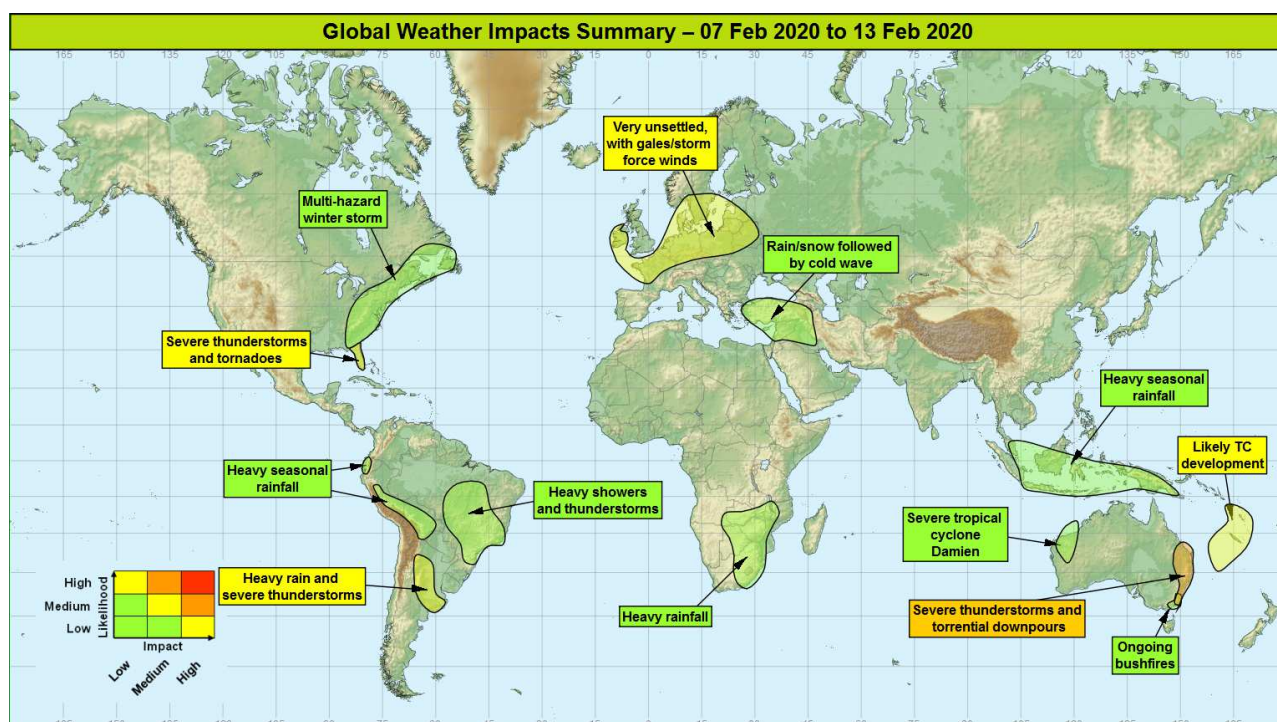


## Global Weather Impacts – Friday 7<sup>th</sup> to Thursday 13<sup>th</sup> February 2020

Issued on Friday 7<sup>th</sup> February 2020

### HEADLINES

- Severe thunderstorms and flash flooding threat for eastern Australia through the next week.
- Risk of tropical cyclone impacts for Vanuatu, New Caledonia and north-west Australia.
- Multi-hazard winter storm affecting E/SE US/E Canada.
- Disruptive winds for northern Europe.



### DISCUSSION

#### Tropical Cyclones

##### Severe tropical cyclone Damien

##### Weather

A Severe Tropical Cyclone with wind gusts of up to 140 mph looks likely to make landfall somewhere along the Pilbara coastline of Western Australia later today (Friday) or early Saturday (UK time). It is also expected to bring 300-400mm of rain in a 24-48 hour period as it heads inland and decays, albeit across a sparsely populated area of Australia.

##### Discussion

Damien continues to strengthen in a favourable environment. There is high confidence that it will curve south towards the Pilbara coast in the next 24 hours, with most model output indicating a powerful 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. Although a thinly populated region, were a storm of this strength to directly impact one of the small communities there it would produce severe impacts.



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*The following area is being monitored for development:*

## **South-west Pacific – Vanuatu and New Caledonia**

### **Weather**

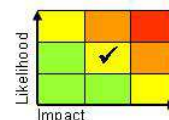
There is an increasing likelihood that the tropical depression centred just south of the Solomon Islands will consolidate into a tropical cyclone over the weekend. Regardless of development, enhanced rainfall (500-1000 mm) is expected across parts of Vanuatu and New Caledonia, with an increasing threat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

### **Discussion**

Models have converge, with a strong signal 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. By early next week, models diverge markedly with the track of any system as it continues S/SW.

### **Expected Impacts**

Potential for very heavy rainfall 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, then sweeping quickly eastward across northern France, northern Germany, Denmark, southern Scandinavia and the Baltic States on Sunday. Continuing very windy into the middle of next week, with the potential for further stormy periods. Widespread gusts 40 to 60 mph through this period, with locally 70 to 80 mph 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

### Eastern USA and Canada

#### **Weather**

A significant winter storm is affecting the eastern USA and easternmost parts of Canada. On the northern fringes of this storm, heavy snow (20-30 cm, perhaps 50 cm across parts of Canada), and possibly freezing rain, is expected from the southern Great Lakes to New England and eastern Canada. More widely, heavy rain (50-100, locally 150 mm) is expected, with the potential for severe thunderstorms and damaging winds in the far south of the area. Gales or severe gales are also likely to develop more widely, particularly along the Eastern Seaboard. The system will clear into the Atlantic through Saturday.

#### **Discussion**

A potent confluent upper trough is helping to drive a strong and deepening area of low pressure ENE across many parts of E'ern North America. On the northern flank of the system warm air aloft, with a marked cold undercut leads to a significant risk of heavy snow and freezing rain.

#### **Expected Impacts**

Flash flooding looks likely in the eastern states, with a lower threat of severe thunderstorm impacts further south. Those on the northwestern edge of the winter storm will be at risk of power and transport network disruption from heavy snow and freezing rain. Some disruption to travel into, and through the region seems likely.



### Florida

#### **Weather**

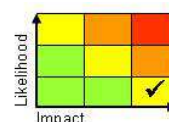
Severe thunderstorms and tornado risk pushing south across the area through today (Friday).

#### **Discussion**

An active cold front associated with the winter storm described above, is expected to be the focus for severe thunderstorms and a few strong tornadoes through today. Very strong vertical windshear, coupled with large amounts of available CAPE, mean tornadoes and damaging winds will be likely.

#### **Expected Impacts**

Flash-flooding, damaging winds and a few tornadoes. Potential for significant impacts on aviation as well as the large amounts of tourists in the region.



### Central America – Nil.

### South America

#### Brazil

#### **Weather**

Heavy showers are expected to be more frequent than normal over the coming week. 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. After a lull in activity later this weekend, there is a signal for renewed activity next week.

#### **Expected Impacts**

Heightened threat of flash flooding and landslides.



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## Peru, Bolivia, Ecuador

### **Weather**

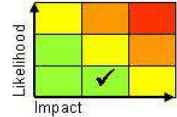
Heavier than usual shower and thunderstorm activity is expected to affect this region through much of the coming week, bringing up to 200-300mm of rain (up to twice the February average) in places.

### **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.



## Northern Argentina

### **Weather**

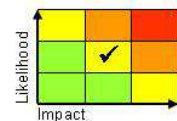
Severe thunderstorms are expected across parts of northern Argentina over the coming days. In addition to the potential for up to 75 mm of rainfall in 6-12 hours these storms will produce additional hazards of hail, strong winds and frequent lightning. By the weekend the main focus for these storms is 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 signalling the potential for some severe storms, with accompanying hail and strong winds. The monsoon plume is expected to transfer west in the next few days, with the heaviest and most frequent showers most likely in the northwest of Argentina. Here, profiles widely support 2000-3000J/kg of CAPE.

### **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**

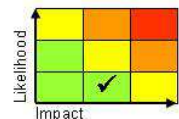
Showers and thunderstorms are expected to increase in frequency across this area over the coming days. 20-40 mm of rain per day is expected quite widely, but with isolated spots seeing 100 to 150 mm in heavy showers and thunderstorms. There is the potential for some locations to see 300 mm or more in total through the coming week, roughly 2 to 3 times the February average. 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.



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## **Middle East**

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

#### **Weather**

Multi-hazard severe weather event will continue to affect this region, likely clearing through the course of Saturday. Across southern Turkey, Cyprus and the Levant locally heavy rain, thunderstorms and strong winds will be the main hazards with a further 50-75 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 10-15°C below average.

#### **Discussion**

A major trough extending into the region will drive a surface low across turkey, its associated cold front sweeping across the region. 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°C 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 population groups in the region unable to access adequate shelter and heating.



## **Asia**

### **Indonesia and Papua New Guinea**

#### **Weather**

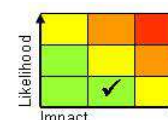
Pulses of enhanced showers and thunderstorms are expected across this region during the coming week. During this period up to 150-250 mm of rain is expected to fall in some spots, with up to 50-100 mm falling in just 6-12 hours in places. This is not atypical for the region, but this follows recent weeks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



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

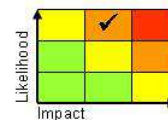
Heavy showers and thunderstorms are expected to persist along the eastern coast over the next few days. These storms will be capable of producing up to 100-200 mm of rain, with some significant totals likely in a few hours. Frequent heavy showers and the threat of severe thunderstorms will also extend 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. In addition to the rainfall there is the potential for damaging gusts of wind. On Thursday Cape Byron, New South Wales recorded 226 mm of rainfall, 115 mm of this falling in just 2 hours. 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 has engaged 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.

**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, with a third of fires having been extinguished by recent heavy rain.

**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, although now much fewer in number than previously, will continue to produce fine particulates and contribute to localised areas of very poor or hazardous air quality.

**Additional Information**

Nil.

**Issued at:** 070810 UTC **Meteorologists:** Mark Sidaway / Jason Kelly

**Global Guidance Unit**

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