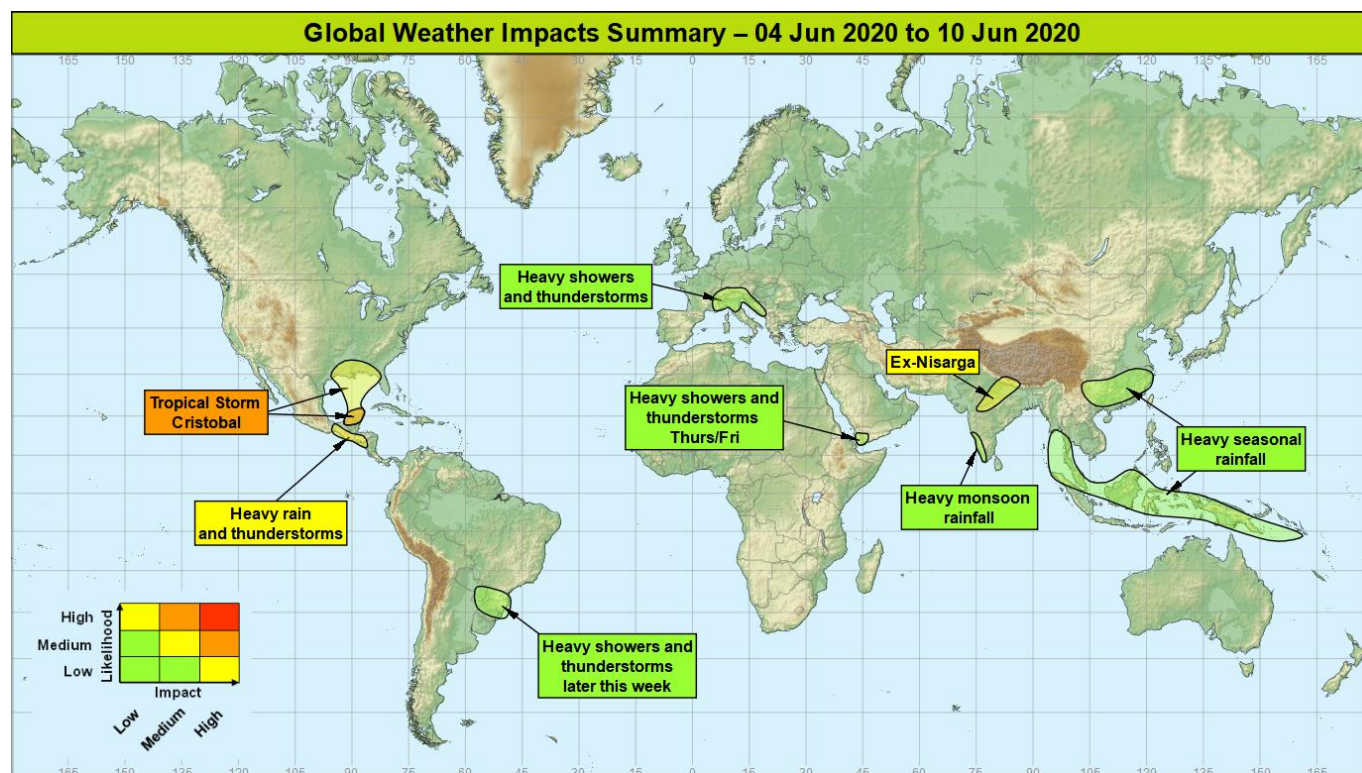


Global Weather Impacts – Thursday 4th to Wednesday 10th June 2020

Issued on Thursday 4th June 2020

HEADLINES

- Impacts from Tropical Storm Cristobal expected over Mexico and southern USA.
- Heavy rain associated with Cyclonic Storm Nisarga impacting parts of India and Nepal.



DISCUSSION

Tropical Cyclones

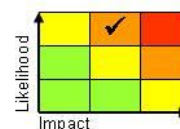
Tropical Storm Cristobal - Gulf of Mexico (southeast Mexico and southern USA)

Weather

Tropical Storm Cristobal (which formed out of the remnants of TS Amanda) is currently over land over southeast Mexico. The system is expected to be slow-moving over the next 24 hours or so before moving out over the Gulf of Mexico later on Friday and into Saturday. Before the system clears north heavy rainfall is the main concern over southeast Mexico with many areas seeing 100-200 mm until Saturday and up to 300 mm in places. This will be roughly equivalent to a month's worth of rainfall in the wettest areas. Once over the Gulf of Mexico some intensification is likely with official guidance (from NOAA NHC) suggesting landfall over southern USA (most likely Louisiana but also impacting Texas and Mississippi) during Sunday at tropical storm strength.

Discussion

Now that the centre of circulation has moved inland, a gradual weakening trend is expected over the next 24 hours, probably weakening into a depression. By Saturday Cristobal is expected to emerge into the Gulf of Mexico so some re-strengthening is predicted. However, the global models show increased southwesterly shear influencing the cyclone over the northern Gulf of Mexico and this should limit intensification. There is still a fairly wide spread in potential landfall location over southern USA.



This forecast may be amended at any time

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Expected Impacts

Severe flash flooding and mud/landslides events are likely to continue across southeast Mexico until Saturday (*high likelihood of medium impacts*). For southern USA impacts are likely to be less severe (*high likelihood of low impacts*) but there is still a risk of heavy rain, storm surge and wind damage. Rough seas expected over the Gulf of Mexico.

Europe

France, Switzerland, Austria, Slovenia, Croatia, Bosnia and Montenegro

Weather

Unsettled conditions are expected fairly widely over central and southern Europe over the coming days with many areas seeing heavy showers and/or thunderstorms. Heavy rain and potentially severe thunderstorms are expected to move southeast across these areas today (Thursday) and tomorrow before easing on Saturday. Another bout of heavy showers and thunderstorms is likely to run southeast over similar areas during Sunday and Monday. The heaviest and most frequent showers are expected over parts of northern Italy and Austria with the potential for 150-200 mm (equivalent to a month's worth of rain) to build up in places over the coming days. However, each day there is the potential for 50-100 mm to fall in places within a few hours. As well as heavy rainfall, frequent lightning, hail, and locally strong wind gusts are likely, with thunderstorms likely persisting well into the night-time period.

Discussion

A major upper trough extension/disruption is taking place across western Europe today, engaging the resident warm plume. This will generate an area of significant destabilisation leading to frequent, and potentially severe thunderstorms with MCS development possible. This upper trough will then clear east by the weekend, but another major upper trough extension is likely later in the weekend.

Expected Impacts

Flash flooding looks likely in places, along with an increased threat of landslides in mountainous terrain. Hail and wind damage looks like a lower likelihood than flash flooding.



North America

Gulf coastline of the USA – see *Tropical Cyclones* section

Central America and the Caribbean

Mexico – see *Tropical Cyclones* section

Southern Mexico, Guatemala, El Salvador, southern Honduras and western Nicaragua

Weather

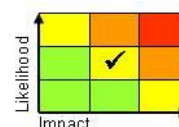
Heavy rain and thunderstorms are expected to affect this region through the next 4 or 5 days, with up to 300 mm of rainfall building up in places, this coming on top of very heavy rainfall in the past few days. The average June rainfall in this region is 150-300 mm. Drier conditions are expected to become established next week.

Discussion

A broad cyclonic circulation (Central American Gyre) remains resident across Central America. The very moist winds associated with the gyre will continue to enhance the heavy rain and thunderstorm activity until the weekend. However, the likely northward track of Tropical Storm Cristobal will result in the breakdown of the gyre and weakening of rainfall across the region by next week.

Expected Impacts

Flash flooding and mud/landslides, especially in area of mountainous terrain.



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South America

Southern Brazil, far northeast Argentina and eastern Paraguay

Weather

An area of heavy rain and thunderstorms is likely to become more widespread through Friday and Saturday, with up to 50-100mm quite widely, perhaps 150-200 mm falling in some places in a few days (most likely southern Brazil).

Discussion

Broadly speaking, a slow moving baroclinic zone will stretch across parts of South America and will move a little further south later this week, and will become much more active as an upper trough disrupts and the resultant vortex slowly tracking east across the region. Highest rainfall totals of 150-200mm most likely in the Santa Catarina and Rio Grande do sul states of Brasil, downstream of the Amazon where copious amounts of moisture is being added by deep convection presently.

Expected Impacts

Flash flooding is possible with a threat of landslides in more mountainous areas.



Africa

Nil significant.

Middle East

Western Yemen

Weather

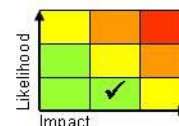
An area of heavy showers and thunderstorms will continue to transfer westwards over the next couple of days. Over the Western Highlands 50-100mm of rain is likely to fall in places, much of this within a few hours. Drier conditions expected from Saturday with any showers very isolated and much lighter in intensity.

Discussion

The remnants of the tropical disturbance will drift westwards across this region. There are still significant model differences in the shower detail across this region, but all models agree on the threat of very heavy rainfall until the end of the week. The main uncertainty is whether or not the showers will impact the more densely populated region around Ta'izz, or be focussed around Abyan and south Shabwa, which are less densely populated. Up to 50-100mm of rain is likely to fall in some parts, with perhaps 150mm in the mountains.

Expected Impacts

Threat of flash flooding and landslides will be increased which is very rare in these areas.



Asia

Northern India and Nepal (associated with ex-Nisarga)

Weather

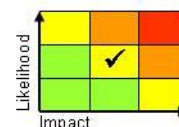
Ex-Nisarga which made landfall on Wednesday, is continuing its journey north-eastwards over India heading for Nepal; and although the winds are easing it is still producing large amounts of rainfall with up to 200-250 mm falling in a few days (around 50% of the June average rainfall).

Discussion

The system is now continuing its north-eastwards journey over land with heavy rain becoming the main hazard as the winds ease. Models showing a swathe of 150-200mm as it tracks north-east through the rest of the week, with copious amounts of PW, and ascent aided by an upper trough.

Expected Impacts

Now this system has moved inland the impacts are expected to be less severe but flash flooding is still possible along the inland track through the rest of the week. Landslides are an additional threat for Nepal.



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Western Ghats of India

Weather

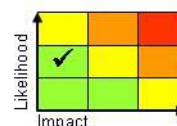
An active first pulse of the Indian Summer Monsoon rains is expected across the Western Ghats of India, with persistent heavy rain and thunderstorms expected to continue before easing early next week. A further 100-200 mm is likely to fall in places with perhaps the wettest areas seeing around 300 mm. This is typically the start of the wet season here with rainfall in June normally in the order of 600-700 mm.

Discussion

The deep layer, very moist southwesterly monsoon flow has become established in the wake of Cyclonic Storm Nisarga, marking the commencement of the 2020 Indian Summer Monsoon (right on the climatological date – 1st of June). There is a good model signal for intense monsoon rainfall through much of the coming week.

Expected Impacts

Despite monsoon rainfall being usual in June across the Western Ghats of India, this monsoon pulse looks very active and could result in an early season flood event.



Southern China

Weather

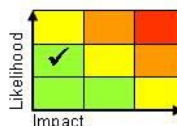
Heavy monsoon rainfall is expected over the coming week. Some places are likely to see 100-150mm per day in association with heavy and persistent rain across quite a wide area of southern China. 300-500mm of rainfall is most likely in total across the wettest areas, which is around or just above the average June rainfall in this region. There is also the potential for intense short period rainfall from thunderstorms.

Discussion

Increasing monsoon southerly flow into southern China will enhance moisture and wind convergence associated with the seasonal Mei-yu front, leading to episodes of heavy rain and thunderstorms. Whilst the upper flow is not especially conducive so large scale development, a number of short-waves embedded within the flow will continue to trigger rainfall across a similar area along the quasi-stationary front, leading to large rainfall accumulations building up.

Expected Impacts

Increased threat of flash flooding and landslides.



Southern Myanmar, Andaman Islands, southern Thailand, Malaysia, Singapore, parts of Indonesia and Papua New Guinea, and the Solomon Islands

Weather

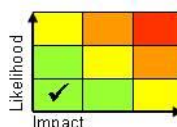
Showers and thunderstorms are expected to be a little more frequent than normal across the region this week, with a few places possibly seeing the average June rainfall (150-250 mm) in just a week.

Discussion

The likely cause of the enhanced rainfall in this region will be different in the north compared to the south of the region. The more northern parts of this region (SE Asia) will be seeing an increased very moist deep layer southwesterly monsoon flow, which marks the start of the 2020 summer monsoon season. The cause of the enhanced rainfall in the southern areas (Indonesia, Papua New Guinea and the Solomon Islands) is likely due to an enhanced SE'ly flow that will be enhanced low level convergence and convective potential across the region.

Expected Impacts

Slightly increased likelihood of flash flooding and landslides.



Australasia

Nil.

Additional Information

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Cox's Bazar, southeast Bangladesh

There will be a threat of a heavy shower or thunderstorm most days, especially through the daytimes, but with only a low likelihood of any flash flooding impacts. This activity is likely to be below what is usually expected for early June.

Western Yemen

See section in main text.

Issued at: 04/0800UTC **Meteorologist:** Chris Almond / Chris Bulmer

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