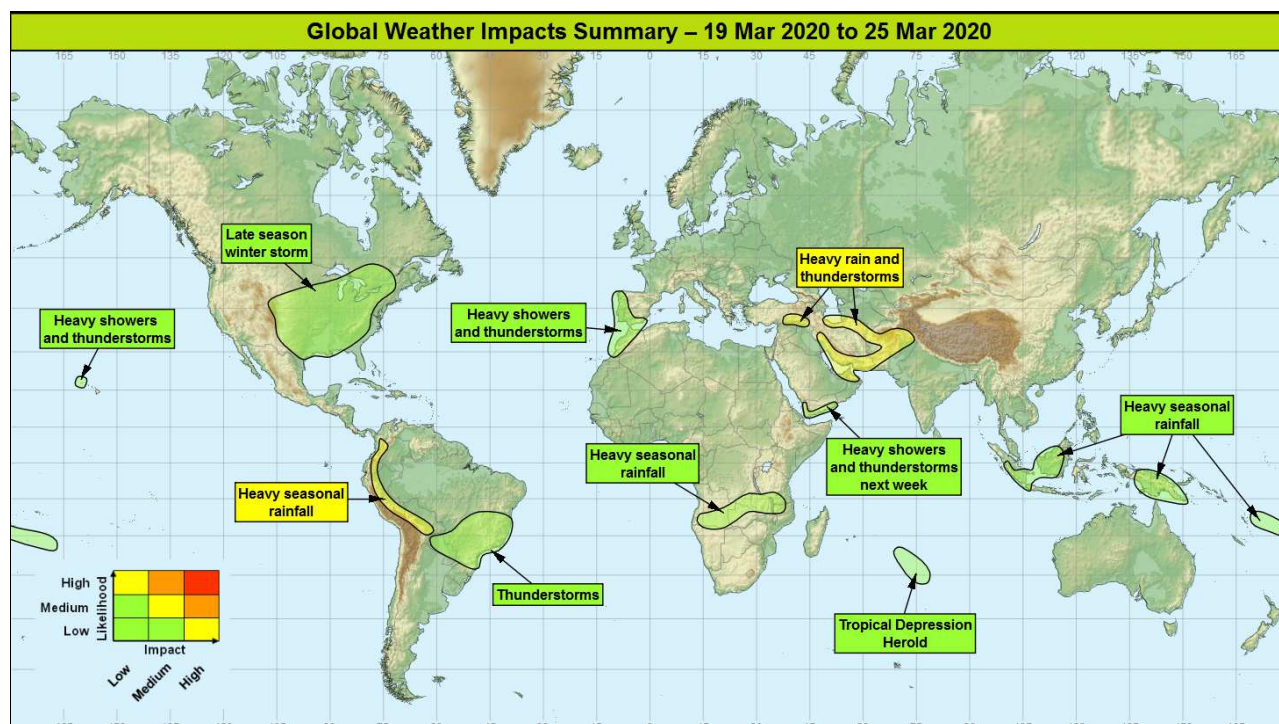


Global Weather Impacts – Thursday 19th to Wednesday 25th March 2020

Issued on Thursday 19th March 2020

HEADLINES

- Heavy rain and thunderstorms transferring east across the Middle East into southwest Asia.
- Ongoing above average rainfall and landslide threat affecting the northern Andes.
- Late season winter storm affecting a large part of the USA and southeast Canada.



DISCUSSION

Tropical Cyclones

Tropical Depression Herold (Southwest Indian Ocean)

Weather

Herold was located around 550 miles southeast of Rodrigues but is continuing to move southeast and pose no further threat to land before dissipating over the next day.

Discussion

Weakening will continue in response to strong northwesterly shear and increasing dry air around the system.

Expected Impacts

Nil.

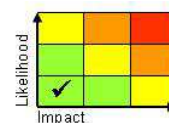


Europe

Iberia and Morocco

Weather

Scattered slow-moving heavy showers and thunderstorms are expected to develop across Portugal, southern and western parts of Spain and Morocco with the peak in activity through Friday and Saturday. Locally 40-60 mm of rainfall is possible in 6 hours which is equivalent to over the monthly average for southwestern Iberia (36 mm in Seville).



This forecast may be amended at any time

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Discussion

A trough disruption over the eastern Atlantic will consolidate into a cut-off low and engage a modest warm plume across southern and western Iberia and Morocco through the next few days, being reinforced by another trough disruption over the weekend. The weak steering flow will favour locally significant rainfall totals across the region.

Expected Impacts

Localised damage to property and infrastructure.

North America**USA east of the Rockies and southeast Canada****Weather**

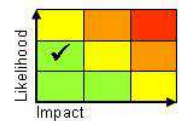
A disturbed spell of weather is currently developing across the eastern two thirds of North America. Snow is expected to develop across the US Central Plains with an area of 10-15 cm snow and blizzard conditions across parts of Nebraska and Wyoming. Further east, heavy rain and locally severe thunderstorms are expected to affect a wider region of the central and eastern USA and southeast Canada through to Saturday. A short-lived spell of cold conditions are expected to follow across northeast USA and eastern Canada. A further spell of unsettled weather is possible early next week affecting a similar region.

Discussion

A major upper trough over the Rockies is driving cyclogenesis to the east, drawing a broad plume of Gulf of Mexico moisture northward across much of the eastern continental USA. Several shortwave troughs are expected to be ejected northeast and engage this warm plume, triggering deep convection within the warm sector whilst the developing frontal system will be prone to wave development as it transfers east Friday through Sunday. There is reasonable model agreement in a similar system developing through early next week.

Expected Impacts

Snow is expected to cause some power interruptions and transport disruption. Heavy rain is likely to trigger flash flooding with multiple hazards from severe thunderstorms including localised property/infrastructure damage and risk to life.

**Hawaii****Weather**

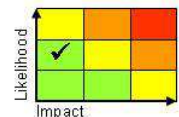
An area of low pressure west of Hawaii will result in further frequent heavy showers and thunderstorms with western island (Kauai and Oahu) most prone. 25-50 mm of rain could fall in a few hours from these showers with event totals exceeding 100-150 mm in places, equivalent to the average monthly rainfall for March. Shower and thunderstorm activity should slowly ease over the weekend.

Discussion

A Kona Low will draw tropical air northwards through the remainder of the week with frequent heavy showers and thunderstorm occurring within the warm plume. Model consensus is consistent in the western islands being most prone to the highest rainfall totals, although the zone of heavy showers should slowly move west away from land over the weekend.

Expected Impacts

While all islands could experience flash flooding, the greatest risk will be Kauai and Oahu where soil remains saturated due to recent heavy rain.

**Central America**

Nil significant.

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South America

Southern Colombia, Ecuador, Peru and northwest Bolivia

Weather

Enhanced shower and thunderstorm activity will continue across the northern Andes at times through the next week, with a peak in activity expected through Friday to Sunday. Rainfall accumulations could reach up to 250 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.

Expected Impacts

Ongoing threat of flash flooding and landslides in a region where the ground is already saturated from recent above average rainfall.



Paraguay and southern Brazil

Weather

An active cold front will move north from southern Brazil and Paraguay into eastern parts of Brazil through the remainder of the week. This will be accompanied by a combination of heavy rain and locally severe thunderstorms capable of producing frequent lightning, strong winds and large hail. Some locations could see 75-150 mm in a few hours.

Discussion

The South Atlantic Convergence Zone (SACZ) will transfer north and become more active as forcing from a series of upper troughs associated with a north shifting jet engages the SACZ.

Expected Impacts

Flash flooding is the most likely impact, particularly in parts of southern and southeast USA due to saturated soils from antecedent rainfall this austral winter. Localised property and infrastructure damage from lightning, strong winds and hail possible too.



Africa

Morocco – See *Europe* section.

Namibia, southeast Angola, Zambia, Malawi, northwest Mozambique and southern Tanzania

Weather

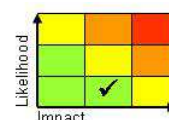
Scattered heavy showers and thunderstorms are expected to affect a broad region of central southern Africa through the next week. These could produce locally 50-75 mm of rainfall in a few hours with a few locations likely to receive 200-250 mm over the next 7 days. The heaviest rainfall is expected to be along a line from southwest Angola to the Tanzania/Mozambique border.

Discussion

The emergence of the MJO across Africa over the next week is expected to result in an increase in shower and thunderstorm activity across this region over the next week.

Expected Impacts

Increased risk of surface water and riverine flooding from heavy rainfall, particularly in southern Tanzania where impacts from flooding have already been reported. Areas of Angola (Cuanza Sul, Malanje and Luna Sul) which experienced recent heavy rainfall are likely to be spared significant rainfall.



Middle East

UAE and northern Oman – See *Asia* section.

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Southeast Turkey, northeast Syria and northern Iraq

Weather

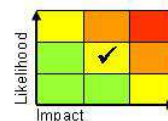
Whilst the persistent heavy rain experienced across the region has eased compared to earlier in the week, further scattered heavy showers and thunderstorms are expected over the next couple of days before becoming largely dry over the weekend. This could lead to a further 25-50 mm falling in some locations over the next 48 hours.

Discussion

Whilst the main frontal plume and associated heavy rain has cleared from the region, the cut-off low that drove the initial cyclogenesis will spawn open cell deep convection within the cold pool over the next couple of days. The slow-moving nature of showers and thunderstorms that do develop will lead to some locally high rainfall totals following some exceptional rainfall this week so far (110mm/24 hours in Mosul and 173mm/24 hours in Rabiah).

Expected Impacts

Further surface water and riverine flooding is possible with an increased likelihood of landslide and rockslides.



Yemen

Weather

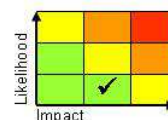
Shower and thunderstorm activity is expected to become more widespread through the middle of next week across the Western Highland and southern coastal areas. Some locations could see 20-30 mm in a few hours which would exceed the average monthly rainfall for most places.

Discussion

An upper trough extending across the Arabian Peninsula is likely to engage a plume of tropical moisture being drawn northward from Horn of Africa through the middle of next week. This is expected to trigger more frequent shower and thunderstorm activity, particularly over highland areas compared to recent weeks.

Expected Impacts

Increased likelihood of flash flooding.



Asia

Iran, Afghanistan, northern Pakistan, UAE and northern Oman

Weather

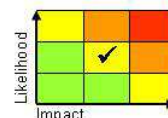
Two episodes of heavy rain and scattered thunderstorms are expected to affect the region during the next week. The first is expected to transfer northeast from the Persian Gulf towards Afghanistan and Pakistan from Thursday through Saturday. A brief reprieve follows but will be followed by a further spell of disturbed weather from Sunday to Wednesday. Frequent lightning, large hail and strong winds with dense dust storms also likely. The heaviest rainfall is expected over higher ground of Iran, Afghanistan and northern Pakistan where 50-75 mm locally 150 mm is possible and is equivalent to the typical monthly rainfall for March.

Discussion

The Western Disturbance that was responsible for exceptionally heavy rain across parts of the Levant will transfer east across southwest Asia through the next few days. Once this departs, another trough disruption will then transfer east bringing a renewed threat of heavy rainfall, enhanced orographically over parts of Iran, Afghanistan and Pakistan as well as with embedded deep convection.

Expected Impacts

Surface water and riverine flooding (with a contribution from snow melt) and landslides look like the most likely impacts. Lightning and wind damage also likely, with dense dust storms possibly impacting on human health.



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Malaysia and western Indonesia**Weather**

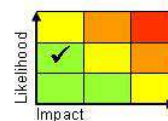
Shower and thunderstorm activity is expected to remain more widespread than normal through the next week with many places receiving 50-100 mm during this time, locally 250 mm in a few places. The heaviest rainfall is expected to occur over Kalimantan and the west coast of Sumatra.

Discussion

Convection along the ITCZ is expected to be more widespread as it undergoes its gradual northward migration through the next week, in part due to increased low-level convergence along the equator compared to previous days.

Expected Impacts

Increased risk of flash flooding, particularly in areas that have been affected by recent heavy rainfall e.g. West Java including Jakarta.

**Australasia****Papua New Guinea, Fiji and Tonga****Weather**

Enhanced seasonal rainfall is expected across this region through the next 7 days due to more widespread thunderstorms activity. Up to 50-100 mm of rain could fall in just 12 hours, with event totals of up to 350 mm likely.

Discussion

The South Pacific Convergence Zone looks likely to be more active than usual through much of this week, partly in response to the southeastwards track of ex-Tropical Cyclone Gretel to the south.

Expected Impacts

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

**Additional Information**

Nil.

Issued at: 190800 UTC **Meteorologists:** Matthew Lehnert / Nick Silkstone

Global Guidance Unit

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