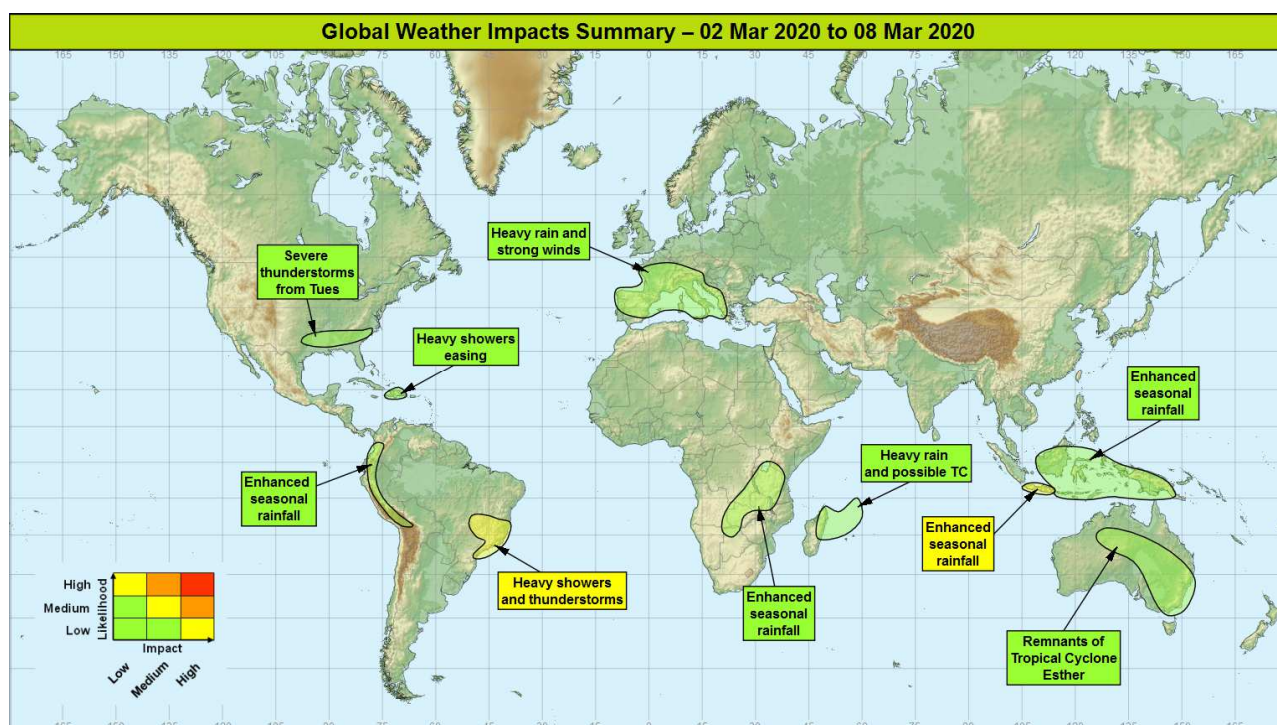


## Global Weather Impacts – Monday 2<sup>nd</sup> to Sunday 8<sup>th</sup> March 2020

Issued on Monday 2<sup>nd</sup> March 2020

### HEADLINES

- Enhanced seasonal rainfall bringing a threat of further flooding to Java, Indonesia.
- Flash flooding possible across southeast Brazil.



### DISCUSSION

#### Tropical Cyclones

There are currently no active tropical cyclones.

*The following area is being monitored for potential tropical cyclone development:*

#### Southwest Indian Ocean and Madagascar

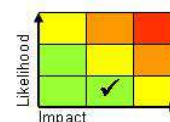
##### **Weather**

An area of thunderstorms northeast of Madagascar looks likely to become more organised over the next few days. It is still unclear whether the system will intensify enough to become a tropical cyclone but if this does occur it will most likely be during the latter part of this week. This brings the potential for torrential rain for Madagascar (300-400 mm over a couple of days) along with a threat of strong winds.

##### **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 helping to develop a low to the northeast of Madagascar. Environmental conditions in this area are favourable for tropical cyclogenesis during the coming week; weak vertical wind shear and high SSTs.

##### **Expected Impacts**



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

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

## Europe

### Southern Europe

#### Weather

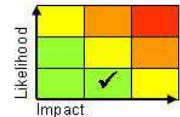
Unsettled conditions across Europe will be mainly focused on southern areas through the coming week with bouts of heavy rain, strong winds and mountain snow. Several systems will move east across the area during the week with perhaps the most active one today which AEMET (Spain) have named 'Karine'. This has the potential to bring gales or severe gales across Iberia and into the western Mediterranean. 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 200-250mm building up in parts of these areas, especially over high ground. Over the coming weekend it is likely that unsettled conditions will move back north again with conditions tending to improve over southern Europe.

#### 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

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



## North America

### Southern USA

#### Weather

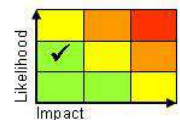
Potential for severe thunderstorms to break out on Tuesday and Wednesday across the deep south of the USA. Intense rainfall, strong winds, large hail and perhaps a few tornadoes are possible. Some locations could see as much as 75-100 mm of rain fall in a few hours. During Wednesday and into Thursday an active weather system is likely to develop in this area leading to more persistent heavy rainfall. Through this period some parts of the area may see 150-200mm of rain building up.

#### Discussion

A high WBPT plume will move north from the Gulf of Mexico ahead of an upper trough extending E/SE from the Rockies. Steadily increasing forcing from the resulting cut-off vortex will destabilise the plume allowing a mixture of modes of thunderstorms to break out. The most severe storms would be in the warm sector where high CAPE and sufficient wind shear leads to potential for discrete supercells to develop, although this is considered very low prob. By later Wednesday, 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 crops from hail and/or strong winds.



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## Central America

### Dominican Republic, Haiti, and Puerto Rico

#### **Weather**

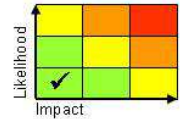
Out-of-season showers may continue to affect these parts of the Caribbean over the next couple of days, although activity is expected to steadily decline from its weekend peak. Showers will be heavier and a little more frequent than usual; daily accumulations of 20-40 mm are possible, and a further 50 mm in a few spots by the end of Tuesday.

#### **Discussion**

A slow moving cold front, combined with a surge of strong NE winds has led to enhanced low-level convergence increasing the intensity and frequency of showers in the region. The convergent winds will be steadily easing over the next couple of days to more normal magnitudes.

#### **Expected Impacts**

Increased risk of flash flooding and disruption to travel. Possible increase in the risk of landslides in mountainous areas.



## South America

### Southwest Colombia, Ecuador, Peru and Bolivia

#### **Weather**

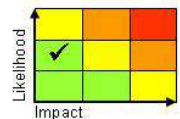
Enhanced shower and thunderstorm activity will continue across the central and northern Andes through this coming week. Precipitation totals could locally reach 200-300 mm, which would represent more than the average for the whole of February.

#### **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.



## Southeastern 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. Major urban areas such as Sao Paulo and Rio de Janeiro could be affected.

#### **Discussion**

The South Atlantic Convergence Zone (SACZ) will remain active through this week with several mid-latitude upper troughs relaxing NE 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.



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## Africa

### Parts of eastern Africa

#### **Weather**

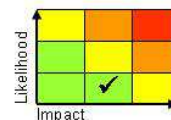
Heavy showers and thunderstorms are expected to remain more widespread and intense than usual for the time of year before returning to nearer to normal conditions later this week. Rainfall accumulations will vary from location to location but some places may receive up to 50 mm in one or two hours, with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

#### **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.

## Asia

### Java, Indonesia

#### **Weather**

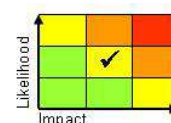
Enhanced seasonal rainfall is expected to continue with parts of Java continuing to see further spells of heavy rainfall. 50-100 mm of rain could fall in places in any one day, more likely in the space of a few hours, with a few areas seeing up to 200 mm over the next week. This would be close to a month's 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 increase from Wednesday in the Jakarta region.

#### **Discussion**

Convergence will be enhanced across this region both along the ITCZ, mostly probably due to enhanced south to south-westerly 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 an increase in convection across the Maritime Continent. A Kelvin Wave centred at around 95E on Monday looks likely to enhance convection in the Jakarta region by Wednesday, otherwise the heaviest showers will probably remain to the south across Banten and West 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**

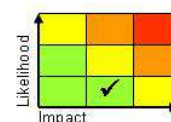
As above, enhanced seasonal rainfall is expected to continue fairly widely across Indonesia, Papua New Guinea and parts of Malaysia. Whilst rainfall totals may be just as high in places, the likelihood of impacts is lower than across Java which has been particularly wet recently.

#### **Discussion**

As above.

#### **Expected Impacts**

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



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**Australasia****Australia****Weather**

The remnants of Tropical Cyclone Esther have turned southeast and are now tracking into the interior of Australia. The system is expected to accelerate south-eastwards over the next couple of days before reaching south-eastern Australia later this week. Over the next couple of days this may produce over 300 mm in places. Whilst the system will weaken to some degree by the time it reaches the southeast 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.

**Discussion**

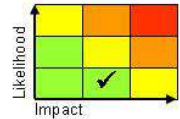
Ex-Tropical Cyclone Esther remains an organised tropical low sustained by the moist surfaces it overlies. There is a consistent signal for the system to be driven south-eastwards across Australia this week ahead of an upper trough, reaching the more populous region of south-eastern Australia by Thursday. Its track looks likely to allow a very high WBPT plume to become established across eastern Australia by the end of the week which will then probably act as a focus for the diurnal development of severe thunderstorms.

**Expected Impacts**

Both flash and river flooding are likely across the area of northwestern Australia. Following a transit across the largely unpopulated interior, the system threatens heavy rainfall and flood impacts for the southeast of the country later next week.

**Additional Information**

Nil.



**Issued at:** 020830 UTC    **Meteorologists:** Chris Bulmer / D J Harris

**Global Guidance Unit**

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

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