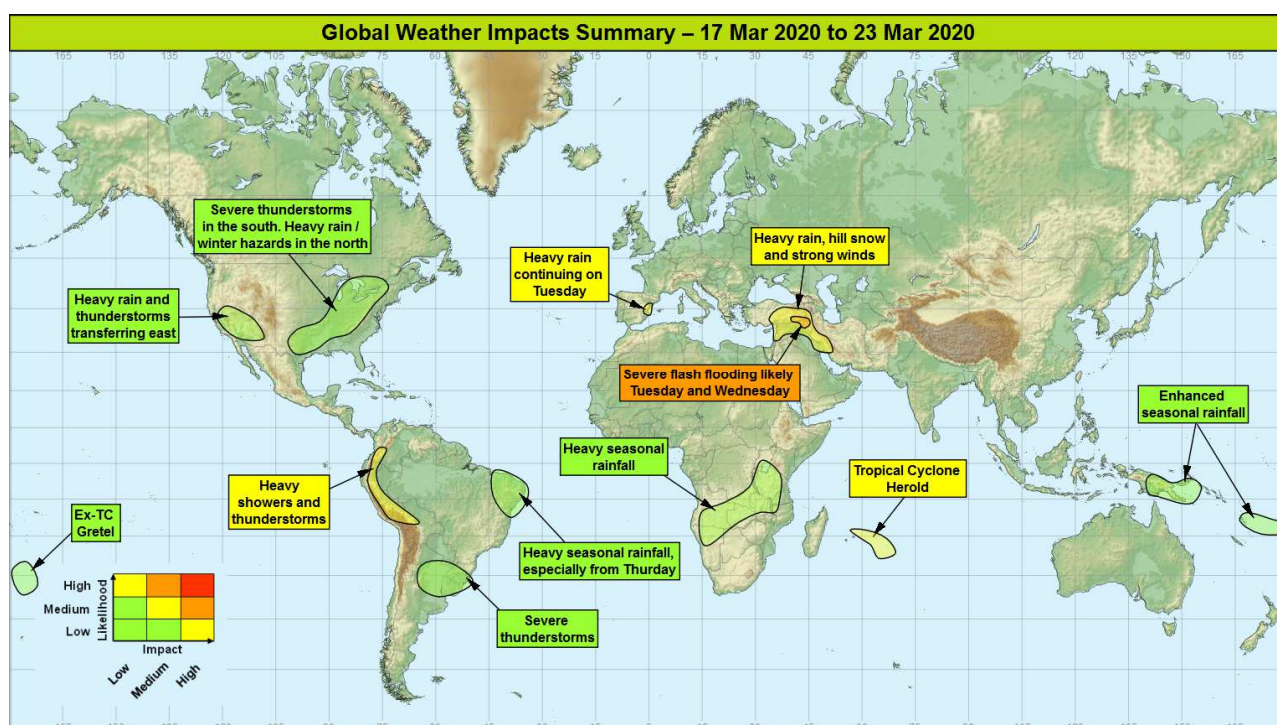


Global Weather Impacts – Tuesday 17th to Monday 23rd March 2020

Issued on Tuesday 17th March 2020

HEADLINES

- Flash flooding likely in southeast Turkey and northern Iraq over the next couple of days.
- Tropical Cyclone Herold likely to impact Rodrigues over the next couple of days.
- Heavy rain over parts of eastern Spain continuing on Tuesday.
- Further heavy rainfall over parts of the northern Andes, flash flooding possible in places.



DISCUSSION

Tropical Cyclones

Tropical Cyclone Herold (Southwest Indian Ocean)

Weather

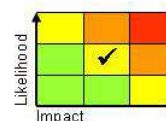
Herold is now (at 0600 UTC on 17th) around 100 to 150 nautical miles north of Mauritius and is expected to continue to track southeastwards over the coming days. Herold currently has maximum sustained winds of around 85 mph. Herold is expected to track close to the southwest of Rodrigues later on Tuesday and into Wednesday, probably weakening a little but sustained winds of 70-80 mph are possible across the island. The heaviest rain (200-300 mm) is likely to remain over the ocean with 20-40 mm most likely over Rodrigues.

Discussion

The combination of high SSTs, upper level divergence and weak vertical wind shear has allowed Herold to intensify over the last couple of days. As Herold continues southeast over the next couple of days increasing vertical wind shear and lowering SSTs should lead to a gradually weakening phase.

Expected Impacts

Damaging winds look likely for Rodrigues with a lower likelihood of destructive winds. Flash flooding looks unlikely but remains a small risk.



This forecast may be amended at any time

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Ex-Tropical Cyclone Gretel (Southwest Pacific Ocean)**Weather**

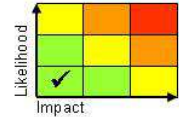
Gretel has tracked to the north/northeast of New Zealand over the last 24 hours whilst weakening. Gretel is expected to continue to track southeast over the open ocean over the coming days and is not expected to have any further impacts over land.

Discussion

A consistent model output for a continued southeastwards track over the coming days with the system being subsumed into the mid-latitude flow.

Expected Impacts

Nil.

**Europe****Spain****Weather**

Heavy rain and thunderstorms will continue across parts of northeast Spain on Tuesday. The heaviest and most persistent rain is likely near the coastal fringes of eastern Spain (between Barcelona and Valencia), with a further 50-75 mm likely in places. This will result in around twice the monthly average falling between Monday and Tuesday. On higher ground (above 700 metres) heavy snow is expected, with up to 25-50 cm of snowfall possible. The rain and hill snow will ease from the west later on Tuesday.

Discussion

An upper trough has extended into western Europe, disrupted and culminated in a cut-off upper vortex forming over Iberia. The vortex will continue to 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 developing along and ahead of the front in the high WBPT airmass. The cold advection will allow the rain to turn to snow on higher ground.

Expected Impacts

Flash flooding is possible in places. Heavy snowfall may impact power networks over higher ground.

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

Heavy showers and thunderstorms will continue to affect California on Tuesday before transferring east across other normally arid regions of southwest USA on Wednesday and Thursday. Up to 100 mm of rain could fall across the Sierra Nevadas, this manifesting as large amounts of snow above 1000-1500 metres. Elsewhere, 30-70 mm of rain could fall in a few days, which is the equivalent of up to 3 times the March average rainfall.

Discussion

An upper vortex is expected to track south just offshore California through the next few days before tracking east into the Rockies region around midweek. This upper air feature will be associated with a cold front that will be the focus for heavier precip.

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.



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Central / eastern USA and southeast Canada

Weather

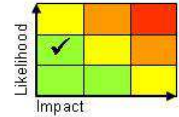
The southern parts of this region will see a severe thunderstorm threat at times through the next 4 or 5 days, with the potential for intense rainfall (50-75 mm in a few hours; up to 200 mm through next week), large hail, strong winds, tornadoes and frequent lightning. Northern parts of this region will see periods of heavy rain (50-100 mm) from Wednesday to Friday. The average March rainfall in this region of interest is between 40 mm and 70 mm. The far north of this region (especially southeast Canada) could see a period of heavy snow and freezing rain.

Discussion

Early this week a trailing frontal zone will be engaged by short wave upper troughs to produce a severe storm risk which will continue due to an eastward transfer of a complex upper trough. This will also result in the development of a depression and complex frontal system east of the Rockies that will sweep east across the rest of North America this week.

Expected Impacts

Severe storm impacts of flash flooding, wind and large hail damage in the south, Disruption due to flash flooding and winter hazards likely in the north.



Central America

Nil significant.

South America

Southern Colombia, Ecuador, Peru and northwest Bolivia

Weather

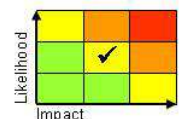
Enhanced shower and thunderstorm activity will continue across the northern Andes through the next 7 days. Rainfall accumulations could reach up to 250 mm in places, which would represent more than the average for the whole of March.

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. The likely passage of the weak MJO and at least one Westward Inertio-Gravity wave 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.



Northeast Brazil

Weather

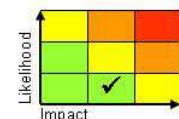
Heavy showers and thunderstorms will affect the region for much of the coming 7 days. Around 50-100 mm could fall within a few hours in places with a few locations having up to 300 mm in total for the seven-day period, equivalent to a month's worth of rain.

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 and at least one Westward Inertio-Gravity wave as they move through this region during 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.



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Northeast Argentina, Uruguay, southern Brazil and Paraguay

Weather

Pulses of severe convection are likely to develop across northern Argentina on Tuesday and then slowly transfer northwards across this region through this week. Up to 100-150 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 a series of upper troughs associated with a north shifting 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

Rodrigues (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 coming 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

There is a consistent model signal for this region of Africa to see enhanced seasonal rainfall through the next week. The advance of the MJO later next week could contribute to more widespread rainfall events.

Expected Impacts

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



Middle East

Southeast Turkey and northern Iraq

Weather

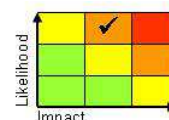
Severe weather is expected to affect southeast Turkey and northern Iraq through Tuesday and Wednesday, with up to 100-150 mm of rainfall possible in just 36-48 hours from widespread heavy showers and intense thunderstorms. This is the equivalent of up to twice the March rainfall in a day or two.

Discussion

Marked forcing from a short wave upper trough rounding the developing upper vortex will engage the cold front and pre-frontal warm plume to produce an area of enhanced deep convection. Forecast profiles show the potential for MCS development that could produce long lasting intense thunderstorms, before this warm airmass clears to the east by later on Wednesday.

Expected Impacts

High likelihood of severe flash flooding events in this mountainous region, with rockslides increasingly likely. This looks like a particularly significant weather event, hence the elevation to the top of the medium impact column.



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Syria, Lebanon, northern Iraq, far west of Iran and eastern Turkey**Weather**

Much of this week will see unsettled weather across this region with showers or longer spells of rain that will fall as snow on higher ground (especially central Turkey and Lebanon). Much of this region will see 25-40 mm of rainfall until Saturday, with up to 50-100 mm in places. The most intense rainfall being seen in southeast Turkey and northern Iraq (as above). Strong winds are also expected, with the main impact being the potential for dense lifted dust plumes across parts of Syria and Iraq.

Discussion

A complex upper trough will extend southeast and disrupt, with the vortex becoming slow moving over central Turkey to produce a prolonged unsettled spell of weather in this region.

Expected Impacts

Flash flooding is likely, with strong winds generating localised areas of lifted dust, which could impact aviation and human health. Heavy snowfall could become disruptive on higher ground, especially in central Turkey. This region includes areas of humanitarian concern that may be more significantly susceptible to adverse weather.

**Asia**

Nil significant.

Australasia

New Zealand – see *Tropical Cyclones* section.

Papua New Guinea, Solomon Islands, Vanuatu and Fiji**Weather**

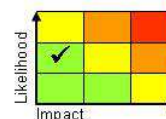
Enhanced seasonal rainfall is expected to continue across this region. Rainfall totals of widely 50-100 mm, and locally 200-300 mm are expected in frequent daily rounds of showers and thunderstorms.

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 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: 170730 UTC **Meteorologists:** Chris Bulmer / Paul Hutcheon

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