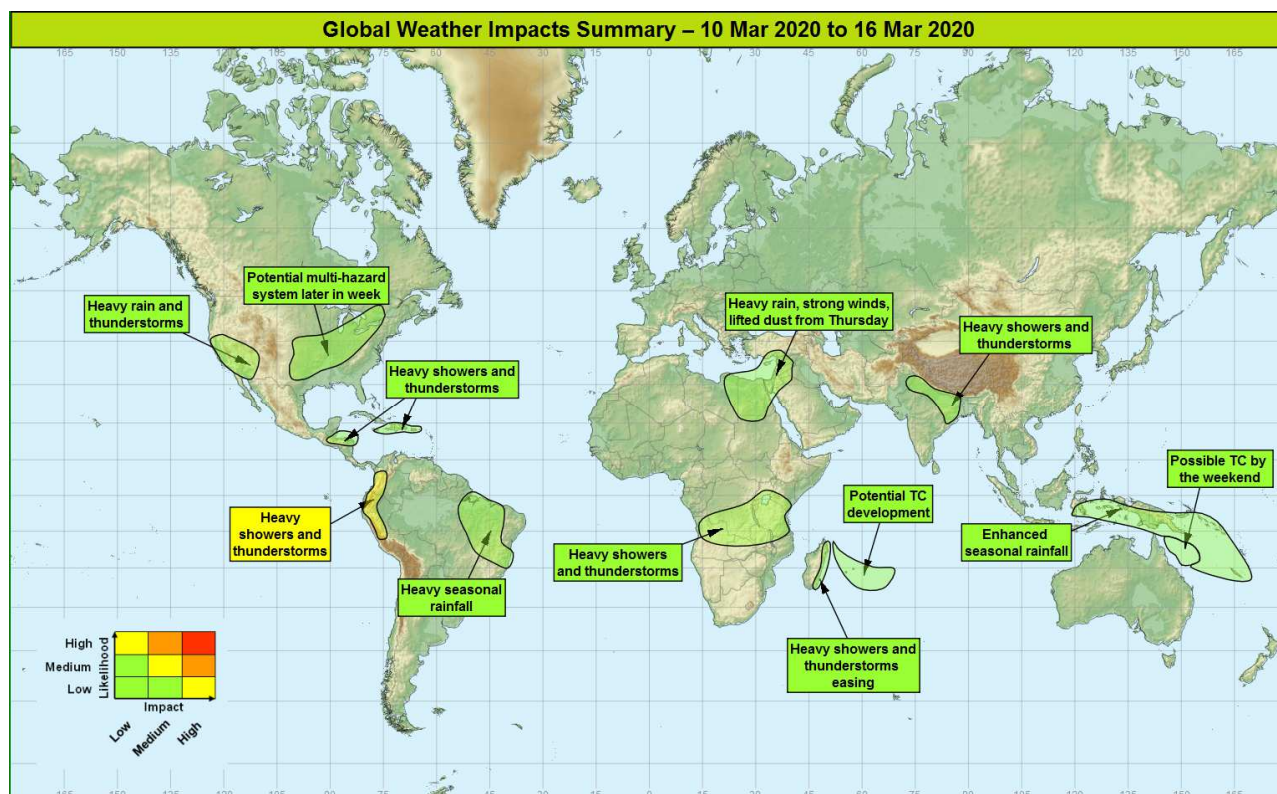


## Global Weather Impacts – Tuesday 10<sup>th</sup> to Monday 16<sup>th</sup> March 2020

Issued on Tuesday 10<sup>th</sup> March 2020

### HEADLINES

- Potential for tropical cyclone developments in the southwest Indian Ocean and Coral Sea.
- Further heavy seasonal rainfall for the northern Andes in South America.
- Rainfall easing across Madagascar.



### DISCUSSION

#### Tropical Cyclones

There are currently no active tropical cyclones.

*The following areas are being monitored for potential tropical cyclone development affecting land over the next week:*

#### Southwest Indian Ocean (La Reunion and Mauritius)

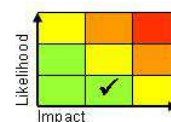
##### Weather

A weak tropical low pressure area located to the north-east of Madagascar is likely to slowly track south-eastwards through the next week. The system may well strengthen to become a tropical cyclone later this week, potentially affecting Mauritius and Reunion and bringing a low risk of destructive winds, but more likely, torrential rainfall.

##### Discussion

All models signal the slow development of the tropical low as it heads SE through the next week. The trend in recent runs has been away from a significant tropical cyclone, though regardless of development, impacts from heavy rain are possible for the islands mentioned above.

##### Expected Impacts



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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

© Crown copyright 2020. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

Threat of flash flooding, with a lower likelihood of damaging winds.

## **Coral Sea (Northeast Queensland)**

### **Weather**

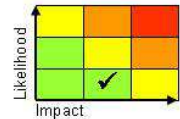
There is the potential for a tropical cyclone development in the Coral Sea later in the week or next weekend, and this development could take place close to the northeastern Queensland coastline. Any development would bring a threat of very strong winds and intense rainfall.

### **Discussion**

The MJO is moving through the Maritime Continent into the Pacific this coming week, and is likely to provide the trigger for a tropical cyclone development in the Coral Sea by the end of the week. Another factor in favour of a tropical cyclone development is the sea surface temperatures that are around 2 degrees Celsius above average at the moment.

### **Expected Impacts**

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



## **Europe**

**Turkey and Cyprus** – See *Middle East* section

## **North America**

### **Southwest USA and far NW Mexico**

#### **Weather**

Heavy showers and thunderstorms are likely to affect the normally arid regions of south-western USA and the far northwest of Mexico until the weekend. Up to 100mm could accumulate in a few places, which is up to 3 times the average March rainfall.

#### **Discussion**

A Pacific cut-off upper vortex is likely to interact with a high WBPT plume moving north from Mexico to generate areas of heavy showers and thunderstorms. Whilst the heaviest rain is likely to be over southern California, desert regions further inland, including cities such as Las Vegas and Phoenix, could also have some unusually heavy rainfall.

#### **Expected Impacts**

Flash flooding is the main impact, which could affect major cities in the area.



### **Southern Plains to Great Lakes/SE Canada**

#### **Weather**

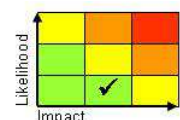
There is the likelihood of a multi-hazard system to develop east of the Rockies later in the week. This brings the risk of heavy snow and freezing rain in the north of the area, with a threat of severe thunderstorms further south.

#### **Discussion**

The vortex that will drive unusually heavy rainfall in the southwest of the USA is signalled to relax ENE across central parts of the US, engaging a warm plume to produce a multi-hazard system across the area by the end of the week. Sufficient shear, forcing and CAPE across the south of the area may lead to some severe thunderstorms

#### **Expected Impacts**

Potential for disruptive winter hazards in the north, and flash flooding and severe storm hazards in the south, including a risk of tornadoes.



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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

© Crown copyright 2020. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

## Central America

### Belize, eastern Guatemala, northern Honduras, Hispaniola and Puerto Rico

#### **Weather**

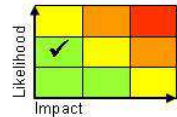
Heavy showers and thunderstorms are expected to be more frequent and intense than usual for the time of year until around the middle of the week. During this period up to 150-250 mm of rainfall is possible, much of which is likely to fall in short periods. The average rainfall in this region is between 50 and 150 mm.

#### **Discussion**

Several low latitude upper troughs are expected to engage a cold front that will become slow moving from Puerto Rico to northern Honduras. The result will be more frequent and intense shower activity than is usual across the region at this time of year.

#### **Expected Impacts**

This spell of potentially heavy rain follows flooding that affected northern Honduras at the end of February. This may exacerbate existing relief efforts and cause further flash and river flooding here and elsewhere in the region.



## South America

### Southwest Colombia, Ecuador and Peru

#### **Weather**

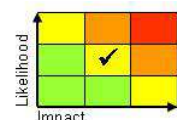
Enhanced shower and thunderstorm activity will continue across the northern Andes through the next 7 days. Rainfall could reach 250-350 mm in places, which would represent more than the average for the whole of March.

#### **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. This coupled with a WIG will likely continue the trend of above average precipitation in recent weeks, with impacts from flash flooding and landslides.

#### **Expected Impacts**

Ongoing enhanced threat of flash flooding and landslides.



## Northeast Brazil

#### **Weather**

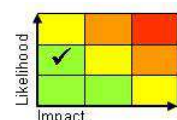
Heavy showers and thunderstorms will affect the region during this coming 7 days. Around 50-100 mm could fall each day, with a few locations having up to 300 mm in total for the 7 day period, equivalent to a month's worth of rain. The heaviest rain should remain to the north of the major cities of Rio de Janeiro and Sao Paulo.

#### **Discussion**

The South Atlantic Convergence Zone (SACZ) will tend to weaken through the next few days, with the main activity across the region transferring north onto the ITCZ that is likely to become more active at times due to several tropical waves moving through the ITCZ. Forecast profiles are very moist at depth (PWAT 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.



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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

© Crown copyright 2020. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

## Africa

**Reunion and Mauritius** – see *Tropical Cyclones* section.

**Northeast Africa** – see *Middle East* section.

### Eastern Madagascar

#### **Weather**

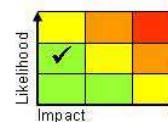
Heavy showers and showers and thunderstorms will continue to affect mainly eastern parts of the island through the next 2 days, before easing around midweek. A further 150 to 200 mm is possible in places, although the capital Antananarivo should avoid much of this.

#### **Discussion**

The south shifted ITCZ will be the focus for enhanced deep convection through the next two days, although the likely development of a tropical cyclone to the east is likely to reduce the spatial nature of shower activity across Madagascar by midweek, with the ITCZ also likely to push north of Madagascar to allow for a much drier spell of weather to develop.

#### **Expected Impacts**

Increased risk of flash, and later river flooding, plus an increased landslide risk in mountainous areas.



### Parts of central and eastern Africa

#### **Weather**

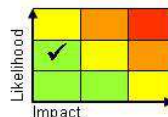
Heavy showers and thunderstorms are likely to affect a broad region of central Africa through the coming week. These could produce 50-75 mm of rainfall in a few hours, with over 200 mm through the week in places. This would represent the March average falling in the space of a few days.

#### **Discussion**

Increased activity along the south shifted ITCZ will lead to above average rainfall across this region. 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**

The main impact will be from flash flooding should these storms affect a major population centre.



## Middle East

### Northeast Africa, western Levant, Cyprus and southern Turkey

#### **Weather**

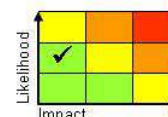
There is the potential for heavy showers and thunderstorms along with strong winds/blowing dust later in the week across this region as low pressure develops over Egypt, before transferring north-northeast into the eastern Mediterranean and Levant. A few places could see 25-50 mm of rainfall in just a few days, this most likely across the coastal high ground of the Levant and southern Turkey where the average March rainfall is 50-100 mm. Strong winds are also likely, which could lift dense dust storms across the region.

#### **Discussion**

A complex interaction of an eastward travelling upper vortex and a northward surge of warm air across this region will produce an area of low pressure bringing strong winds, lifted/blowing dust and areas of elevated CB/TS activity. Model agreement is now much wetter wrt these developments, with a low bottoming out around 990hPa signalled. The elevated nature of convection adds to the uncertainty regarding showery precip accumulation in the region.

#### **Expected Impacts**

Flash flooding is possible in places, with lifted dust potentially impacting human health and aviation in the region.



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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

© Crown copyright 2020. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

**Asia****Eastern Pakistan, northern India and the far south of Nepal****Weather**

Heavy showers and thunderstorms will continue to slowly transfer eastwards across eastern Pakistan and northern India/southern Nepal by Thursday. 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 northern Pakistan and 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 storms.

**Discussion**

A portion of a mid-latitude upper trough is expected to dig S, then SE across the Himalayas, activating a plume of warm, moist air, and bringing frequent/heavy showers/thunderstorms to the area.

**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.

**Indonesia, Papua New Guinea, northeastern Australia and Solomon Islands****Weather**

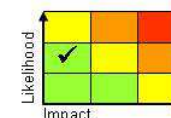
Enhanced seasonal rainfall is expected to continue across this region. Rainfall totals of widely 50-100 mm, and locally 200-300 mm are expected in frequent daily rounds of showers and thunderstorms

**Discussion**

The active phase of the MJO is currently moving slowly through this region, providing a backdrop of enhanced convection and rainfall. Some parts of this region, including West Java, have recently seen severe flooding, although it seems likely that the worst of the conditions will stay clear of Jakarta in this current episode.

**Expected Impacts**

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

**Australasia**

**Northeast Queensland** – see *Tropical Cyclones* section.

**Northeast Australia, Papua New Guinea and Solomon Islands** – see *Asia* section.

**Additional Information**

Nil.

**Issued at:** 100800 UTC    **Meteorologists:** Jason Kelly/Tony Wardle

**Global Guidance Unit**

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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

© Crown copyright 2020. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.