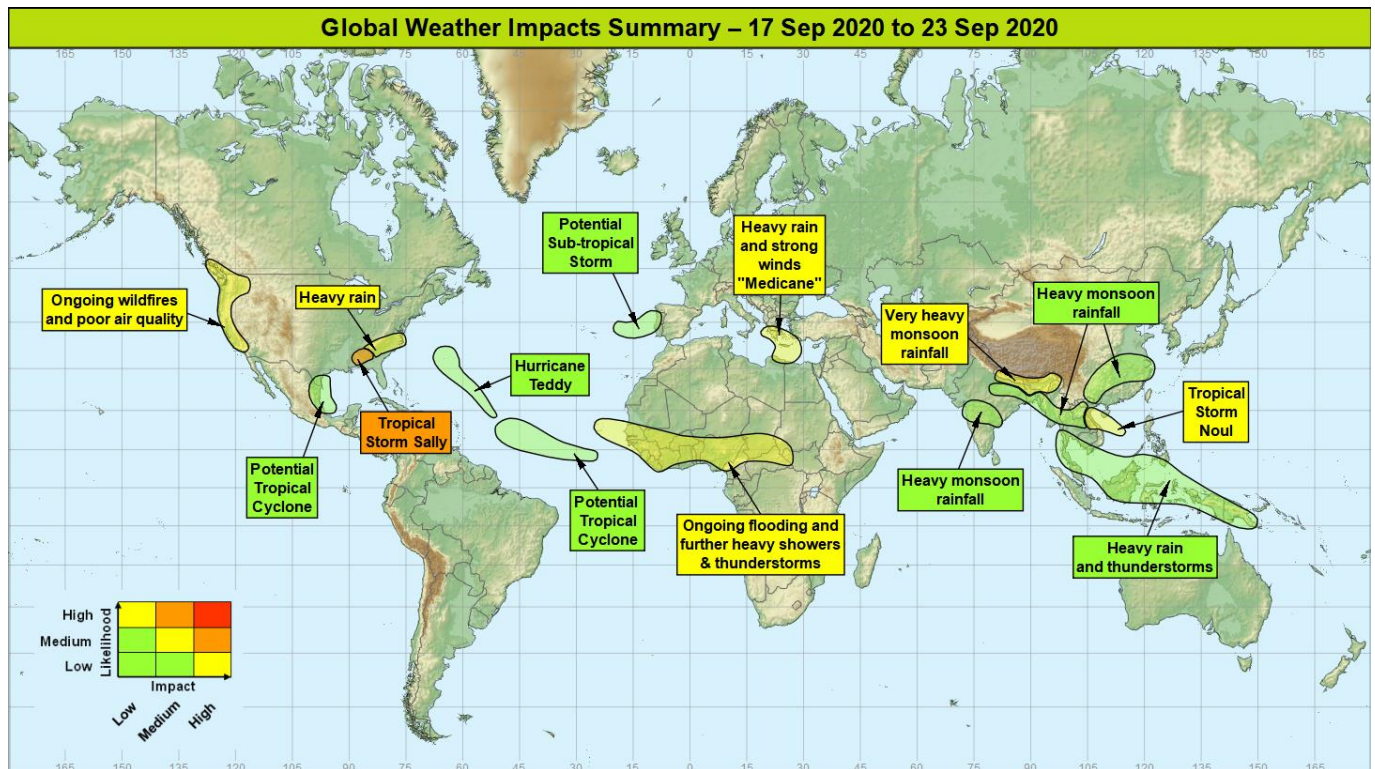


Global Weather Impacts – Thursday 17th to Wednesday 23rd September 2020

Issued on Thursday 17th September 2020

HEADLINES

- Sally has weakened into a tropical storm, but is still bringing extreme rainfall to the southeast US.
- Tropical Storm Noul will reach Vietnam on Friday, and then bring heavy rainfall to a wide area.
- A Medicane is bringing unseasonably strong winds and heavy rain to parts of the Mediterranean.
- Flooding continues across parts of West Africa, with further showers and thunderstorms.
- Wildfires continue across the western USA maintain poor air quality.



Tropical Cyclones

Tropical Storm Sally (Southeastern USA)

Weather

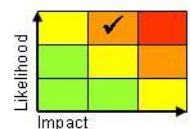
Sally has now moves slowly inland and the winds associated with the system have significantly weakened, however heavy or even extreme rainfall continues with totals during the whole event (including that which has already fallen) exceeding 200-250mm across a wide area, with peaks of over 1000mm expected in northwest Florida and southern Alabama. In a typical September just 140mm falls in the whole month across this area.

Discussion

As the slowing moving system edged inland has rapidly spun down, with the majority of moisture becoming increasingly displaced to the northeast of the surface circulation with the rain being chiefly in this area. The slow moving nature of the storm will allow some extreme rainfall totals to build up over the event.

Expected Impacts

Inland flooding from both surface water and river causes are expected to be the primary impact across a wide areas, given the rainfall totals expected flood levels could reach historically high levels in some area, damaging infrastructure, property and disrupting utilities and transport links.



This forecast may be amended at any time

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Tropical Storm Noul (South China Sea)

Weather

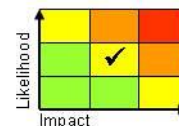
Tropical Storm Noul is now being steered northwestwards and is expected to reach the coastline of central Vietnam on Friday. Through this time the systems intensity is expected to remain fairly steady, with the chances of the Noul strengthening to becoming a typhoon considered fairly low. The main hazard will be heavy rainfall with around 100 mm expected to fall widely along the track, and as much as 400mm over the mountains of Vietnam / Laos.

Discussion

An Equatorial Rossby Wave (ERW) organising shower and thunderstorms developed into Tropical Storm Noul on Wednesday. In this region the environmental humidity is high, as it the underlying SSTs at 30-32°C, however the system will experience moderate to strong easterly wind shear (20-25 knots) which will limit the pace of intensification of the storm, and likely just prevent it becoming a typhoon before landfall.

Expected Impacts

Both surface water and fluvial flooding is expected across the areas from Friday and over the weekend, with an enhanced risk of landslides in mountainous areas. Strong winds will develop rough seas will lead to dangerous conditions for fishing and maritime transport, and in addition these winds may damage low quality and temporary buildings.



Hurricane Teddy (Tropical Atlantic)

Weather

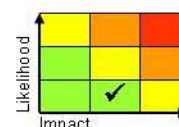
Teddy will continue to track generally in a northwestwards direction across the open North Atlantic Ocean, before likely becoming a major hurricane (\geq Category 3) today. Early next week there is a chance that this system could move close by Bermuda.

Discussion

Teddy will be moving through a favourable environment for gradual intensification for the next several days as it is steered northwest by the sub-tropical ridge to its northeast, underlying SSTs remain high and vertical wind shear remains low. As the storm approaches Bermuda's latitude, it will move across a tongue of slightly cooler SSTs, and possible experience some increased vertical wind shear which could slightly weaken the storm

Expected Impacts

Potential for Teddy's track to take it close to Bermuda through the early of next week. This could bring large swells/storm surge, damaging strong winds and heavy rain to the island.



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

Tropical North Atlantic (to the west of West Africa)

Weather

An area of showers and thunderstorms well to the south of the Cabo Verde Island will continue to be steered gradually west-northwestwards across the tropical Atlantic. During this time conditions will become marginally favourable for the system to develop into a tropical cyclone, although during this period any system that develops will be no threat to land.

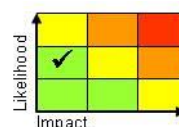
In addition to this system, further waves may emerge from west Africa next week (specific areas not highlighted) and have a small risk of developing into a tropical cyclone in the eastern tropical Atlantic, and a minimal chance of impacts for the Cabo Verde Islands.

Discussion

An African Easterly Wave continues to produce disorganised shower and thunderstorm activity. Environmental conditions appear to be conducive for slow development of the system this week as the wave moves westward across the open ocean. Further waves currently across Africa also have a small chance of developing into weak tropical cyclones in the eastern Atlantic next week.

Expected Impacts

Nil for the highlighted system, but a minimal risk of flash flooding impacts should any subsequent wave move close by the Cabo Verde Islands next week.



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**Western Gulf of Mexico (eastern Mexico and parts of southern Texas)****Weather**

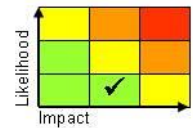
An enhanced area of shower and thunderstorm activity across the western Gulf of Mexico will remain slow moving across this area through the coming days. This area is still being monitored for a medium risk of the formation of a tropical cyclone. Regardless of develop this system could bring 100-150mm of rainfall in a short duration, with the potential for more than 300mm of rain too fall in some parts through the coming week. And if a tropical cyclone develops strong winds and rough seas would bring additional hazards

Discussion

A slow moving wave in the western Gulf of Mexico is leading to an area of enhanced shower and thunderstorm activity, and also an enhanced northeasterly flow on its northern and western flanks. These effects both combine to bring well above average rainfall along this section of coastline and the hills inland through the coming week, with it now distinctly possible that a tropical cyclone could also form in this region given the satellite presentation of the wave at present and favourable environmental conditions.

Expected Impacts

The potential for flash and riverine flooding across much of the region, with an enhanced risk of landslides in areas where terrain is steep. If a tropical cyclone forms potential for strong winds to bring some disruption to travel and utilities and damage some structures.

**Western Portugal****Weather**

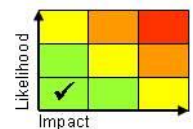
An areas and showers and thunderstorms could consolidate into a sub-tropical storm and be steered eastwards into Portugal on Friday, the main impact would be rainfall with the potential for peaks of 75-150mm, when typically 30-40mm falls in this region in September.

Discussion

An area of enhanced convection around a surface and upper level low (cold pool) may consolidate into a sub-tropical storm today or tomorrow in an area where SSTs are 20-23°C. Although this signal may well gain a symmetric warm core for a short time, this is likely to remain shallow (unlike the deep warm core of a tropical storm or hurricane).

Expected Impacts

Rainfall could cause some minor surface and riverine flooding, and strong winds will likely lead to rough seas and dangerous beach conditions in some areas popular with tourists.

**Europe****Central Mediterranean, Greece, perhaps Turkey, Libya and Egypt****Weather**

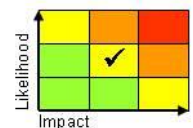
An area of showers and thunderstorms off the northern Libyan coastline has formed into a Mediterranean tropical-like cyclone "Medicane" on Tuesday. This has since pushed northeastwards, with this then moving towards the east of southeast from today. The system is likely bring tropical storm force winds to some parts of the region, and heavy rainfall in the form of showers and thunderstorms on the northeast of the surface circulation. Parts of Greece could see 100-200mm of rainfall on Thursday and Friday, it's track thereafter is highly uncertain

Discussion

Within a small pocket of unstable moist air off the Libyan coastline a Medicane formed on Tuesday. Some unofficial forecasting centres have labelled this feature Cassilda, however with this being unofficial we recommend not using this in external communications. The evolution of this system appears fairly complex, with increasing and decreasing shear with the passage in an upper trough that may also modulate the depth of the surface low through semi-baroclinic processes too. Hence other than the heavy rainfall for parts of Greece confidence in the evolution of this feature is low.

Expected Impacts

Some significant surface water and riverine flooding (in smaller catchments) is possible across parts of Greece. Strong winds will lead to rough seas (impacting maritime transport), and bring some dangerous beach conditions.



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**North America**

Alabama, Georgia and the far northwest of Florida – See *Tropical Cyclones* section.

Southeastern States of the USA**Weather**

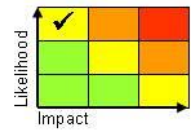
As the remnants of Hurricane Sally are steered northeastwards across the southeastern states of the USA they will continue to bring heavy rainfall to the region prior to clearing into the Atlantic on Friday. 100-200mm could fall across a fairly wide region in the period of just 24 hours or so, this region typically sees around 80-100mm in total during September.

Discussion

As the remnants of Sally become embedded in a region of modest mid-latitude flow which will steer the remnants only slowly northeastwards, baroclinic processes will take over and will continue to generate heavy precipitation from the system. This will likely see more than a month's worth of rainfall with just the space of 24 hours, leading to some significant impacts.

Expected Impacts

Significant surface water and riverine flooding (in smaller catchments) is likely.

**Western USA and southwestern Canada****Weather**

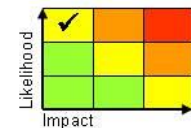
Hot and dry conditions are ongoing in the areas of western North America where numerous wildfires are ongoing. However through much of this period winds remain relatively gentle, helping with fire containment (although larger fires can generate their own wind), across the north of the area some cooler temperatures and rainfall is also expected later this week.

Discussion

Little change in the situation initially, but towards the end of the week a relatively active frontal system will approach the northern part of this area bringing some much-welcome rain.

Expected Impacts

Continued poor air quality through this week.

**Southern Texas**

See *Tropical Cyclones* section.

Central America and Caribbean

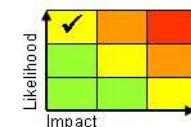
Nil.

South America

Nil.

Africa**Much of Sub-Saharan Africa, including the southern Sahel and Cabo Verde.****Weather**

Further periods of 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 mm build up. Although forecast rainfall totals are not especially high, given ongoing flooding in the region they are still felt likely to at least maintain the current flooding in some areas. There is a minimal risk that one such wave crossing the Cabo Verde island could develop into a weak tropical cyclone early next week.



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Discussion

The monsoon trough currently lies close to its climatological northern extent (although some transient slight withdrawal across parts of the Sahel now evident). 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. As one such wave moves out into the Atlantic early next week there is a slight chance it could cause a tropical cyclone to form.

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

South China Sea, Vietnam, and Laos – See *Tropical Cyclone* section.

Nepal, northeast India, northern Bangladesh, Bhutan, northern Myanmar, and the far northwest of Thailand

Weather

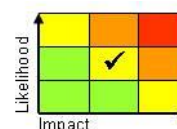
Enhanced shower and thunderstorm activity will continue across this region through the coming days bringing above average rainfall to much of the southern Himalayas, from Monday onwards the remnants of Tropical Storm Noul (having crossed the Indochina Peninsula) will arrive in the region bringing exceptional rainfall accumulations. Some places are signalled to see 600-800mm, with the majority of this signalled to occur from Monday onwards.

Discussion

The lower frequency oscillations including the MJO and BSISO favour heavy rainfall progressing northwards across this region. With the likely arrival remnants of Tropical Storm Noul likely to lead to an extreme period of rainfall by both brining abundant deep moisture (for efficient precipitation generation), and a marked cyclonic surface circulation which will lead strong southerly winds developing extreme orographic precipitation on the southern facing mountains.

Expected Impacts

Increased risk of surface and flash flooding, and the additional risk of landslides in mountainous areas. From Monday the risk of all these impacts will likely significantly increase.



Central India

Weather

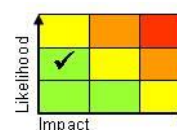
An active pulse in monsoon rains is expected over the next few days as a shallow monsoon depression progresses northwestwards. Just as the initial feature clears, the arrival of the remnants of Tropical Storm Noul from Monday will likely see a further bout of heavy rainfall. Locally 100-200mm of rain will fall during the initial event, with a further significant totals possible in the northeastern section of this area early next week.

Discussion

The steady northwestwards progress of a shallow monsoon depression will lead to a northwest moving area of enhanced shower and thunderstorm activity. The lower frequency oscillations support this with the BSISO in phase 4 or 5 supporting enhanced precipitation across central India.

Expected Impacts

Increased risk of flash flooding in places.



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Parts of China, India, Laos, Thailand, Myanmar, and Bangladesh.

Weather

The remnants of Tropical Storm Noul will cross this region between Saturday and Monday bring enhanced showers and thunderstorm activity. Although there will be some local variations a broad corridor of 100-200 mm of precipitation is expected, with peaks over 400mm in the mountains. Although average precipitation accumulations vary widely across this region, Mandalay in Myanmar for example typically sees 155mm of precipitation across the whole of September.

Discussion

The decaying tropical cyclone will continue to organise deep convection within the deep plume of enhanced moisture around the system. As this is steered northwestwards across the Indochina peninsula there are hints that the cyclonic circulation will survive intact.

Expected Impacts

Increased risk of surface and flash flooding, and the additional risk of landslides in mountainous areas. This includes a significant risk for the Cox's Bazar refugee camps.



Northern Vietnam, central and southern China

Weather

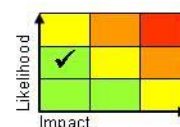
Enhanced rainfall across the south of the country in association with the withdrawing monsoon front. Between 100-200mm will likely fall in some locations, with these areas typically seeing 50-100mm in the whole month of September.

Discussion

Strong convergence along the withdrawing monsoon front will be enhanced by the passage of the tropical cyclone across Vietnam. The result being much enhanced precipitation stretching northeastwards from northern Vietnam. Given this region has seen above average precipitation in recent months, this event will likely bring some impacts.

Expected Impacts

Increased risk of surface and flash flooding, and the additional risk of landslides in mountainous areas.



Much of the Maritime Continent

Weather

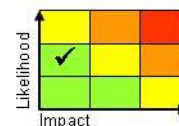
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal over the coming week. Within the broad area highlighted some spots in most countries will be at risk of seeing 100-250mm of rainfall, with much of this perhaps coming in a short duration during just the one event.

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. This combines with the MJO currently active and moving across the area, and a marked Kelvin Wave (KW) which will quickly progress east and enhance convection over the coming day or so.

Expected Impacts

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



Australasia

Nil.

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

See Parts of China, India, Laos, Thailand, Myanmar, and Bangladesh section.

Yemen

The development of isolated heavy showers is likely to remain focused over the Western Highlands. Activity is expected to be around average for the time of year, with a signal for activity to reduce over the weekend.

Sudan/South Sudan

Daily heavy showers and thunderstorms are expected through the next week across South Sudan and the far-south of Sudan. Probably wettest in parts of South Sudan with 30 to 60 mm building in a few locations – which is not unusual at this time of year. 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.

Issued at: 170830 UTC

Meteorologists: Nick Silkstone / Chris Almond

Global Guidance Unit

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