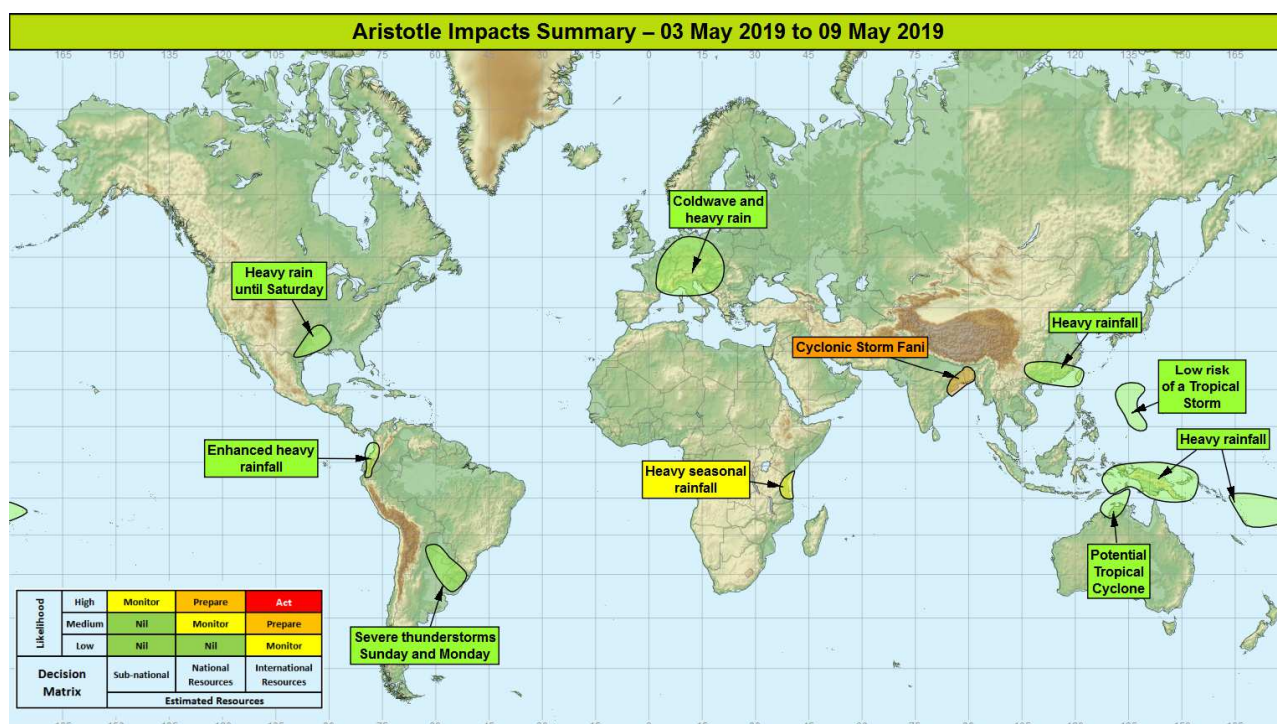


## Global Weather Impacts – Friday 3<sup>rd</sup> to Thursday 9<sup>th</sup> May 2019

Issued on Friday 3<sup>rd</sup> May 2019

### HEADLINES

- Extremely Severe Cyclonic Storm Fani has now made landfall in Odisha, eastern India. It is likely to have brought a combination of destructive winds, heavy rain, storm surge, and large waves.
- Heavy seasonal rainfall continues across parts of eastern Africa.



### DISCUSSION

#### Tropical Cyclones

#### Extremely Severe Cyclonic Storm Fani (Bay of Bengal)

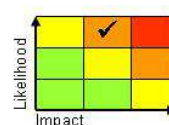
##### Weather

Fani made landfall close to Puri, Odisha, eastern India earlier this morning as an Extremely Severe Cyclone Storm with (3-minute) winds of 105 mph with gusts of 120 mph - equivalent to a category 3 system on the Saffir-Simpson Hurricane Wind Scale. Fani will continue to move north-northeast over eastern India while steadily weakening. The remnants of the system will continue to weaken as it moves inland across West Bengal and Bangladesh (fringing Dhaka) over the weekend. The heaviest rainfall is expected to fall within a narrow corridor close to the centre of decaying circulation with accumulations decreasing inland. Along this track, 100-200 mm of rainfall is expected quite widely with locally 300-400 mm over the next few days along the coast.

##### Discussion

Now the system is overland a period of rapid weakening and eventual decay is underway. The exact rate at which Fani weakens and its track across Bangladesh is slightly less certain, but is expected to remain well to the west of sensitive Cox's Bazar region.

##### Expected Impacts



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

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Hurricane force winds are likely to cause major damage and any poorly built structures are likely to be destroyed near where the centre of Fani made landfall. Trees are likely to have been uprooted leading to transport disruption and damage to power poles leading to isolation of some communities. A storm surge is likely to cause significant coastal flooding of low-lying areas, potentially including heavily populated cities such as Puri (population 200k and elevation <1m). Rainfall totals could lead to some flash flooding and small river flooding over the weekend. There will be no significant impacts to Cox's Bazar.

The following regions are also being monitored for potential Tropical Cyclone formation:

## **Micronesia, Philippine Sea**

### **Weather**

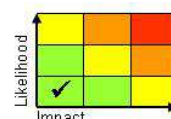
There is a low chance than a low level circulation associated with a fairly modest area of shower and thunderstorm activity may develop into a weak tropical storm over the coming days. Regardless of development this weak system will bring enhanced rainfall to parts of Micronesia as it slowly meanders north.

### **Discussion**

The northern portion of an Equatorial Rossby Wave (ERW) that has formed in the wake of the MJO has been associated with an area of showers and thunderstorms. Convection around this wave has aided the formation of a shallow low level circulation. Although most NWP signals little to no development of this system, the GFS solution allows the slow development of a tropical storm over the next 5 days.

### **Expected Impacts**

In the short term the only impacts will be enhanced rainfall across some of the islands of Micronesia.



## **Timor-Leste and northern Australia, Arafura and Timor Seas**

### **Weather**

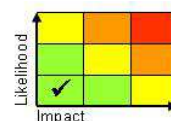
There is a low chance that an area of showers and thunderstorms located over the Banda and Arafuru Seas currently will develop into a tropical cyclone as it moves southwest into the Arafuru and Timor Seas over the weekend. If a cyclone does develop it would likely be steered close to northern Australia in the middle part of next week.

### **Discussion**

The southern portion of an Equatorial Rossby Wave (ERW) that has formed in the wake of the MJO is currently associated with an area of showers and thunderstorms. This is signalled to become more organised over the weekend with a low level circulation developing. Although there are differences in model solutions, a number now show a tropical cyclone developing in this region in the early to mid part of next week.

### **Expected Impacts**

Heavy rainfall will increase the risk of flash flooding and landslides across some of the small islands in this region, and potentially parts of northern Australia next week. If a cyclone does develop strong winds will generate rough seas, and may cause some modest damage across land areas near the cyclones centre. As the majority of this region is sparsely populated the impacts of this event (even if a cyclone were to form) would likely be low.



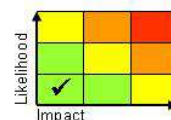
## **Europe**

### **Central Europe**

### **Weather**

Significantly colder than average conditions are expected this weekend and early next week across much of northern and central Europe with maximum temperatures widely 5°C below average and overnight frost. Accompanying the change to colder weather will be a spell of heavy rain and thunderstorms that will be most active around the northern Adriatic region and over the Alps. These may be accompanied by hail, strong winds and possibly one or two waterspouts or tornadoes.

### **Discussion**



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An airmass of Arctic origin is expected to spread south across much of Europe this weekend with the associated cold front strongly forced by an upper trough. This is expected to lead to a Genoa Low forming with the additional heat/moisture from the Adriatic supporting the development of locally severe thunderstorms. As the low moves southeast, a strong Mistral and Bora will follow. Temperatures are expected to gradually recover through next week.

## **Expected Impacts**

Overnight frost this late into spring is likely to have an adverse effect on agricultural industry. Heavy rain and thunderstorms will be associated with an increased likelihood of flash flooding and localised property/infrastructure damage. Strong winds may cause some disruption to maritime transport in the region.

## **North America**

### **A zone from Arkansas to Texas**

#### **Weather**

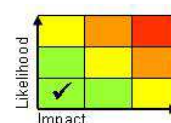
Whilst the threat of isolated severe thunderstorms is now reducing and largely confined to Texas through Friday, there is a continued risk for heavy rainfall across portions of the Southern Plains and Mississippi, Tennessee and Ohio Valleys through to Saturday. Many areas will receive 30-50 mm of rainfall but some locations particularly eastern Texas may see up 100-200 mm over the next couple of days. Further heavy rainfall and severe thunderstorm are likely across this region once more in the later part of next week.

#### **Discussion**

The upper trough ejecting from the southern Rockies will develop a weak lee cyclone in this region through Friday. This cyclone will help continue to draw moist and unstable air across this region for the next couple of days. Shortwave troughs embedded within the flow will interact with the slow-moving frontal zone and be the axis for shower and thunderstorm activity. As the surface pulls away to the east late Saturday, a drier northwesterly flow will bring much more settled conditions to this region.

#### **Expected Impacts**

Increased risk of flash flooding, particularly in urban areas and around small rivers/streams. Some minor transport disruption may affect airports in the region due to thunderstorm activity, particularly Dallas-Fort Worth.



## **Central America and Caribbean**

Nil significant.

## **South America**

### **Ecuador and western Colombia**

#### **Weather**

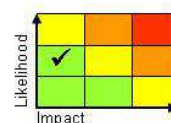
Frequent heavy showers and thunderstorms are expected to affect the western part of the Andes through the remainder of this week. As much as 100-150 mm of rainfall could locally fall per day, often falling in a few hours although many places will receive significantly less.

#### **Discussion**

In line with the ongoing El Nino event, Sea Surface Temperatures (SSTs) remain between 1 and 3°C above average off this area of the South American coastline. The extra moisture these warmer seas provided translates to above average rainfall across the western slopes of the northern Andes.

#### **Expected Impacts**

Since we are nearing the end of the wet season across Ecuador and western Colombia, soil in the region will already be saturated and therefore more prone to flash flooding, mud and landslides.



## **Paraguay, Uruguay, northeast Argentina and southern Brazil**

#### **Weather**



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Another spell of heavy showers and thunderstorms, potentially severe, are expected to develop across northeast Argentina, Paraguay, Uruguay and southern Brazil through Sunday and Monday. These could produce locally high rainfall accumulations of up to 75 mm in a few hours and perhaps 125-150 mm over a couple of days.

## Discussion

An upper trough currently is expected to cross the Andes and engage a low level moisture plume leading to a further outbreak of severe convection along the South Atlantic Convergence Zone from Sunday.

## Expected Impacts

Localised flash flooding increased chance of landslides in mountainous areas. Large hail, strong winds and frequent lightning are additional hazards which may cause damage to property and disruption to transport and utilities.

## Africa

### Eastern Tanzania and southeast Kenya

#### Weather

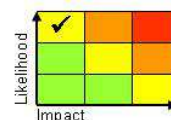
Following the remnants of Tropical Cyclone Kenneth, shower and thunderstorm activity is expected to remain more frequent than normal across eastern Tanzania over the next week. 75-100 mm of rainfall is possible per day, but some locations could receive as much as 300-400 mm of rain by the middle of next week. Whilst May represents climatologically the wettest month of the year, this would represent more than the entire monthly rainfall (around 250 mm).

#### Discussion

Whilst the remnants of Tropical Cyclone Kenneth have dissipated, the inter-tropical convergence zone will maintain the focus for frequent heavy showers and thunderstorms through the next week across eastern Tanzania and the extreme southeast of Kenya.

#### Expected Impacts

Whilst the focus for the heaviest rainfall is now moving away from the worst affected areas associated with the landfall and decay of Tropical Cyclone Kenneth, there is still expected to further flooding, flash flooding and damage to property and infrastructure in locations further north (including major cities such as Dar es Salaam, and tourist destinations such as Zanzibar). However, these impacts are expected to be nowhere near as severe as that seen in Mozambique from either Kenneth or Idai.



## Middle East

Nil significant

## Asia

### Northeast India and Bangladesh – See *Tropical Cyclones* section.

### Southeast China and Taiwan

#### Weather

A further spell of heavy rain and thunderstorms is expected to affect southeast China and Taiwan from Saturday through to Tuesday. Much of the region will receive a further 100-150 mm of rainfall during this period, locally 250-300 mm. Whilst May is the wettest month of the year for inland southeast China these higher totals would represent around an entire month of rainfall for this event alone.

#### Discussion

Moisture is expected to return northward across the region later in the week but disturbances embedded within the west-northwesterly upper flow will support widespread rainfall and thunderstorm activity.

#### Expected Impacts

Increased likelihood of flash flooding exacerbated by recent heavy rainfall earlier this week. There is also an increased risk of landslides in more mountainous regions.



### Eastern Indonesia, Timor-Leste, Papua New Guinea and Vanuatu

#### Weather

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The usual shower and thunderstorm activity is likely to be more frequent and intense with 50-100 mm of rain in a 24 hour period (mostly falling in a 6-hour period) across portions of eastern Indonesia, Timor-Leste, Papua New Guinea and Vanuatu.

**Discussion**

An active phase of the MJO will transfer east across the region over the next week leading to enhanced rainfall. Western parts of Indonesia are likely to become somewhat drier by the weekend. As seen in the Indian Ocean, the MJO may spawn equatorial Rossby waves which present a low likelihood of tropical cyclogenesis.

**Expected Impacts**

Increased threat of flash flooding and landslides particularly should shower and thunderstorm activity becomes more organised into next week.

**Australasia**

**Papua New Guinea and Vanuatu** – See *Asia* section.

**Additional information**

Nil.

**Issued at:** 030730 UTC    **Meteorologists:** Nick Silkstone and Neil Armstrong

**Global Guidance Unit**

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