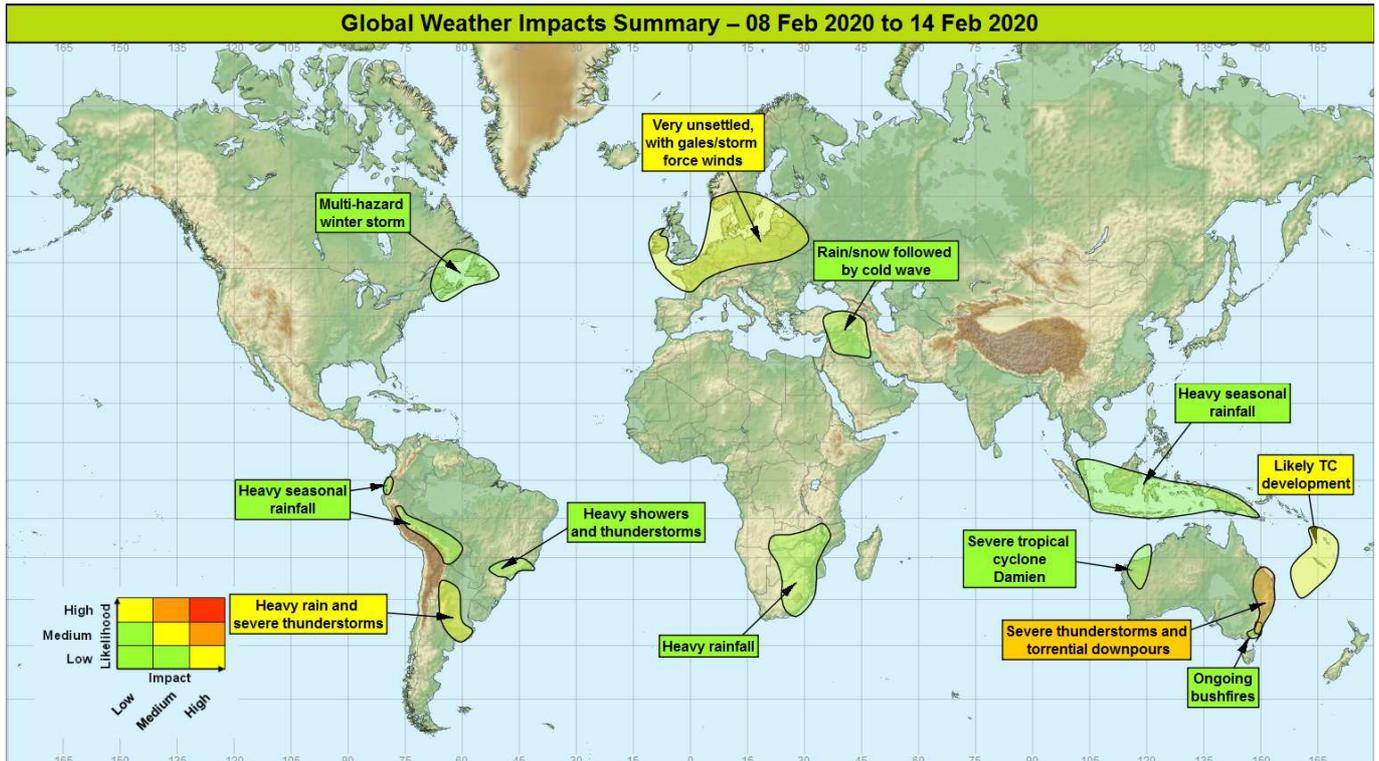


## Global Weather Impacts – Saturday 8<sup>th</sup> to Friday 14<sup>th</sup> February 2020

Issued on Saturday 8<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 northwest Australia.
- Multi-hazard winter storm clearing eastern Canada.
- Disruptive winds for northern Europe.



### DISCUSSION

#### Tropical Cyclones

#### Severe Tropical Cyclone Damien Weather

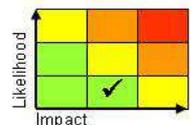
Severe Tropical Cyclone Damien looks likely to make landfall in the next few hours – Saturday morning (UK time) – in the vicinity of Dampier on the Pilbara coastline of Western Australia with wind gusts over 130 mph. It is also expected to bring 300-400mm of rain in a 24-48 hour period as it heads inland 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 maintain its southerly track towards the Pilbara coast near Dampier in the next few 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:

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

### **Weather**

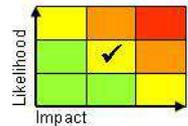
There is an increasing likelihood that the tropical depression centred close to the southern Solomon Islands will consolidate into a tropical cyclone over the weekend. Regardless of development, enhanced rainfall (500-1000 mm) is expected across parts of Vanuatu and New Caledonia, with an increasing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

### **Discussion**

Models have converged, 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. A small number suggest this system could pose a threat to eastern Australia.

### **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**

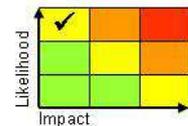
A particularly windy period across the region from Saturday. Widely very windy with coastal and land gales, along with pulses of storm-force winds, especially on Sunday and Monday. This disturbed weather could last into the middle of next week.

#### **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.



## **North America**

### **Eastern Canada**

#### **Weather**

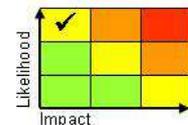
A significant winter storm currently affecting eastern parts of Canada will clear into the Atlantic later Saturday. The storm is bringing a range of hazards including heavy snow, gales and freezing rain. 50 cm of snow is likely in places with gale force winds producing blizzard conditions. Up to 25 mm of freezing rain could accumulate in the worst affected areas before the storm clears.

#### **Discussion**

This potent system will continue to track NE through Saturday, then exit into the Atlantic where it will be picked up by a 220 kt jet stream. This will accelerate the low across the Atlantic before likely deepening it once again as it approaches the NW UK on Sunday as Storm Ciara.

#### **Expected Impacts**

Significant disruption to travel into and through the region is likely. Disruption to power supplies and damage to trees and buildings are possible.



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**Central America** – Nil.

**South America**

**Brazil**

**Weather**

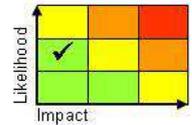
After some easing of conditions this weekend, further heavy showers and thunderstorms are likely to develop across eastern Brazil next week. There is the potential for 50-100 mm of precipitation to fall in a few hours, with some locations seeing as much as 200-300 mm. Rio de Janeiro (on the northeast edge of this zone) typically sees around 100 mm through the whole of February.

**Discussion**

After a lull in activity later this weekend, there is a signal for renewed activity next week as a cold front is driven north and engaged by the sub-tropical jet, then becomes slow moving. Forecast profiles show deep instability with PWAT of 50-60 mm, allowing for some torrential downpours

**Expected Impacts**

Renewed threat of flash flooding and landslides.



**Peru, Bolivia, Ecuador**

**Weather**

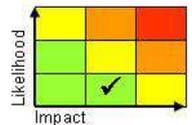
Heavier than usual shower and thunderstorm activity is expected to affect this region through much of the coming week, bringing up to 200-300mm of rain (up to twice the February average) in places.

**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**

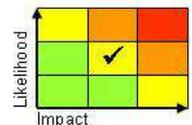
Severe thunderstorms are expected across parts of northern Argentina over the coming days before easing early next week. In addition to the potential for up to 75 mm of rainfall in 6-12 hours these storms will produce additional hazards of hail, strong winds and frequent lightning. Over the weekend the 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.



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## Africa

### Parts of southern Africa

#### **Weather**

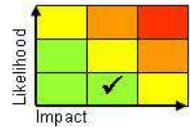
Showers and thunderstorms are expected to increase in frequency across this area over the coming days. 20-40 mm of rain per day is expected quite widely, but with isolated spots seeing 100 to 150 mm in heavy showers and thunderstorms. There is the potential for some locations to see 300 mm or more in 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. The heaviest rain should tend to migrate north next week, with drier weather developing further south.

#### **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

### Eastern Turkey, Syria, Iraq, Lebanon, Israel, Jordan

#### **Weather**

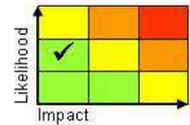
Conditions should ease across this region through Saturday as the driving depression continues east. Across eastern Turkey and northern Iraq a further 10-20 cm, locally 50 cm of snow may fall through Saturday. In the wake of the precipitation a marked cold wave will follow with temperatures across the region around 10-15°C below average.

#### **Discussion**

The system bringing this severe weather will clear east through Saturday, 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 due to 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**

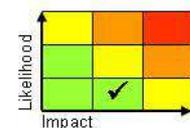
Pulses of enhanced showers and thunderstorms are expected across this region during the coming week. During this period up to 150-250 mm of rain is expected to fall in some spots, with up to 50-100 mm falling in just 6-12 hours in places. This is not atypical for the region, but this follows recent weeks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

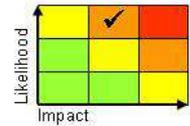
Heavy showers and thunderstorms are expected to persist along the eastern coast this weekend, perhaps into next week. Storms will be capable of producing up to 100-200 mm of rain, with some significant totals likely in a few hours. Frequent heavy showers and the threat of severe thunderstorms will also extend further inland, with the potential for some locations seeing accumulations of up to 200 mm per day, and as much as 300-400 mm in total. 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. On Friday 176 mm was reported at Mount Elliot. 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**

An upper vortex is expected to sit over south-eastern Australia through much of the next week, maintaining the very unsettled conditions. 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 in 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**

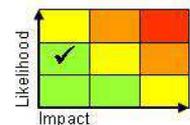
Temperatures will remain suppressed through the coming week, plus showers across SE Australia, will limit the potential for new wildfires to develop. Overall, BoM have much lower fire danger ratings, mostly low-moderate over the coming days, with a third of fires having been extinguished by recent heavy 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:** 080630 UTC **Meteorologists:** Mark Sidaway / Laura Ellam

**Global Guidance Unit**

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

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