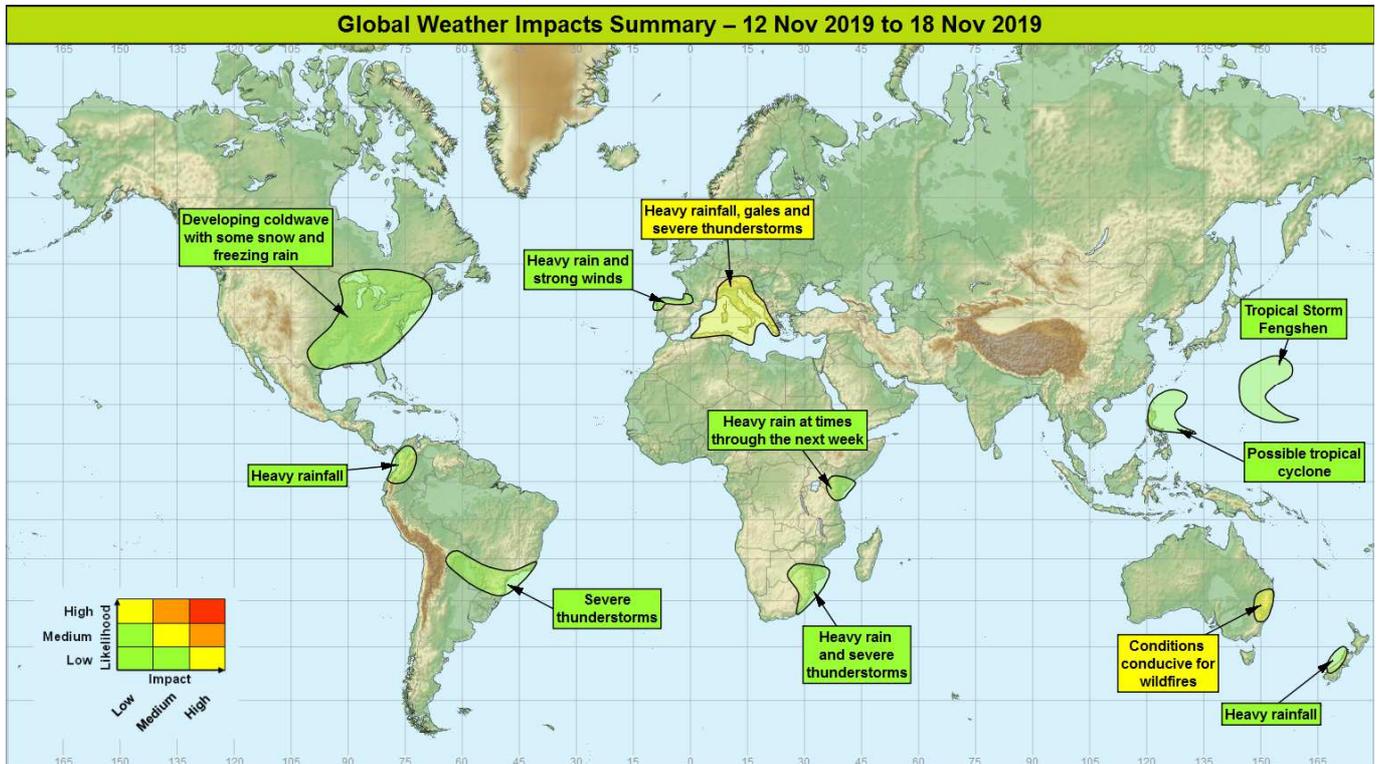


## Global Weather Impacts – Tuesday 12<sup>th</sup> to Monday 18<sup>th</sup> November 2019

Issued on Tuesday 12<sup>th</sup> November 2019

### HEADLINES

- Remaining extremely unsettled around the west and central Mediterranean this week.
- Weather conditions across eastern Australia remain conducive for wildfires.



### DISCUSSION

#### Tropical Cyclones

##### Tropical Storm Fengshen, Northwest Pacific Weather

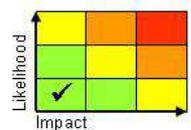
An organised area of thunderstorms over Micronesia has developed through the past 24 hours, and has now become Tropical Storm Fengshen. This system will likely continue to strengthen into a typhoon, then pass close to the Mariana Islands on Friday, before re-curving to the northeast and heading out into the open northwest Pacific Ocean where it will decay.

##### **Discussion**

A very marked ERW has aided the development of this system. As it tracks northwest over the day or so this system is expected to strengthen into a typhoon. However as it approaches the Mariana Islands, increasing south-westerly shear will weaken the system and also steer the system northeast away from land areas.

##### **Expected Impacts**

The northern Mariana Islands are unpopulated. However the system could produce some large swells and rough seas around the populated southern islands.



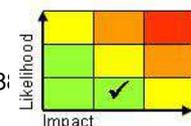
*The following areas are being monitored for potential development:*

##### Philippine Sea, Philippines

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## Weather

There is an increasing likelihood of a tropical cyclone development from a tropical depression in the Philippine Sea over the next couple of days. Any system that develops is likely to bring very heavy rainfall to Luzon later in the week and the potential for over 500mm in some locations, mainly the east of the island. It looks unlikely the system will develop into a typhoon during this period so significant impacts from strong winds are not anticipated.

## Discussion

An equatorial Rossby wave (ERW) currently tracking northwest across the Philippine Sea, will experience favourable environmental factors enabling it to likely develop into a tropical cyclone over the next couple of days. At this point it is likely to become slow-moving close to the mountainous island of Luzon (northern Philippines), this proximity to land, plus a cold surge just forward of the cyclone will likely inhibit the system from strengthening to a typhoon.

## Expected Impacts

Potential for flash flooding and landslides. Strong winds and dangerous seas for the north and east coasts of Luzon.

## Europe

### Italy, Corsica, Malta, Greece, western parts of the Balkans, Tunisia and northern Algeria

#### Weather

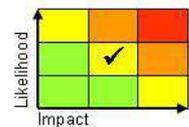
Following recent heavy rainfall, further active weather systems are expected to move across this region over the next week bringing further heavy rain, severe thunderstorms, gale force winds and some lifted dust (from North Africa). The heaviest rain is likely to be focussed on southwest facing high ground of Italy, and the Balkan region where some locations could see as much as 200-300 mm of precipitation over the coming week.

#### Discussion

A strongly cyclonic upper pattern will dominate through much of the next week leading to a continuation of very unsettled conditions as significant upper forcing engages warm plumes drawn northwards across the region. Upscale growth of thunderstorms into one or more MCS is expected with precipitation modulated by orography and will act as a focus for the heaviest rainfall accumulations.

#### Expected Impacts

Increased likelihood of flash flooding causing damage to property and infrastructure. Lightning strikes, large hail and tornadoes/waterspouts could also produce localised significant damage. Dangerous marine conditions are also expected in the region. Lifted dust may produce some locally poor air quality. Some significant snowfalls are expected across the Alps, especially towards the end of the week.



### Northern Spain, far N Portugal and far southwest of France

#### Weather

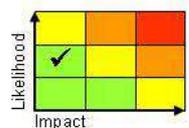
Conditions will also remain unsettled across this region at times over the next week with further spells of strong winds and heavy rain/thunderstorms. Up to 150-200 mm of precipitation may accumulate through the 7-day period (falling as snow at times over high ground). These totals are the equivalent to a month's worth of rain in November. Winds will be strong and gusty at times, particularly towards the end of the week with severe gales possible.

#### Discussion

South-shifted Atlantic mobility and then a marked amplification of the Atlantic pattern will steer a number of active Atlantic systems into south-western Europe through the coming week.

#### Expected Impacts

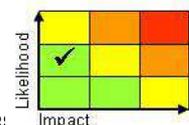
Increased threat of flash and river flooding in association with heavy rain. Risk of landslides in steep terrain, and snow falling down to 600-800 metres above sea level. Strong winds may bring impacts to travel and power supplies later in the week.



## North America

### Central & eastern USA and south-eastern Canada

#### Weather



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A marked cold air outbreak continues to push southeast across the eastern parts of North America. Snow and freezing rain will be associated with the initial ingress of cold air across central and northern States. Temperatures will fall 10-15 °C below average for a time and remain below average through much of the coming week. In areas around the Great Lakes, lake effect snowfall may lead to some significant snowfall accumulations.

### Discussion

An upper trough swinging southeast from the Canadian Rockies will drive an active cold front across this region through Tuesday. Air of Canadian arctic origin will follow post front, reaching the Gulf Coast by the middle of the week, bringing unseasonably cold conditions here for early to mid-November. The rearward sloping nature of the frontal system will allow a well-marked cold undercut to develop, with snow and freezing rain falling widely across central/northern regions.

### Expected Impacts

Travel disruption is possible, with some significant disruption from snowfall in and around the Great Lakes. Locally ice accretion from freezing rain may disrupt power supplies. Damage to crops in the south is likely due to unusual and harsh overnight frosts this early in the winter season.

### Central America and Caribbean

Nil.

### South America

#### Western Colombia and northern Ecuador

##### Weather

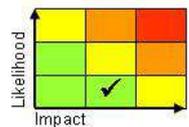
Continued enhanced shower and thunderstorm activity is likely across this region through much of the next week. Up to 100 mm of rainfall is possible each day, with some places seeing as much as 400-500 mm in total by the early part of next week (equivalent to the average November rainfall), although these totals are likely to be very localised.

##### Discussion

The progression of the MJO (currently in phase 5/6) has allowed an uptick in convection across equatorial South America over the week. Each day, diurnal heating is able to release deep and energetic convection, leading to slow and locally severe storms each day. Marked upper level divergence is evident across Colombia and Ecuador which will aid the longevity of severe convection across the region.

##### Expected Impacts

Increased threat of flash and river flooding with landslides increasingly likely in mountainous areas. In recent days, 1000 people were affected when the San Jose river burst its banks in north western Colombia and there have been other reports of flooding in this region.



#### Paraguay, southeast Bolivia, northwest Argentina and southeast Brazil

##### Weather

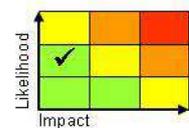
From Wednesday, areas of heavy rain and locally severe thunderstorms are forecast to become fairly frequent across this region. Rainfall totals of 50-100 mm in 24 hours are possible in places, with locally frequent lightning, large hail and strong wind gusts being additional hazards.

##### Discussion

The South Atlantic Convergence Zone will remain active during this period, enhanced by a southward extension of tropical air over central South America engaged by a shortwave trough in the subtropical jet. This will allow a mixture of heavy dynamic precipitation (with some elevated convection elements), and also surface based deep convection. Severe thunderstorms are most probable towards the northeast edge of the zone of convection; these could bring large hail and a strong, gusty wind threat.

##### Expected Impacts

Flash flooding possible, especially if any severe storms affect large urban areas. A threat of property damage from frequent lightning, hail and strong wind gusts.



### Africa

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**Northern Algeria and Tunisia** – See *Europe* section.

**South Africa, Lesotho, Eswatini, Botswana, Zimbabwe and Mozambique**

**Weather**

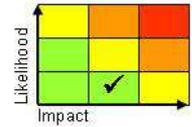
Heavy showers and severe thunderstorms are expected to affect this region through much of the next week, producing frequent lightning, large hail and strong, gusty winds. 50-100mm of rain could fall in a day (equivalent to the November average), with some significant totals in a few hours.

**Discussion**

An upper trough in the sub-tropical jet will disrupt across southern Africa and then edge slowly northeast. As this occurs it will engage the resident high WBPT plume across the southeast of the continent and promote the development of heavy showers and severe thunderstorms through much of the coming week. Serious multi-year droughts have affect parts of this region, and to a degree this rain will be welcome, however the short duration over which large amounts of precipitation are likely to accumulate will likely cause some serious localised issued.

**Expected Impacts**

Although drought conditions are affecting this region and rainfall in-part welcome, the intensity of rain over a short period will likely cause flash flooding, with a risk of property damage from frequent lightning, large hail and strong wind gusts.



**East Africa, including parts of Somalia, Kenya and Tanzania**

**Weather**

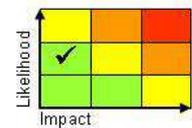
Further above average rainfall is expected in this small region of East Africa over the coming week. Although the anomalies are fairly subtle with 100-150mm expected over the coming week, the recent wet weather in this region will make it highly susceptible to impacts from additional rainfall.

**Discussion**

The MJO is currently in phase 5/6, which would usually result in below average precipitation across the region. However the strong Indian Ocean Dipole that remains present will negate this and still allow above average shower and thunderstorm activity across this region over the coming week.

**Expected Impacts**

Both flash and some minor river flooding is possible over the coming week, with an enhanced risk of landslides in regions where the terrain is steep.



**Middle East**

Nil.

**Asia**

**Philippines and Mariana Islands** – See *Tropical Cyclone* section.

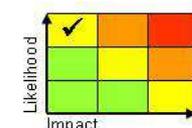
**Australasia**

**Parts of eastern Australia**

**Weather**

Numerous wildfires are already affecting parts of New South Wales and Queensland, between Sydney and Brisbane. With no significant rainfall expected through the next week along with likely strong wind events at times, the wildfire threat will remain very high in the region.

**Discussion**



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This early season wildfire event has already claimed a number of lives, with good model agreement for dry and at times windy conditions to continue through the next week. Tuesday and Friday in particular look to be high impact in this region, when high temperatures and likely to combine with strong and dry north-westerly winds promoting the rapid development and expansion of fires.

### **Expected Impacts**

Fires will bring a danger to life and environmental damage across a wide area. Smoke could bring poor air quality to densely populated urban centres, with a risk of some impacts in the Sydney region possible this week.

### **New Zealand**

#### **Weather**

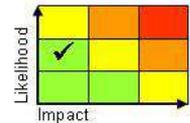
Successive bands of heavy rain and strong winds will move east across New Zealand from Thursday, the most unsettled conditions focused on the South Island. Over the course of 4 or 5 days 100-150 mm will build up quite widely on western parts of the Southern Alps with more isolated totals of 300-400 mm possible. Whilst these amounts of rainfall are not particularly unusual in these areas this follows on from a wet period making impacts more likely.

#### **Discussion**

A mobile pattern will see a succession of active frontal zones run east across New Zealand maintain unsettled conditions. As is normally the case, orographic enhancement of rainfall over western parts of the Southern Alps will see high rainfall totals build up here.

#### **Expected Impacts**

Increased threat of flooding and landslides which could primarily cause transport disruption.



### **Additional Information**

Nil.

**Issued at:** 120845 UTC    **Meteorologists:** Chris Bulmer / Mark Sidaway

**Global Guidance Unit**

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