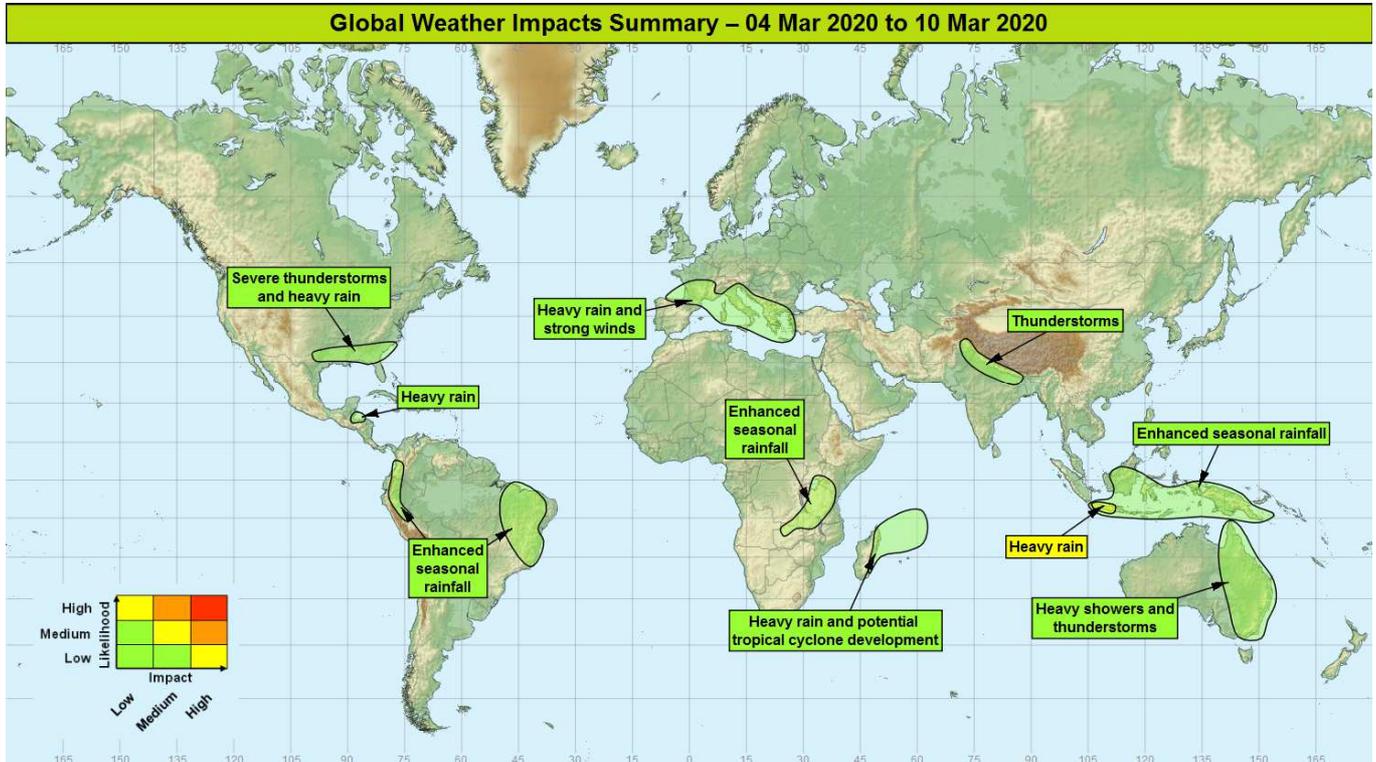


## Global Weather Impacts – Wednesday 4<sup>th</sup> to Tuesday 10<sup>th</sup> March 2020

Issued on Wednesday 4<sup>th</sup> March 2020

### HEADLINES

- Enhanced seasonal rainfall bringing a threat of further flooding to Java, Indonesia.



### DISCUSSION

#### Tropical Cyclones

There are currently no active tropical cyclones.

The following area is being monitored for potential tropical cyclone development affecting land over the next week:

#### Southwest Indian Ocean and Madagascar Weather

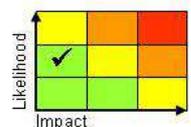
There is a low likelihood of a cyclone developing to the northeast of Madagascar during the rest of the week. Currently, a disorganised area of heavy showers and thunderstorms is moving slowly west. Irrespective of development, there is potential for heavy rain to affect eastern parts of Madagascar from Thursday until early next week where 200-300 mm could locally fall.

#### Discussion

The MJO, which is emerging in the Indian Ocean, has led to an increase in convection across the basin. An ERW looks to be tracking west with its southern portion aiding development of a shallow low to the northeast of Madagascar. Environmental conditions in this area aren't particularly favourable for tropical cyclogenesis with vertical wind shear likely to impede any further development over the next few days. The low is broad and disorganised, and as such its track is highly uncertain, nonetheless increased flow onto the eastern coasts of Madagascar later this week is signalled to increase shower activity with or without a tropical cyclone.

#### Expected Impacts

Increased flash flood risk for Madagascar. Sensitivities here are likely higher than normal following a very wet few weeks resulting in reports of flooding. Very low risk of damaging winds.



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

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## Europe

### Southern Europe

#### **Weather**

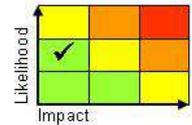
Unsettled conditions across Europe will continue to be mainly focused on southern areas through the next week with further bouts of heavy rain, strong winds and mountain snow. Much of the region highlighted will see 30-60 mm of precipitation through the period. Parts of northern Spain, southwest France, northern Italy and southwest Balkans are likely to be wettest with 150-200mm building up in parts of these areas, especially over high ground, during the course of this week. The focus for the heaviest rain is expected to transfer from western Europe over the next couple of days southeast towards the Aegean Sea by Monday.

#### **Discussion**

A strongly positive NAO pattern continues, driven by various cold air outbreaks across the northeast of North America which act to strengthen the PFJ across the Atlantic. Through this week the PFJ will be south shifted meaning that successive depressions will track further south than has been typical over recent weeks.

#### **Expected Impacts**

Increased risk of flash and fluvial flooding, especially in wetter areas highlighted. Winds may locally be strong enough to cause some damage to infrastructure, although travel disruption is the most likely impact from wind.



## North America

### South and southeast USA

#### **Weather**

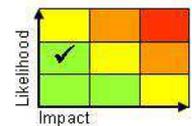
There is the potential for further severe thunderstorms to affect the Gulf states from Texas to northern Florida over the next couple of days. Intense rainfall, strong winds, large hail and a few tornadoes are also possible. Some locations could see as much as 75-100 mm of rain fall in a few hours. During Thursday, an active weather system is likely to develop in this area leading to more persistent heavy rainfall. Through this period some parts may see 150-200 mm of rain, most likely over southern Alabama, south Georgia and the Florida Panhandle.

#### **Discussion**

A relatively deep upper low is moving emerging from northern Mexico and engaging a plume of Gulf of Mexico moisture ahead of it. Broadscale lift ahead of this will continue to aid the initiation of scattered thunderstorms with a mix of cellular and linear modes. Through Wednesday night, there is a consistent signal from models that surface cyclogenesis will proceed to a greater degree allowing more organised frontal rain to develop, but still with embedded severe convection.

#### **Expected Impacts**

Flash flooding possible, along with damage to property and infrastructure from hail and/or strong winds.



## Central America

### Belize and northern Honduras

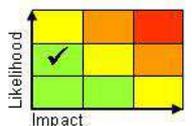
#### **Weather**

Heavy showers and thunderstorms are expected to become more frequent from Sunday through to Tuesday with the heaviest rainfall affecting coastal parts of Belize and the north Honduras coast. During this period, 150-250 mm of rainfall is possible, much of which is likely to fall in short periods. This is the dry season for this region and whilst monthly averages exceed 100 mm during the months of May to December, this is nearer 30-50 mm in March.

#### **Discussion**

Cyclogenesis over southeast USA and a strong build of pressure in its wake will drive a cold front into the tropics with a strengthening of the trade winds ahead of it across the western Caribbean Sea. This will support an out-of-season increase in shower and thunderstorm activity driven onshore across Belize and northern Honduras.

#### **Expected Impacts**



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This spell of 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.

## **South America**

### **Southwest Colombia, Ecuador and Peru**

#### **Weather**

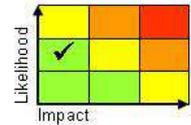
Enhanced shower and thunderstorm activity will continue across the northern Andes through the next week. Precipitation totals could reach 200-300 mm in places, which would represent more than the average for the whole of February.

#### **Discussion**

Continued northerly flow across Central America will lead to stronger than normal convergence along the ITCZ, bringing enhanced precipitation, especially in the north of 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.



## **Eastern Brazil**

#### **Weather**

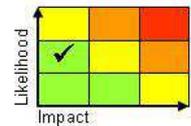
Heavy showers and thunderstorms will affect the region during this week. Around 50-100 mm could fall each day, with a few locations having up to 300 mm in total for the week, equivalent to a month's worth of rain. However, drier conditions will develop across major urban areas such as São Paulo and Rio de Janeiro compared to recently.

#### **Discussion**

The South Atlantic Convergence Zone (SACZ) will remain active through this week with several mid-latitude upper troughs relaxing northeast and to interact with the monsoon plume. Forecast profiles are very moist at depth, with relatively modest CAPE, suggesting high rainfall efficiency and the potential for large accumulations.

#### **Expected Impacts**

Heavy rain will bring a risk of flash flooding and landslides, particularly in mountainous terrain.



## **Africa**

### **Tanzania, Malawi and Zambia**

#### **Weather**

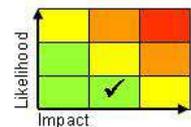
Heavy showers and thunderstorms are expected to remain more widespread and intense than usual for the time of year before returning to nearer to normal conditions later this week. Rainfall accumulations will vary from location to location but some places may receive up to 50 mm in one or two hours, with between 100-200 mm possible in some places over the next few days. This would represent close to a month's rainfall in the wettest areas.

#### **Discussion**

As has been the case for several months, rainfall is expected to remain above-average during this week. This probably due to the re-emergence of an active MJO in the Indian Ocean. As the MJO progresses east across the Maritime Continent this normally leads to a downturn in rainfall amounts over eastern Africa and NWP output is consistent with this signal.

#### **Expected Impacts**

Increased risk of flash and river flooding, as well as localised disruption to transport and damage to infrastructure, property and crops.



## **Middle East**

Nil.

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## Asia

### Java, Indonesia

#### **Weather**

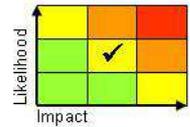
Enhanced seasonal rainfall is expected to continue with parts of Java continuing to see further spells of heavy rainfall. 50-100 mm of rain could fall in places in any one day, more likely in the space of a few hours, with a few areas seeing up to 200 mm over the next week. This would be close to a month's rainfall for somewhere like Jakarta and follows on from repeated incidents of flooding in the region recently, especially over West Java. Activity looks likely to peak over the next 48 hours through Wednesday and Thursday.

#### **Discussion**

Convergence will be enhanced across this region both along the ITCZ, mostly probably due to enhanced south to southwesterly flow over the Indian Ocean and Timor Sea from recent tropical cyclone activity in the region. Convergence will be focused over Java in particular. In addition, the MJO now moving from Phase 3 to 4 should also lead to a general increase in convection across the Maritime Continent. A Kelvin wave visible in IR sat imagery loops will increase convection over the Jakarta region today (Wednesday). Otherwise the heaviest showers will probably remain to the south across southern parts of Java.

#### **Expected Impacts**

Further flash flooding looks likely with the additional risk of further landslides in mountainous areas.



### Indonesia, Malaysia and Papua New Guinea

#### **Weather**

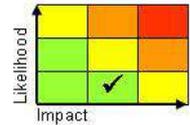
As above, enhanced seasonal rainfall is expected to continue fairly widely across Indonesia, Papua New Guinea and parts of Malaysia. Whilst rainfall totals may be just as high in places, the likelihood of impacts is lower than across Java which has been particularly wet recently.

#### **Discussion**

As above.

#### **Expected Impacts**

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



### Northern Pakistan, northern India and Nepal

#### **Weather**

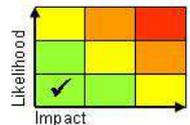
Heavy showers and thunderstorms are expected to develop across Pakistan over the next 24-36 hours with this risk extending east towards Nepal and northern India through Friday and Saturday before drier conditions develop thereafter. There is the potential for 50-75 mm of rain to locally fall in a couple of hours, in addition to frequent lightning, gusty winds and large hail.

#### **Discussion**

A Western Disturbance is expected to move east across the region from Thursday through to Saturday and engaging the increasingly warm low-level airmass south of the Himalayas. Forecast profiles exhibit steep mid-level lapse rates supportive of some hail, with vertical wind shear supportive of upscale development into one or more MCSs.

#### **Expected Impacts**

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

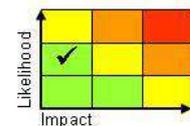


## Australasia

### Eastern Australia

#### **Weather**

The remnants of Tropical Cyclone Esther are now tracking southeast across the interior of Australia. The system will continue on this course over the next couple of days with heavy rain extending across eastern Victoria and New South Wales today (Wednesday). Whilst the system will weaken to some degree, 100-150 mm of rain is still possible in places. In addition, its remnants are then likely to act as a source for potential severe thunderstorm development across eastern parts of Australia.



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**Discussion**

Ex-Tropical Cyclone Esther remains an organised tropical low despite being well inland over western Queensland this morning. The plume of tropical moisture will continue to be extruded southward across eastern and southeast Australia through Wednesday before slowly clearing east through the remainder of the week. Within this plume, further heavy showers and thunderstorms are expected given forecast profiles support moderate instability and shear.

**Expected Impacts**

Following a transit across the largely unpopulated interior, the system threatens heavy rainfall and flood impacts for the southeast of the country over the next 2-3 days.

**Additional Information**

Nil.

**Issued at:** 040745 UTC    **Meteorologists:** Matthew Lehnert / Laura Ellam

**Global Guidance Unit**

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