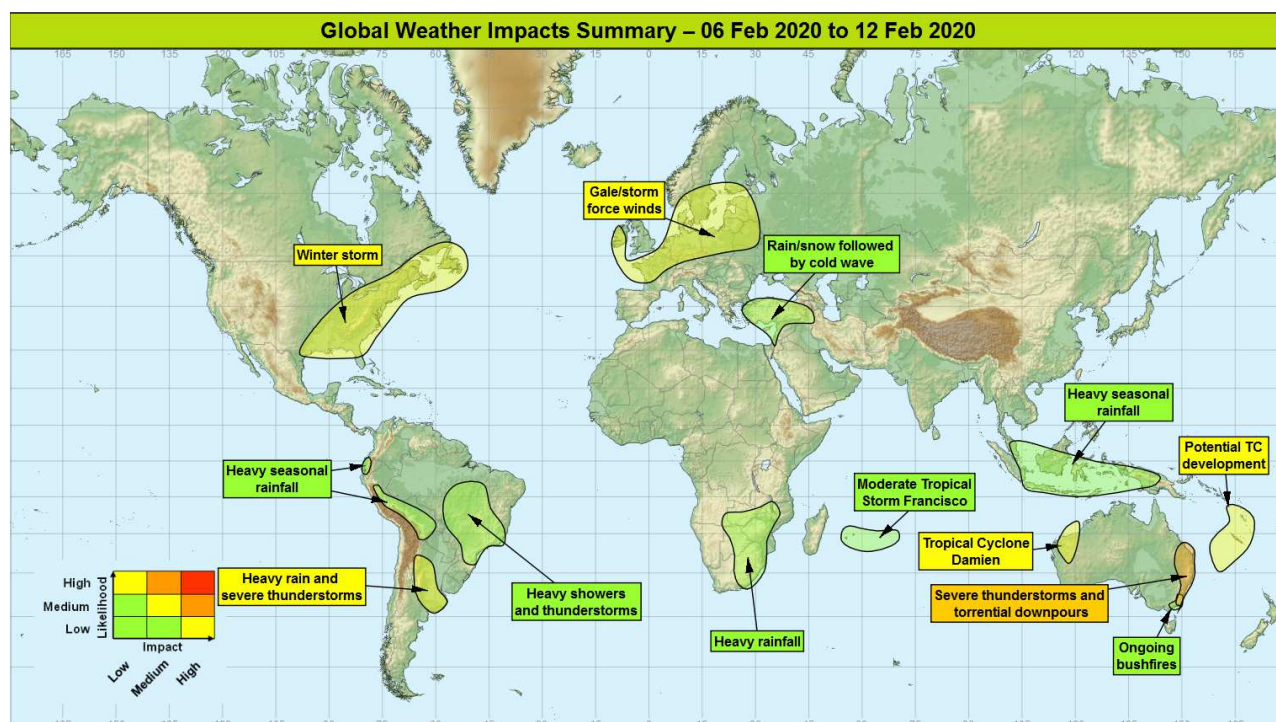


## Global Weather Impacts – Thursday 6<sup>th</sup> to Wednesday 12<sup>th</sup> February 2020

Issued on Thursday 6<sup>th</sup> February 2020

### HEADLINES

- Severe thunderstorms and flash flooding threat for eastern Australia through the next week.
- Heavy rain and thunderstorms next 2-3 days likely flooding parts of Northern Argentina.
- Increasing threat of tropical cyclone impacts for Vanuatu, New Caledonia and northwest Australia.
- Significant winter storm across the east of North America through the next few days.
- Wind storm events expected for parts of northern Europe.



### DISCUSSION

#### Tropical Cyclones

#### Moderate Tropical Storm Francisco

#### Weather

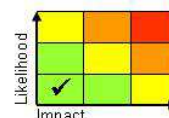
Francisco is slow moving over the Indian Ocean, at around 20°S 70°E. It is expected to gradually weaken whilst heading south of Rodrigues, although there remains a very small chance that it may track further north across the island. The remnants are likely to produce heavy, thundery rainfall across Mauritius and La Reunion early to mid next week.

#### Discussion

Francisco developed in an area of above normal SST's and is expected to become slow moving today, before accelerating eastwards as a southern Indian Ocean sub-tropical ridge builds westwards towards Madagascar. A marked tongue of dry air is forecast to be drawn into and encircle Francisco's circulation, significantly inhibiting development – with all models consistent in the idea that it will gradually weaken as it heads in the direction of Rodrigues. Enhanced rainfall is likely over the Mascarene Islands over the coming days in association with this decaying storm, but doesn't look out of the ordinary for this part of the world.

#### Expected Impacts

Locally rough seas (with dangerous surf conditions around Rodrigues), otherwise nil.



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**Tropical Cyclone Damien****Weather**

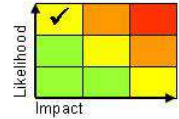
A Severe Tropical Cyclone with wind gusts of around 90 mph looks likely to make landfall somewhere along the Pilbara coastline of Western Australia late Friday or early Saturday (UK time), and it is also expected to bring a swathe of 300-400mm of rain in a 24-48 hour period as it heads inland and decays.

**Discussion**

Damien formed from a tropical Low in association with an Equatorial Rossby Wave, which exited the Kimberley coast of Western Australia yesterday and has drifted out into the south-eastern Indian Ocean where conditions are conducive for further development. There is high confidence that it will curve south towards the Pilbara coast, with most model output indicating a strengthening storm making landfall bringing destructive winds and heavy rain.

**Expected Impacts**

Destructive winds bringing damage to homes/business, transport disruption, local flooding, as well as coastal impacts from large waves and possible storm surge. Impacts likely to be mitigated by the relatively sparsely populated nature of the region.



*The following area is/areas are being monitored for development:*

**Southwest Pacific – Vanuatu and New Caledonia****Weather**

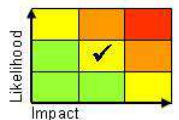
There is an increasing likelihood that the tropical depression centred just south of the Solomon Islands will consolidate into a tropical cyclone during the next few days. Regardless of development, enhanced rainfall (500-1000 mm) is expected across parts of Vanuatu and New Caledonia, with an increasing threat of damaging winds.

**Discussion**

There has been a growing signal from the models for the development of a tropical cyclone just to the west of Vanuatu, out of a broad area of low pressure centred over this region currently. There remains some spread in model output, but the most likely track of any significant cyclone takes it close to or across New Caledonia over the weekend or early next week, and perhaps on towards the east coast of Australia later next week.

**Expected Impacts**

Potential for very heavy rainfall along across parts of Vanuatu and New Caledonia, leading to flash flooding and an increased risk of landslides. There is a risk of significant wind impacts if the cyclone forms, and associated rough seas could impact marine travel in the region.

**Europe****Northwest Europe****Weather**

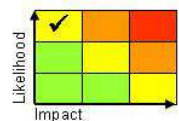
A particularly windy period across the region from Saturday. Widely very windy with coastal and land gales, along with pulses of storm-force winds, especially on Sunday and Monday.

**Discussion**

An Atlantic weather system will bring very strong winds across Ireland later on Saturday, that then sweeps quickly eastward across northern France, northern Germany, Denmark, southern Scandinavia and the Baltic States on Sunday. Continuing very windy into Monday and Tuesday, with potentially further stormy conditions for Ireland again later on Monday. Widespread 40 to 60 mph through this period, with locally 70 to 85mph in the strongest winds.

**Expected Impacts**

Very strong or storm force winds may lead to some structural damage and impact on travel (especially aviation) in and out of the region. Heavy seas are also expected with large waves (impacting marine travel) and some coastal flooding.

**Cyprus – See Middle East section**

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**North America****South-eastern and eastern USA****Weather**

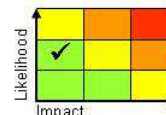
A significant winter storm has been developing over the past 24 hours, gathering momentum and generating a multitude of hazards for tracts of eastern USA. On the northern fringes of this zone, heavy snow (as much as 30 cm), and possibly freezing rain, is expected close to major urban areas in the northeast today. More widely, heavy rain (50-100, locally 150 mm) is expected, with the potential for severe thunderstorms, damaging winds and tornadoes further south and east. Gales are also likely to develop more widely, particularly along the Eastern Seaboard.

**Discussion**

Good model agreement for a marked long wave upper trough to push east across the Rockies, engaging a warm plume across southern and eastern parts of the USA to develop a marked winter storm. Forecast profiles support the development of severe thunderstorms in the broad warm sector of system. Moist profiles with low CAPE suggest storms will be capable of producing high rainfall rates, although with large amounts of low-level wind shear, a few tornadoes are also possible. On the northern flank of the system warm air aloft, with a marked cold undercut leads to a significant risk of snowfall and freezing rain.

**Expected Impacts**

Flash flooding looks likely in southern and eastern states, with a lower threat of severe storm impacts (frequent lightning and strong winds and an isolated tornado). Those on the northwestern edge of the winter storm will be at threat of power and transport network disruption from heavy snow and freezing rain.

**Central America** – Nil.**South America****Brazil****Weather**

Heavy showers are expected to be more frequent than normal over the coming days. There is the potential for 50-100 mm of precipitation to fall quite widely, with some locations seeing as much as 200-300 mm. Rio de Janeiro (on the northeast edge of this zone) typically sees around 100 mm through the whole of February, although shower activity on the more populated urban areas characterising the coastline is likely to quickly reduce.

**Discussion**

Several pulses of activity along the stalled South Atlantic Convergence Zone (SACZ) will bring an enhanced heavy showers/thunderstorm threat to parts of South eastern Brazil, at the same time above normal monsoon thunderstorms activity is signalled across central Brazil.

**Expected Impacts**

Heightened threat of flash flooding and landslides, although increasingly affecting less densely populated areas.

**Peru, Bolivia, Ecuador****Weather**

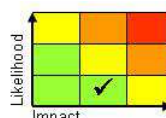
Heavier than usual shower and thunderstorm activity is expected to affect this region through much of the coming week, bringing up to 200-300mm of rain (up to twice the February average) in places.

**Discussion**

Good model agreement for this region continuing to see heavier than average rainfall through the coming week, especially over the Andes.

**Expected Impacts**

Increased threat of flash flooding and landslides, particularly in mountainous terrain.



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## Northern Argentina and southern Uruguay

### **Weather**

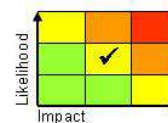
Severe thunderstorms are expected across parts of northern Argentina and southern Uruguay. In addition to the potential for up to 75 mm of rainfall in 6-12 hours these storms will produce additional hazards of hail, strong winds and frequent lightning. By the weekend the main focus for these storms is likely to be across the northwest of Argentina.

### **Discussion**

The strong sub-tropical jet is expected to interact with the monsoon plume. Strong vertical wind shear within the profiles signals the potential for some severe storms, with accompanying hail and strong winds. By the weekend the monsoon plume is expected to transfer west, with the heaviest and most frequent showers most likely in the northwest of Argentina.

### **Expected Impacts**

Flash flooding looks likely, with a threat of severe storm impacts including frequent lightning, hail, strong wind gusts and an isolated tornado).



## Africa

### Parts of southern Africa

### **Weather**

Showers and thunderstorms are expected to increase in frequency across this area over the coming days. 20-40 mm of rain per day is expected quite widely, but with isolated spots seeing 100 mm in heavy showers and thunderstorms. Although much of this rainfall will be welcome, with the potential for this to fall in a short duration it may bring some impacts.

### **Discussion**

The resident plume of warm tropical air across the area will interact with the predominately slightly cyclonic upper flow allowing the formation of heavy diurnal showers and thunderstorms each day. On the cold front across the south shower activity is likely to be enhanced further.

### **Expected Impacts**

Although much of the rainfall will be welcome across areas that have experienced rainfall deficits in recent times, some flash flooding is possible, especially in urban areas.



## Middle East

### Turkey, Syria, Iraq, Lebanon, Israel and Cyprus

### **Weather**

Multi-hazard severe weather event will gather momentum today across this region, likely clearing by the end of Friday or early Saturday. Across southern Turkey, Cyprus and the Levant locally heavy rain, thunderstorms and strong winds will be the main hazards with 50-150 mm of rain falling in places. To the north, heavy snow is expected with 10-20 cm falling quite widely, perhaps up to one metre in a few locations across northern Turkey. In the wake of the precipitation a marked cold wave will follow with temperatures across the region around 10°C below average.

### **Discussion**

A major trough extension will transfer across the region. This will interact with a frontal wave over central Europe allowing cyclogenesis to take place, and for this to move southeast transferring its cold front across area later in the week. Snow will fall on the northern flank of the system and then more widely to the rear of the cold front, with a marked cold wave sweeping the region, as a MS02-MS04 WBPT airmass follows in the wake of the system.

### **Expected Impacts**

Some disruption to travel is possible either due to flash flooding or heavy snowfall. Some interruptions to power supplies are also possible. Cold wave likely to have impacts for vulnerable populations groups in the region unable to access adequate shelter and heating.



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## Asia

### Indonesia

#### **Weather**

Pulses of enhanced showers and thunderstorms are expected across this region during the coming week. During this period up to 150-250 mm of rain is expected to fall in some spots, with up to 50-100 mm falling in just 6-12 hours in places. This is not atypical for the region, but this follows recent weeks where it has been very wet

#### **Discussion**

The main driver of the wetter than average signal looks to be an enhanced NE'ly monsoon phase across the South China Sea that enhances the convergence along the ITCZ that lies across much of Indonesia. The MJO moving towards the Maritime Continent and the late onset of the Australia monsoon is possibly allowing a more active ITCZ to currently sit at slightly more northerly latitude than usual. These factors enhancing the impacts of cold surges over Java in particular.

#### **Expected Impacts**

Flash flooding and a heightened risk of landslides are the principle hazards from this event; Jakarta has suffered multiple impacts from heavy rainfall over recent weeks, and appears to be at risk once more.



## Australasia

### Eastern Australia

#### **Weather**

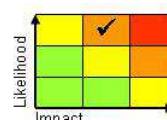
Heavy showers and thunderstorms are expected along the eastern coast over the next few days, with activity ramping up particularly this weekend. These storms will be capable of producing up to 100-200 mm of rain, with some significant totals likely in a few hours. Frequent heavy showers and the threat of severe thunderstorms will also extend further inland, with the potential for some locations seeing accumulations of up to 250 mm per day, and as much as 500mm in a few days, which is around 2 months worth of rain for the Gold Coast and 5 times the average February rainfall for Sydney. Much of the area impacted by this spell of very wet weather have been in drought over recent years, so it is felt likely that much of this rainfall (especially in the interior) will be welcome.

#### **Discussion**

A disrupting upper trough will engage with a WBPT plume across eastern Australia, with this synoptic set up remaining in place through much of the next week. Profiles highlight the risk of heavy showers and thunderstorms along the coast with very moist, but skinny CAPE indicative of efficient rain producers, whilst inland profiles exhibit greater CAPE values with potential for hail/strong winds.

#### **Expected Impacts**

Significant flash flooding, especially populated coastal areas, along with hail and wind damage, and a high risk of river flooding. Aviation and power networks could be disrupted by lightning damage.



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**New South Wales, Australian Capital Territory, Victoria****Weather**

Temperatures will remain suppressed through the coming week, plus showers across SE Australia, will limit the potential for new wildfires to develop. Overall, BoM have much lower fire danger ratings, mostly low-moderate over the coming days.

**Discussion**

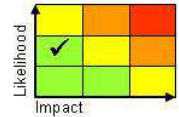
A cold front has now moved northeast of the region where fires continue and introduced much cooler conditions, although winds will remain rather strong in the coming days. Later in the week, temperatures could rise again but this will be accompanied by higher levels of moisture being drawn in off the Pacific Ocean leading to a risk of showers, especially across eastern parts of NSW. Overall fire danger ratings will be lower than recently.

**Expected Impacts**

Existing fires will continue to produce fine particulates and contribute to localised areas of very poor or hazardous air quality.

**Additional Information**

Nil.



**Issued at:** 060800 UTC    **Meteorologists:** D J Harris / Paul Hutcheon

**Global Guidance Unit**

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