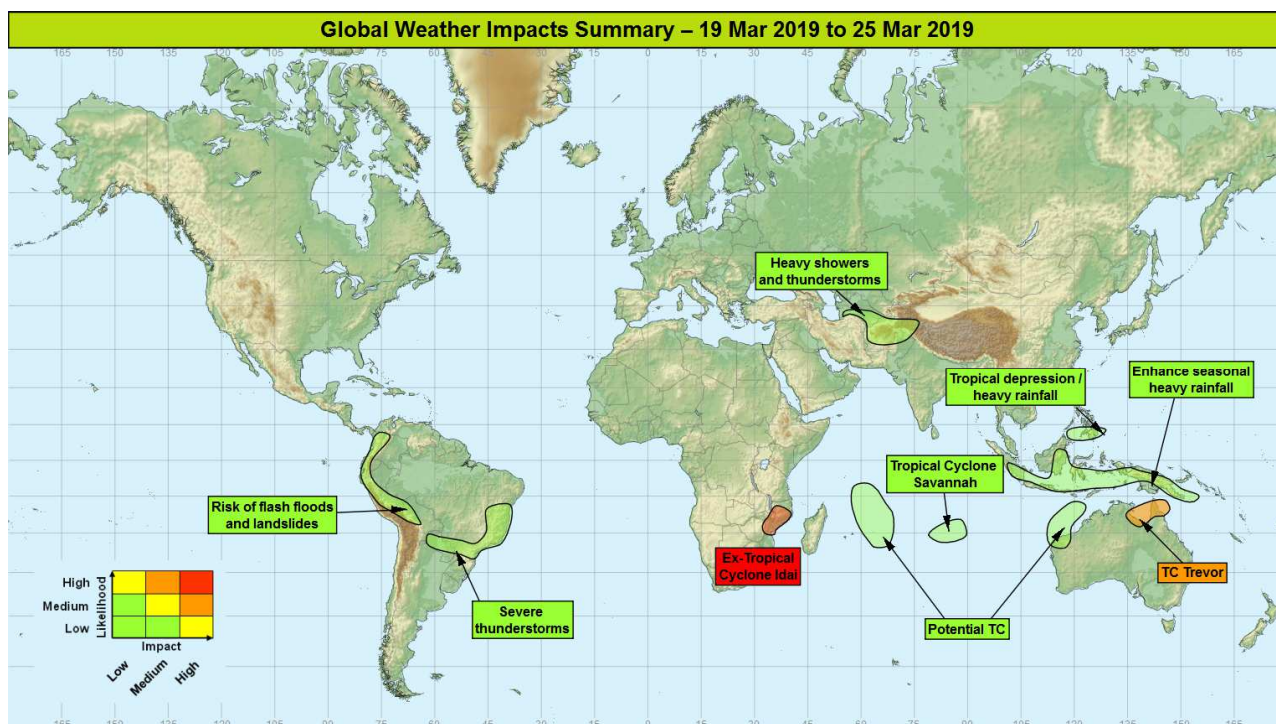


## Global Weather Impacts – Monday 18<sup>th</sup> to Sunday 24<sup>th</sup> March 2019

Issued on Tuesday 19<sup>th</sup> March 2019

### HEADLINES

- Torrential rainfall associated with Ex-Idai continues over parts of Mozambique, eastern Zimbabwe and southern Malawi.
- Tropical cyclone Trevor will affect northern Queensland bringing heavy rain and a risk of flooding.



### DISCUSSION

#### Tropical Cyclones

Ex-Tropical Cyclone Idai - See *Africa* Section below.

#### Tropical Storm Savannah (Southwest Indian Ocean)

##### Weather

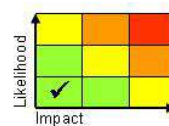
Tropical Storm Savannah was around 2700 Km west-northwest of Australia this morning, moving Southwestwards at around 10 mph. Savannah weakened slightly over the last 24hrs and is expected to weaken further over the next few days as it continues west-southwestwards over open water.

##### Discussion

Good model agreement that Savannah will remain well away from land with the likelihood that Savannah is now in its most intense phase.

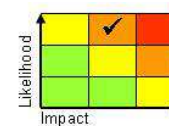
##### Expected Impacts

None expected.



#### Severe Tropical Cyclone Trevor (NE Australia)

##### Weather



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Severe Tropical Cyclone Trevor was just off the Queensland coast on Monday morning, moving slowly westwards. Maximum sustained winds of 85KT mean Trevor is equivalent to a category 2 hurricane. Trevor will make landfall later today to the south of Lockhart River and then weaken as it crosses the Cape York Peninsular before moving into the Gulf of Carpentaria on Wednesday and Thursday.

Trevor will bring gale force winds and torrential rainfall to the north of Cape York with 200-300mm per day likely for at least 3-4 days with some places seeing perhaps 1000mm which is around a month's worth of rain for this region.

### Discussion

Models are consistent with the track and gradually weakening of Trevor as it moves across the Cape York Peninsular. Spread increases from around Thursday with uncertainty over its evolution in the Gulf of Carpentaria and where it may make landfall again. This is most likely to the west of Wellesley Island over a very sparsely populated part of the Northern Territory.

### Expected Impacts

Torrential rainfall will be the main hazard with flash flooding, river flooding and landslides likely. BoM have issued several flood warnings for the area.

### The following areas are being monitored for Tropical Cyclone development:

#### Philippines

##### Weather

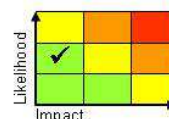
A weak tropical depression is moving slowly across the southern Philippines over the next 36hrs bringing heavy rainfall to parts of Mindanao and neighbouring islands.

##### Discussion

Interaction with land and mountains over Mindanao will limit any further development and models are consistent in showing it continuing to weaken as it moves over the Sulu Sea later Wednesday.

##### Expected Impacts

The main impacts are likely to be enhanced rainfall across parts of the southern Philippines. Hinatuan on eastern Mindanao recorded 121mm on Tuesday, and some places may get 40-50mm of rain today and a risk of some localised flash flooding.



#### Timor Sea and NW Australia

##### Weather

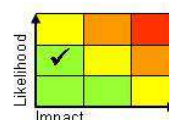
An area of enhanced convection over the Timor Sea is expected to develop into a tropical storm over the next few days and then move southwest to affect parts of the northwest Australia – north of Carnarvon.

##### Discussion

The area of deep convection over the Timor Sea is associated with an Equatorial Rossby Wave. As this moves slowly southwest over warm waters and low shear it is likely to develop into a tropical storm. NWP models are consistent in this development but show large spread over where it may make landfall.

##### Expected Impacts

Given the very sparse population in this part of Australia the impacts are expected to be low.



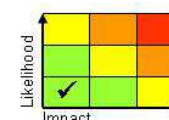
#### SW Indian Ocean

##### Weather

An area of deep convection over the southwestern Indian Ocean is likely to develop into a tropical storm later this week near 60 Degrees East and then move slowly south towards Mauritius over the weekend remaining over open water.

##### Discussion

An area of enhanced convection, associated with an equatorial Rossby wave will gradually consolidate into a tropical storm later this week. As it moves slowly south it is likely to encounter a favourable low shear environment for further development into a tropical cyclone. Models are consistent in this deepening but there is uncertainty as to where this will occur with some models bringing the system close to Mauritius over the weekend, while others take it well to the east.



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## Expected Impacts

None while over open water.

## Europe

Nil significant.

## North America

Nil significant.

## Central America and Caribbean

Nil significant.

## South America

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

#### Weather

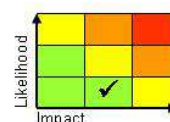
Heavy showers and thunderstorms are expected to continue to affect the northern Andes region for the next week. Rainfall accumulations will vary by location due to the showery nature of the rainfall, but locally a further 200-300 mm of rain is possible through the week.

#### Discussion

Along the Pacific coastline north of NE Peru there are positive SST anomalies, and these indicate a weakening of trade winds and the Humboldt Current in this region. This setup allows sea breezes to draw moist oceanic air to the usually dry western Andes, with an unusually high frequency of heavy showers and thunderstorms occurring here.

#### Expected Impacts

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



### Paraguay and southern Brazil

#### Weather

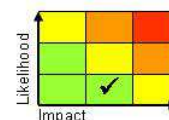
Further bouts of showers and thunderstorms are expected to affect the region over the next few days. Thunderstorms will gradually move north clearing Paraguay on Thursday and breaking out more widely across eastern parts of southern Brazil. These could produce strong winds, large hail and a risk of tornadoes. Rainfall totals of 100-150 mm are possible in a few hours in places. The heaviest and most frequent rainfall looks likely to be over Paraguay on Wednesday with rainfall accumulations of 250 to 300 mm possible in places. Coronel Oviedo recorded 137mm on Monday.

#### Discussion

Severe convection will develop along the South Atlantic Convergence Zone (SACZ) over the next few days as it moves north across Paraguay and then southern Brazil. The environment will be characterised by high CAPE and shear, supporting mesoscale convective systems and supercells.

#### Expected Impacts

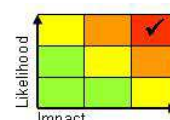
Flash flooding and increased risk of landslides and fluvial flooding are likely. Severe thunderstorms will also cause some highly localised but potentially significant property and infrastructure impacts due to strong winds, hail and lightning damage.



## Africa

### Central Mozambique, southern Malawi and eastern Zimbabwe

#### Weather



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After making landfall close to Beira, Mozambique on Thursday evening, the remnants of Ex-Idai have remained slow moving across central Mozambique, eastern Zimbabwe and southern Malawi. Over the coming days further heavy rainfall is expected to continue across these areas with models suggesting a further 150-300 mm may fall in places (generally these areas see 150-300 mm of rainfall in a typical March). The highest rainfall totals looks likely occur on Tuesday and Wednesday across parts of Mozambique near the Zambezi estuary, and then gradually move northwards over subsequent days. Rainfall will turn increasingly 'showery' with severe thunderstorms likely to develop daily during the afternoon and evenings. The typical convective set-up is likely to give a few hours each morning of dry weather before daytime heating triggers new storms.

#### **Discussion**

The remnant moisture from Ex-cyclone Idai will begin to move slowly northwards from Wednesday with further torrential and prolonged spells of rain. Models differ slightly as to where and how much rain will fall, although the eastern Zambezi river basin in Mozambique is likely to see the heaviest rain over the next few days. As the system moves north, southern Malawi will become increasingly prone. This region has already seen very heavy seasonal rainfall in recent weeks with severe and deadly flood impacts. So further very heavy rainfall will just exacerbate the situation. The full impacts from Idai are emerging with widespread flooding and landslides making many roads and bridges impassable or completely destroyed. Reaching the worst affected areas is proving difficult. Through the week as Ex-Idai continues to break up rainfall will become increasingly convective with severe thunderstorms.

#### **Expected Impacts**

Further flash flooding and fluvial flooding of major river systems such as the Zambezi, Pungwe, Revue and Save is expected. The impact Idai has already had on Mozambique, Malawi and Zimbabwe is severe with the worst affected areas still difficult to reach. However it is likely that the country and population will be especially vulnerable at this time.

#### **Middle East**

Nil significant.

#### **Asia**

##### **Afghanistan, Turkmenistan, northern Pakistan**

#### **Weather**

Areas of heavy rain, thunderstorms and mountain snow will move eastwards across Afghanistan and northern Pakistan during Tuesday, while a more prolonged period of rain is likely over Turkmenistan over the next few days. A further 30 to 50 mm of rainfall is possible, perhaps 75 mm in places, with heavy snow over high mountains.

#### **Discussion**

A low pressure system will move east across Afghanistan and northern Pakistan on Tuesday, while the occlusion becomes slow moving for a few days over Turkmenistan. Heavy rain and thunderstorms will progress east; with models precipitable water fields suggesting that some places may see up to 75mm of rain today.

#### **Expected Impacts**

At low levels the heavy rain combined with snow melt, will increase the risk of flooding and landslides. Following recent flooding in Afghanistan, further rainfall and snowmelt is likely to have a greater impact than normal here.

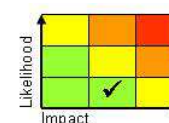


##### **Central and eastern Indonesia and Papua New Guinea (see also Tropical Cyclone section)**

#### **Weather**

Above average rainfall is expected across many islands in this region through the next week. Whilst the heaviest downpours will be rather localised, they are likely to develop in a similar places each day with 100-150 mm of rain falling in 24 hours and some places likely to receive around 300 mm over the next week. In a typical 7-day period at this time of year, this region normally receives around 50-100 mm.

#### **Discussion**



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The MJO, although weakening, will continue to help to organise and enhance convection across the region.

**Expected Impacts**

An increased likelihood of flash flooding and landslides leading to localised damage to infrastructure and property.

**Australasia**

**Papua New Guinea** – See *Asia and Tropical Cyclone* section.

**Far northeast of Australia** – See *Tropical Cyclones* section.

**NW Australia** - See *Tropical Cyclones* section.

**Additional information**

Nil.

**Issued at:** 190820 UTC    **Meteorologist:** Neil Armstrong

**Global Guidance Unit**

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