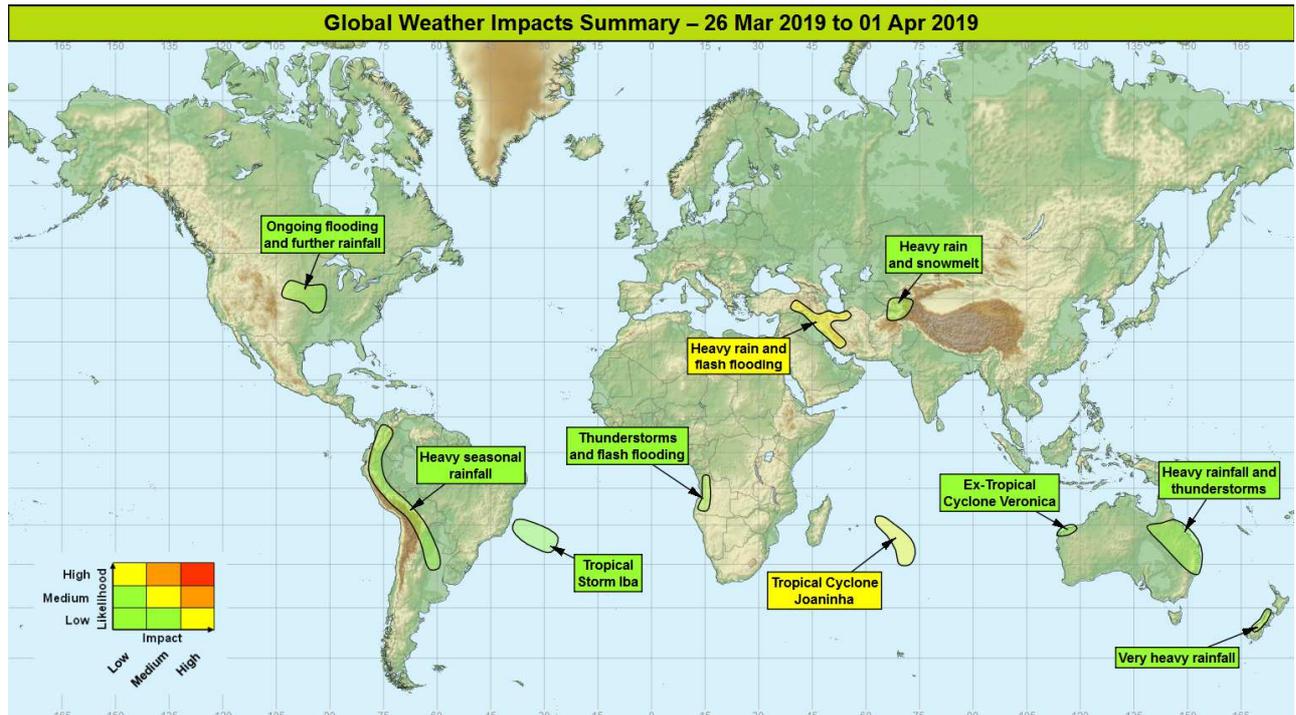


## Global Weather Impacts – Tuesday 26<sup>th</sup> March to Monday 1<sup>st</sup> April 2019

Issued on Tuesday 26<sup>th</sup> March 2019

### HEADLINES

- Intense Tropical Cyclone Joania impacting Rodrigues over the next 24 hours.
- Further heavy rain and thunderstorms to affect northern Iraq and Iran over the next week.
- Shower activity across areas recovering from Cyclone Idai fairly typical for the time of year.



### DISCUSSION

#### Tropical Cyclones

#### Intense Tropical Cyclone Joania (Rodrigues, southwest Indian Ocean)

##### Weather

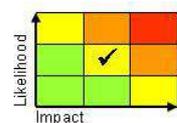
Joania was located around 50 miles northeast of Rodrigues on Tuesday morning with maximum sustained winds of 110 mph with stronger gusts. Joania is expected to bring very dangerous tropical cyclone conditions to the island through the day, although the strongest winds are expected to be during the next few hours. Strong winds will be accompanied by a 0.5-1 metre storm surge and very heavy rainfall. Event rainfall totals of 250-500 mm are possible in a few locations. Thereafter, Joania is expected to pose no further threat to land.

##### Discussion

Joania is now an intense tropical cyclone on the MFR scale and is currently passing close to Rodrigues. Joania has been subject to wobbles along its overall southeastward motion as a consequence of its intensity but the centre will remain offshore before gradually weakening later in the week as it encounters increasing vertical wind shear and cooler waters.

##### Expected Impacts

Rodrigues was affected by two tropical cyclones (Funani and Gelena) in early February with strong winds from Gelena leading to 90 % of the electricity grid being damaged. Whilst the most destructive winds are likely to remain just offshore, further damage to property and infrastructure is expected from a combination of strong winds, flash flooding and storm surge.



**This forecast may be amended at any time**

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## Tropical Storm Iba (South Atlantic Ocean)

### **Weather**

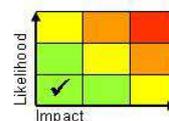
Iba remained slow-moving around 400 miles northeast of Rio de Janeiro on Tuesday morning and is expected to slowly move away from land through midweek. Whilst Iba may undergo some strengthening over the next couple of days, it will remain away from land before dissipating later in the week.

### **Discussion**

Iba formed in an environment conducive to tropical cyclogenesis with SSTs around 1-2 °C above average (29 °C) and low vertical wind shear. However, such conditions are expected to be relatively short-lived as an upper trough will lead to increasing shear and support a transition to an extratropical system later in the week.

### **Expected Impacts**

Nil.



## Europe

Nil significant.

## North America

### Midwest and Central Plains USA

#### **Weather**

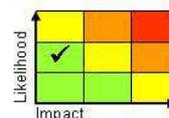
Winter precipitation has exceeded 200 % across many parts of the central USA with ongoing flooding in parts of the Missouri and Mississippi river basins. The area most sensitive to further rainfall are the states of Nebraska and Iowa currently. A further 20-40 mm locally 80 mm of rainfall is expected between Thursday and Saturday across this region which is likely to exacerbate ongoing impacts which will persist through the spring.

#### **Discussion**

A number of river gauges in these two major rivers are exceeding major flood stage and some remain near record levels. A strengthening Pacific jetstream is expected to extend eastwards and engage a warm plume emerging from the Gulf of Mexico later this week and generate further heavy rainfall across the Midwest and Central Plains. Meanwhile, temperatures will support continued snowmelt upstream across the far north of the country.

#### **Expected Impacts**

Further heavy rainfall and snowmelt upstream is likely to exacerbate flooding across this area with additional damage to property and infrastructure.



## Central America and Caribbean

Nil significant.

## South America

### Northern Andes region (Colombia, Ecuador, Peru and Bolivia) and northern Argentina

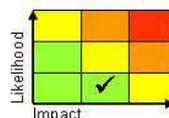
#### **Weather**

Heavy showers and thunderstorms are expected to be more numerous than normal along the northern Andes and across northern Argentina over the next week. Rainfall accumulations will vary by location due to the showery nature of the rainfall but locally a further 200-300 mm of rain is possible in a few locations over the next week.

#### **Discussion**

Despite the South American monsoon undergoing retreat across Brazil, abundant tropical moisture exists across the northern Andes to generate further heavy showers and thunderstorms. The reason for the prolonged nature of this above average rainfall is less clear since SST anomalies along the Peru to Ecuador coastline are now widely below average.

#### **Expected Impacts**



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Flash flooding and landslides remain an ongoing threat in the mountainous areas, as well as downstream river flooding. With much of this region preconditioned by previous rainfall, further heavy rain will produce some additional impacts. Over recent weeks there have been reports of significant damage to infrastructure from flooding, with homes, bridges and roads destroyed.

## Africa

**Rodrigues** – See *Tropical Cyclones* section.

### Western Angola

#### **Weather**

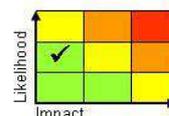
Heavy rainfall has also affected parts of Angola over the past month with the provinces of Benguela, Luanda, Huila and Zaire the most sensitive. Above average shower and thunderstorm activity is expected to continue over the next week with 30-50 mm of rainfall falling in some locations in a few hours, with locally over 100 mm falling through the week. This represents the amount of rainfall this region normally sees in the whole of March.

#### **Discussion**

Despite being the short wet season for this part of Africa, above average rainfall is set to continue with forecast tephigrams suggesting some locally severe thunderstorms are likely with in excess of 4000 J/kg CAPE.

#### **Expected Impacts**

Further flash and river flooding is possible which may cause further damage to property and infrastructure as well as remaining a threat to life.



## Middle East

### Northern Iraq, northern and western Iran and southeast Turkey

#### **Weather**

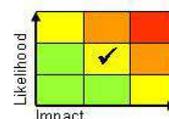
Further heavy rain and thunderstorms are affecting northern Iraq and western Iran, particularly along the Zagros Mountain range. Whilst rainfall should ease compared to recent days through midweek, further heavy showers and thunderstorms are expected to develop across southeast Turkey from Friday and extend southeast across northern Iraq and the western half of Iran between Saturday and Monday. Again, the heaviest rainfall is expected over the Zagros and Alborz ranges but will include areas already sensitive to further rain, including Manzadaran, Golestan and Fars provinces of Iran. Many places are likely to receive at least 50 mm of rain during this period, but locally 200 mm is possible and would be roughly equivalent to twice the average March rainfall.

#### **Discussion**

Whilst the major upper trough engaging a warm plume from the Red Sea responsible for the current episode of severe weather relaxes northeast through the next 24 hours, another plume will be drawn northeast over the coming weekend into early next week across the region. Uplift over southwest facing slopes of the Zagros and Alborz mountains will mean these areas are likely to see the heaviest rainfall which itself will be partly convective in nature leading to some large short-period totals.

#### **Expected Impacts**

Further flash flooding is likely along with the potential for landslides in mountainous areas. Strong gusty winds associated with thunderstorms could cause damage to temporary or poorly built structures and are likely to lead to lifted dust in desert regions.

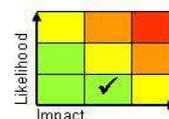


## Asia

### Afghanistan, Tajikistan and southeast Uzbekistan

#### **Weather**

Spells of heavy rain are expected to affect the region from Tuesday through to early Saturday with the heaviest rainfall expected over the Hindu Kush (snow above 3000 metres). Some locations are likely to receive 75-125 mm of rain during this period. This will be associated with warm air which will further melt the snow pack below 3000 metres.



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## Discussion

A plume of warm air from the Red Sea will be engaged by a series of upper troughs relaxing northeast across the region. The high freezing level will contribute to accelerated snow melt over upland areas where significant accumulations will have built up over the winter due to the numerous precipitation events that have occurred during the season so far.

## Expected Impacts

The combination of heavy rain and snow melt will increase the likelihood of flash flooding, river flooding and landslides across northern parts of Afghanistan, Tajikistan and southeast Uzbekistan whilst at higher altitudes there will be an increased risk of avalanches.

## Australasia

### South Island, New Zealand

#### Weather

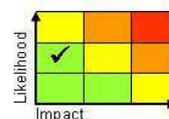
Very heavy rainfall and strong winds will continue to affect South Island through the next 24 hours. The heaviest rainfall will occur in the west, but include the headwaters of rivers draining eastwards too. Event totals are likely to locally reach 700 mm with almost 500 mm already being recorded in Milford Sound.

#### Discussion

A slow-moving cold front has allowed warm, moisture-laden air to be drawn up and over the Alps on South Island. Whilst there is good agreement for this to clear on Wednesday, the strong northwesterly flow ahead of it will allow further rainfall to accumulate over the next 24 hours.

#### Expected Impacts

River and flash flooding are likely to continue through Tuesday across western parts of South Island with further landslides expected due to the intensity and persistence of rainfall. This is likely to maintain travel disruption in the region.



### Queensland and northern New South Wales

#### Weather

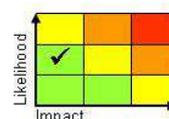
The remnants of ex-Tropical Cyclone Trevor will be drawn southeast across Queensland and northern parts of New South Wales and begin to affect more populous parts of these states through Friday and Saturday. The heaviest rainfall is expected to fall over the uninhabited interior, although 50-100 mm of rain is locally possible along the coast from Townsville to Newcastle. Locally severe thunderstorms may also produce large hail and strong winds.

#### Discussion

There is good model agreement for the initially slow-moving remnants of Trevor to become subsumed by an upper trough extending north into New South Wales by Friday. This is expected to generate a large envelope of convective rainfall along the east coast before clearing into the Coral Sea over the weekend.

#### Expected Impacts

Despite very heavy rainfall in the interior of Queensland, this unlikely to cause significant impacts. However, locally severe thunderstorms affecting the coast later in the week could cause some travel disruption, property and infrastructure damage.



### Pilbara Coast (Western Australia)

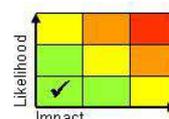
#### Weather

Ex-Tropical Cyclone Veronica weakened below tropical cyclone intensity on Tuesday as it moved slowly westwards along the Pilbara coastline of Western Australia. Whilst some further heavy showers and thunderstorms are expected to affect the coast during Tuesday, conditions will improve significantly by Wednesday.

#### Discussion

Strong vertical wind shear has led to the demise of Veronica with an exposed low-level convective centre.

#### Expected Impacts



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Although winds have eased, heavy rainfall may continue to cause hazardous road conditions and localised flooding in parts of the central and west Pilbara coast and adjacent inland areas. Rain will gradually ease during Tuesday, however flooding is continuing in parts of the Pilbara.

**Additional information****Aftermath of Tropical Cyclone Idai (Southeast Africa)**

Tropical Cyclone Idai has severely affected large parts of Mozambique as well as neighbouring countries of Zimbabwe and Malawi. Conditions across the region are now fairly typical for the time of year, but shower and thunderstorm activity is likely to remain slightly above average over the next week across northern Mozambique and northern Malawi. Around Beira, a further 15-25 mm of rainfall is expected during the next week, although this is below average for both March (275 mm per month) and April (140 mm per month).

**Issued at:** 260820 UTC **Meteorologist:** Matthew Lewis

**Global Guidance Unit**

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