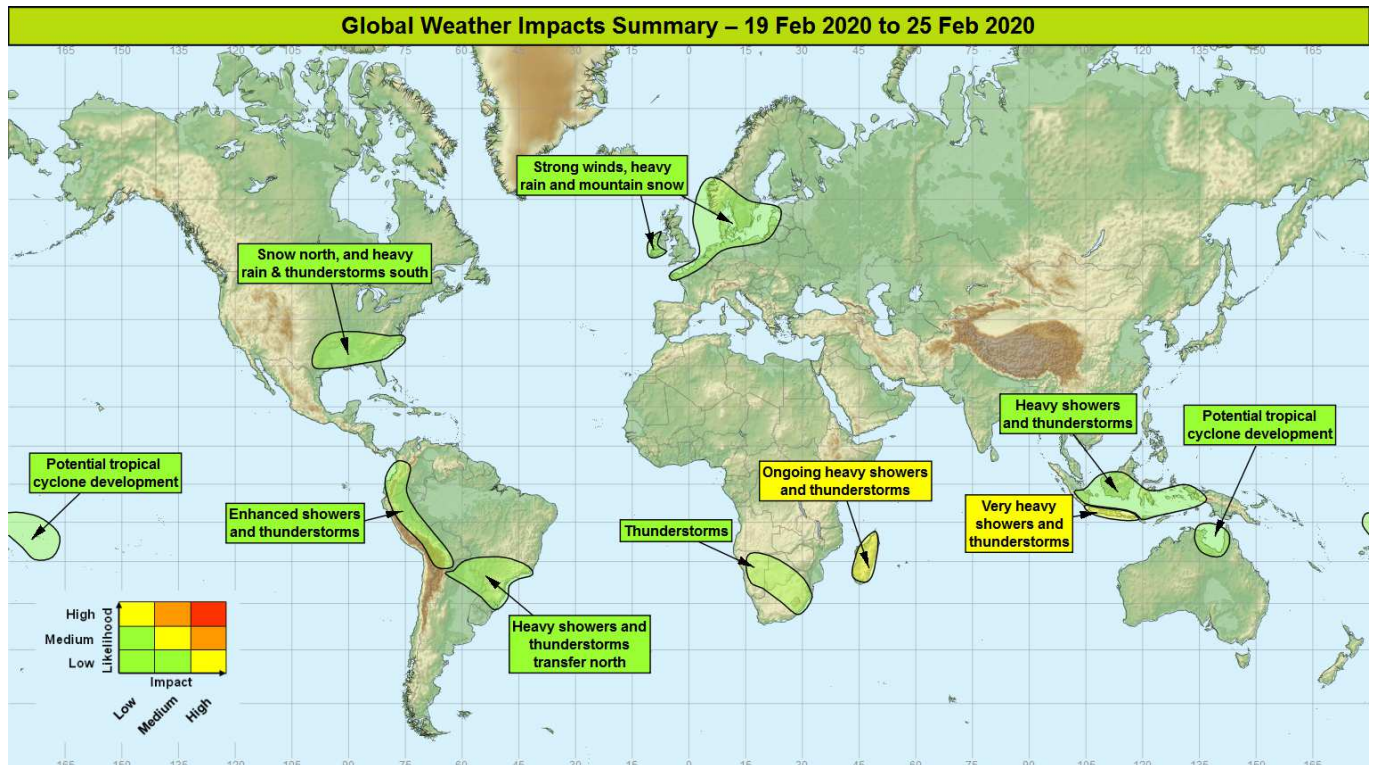


## Global Weather Impacts – Wednesday 19<sup>th</sup> to Tuesday 25<sup>th</sup> February 2020

Issued on Wednesday 19<sup>th</sup> February 2020

### HEADLINES

- Further heavy rain and thunderstorms for much of Madagascar.
- Heavy showers and thunderstorms affecting much of Indonesia and parts of South America.



### DISCUSSION

#### Tropical Cyclones

There are no named tropical cyclones either affecting or expected to affect land over the next week. The following areas are being monitored for potential tropical cyclone development:

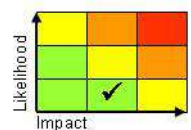
#### Southwest Pacific Ocean Weather

There is the potential for a tropical cyclone to form close to Samoa and American Samoa over the coming days. This has the potential to bring torrential rain and strong winds to some of the Pacific Islands in the highlighted area. Regardless of the degree of development along the system, 100-200 mm is expected to fall across Samoa. These accumulations however represents around a fraction of the average February rainfall which stands at 300-400 mm. Any system that forms will be steered generally south and southeastwards.

#### **Discussion**

The MJO is moving through this region currently, generating active convection along the South Pacific Convergence Zone. From this region an area designated Invest 96P has emerged from a large band of convection, which in turn is driven by a broad and weak low level circulation. The development is currently being hindered by moderate vertical wind shear, however this will ease allowing a circulation to consolidate and perhaps strengthen later this week.

#### **Expected Impacts**



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Risk of some minor flash flooding, a small risk of damaging winds later in the week.

## Gulf of Carpentaria (including northern Australia)

### **Weather**

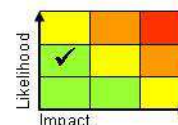
There is an increasing signal for the development of a tropical cyclone across the Gulf of Carpentaria, Northern Australia later this week. This has the potential to bring damaging winds and torrential rain 300-600 mm to the region. This area is very sparsely populated, significantly mitigating any impacts from this event.

### **Discussion**

The monsoon across northern Australia is likely to go through an active period over the coming week with the MJO in the Western Pacific. This may be the catalyst for the formation of a tropical cyclone from an Equatorial Rossby Wave (ERW) across the Gulf of Carpentaria later this week. Any system that forms would be steered west across northern Australia.

### **Expected Impacts**

Both flash and river flooding likely, with strong winds generating rough seas probably causing some damage to infrastructure and disruption to transport.



## Europe

### Northwest Europe

#### **Weather**

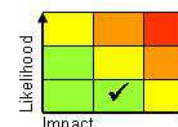
Continuing very unsettled with further spells of very windy conditions across much of northern Europe during this period. This is not anticipated to be a stormy as the previous weekend (associated with Storm *Dennis*), but gales are expected around many coasts, locally severe at times. In addition heavy rainfall and mountain snow is expected across much of the high ground in the region highlighted. With regards to precipitation 100-150 mm falling across parts of the western Ireland, and 200-300 mm across parts of Norway (falling as snow above 400-500 metres).

#### **Discussion**

A very energetic positive NAO pattern continues, driven by various cold air outbreaks across the northeast of North America. These strengthen the polar front jet stream across the Atlantic, which then develops several low pressure areas that move quickly northeast and bring unsettled conditions to much of northwestern Europe. Strong winds, and some marked orographic rainfall (mountain snow) will be associated with these systems.

#### **Expected Impacts**

Winds may locally be strong enough to cause some damage to infrastructure, but will certainly disrupt travel. Heavy rainfall (following recent wet weather the in region) will likely bring further flooding issues. Snowfall across the mountains and at times snowmelt here will bring an increased risk of avalanche, and may also add to flooding issues.



## North America

### Southeastern USA

#### **Weather**

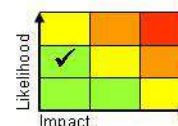
A band of heavy rainfall across the southeastern USA will bring 50-100 mm of precipitation over the next couple of days. On the southern boundary of this rain area a few thunderstorms are possible, with some sleet or snowfall close to the northern boundary.

#### **Discussion**

A cold front stretching westsouthwest from North Carolina to Texas will be engaged by a shortwave upper trough moving southeast across the USA. This will develop and wave along the front enhancing the precipitation, some deep convection is possible ahead of the surface front, and where the wave overrides cold low level air some sleet and snow is possible.

#### **Expected Impacts**

Rainfall may generate some localised river flooding. Sleet and snowfall will lead to some travel disruption, especially in areas with elevation such as the Appalachians.



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**Central America**

Nil significant.

**South America****Northern Argentina, southern Brazil and Paraguay****Weather**

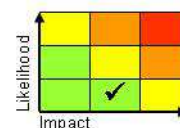
The area of thunderstorms that has impacted Argentina and Uruguay in recent days will continue to move gradually northeastwards across this region. These storms will be capable of bringing 25-50 mm quite widely across the area, with locally accumulations exceeding 150 mm (with much of the precipitation likely falling in a short duration). These peak accumulations would be the equivalent between 2 weeks to a month's rain for this region.

**Discussion**

Although these storms located on and just forward of a surface cold front will continue to produce high rainfall accumulations, the mode will change and they will become less severe. This due to decreasing vertical wind shear as they become increasingly remote from the sub-tropical jet, and loss of steep lapse rates at mid levels. As such the main hazard from these will be from heavy precipitation.

**Expected Impacts**

Ongoing enhanced threat of flash flooding and landslides, particularly in mountainous terrain. This includes some of the regions larger cities such as Rio de Janeiro and Sao Paulo.

**Southern Colombia, Ecuador Peru and Bolivia****Weather**

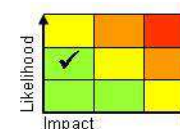
Above average shower and thunderstorm activity will continue across the central and northern Andes through the coming week. Precipitation totals could locally reach 200-300 mm, which would represent more than the average for the whole of February.

**Discussion**

Strong northerly flow across Central America will lead to stronger than normal convergence along to the ITCZ bringing enhanced precipitation to the north of this region. Across the south the ingress of a much weakened mid-latitude cold front will lead to enhanced precipitation here. Precipitation across this area has been above average in recent weeks, with impacts from flash flooding and landslides reported across the media.

**Expected Impacts**

Ongoing enhanced threat of flash flooding and landslides.

**Africa****Madagascar****Weather**

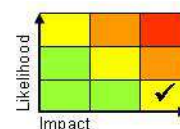
The moisture plume associated with the remnants of ex-Tropical Storm Francisco will continue to promote well above average shower and thunderstorm activity through the coming week. Parts of Madagascar are likely to see 50-100 mm per day, with locally 200-400 mm possible through the coming 7 days. Antananarivo is likely to be less affected, but could see 150-250 mm or so in the coming week, this alone would approach the average February precipitation.

**Discussion**

As discussed previously the moisture plume from the recent tropical cyclone will continue to enhance convection. The prevailing easterly flow has focussed the heaviest rainfall in the east in recent days, however the weak circulation left over from *Francisco* will result in a northwesterly flow developing across the west of the island, which will likely result in enhanced convergence, bringing the threat of heavier rainfall accumulations to much of the island.

**Expected Impacts**

An enhanced risk of surface water and river flooding, as well as landslides in more mountainous areas.



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## South Africa, Botswana, Lesotho, Angola and Eswatini

### **Weather**

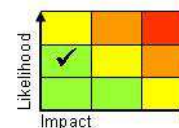
Heavy showers and thunderstorms are expected to be more frequent than usual for the time of year through the remainder of this week. Rainfall accumulations will vary from location to location but some places may receive up to 75 mm in one or two hours. The heaviest rainfall is expected to fall across Angola. In addition to heavy rain, large hail, frequent lightning and squally winds will be additional hazards.

### **Discussion**

A slow-moving upper trough will engage the seasonal plume of sub-tropical heat and moisture over southern Africa through the remainder of the week. Forecast profiles in the north of the region exhibit moist, skinny CAPE and weak steering flow winds supportive of heavy rainfall generation. Further south, instability and deep layer shear increase supporting other hazards such as hail, lightning and strong winds.

### **Expected Impacts**

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



## Middle East

Nil significant.

## Asia

### Java to Nusa Tenggara and southern Sumatra

### **Weather**

Heavy showers and thunderstorms are expected to continue over the next couple of days. These are signalled to be particularly enhanced across Java and the islands to the east. Between 150-250 mm of precipitation is signalled in the wetter spots of the region, this would represent around half the average February rainfall falling in just a few days.

### **Discussion**

Convection will be enhanced along the ITCZ due to the MJO in the Western Pacific and a marked cold surge across the South China Sea. The convergence most likely peaking on Wednesday and Thursday. A well-formed Borneo vortex will tend to lead to the surge manifesting as a northwesterly flow as it reaches Java (and the islands to the east), and in these situations Jakarta tends to avoid the heaviest precipitation.

### **Expected Impacts**

A much increased threat of flash flooding and landslides.



### Other parts of Indonesia

### **Weather**

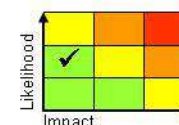
Increased frequency and intensity of heavy showers and thunderstorms across parts of Indonesia during the next week. Locally 50-100 mm of rain could fall in within a day (often over a shorter duration) in association with these thunderstorms.

### **Discussion**

Associated with MJO phase and cold surge (mentioned in the previous section) convection across the region is expected to be more enhanced than usual.

### **Expected Impacts**

An increased risk of flash flooding and landslides.



## Australasia

**Northern Australia** – see *Tropical Storm* section.

### Additional Information

Nil.

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**Issued at:** 190755 UTC    **Meteorologists:** Nick Silkstone / Matthew Lehnert    **Global Guidance Unit**

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