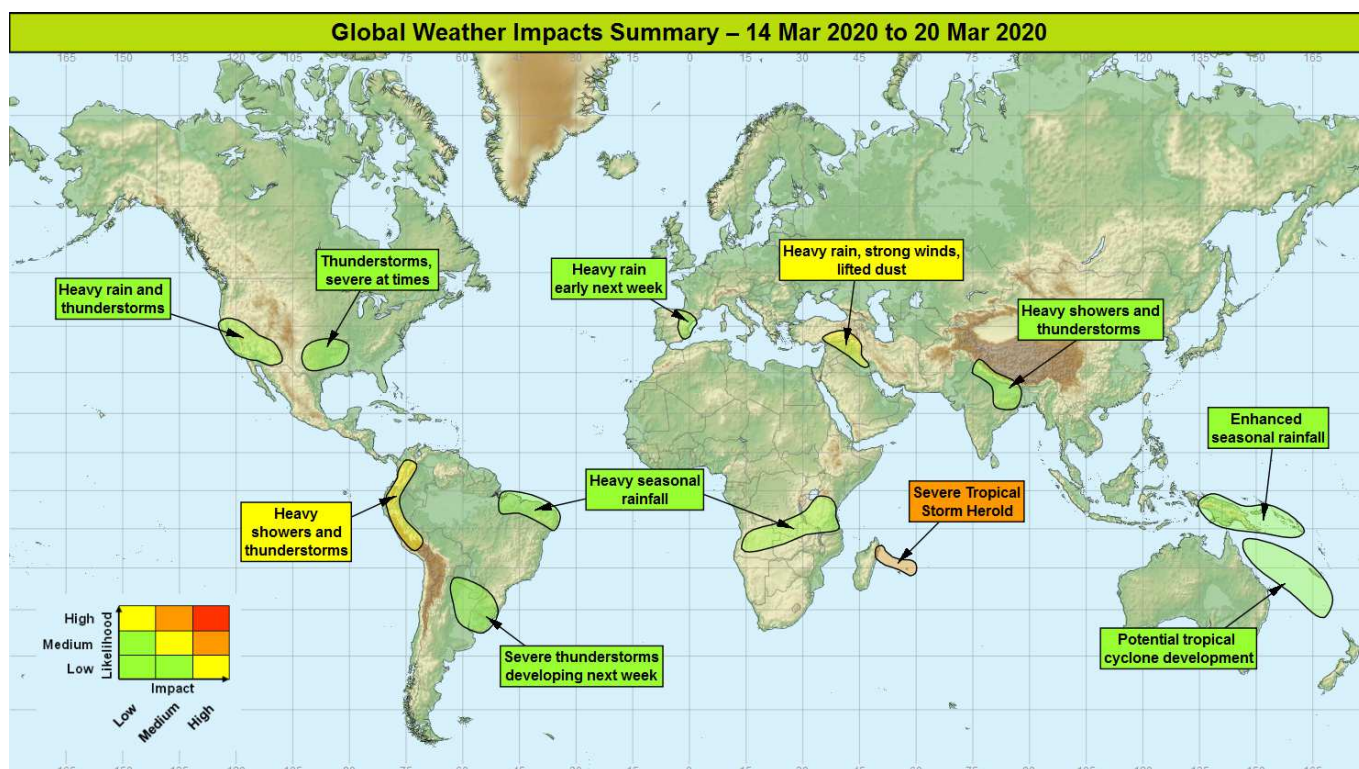


Global Weather Impacts – Saturday 14th to Friday 20th March 2020

Issued on Saturday 14th March 2020

HEADLINES

- Severe Tropical Storm Herold will bring torrential rain and potentially damaging winds to eastern Madagascar and perhaps Mauritius.
- Very unsettled parts of Levant once again next week.
- Further heavy seasonal rainfall for the northern Andes in South America.



DISCUSSION

Tropical Cyclones

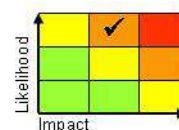
There are currently no active tropical cyclones.

Severe Tropical Storm Herold (Southwest Indian Ocean)

Weather

Severe Tropical Storm Herold has formed in the southwest Indian Ocean, just offshore of northeast Madagascar. Through the weekend Herold will bring torrential rain (300-500 mm) to eastern parts of Madagascar. Early next week, this system is expected to move southeast and intensify, passing close to Mauritius during Monday and Tuesday. As well as a period of torrential rainfall, Herold has the potential to bring damaging winds to the island, perhaps approaching 100 mph.

Discussion



This forecast may be amended at any time

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After threatening to do so for several days, convection around the tropical depression in the southwest Indian Ocean finally became better organised during Friday and the system strengthened into a tropical storm. A combination of high SSTs, upper level divergence and low wind shear, will allow further intensification over the coming days and Herold is likely to become an intense tropical cyclone with sustained winds of 100mph or more by early next week. Steering flow, initially, is rather weak and the cyclone will track only slowly south near the east coast of Madagascar, but should accelerate southeast towards Mauritius early next week as an upper trough approaches from the southwest. There is some uncertainty whether Herold will make a direct hit across Mauritius, but it should pass sufficient close to generate significant impacts.

Expected Impacts

Across Madagascar the main impact will be torrential rainfall, which will bring a risk of significant or severe flooding across eastern parts of the country. Flooding is also possible across Mauritius along with strong winds which, depending on the track of the cyclone, could cause damage to property and infrastructure.

The following areas are being monitored for potential tropical cyclone development that may impact land:

Coral Sea

Weather

Heavy showers and thunderstorms have become better organised over the past few days, consolidating into a tropical depression. This system seems highly likely to develop into a tropical cyclone as it tracks southeast through the Coral Sea and towards New Caledonia. There is a low probability for this to fringe very close to New Caledonia on Sunday. Damaging winds and intense rainfall will be associated with this tropical cyclone.

Discussion

The weak MJO will move from over the Maritime Continent and into the Pacific in the next few days. This is likely to provide the trigger for a tropical cyclone development across the Coral Sea. Another factor in favour of a tropical cyclone development is the sea surface temperatures are around 2°C above average at the moment.

Expected Impacts

There is the potential for flash flooding, damaging winds and coastal storm surge flooding.



Europe

Spain

Weather

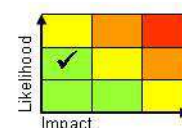
Heavy showers, thunderstorms and spells of more prolonged rain are expected to affect northern and eastern parts of the country early next week. The heaviest and most persistent rain is likely to be in east, along the coastline between Barcelona and Valencia, during Monday. Here around 50-100 mm is possible, with up to 150 mm in a few locations. Should this amount of rain fall, this would be around 2 to 3 times more than the monthly average in the region.

Discussion

Over the weekend a well-marked trough disruption will take place over western Europe, culminating in a cut-off upper vortex forming over Iberia by Monday. The vortex will destabilise the airmass allowing heavy showers and thunderstorms to develop. In addition, a cold front will be driven southeast across the country, with heavy, persistent rain develop along and ahead of the front in the high WBPT airmass. This front has the potential to become slow-moving over eastern parts of the country, bringing very heavy and prolonged rainfall here.

Expected Impacts

Flash flooding likely bringing disruption to travel in the region, with a lower likelihood of more significant river flooding around fast responding catchments.



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North America**Southwest USA****Weather**

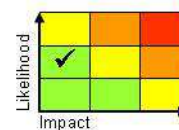
Following a brief drier interlude, further heavy showers and thunderstorms are likely to affect the normally arid regions of southwest USA later this weekend and through much of next week. Whilst rainfall is not expected to be as widespread or intense as earlier in the week, an additional 50-100 mm could fall. Wettest area will be over parts of California where up to 200 mm is possible across the Sierra Nevada, this manifesting as large amounts of snow above 1500 metres.

Discussion

A transient upper ridge will soon clear to the east as further trough extension takes place over the weekend, resulting in another cut-off vortex becoming centred over the region, aiding the development of heavy showers and thunderstorms. The heaviest rain and mountain snow is likely to be over southern California and the Sierra Nevada, but desert regions further inland, including cities such as Las Vegas, could also have some unusually heavy rainfall.

Expected Impacts

Flash flooding is the main impact, which could affect major cities in the area. Deep snow in the mountains could lead to some disruption to travel.

**Southern Plains, USA****Weather**

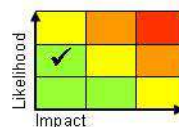
Further heavy showers and thunderstorms, perhaps severe at times, are expected to affect the region over the next week. Overall storms probably not as impactful as earlier in the week, but the cumulative effect of repeated heavy rainfall events could lead to accumulations of 100-200 mm in places by the middle of next week.

Discussion

A cold front will remain slow-moving across the southern states of the USA over the next week. Pulses of activity will develop along the front, particularly across Texas and Oklahoma as a series of shortwave troughs relax NE from the Rockies to the Great Lakes. By the middle of next week, CAPE and vertical wind shear increases sufficiently to support organised intense convection with the potential for large hail and tornadoes increasing around that time.

Expected Impacts

Main impact will be flash flooding, but towards the middle of next week damage to crops and property from strong winds and large hail become more probable.

**Central America**

Nil significant.

South America**Colombia, Ecuador and Peru****Weather**

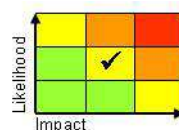
Enhanced shower and thunderstorm activity will continue across the northern Andes through the next 7 days. Rainfall could reach 250-350 mm in places, which would represent more than the average for the whole of March.

Discussion

Northerly flow across Central America is expected to continue, leading to stronger than normal convergence along the ITCZ that will be south-shifted compared to climatology, bringing enhanced precipitation to this region. The likely passage of the MJO through this region is also likely to contribute to enhanced rainfall. This continues the trend of above average precipitation in recent weeks making impacts more likely.

Expected Impacts

Ongoing enhanced threat of flash flooding and landslides.



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Northeast Brazil

Weather

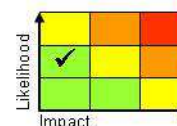
Heavy showers and thunderstorms will affect the region for much of the coming 7 days. Around 50-100 mm could fall within a few hours in places with a few locations having up to 300 mm in total for the seven-day period, equivalent to a month's worth of rain.

Discussion

The ITCZ is likely to remain very active over the next week or so, mainly due to high SSTs in the South Atlantic, but possibly also some influence of the MJO as it moves into the western hemisphere through the next week. Forecast profiles are very moist at depth (precipitable water around 65 mm), with relatively modest CAPE, suggesting high rainfall efficiency and the potential for large accumulations.

Expected Impacts

Heavy rain will bring an enhanced threat of flash flooding and landslides, particularly in mountainous terrain.



Northeast Argentina, Uruguay, southeast Brazil and Paraguay

Weather

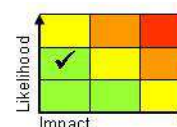
Severe thunderstorms will begin to affect parts of northern Argentina this weekend, before this activity becomes more widespread and extends northwards next week. Up to 150 mm of rain could fall in 12-24 hours, with frequent lightning, large hail, strong winds and a threat of tornadoes also possible.

Discussion

The South Atlantic Convergence Zone (SACZ) will transfer north and become more active as forcing from an upper trough associated with a north shifted jet engages the SACZ.

Expected Impacts

Flash flooding is the most likely impact, but with damage from lightning, strong winds and large hail possible too.



Africa

Northeastern Madagascar, La Reunion and Mauritius – see *Tropical Cyclones* section.

Parts of central and eastern Africa

Weather

Heavy showers and thunderstorms are likely to affect a broad region of central and east Africa through the next week. These could produce 50-75 mm of rainfall in a few hours, with over 200 mm through the week in places. This would represent the March average falling in the space of a few days.

Discussion

Increased activity along the south shifted ITCZ will lead to above average rainfall across this region, possibly as a result of the approach of the MJO. A sample of forecast profiles show over 3000 J/kg CAPE in places, so there is the potential for some severe storms to develop.

Expected Impacts

Increased risk of flash flooding should these thunderstorms affect a major population centre.



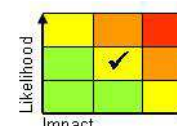
Middle East

Syria, Iraq and southern Turkey

Weather

Frequent and intense thunderstorms will continue to affect Iraq through Saturday, mainly in eastern parts of country where 25-50 mm of rain is likely. A drier interlude will then follow, before conditions turn very unsettled again once again next week. Initially the heaviest rain will be across southern Turkey, becoming more widespread across the region around midweek. 50-100 mm of rain is expected fairly widely, with up to 200 mm possible along the Turkish border. Additional hazards of large hail, strong winds and localised dust storms are also possible.

Discussion



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A cold front will approach the region from the north early next week bringing heavy rain to parts of Turkey initially. Meanwhile an upper trough will be extending southeast across southeast Europe, eventually forming a vortex over Turkey. This will allow the airmass ahead of the cold front to destabilise with heavy showers and thunderstorms. Forecast profiles suggest some long-lived storms are possible with large hail, strong winds and frequent lightning possible.

Expected Impacts

Flash flooding is likely, with strong winds generating localised areas of lifted dust, which could impact on aviation and human health.

Asia

Northern India and Nepal

Weather

Heavy showers and thunderstorms will continue to slowly transfer eastwards across northern India and Nepal in the next few days. There is the potential for 50-75 mm of rain to fall in a couple of hours, and up to 100-150 mm in a few days for parts of northwest India. The average March rainfall is between 50 and 150 mm in this region. There is also potential for large hail, frequent lightning and strong, gusty winds within these thunderstorms.

Discussion

A portion of a mid-latitude upper trough is extending south, then southeast across the Himalayas, activating a plume of warm, moist air and bringing frequent/heavy showers/thunderstorms to the area. This will clear away over the weekend, with next week looking much drier.

Expected Impacts

Flash flooding likely in places along with damage to property and infrastructure from hail and/or strong winds. This region has already seen significant impacts from heavy rain, snow and flooding in recent days.



Eastern Indonesia, Papua New Guinea and Solomon Islands

Weather

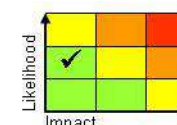
Enhanced seasonal rainfall is expected to continue across this region, but should gradually ease through next week. Rainfall totals of widely 50-100 mm, and locally 200-300 mm are expected in frequent daily rounds of showers and thunderstorms.

Discussion

The MJO is clearing to the east of the region, with rainfall gradually reducing over the next week. However, this background easing of rainfall will be interrupted by a Kelvin Wave moving quickly east across the area over the weekend, enhancing convection.

Expected Impacts

Flash flooding possible in places. Also a risk of landslides in mountainous areas.



Australasia

New Caledonia – see *Tropical Cyclones* section.

Additional Information

Nil.

Issued at: 140330 UTC **Meteorologists:** Brent Walker / Matthew Lehnert

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