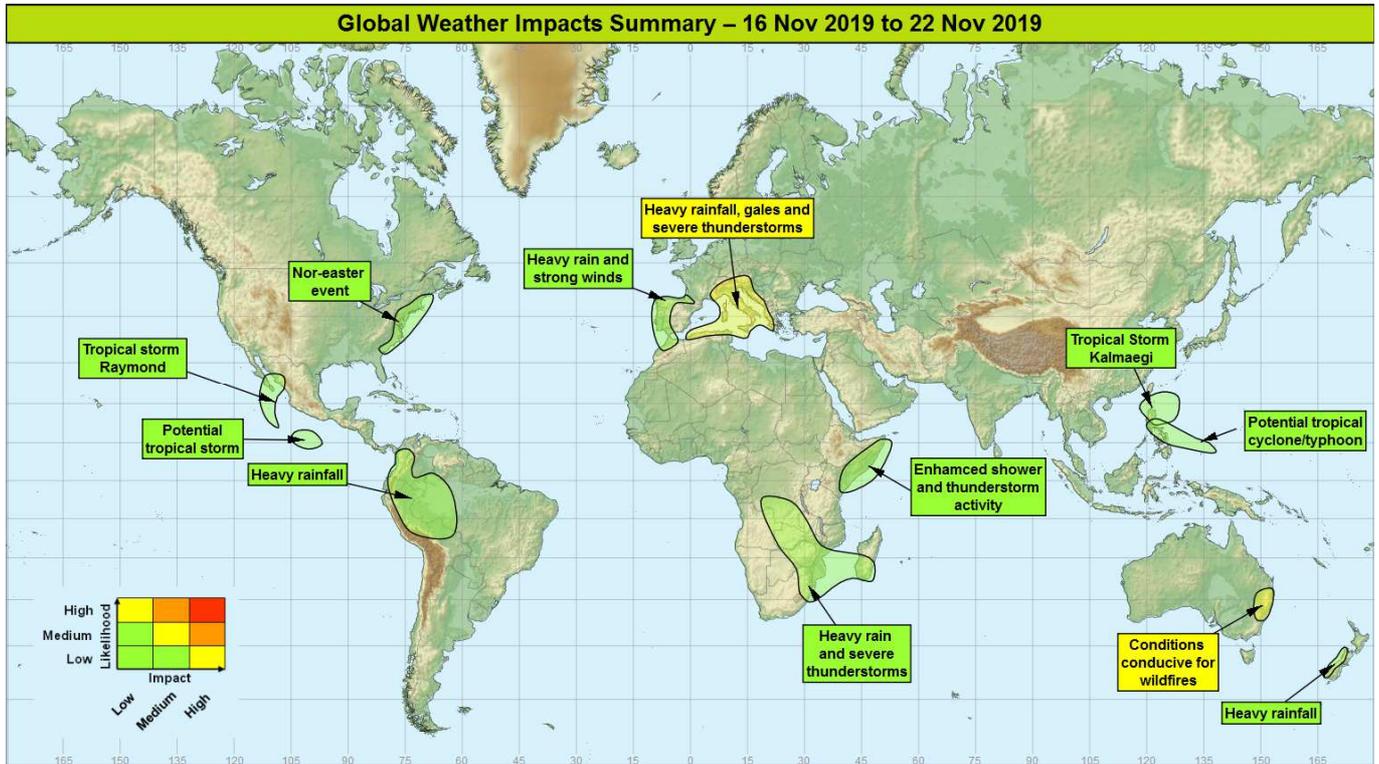


## Global Weather Impacts – Saturday 16<sup>th</sup> to Friday 22<sup>nd</sup> November 2019

Issued on Saturday 16<sup>th</sup> November 2019

### HEADLINES

- Remaining extremely unsettled around the west and central Mediterranean.
- Ongoing elevated wildfire risk in eastern Australia.
- Tropical Storm Kalmaegi potentially impacting the northern Philippines later this weekend.



### DISCUSSION

#### Tropical Cyclones

#### Tropical Storm Kalmaegi, Philippine Sea

#### Weather

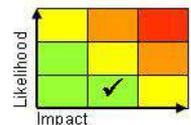
Tropical Storm Kalmaegi formed on Tuesday in the western Philippine Sea and was around 250 miles east of Luzon at 16/00Z. Kalmaegi is forecast to slowly drift west or northwest over the coming days and is likely to become better organised and intensify. Official guidance and preferred evolution has Kalmaegi making landfall over the north of Luzon late this weekend or early next week. However, this aspect is still uncertain and there is still a small probability that the system could turn away to the north and not make landfall at all. As well as the potential for damaging winds, very heavy rainfall (400-500mm) is expected in association with Kalmaegi.

#### Discussion

Environmental conditions are marginal for further intensification of Kalmaegi, with warm sea surface temperatures offset by strong shear and entrainment of dry air. At this point it is likely to become slow-moving close to the mountainous island of Luzon (northern Philippines). There remain significant spread in tracks emerging over the weekend leading to low confidence in amounts of rainfall and likely impacts for Luzon, though better agreement than previously.

#### Expected Impacts

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



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

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## Tropical Storm Raymond, Baja Peninsula and northwest Mexico

### **Weather**

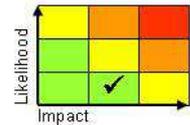
There is the potential for heavy rainfall associated with Raymond, to affect the Baja peninsula and the coast of northwest Mexico early next week. This would bring some strong winds and 200-300mm of rain on Monday and into Tuesday.

### **Discussion**

An area of showers and thunderstorms developed into Tropical Storm Raymond on Friday, some several hundred miles south of the southern tip of the Baja California peninsula. This feature will continue to move north to affect the southern tip of the Baja peninsula and the northwest coast of Mexico early next week, though by this time should have weakened to a tropical depression once again.

### **Expected Impacts**

Potential for flash flooding and landslides. Strong winds and rough seas.



### **Potential tropical storm development.**

## Eastern Pacific

### **Weather**

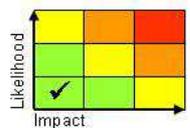
An area of showers and thunderstorms system located several hundred miles south of the Gulf of Tehuantepec, southeast Mexico, may organise and develop into a tropical storm in the next few days. However this will most likely remain over the open water as it tracks westwards and then decay soon after.

### **Discussion**

A small area of low pressure located across the open water of the eastern Pacific may see some gradual in the next few days as it tracks gradually westwards. Currently the NHC give a 30% risk for this development.

### **Expected Impacts**

Nil.



## Western Pacific

### **Weather**

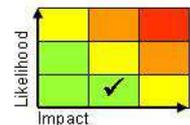
An area of thunderstorms across the western Pacific may develop in to tropical cyclone or typhoon next week as it likely tracks towards, the Philippines from mid-week. There is much uncertainty, but may bring very strong and damaging winds, storm surge, torrential rain and rough seas to the islands.

### **Discussion**

There is an increasing signal for the development of a tropical depression across the western Pacific next week. This could then strengthen further to become a tropical cyclone or typhoon by mid week as it tracks towards the central or northern Philippines. There are significant uncertainties for this evolution, track and intensity at this time. Potentially 200-500mm of rain per day could be associated with this feature, along with damaging winds, storm surge and rough seas. This has been assessed as "Green" at this time given the significant uncertainties.

### **Expected Impacts**

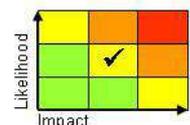
Potential for flash flooding and landslides. Strong damaging winds, storm surge and rough seas.



## Europe

### Italy, the southern Alps, Corsica, Malta, Greece, western parts of the Balkans as well as northern Tunisia and Algeria

### **Weather**



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The prolonged very unsettled conditions look set to continue over the next week with further active weather systems moving across this region bringing further bouts of heavy rain, severe thunderstorms, gale force winds and some lifted dust (from North Africa). The heaviest rain is likely to be focussed on south facing high ground of Italy, the southern Alps (especially across northeastern Italy), especially in the next few days, and where some locations could see as much as 250-350 mm of precipitation over the coming week (twice the average November rainfall).

**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. In addition, precipitation will be modulated by orography and will act as a focus for the heaviest rainfall accumulations, especially in the next few days.

**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 at times, especially which could disrupt transport. A combination of spring tides and strong southerly winds in the Adriatic Sea resulted in Venice, Italy recording its highest tide since 4<sup>th</sup> November 1966 during Wednesday and further coastal flooding is possible for parts of the Adriatic Coast through the next 3 days.

**Northern Spain, parts of Portugal, far southwest of France and northern Morocco**

**Weather**

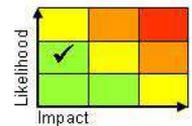
Conditions will also remain unsettled across this region over the next week with further spells of strong winds and heavy rain/thunderstorms, especially from Monday. Up to 150-200 mm of precipitation may accumulate through the 7-day period (falling as snow at times over high ground). These totals are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

**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 and northwest Africa through the coming week. The most active feature is expected across the region from Monday.

**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 to the north of the region.



**North America**

**Eastern Seaboard of the USA**

**Weather**

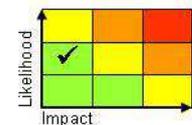
A Nor-easter event is expected to transfer northwards up the Eastern Seaboard of the USA through the next 4 or 5 days. From Saturday a deepening depression will track north just offshore of the Eastern Seaboard, bringing up to 100 mm of rain in 24 hours (the November average rainfall in a day), severe gales or storm force winds, very rough seas close to shore, coastal flooding and heavy inland snowfall (potential for 30 cm accumulation in 24 hours across inland parts of the northeastern USA. This should clear to northeast Canada by Tuesday as a weakening feature.

**Discussion**

Despite some model detail differences, all models produce a signal for a significant Nor'easter event through the next 4 or 5 days. A succession of upper troughs will engage a low latitude warm plume to deepen a low centre and swing it north, just off the Eastern Seaboard.

**Expected Impacts**

Flash and coastal flooding, along with the potential for wind damage along the exposed coastal regions. Disruptive snowfall is likely to disrupt transport and power networks across some inland parts of the northeastern USA.



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**Central America and Caribbean****Baja peninsula and northwest Mexico** – See tropical storm section.**South America****Western Colombia, Ecuador, Peru, western Brazil and northern Bolivia****Weather**

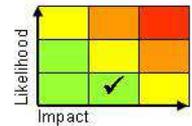
Continued enhanced shower and thunderstorm activity is likely across this region through much of the next week. Up to 100 mm of rainfall is possible each day, with some places seeing as much as 400-500 mm in total by the early part of next week (equivalent to the average November rainfall), although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

**Discussion**

The progression of the MJO (currently in phase 8) has allowed on uptick in convection across equatorial South America. 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 tropical regions of South America, 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. This follows on from a recent wet period across the region with significant river flooding reported over the last couple of weeks.

**Africa****Northern Algeria, Tunisia and northern Morocco** – See *Europe* section.**Eastern South Africa, Eswatini, parts of Mozambique, Zimbabwe, Zambia, Malawi, southern Democratic Republic of Congo and Madagascar****Weather**

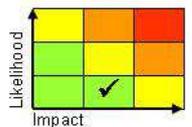
Heavy showers and severe thunderstorms will continue to affect this region at times through the next week. Thunderstorms will produce frequent lightning, large hail and strong, gusty winds. 50-100mm of rain could fall in a day, with some significant totals in a few hours.

**Discussion**

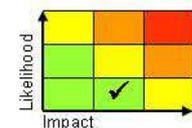
A major upper vortex will gradually edge slowly northeast towards southern Madagascar over the weekend. A further upper trough crosses South Africa mid week. These will engage the resident high WBPT plume and strengthen the ITCZ to the north, promoting the development of heavy showers and severe thunderstorms 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 (including in association with tornadoes which have been reported in South Africa).

**Somalia, southern Ethiopia and western Kenya****Weather**

Increased shower and thunderstorm activity is expected across the region next week. Thunderstorms will lead to frequent lightning and the risk of large hail and strong, gusty winds. 50-100mm of rain could fall in a day, with some significant totals in a few hours. Initially this is expected to affect to coastal regions, but become more widespread from mid-week. This falling over a region that has already seen above average rainfall in the last few weeks.

**Discussion**

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There is a signal for an increase in shower and thunderstorm activity transferring from the western Indian Ocean. This is most likely as a result of a Rossby wave moving across the area, plus the strong Indian Ocean dipole continuing. Parts of this region are likely to be preconditioned for an increased risk of flooding impacts from previous heavy rainfall in the last few weeks.

**Expected Impacts**

An increased risk of flash flooding, with a risk of property damage from frequent lightning, large hail and strong wind gusts

**Middle East**

Nil.

**Asia**

**Philippines** – See *Tropical Cyclone* section.

**Australasia**

**Parts of eastern Australia**

**Weather**

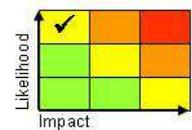
Numerous wildfires are already affecting parts of New South Wales and Queensland, between Sydney and Brisbane. With no significant rainfall expected through the next few days, along with likely strong wind events at times, the wildfire threat will remain very high in the region. There is the potential for some rain on Sunday which could help the situation, but the associated thunderstorms could also spark new wildfires due to dry lightning events.

**Discussion**

This early season wildfire event has already claimed a number of lives, with good model agreement for predominantly dry and at times windy conditions to continue through the next week. A transient upper trough could bring thunderstorms to the affected areas, but it is unclear whether these storms will bring much needed rainfall or just dry lightning events.

**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 and Brisbane region possible.



**New Zealand**

**Weather**

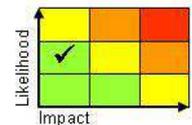
Successive bands of heavy rain and strong winds will move east across New Zealand. The most unsettled conditions focused on the South Island. Over until Tuesday 100-150 mm will build up quite widely on western parts of the Southern Alps with more isolated totals of 300-400 mm possible. Whilst these amounts 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**

Typhoon Fengshen lies over the north-western Pacific Ocean but poses no threat to land.

**Issued at:** 160600 UTC **Meteorologists:** Tony Wardle / Mark Sidaway

**Global Guidance Unit**

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

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