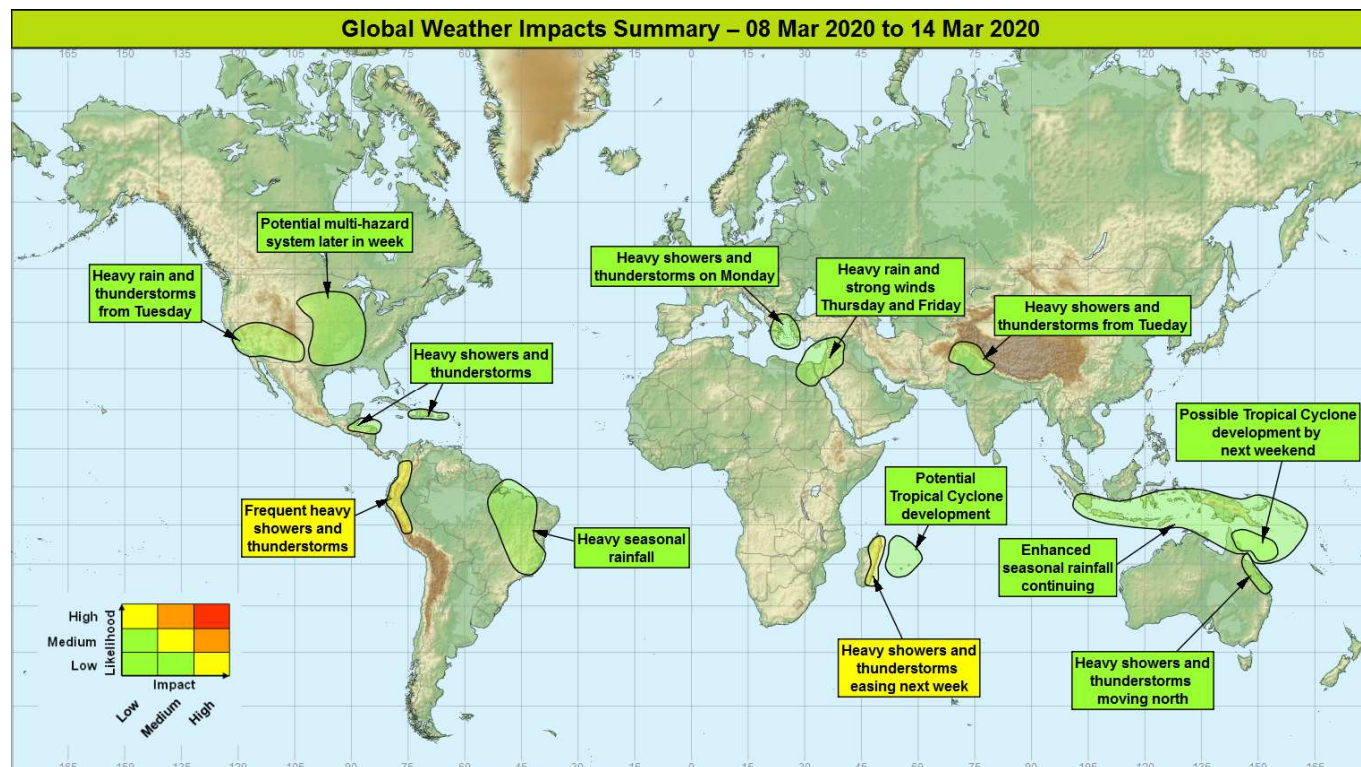


## Global Weather Impacts – Sunday 8<sup>th</sup> to Saturday 14<sup>th</sup> March 2020

Issued on Sunday 8<sup>th</sup> March 2020

### HEADLINES

- Further heavy rainfall for parts of Madagascar during the next few days.
- Further heavy seasonal rainfall for the northern Andes in South America.
- Potential for tropical cyclone developments in the Southwest Indian Ocean and Coral Sea.



### 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 (Reunion and Mauritius)

##### Weather

A weak tropical low pressure area located just east of northern Madagascar is likely to only slowly track southeastwards through the next week. There is a possibility that this system could strengthen to become a tropical cyclone, but the main feature of this system will be the heavy showers and thunderstorms that are likely to affect the islands of Reunion and Mauritius through the next week. The slow moving nature of this system could result in up to 500 mm of rain accumulating in the space of 5 days, which would be around twice the average March rainfall.

##### Discussion

All models signal a fairly slow moving tropical low pressure area in this region, formed along the ITCZ. There is a wide range of solution regarding track and development which lower confidence for forecast details. However, the slow moving nature of this system over warmer than average seas would produce a higher than average risk of heavy seasonal rainfall.

##### Expected Impacts



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

## **Coral Sea (Northeastern Queensland)**

### **Weather**

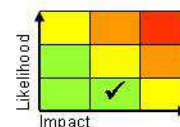
There is the potential for a tropical cyclone development in the Coral Sea later in the week, and this development could take place close to the northeastern Queensland coastline. Any development would bring a threat of very strong winds and intense rainfall.

### **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**

### **Greece, Crete and the far west of Turkey**

### **Weather**

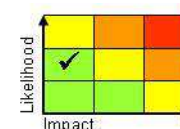
An area of heavy rain and showers with some thunderstorms will sweep eastwards across this region through Sunday night and Monday, bringing the potential for up to 50-75 mm of rain in just 12-24 hours. This would be the equivalent of the March rainfall within a day.

### **Discussion**

A sharp upper trough will engage a cold front through Sunday and Monday, driving it through this region as a very active feature. Forecast profiles show the potential for embedded thunderstorms to bring intense rainfall in places.

### **Expected Impacts**

Flash flood looks like the main threat, with an increased likelihood of landslides.



## **North America**

### **Southwest USA**

### **Weather**

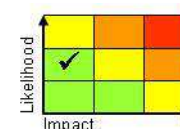
Heavy showers and thunderstorms are likely to affect the normally arid regions of southwestern USA from Tuesday, along with parts of southern California. Up to 50-75 mm could accumulate in places, which is up to 3 times the average March rainfall.

### **Discussion**

A cut-off upper vortex moving in from the Pacific 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 unusual heavy rainfall.

### **Expected Impacts**

Flash flooding is the main impact, which could affect major cities such as Los Angeles, Las Vegas and Phoenix.



## **Central parts of the USA**

### **Weather**

There is the potential for a multi-hazard system to develop east of the Rockies later in the week, producing a threat of heavy snow and freezing rain in the north of the area, with heavy rainfall and a threat of severe thunderstorms in the south.

### **Discussion**

The vortex that will drive unusually heavy rainfall in the southwest of the USA will transfer east across the Rockies later in the week, and could engage a warming plume to produce a multi-hazard system across the central part of the USA. There is still a large spread of potential solutions which results in low confidence for forecast details associated with this event.

### **Expected Impacts**



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Potential for disruptive winter hazards in the north, and flash flooding and severe storm hazards in the south.

## **Central America**

### **Belize, eastern Guatemala, northern Honduras, Hispaniola and Puerto Rica**

#### **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 next 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 upper troughs look likely 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**

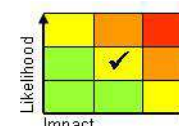
Enhanced shower and thunderstorm activity will continue across the northern Andes through the next 7 days. Rainfall could reach 250-350 mm in places, which would represent more than the average for the whole of March.

#### **Discussion**

Continued northerly flow across Central America will lead to stronger than normal convergence along the ITCZ that will be south shifted compared to climatology, bringing enhanced precipitation to this region. Precipitation across parts of this area has been above average in recent weeks, with impacts from flash flooding and landslides.

#### **Expected Impacts**

Ongoing enhanced threat of flash flooding and landslides.



## **Northeastern Brazil**

#### **Weather**

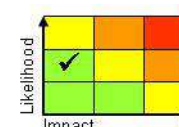
Heavy showers and thunderstorms will affect the region during this coming 7 days. Around 50-100 mm could fall each day, with a few locations having up to 300 mm in total for the 7 day period, equivalent to a month's worth of rain. The heaviest rain should remain to the north of the major cities of Rio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



## **Africa**

### **Reunion and Mauritius** – see *Tropical Cyclones* section for more details

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## Eastern Madagascar

### **Weather**

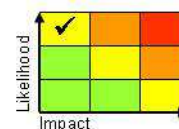
Heavy showers and showers and thunderstorms will continue to affect northern and eastern parts of the island through the next 2 or 3 days, perhaps also including the capital Antananarivo. 50-100 mm is possible in some places per day, with 150-250 mm of rainfall accumulating in places. Becoming much drier from midweek.

### **Discussion**

The south shifted ITCZ will be the focus for enhanced deep convection through the next few 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.



## Middle East

### Western Levant, northern Egypt, Cyprus and southern Turkey

### **Weather**

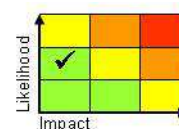
There is the potential for heavy showers and thunderstorms along with strong winds later in the week across this region as a low pressure develops. A few places could see 25-50 mm of rainfall in just a few days, this most likely across the coastal high ground of the Levant and southern Turkey where the 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 that will produce strong winds and areas of elevated CB/TS activity. There are uncertainties regarding the intensity of this low pressure and so there is low confidence in the strength of the wind and likelihood of dense dust storms. 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 possibly impacting human health and aviation in the region.



## Asia

### Eastern Afghanistan, northern Pakistan, northwest India

### **Weather**

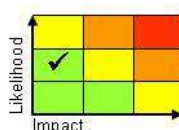
Heavy showers and thunderstorms will develop across eastern Afghanistan on Tuesday, with this activity then slowly transferring eastwards across northern Pakistan and northwest India by Thursday as drier conditions follow in the west. There is the potential for 50-75 mm of rain to fall in a couple of 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**

An extension of an upper trough across the region will result in upper forcing engaging a warm plume that will produce areas of heavy showers and thunderstorms across the region. There is the potential for large CAPE / large windshear MCS type systems that could produce severe storm impacts.

### **Expected Impacts**

Flash flooding likely in places along with damage to property and infrastructure from hail and/or strong winds.



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

### **Weather**

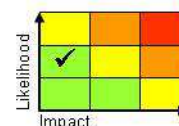
Enhanced seasonal rainfall is expected to continue fairly widely across this region. Rainfall totals of widely 50-100 mm, and locally 200-300 mm are expected in frequent daily rounds of showers and thunderstorms

### **Discussion**

The active phase of the MJO is currently moving 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**

**Northeastern Queensland** – see *Tropical Cyclones* section for more details

**Papua New Guinea, and Solomon Islands** – see *Asia* section for more details

## **Southeastern Queensland, Australia**

### **Weather**

Heavy showers and thunderstorms are expected to slowly transfer north across this region over the 5 days, with 50 to 100 mm of rain for much of the region and as much as 200 mm possible in a few locations. There will also be a threat of frequent lightning and large hail.

### **Discussion**

A cold front will be the focus for deep convection through the next 5 days as this front transfers northwards, engaged by a series of upper troughs.

### **Expected Impacts**

Localised flash flooding is likely in places, with a lower likelihood of large hail damage.



## **Additional Information**

Nil.

**Issued at:** 080600 UTC    **Meteorologists:** Paul Hutcheon

**Global Guidance Unit**

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