecast to remain under a strong upper ridge associated with a persistent large-scale omega block over the western USA. Little (if any) precipitation is forecast in the coming week. Exceptionally high levels of particulate (PM2.5) have been recorded fairly widely, with Yosemite National Park recording 580 µg/m³ on Thursday. The EPA designate concentrations greater than 300 µg/m³ as “Hazardous” and that “*This would trigger a health warnings of emergency conditions. The entire population is more likely to be affected.*”

Expected Impacts

Wildfires will continue to burn in the region, leading to reduced air quality, with little wind disperse particulates at first – winds may pick up next week, but while air quality may improve, this will make fire containment more difficult.



Southeastern states of USA

Weather

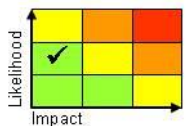
Some severe thunderstorms are likely to break out in this area on Saturday and Sunday, before easing next week. Some organisation of convection is likely with very gusty winds, hail and lightning strikes all potential hazards.

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

Mexico, Belize, Guatemala – See North America section

South America

Nil.

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**Africa****Sub-Saharan Africa****Weather**

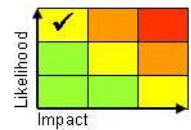
Further periods of prolonged, heavy showers and thunderstorms will affect the region at times in the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 200-300 mm build up. This does tend to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

**West Africa from Senegal to Ivory Coast****Weather**

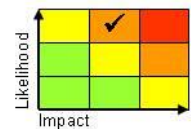
Intense areas of showers and thunderstorms will continue to affect this area today, bringing a further 50-75mm of rain. Some places may see 150mm of rain before the storms clear west into the Atlantic by the weekend. These areas were badly affected by heavy rain earlier in the week, with the latest round of storms potentially causing further impacts in the region.

Discussion

The AEW which is likely to spawn the next tropical storm tomorrow or into the weekend, will likely bring severe thunderstorms and heavy rain to this region through today, clearing into tomorrow. Some medium impacts are likely, with very large totals being signalled by the tropical Africa 4km model in particular.

Expected Impacts

Flash and riverine flooding, landslides, disruption to transport and infrastructure are all possible.

**Middle East**

Nil.

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Asia

Northern Bangladesh, Bhutan, eastern Nepal, northeast India, northern Myanmar, Southern China and the far north of Vietnam and Laos, and Japan

Weather

Weather

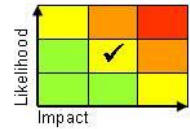
Further spells of heavy rain and thunderstorms are expected over large parts of southern and southeastern Asia in the coming week thanks to an active Monsoon. It won't be wet all the time, there will be drier interludes between the rains, but the intensity and frequency of showers will bring some large totals of rain over the coming week, after what has already been a particularly wet monsoon season. 100-150mm can be expected widely, with some parts of the region, particularly eastern Nepal, northern Bangladesh and northern Myanmar potentially seeing 500-650mm of rain by the end of the period.

Discussion

This broad area associated with the south Asian Monsoon will be invigorated by various features in the coming days, leading to large rainfall totals – all of which is falling on to generally very saturated ground. A marked upper trough, or troughs in the mid-latitude jet will engage the baroclinic northern edge of the Monsoon plume, bringing spells of persistent and heavy rain to Japan, while further south an active phase of the MJO as well as Kelvin wave activity will enhance the heavy rain and thunderstorms 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

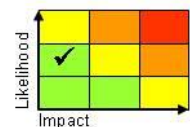
An active pulse in monsoon rains is expected over the next week across much of southern India. Overall the highest rainfall totals are likely to build up over the Western Ghats with 200-300mm building up in places over the next few days. Elsewhere, many areas will see 100-150 mm of rain.

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, Papua New Guinea and Brunei

Weather

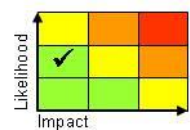
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal over the coming few days. Around 50-75 mm of rain could fall in a couple of hours in places, with overall accumulations through the week of around 150-250 mm.

Discussion

Higher than normal SSTs in the region, and enhanced easterly trade winds, perhaps 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. This may well be further enhanced by the passage of the weak MJO oscillation across the region Maritime Continent over the next week.

Expected Impacts

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



Australasia

Papua New Guinea – see Asia section.

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

Whilst showers and thunderstorms can't be ruled out each day, especially early in the period, there is a signal for drier than average conditions over the coming week, as the heavy Monsoon rains largely stay to the north of Cox's Bazar. This will lower the risk of any impacts from flash flooding.

Yemen

The development of scattered, daily heavy showers is likely to remain focused over the Western Highlands. Activity probably around if not below average for the time of year.

Sudan/South Sudan

Daily heavy showers and thunderstorms are expected through the coming days 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 through the coming weekend, and peaking early next week. Temperatures are likely to be widely some 5-8°C above normal, with parts of France seeing temperatures comes 8-12°C above normal. This would bring maximum temperatures into the high 30s°C in places.

Issued at: 110830 UTC **Meteorologists:** Chris Almond / Ele Hands

Global Guidance Unit

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