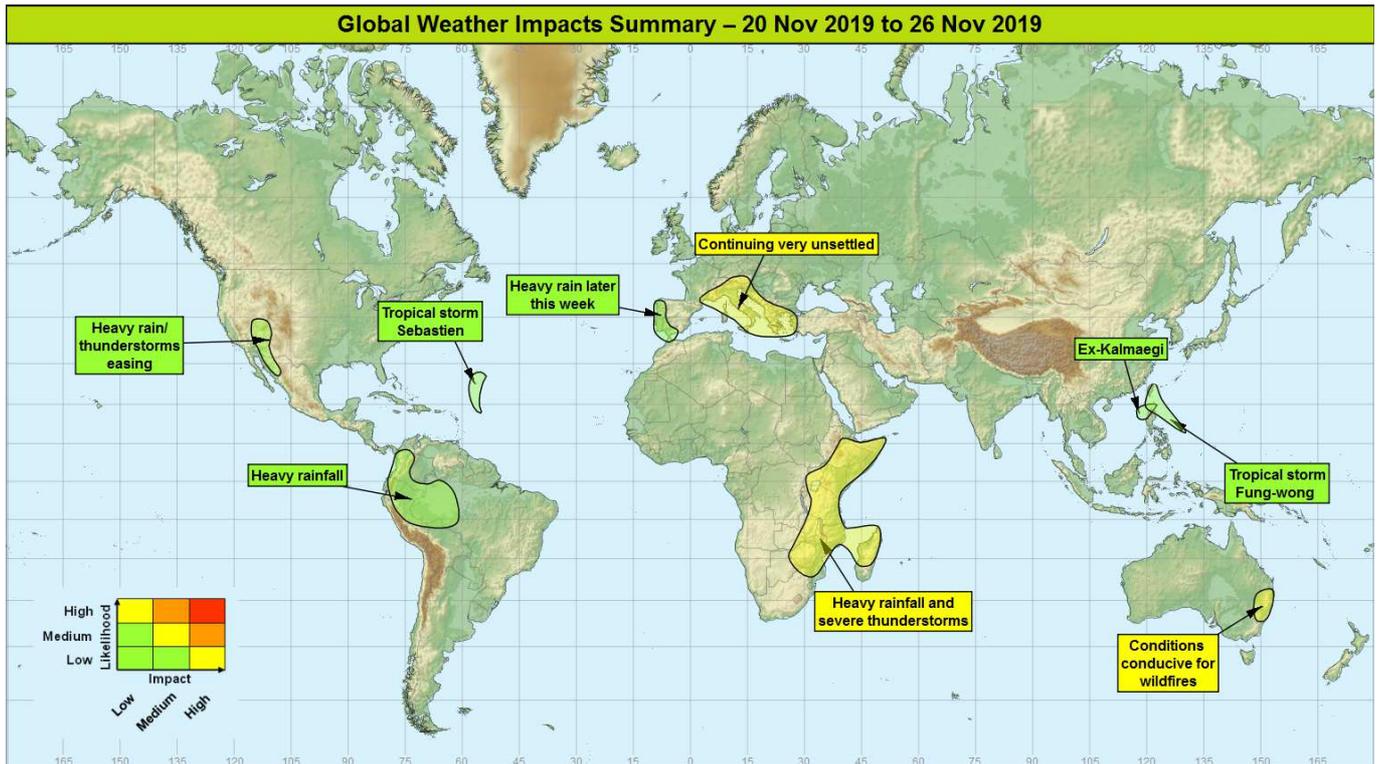


## Global Weather Impacts – Wednesday 20<sup>th</sup> to Tuesday 26<sup>th</sup> November 2019

Issued on Wednesday 20<sup>th</sup> November 2019

### HEADLINES

- Remaining very unsettled in parts of southern and south-east Europe.
- Increasing rainfall in East Africa leading to elevated flood threat.
- Ongoing elevated wildfire risk in eastern Australia.
- Ex-Tropical storm Kalmaegi impacting the northern Philippines, with Fung-wong following in the next few days.



### DISCUSSION

#### Tropical Cyclones

#### Ex- Kalmaegi, northern Luzon (Philippines)

#### Weather

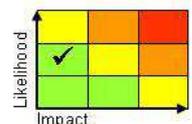
Kalmaegi has weakened rapidly through the past 24 hours and has now been downgraded to a tropical depression by the Japanese Meteorological Agency. The remnants of the system is expected to bring heavy rainfall (100-200 mm) to northern parts of Luzon through the next 24 hours. This represents around 80% of the average November rainfall for this region. The system is also likely to bring some strong gusts of wind to northern Luzon over the next few hours.

#### Discussion

Interaction with northern Luzon has weakened Kalmaegi to the extent that the Japanese Meteorological Agency has downgraded this system to a tropical depression. The latest advisory (03UTC) from Joint Typhoon Warning Centre maintained the system as a tropical storm, although with rapid weakening expected through today due to interaction with Luzon and strong vertical wind shear. There is good agreement for the weakening system to track south-west across Luzon before dissipation within the next day or so.

#### Expected Impacts

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



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

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**Tropical storm Sebastien****Weather**

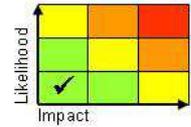
An area of thunderstorms and associated low pressure has strengthened into tropical storm Sebastien, with sustained winds of around 45mph. The system is expected to track north to north-east over the coming days, before being subsumed by a cold front later in the week.

**Discussion**

The NHC named Sebastien on Tuesday, and the system is signalled to meander north-northeast over open water, before being subsumed/destroyed by an approaching cold front and its associated driving upper trough.

**Expected Impacts**

Nil – the system will remain over open water.

**Tropical storm Fung-wong****Weather**

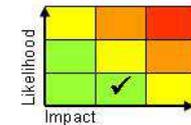
Tropical storm Fung-wong has formed east of Luzon in the western Pacific, with sustained winds of 40 mph. Uncertainty in the track of the storm is relatively high, but the preferred track takes the system north of Luzon through the next 24 to 36 hours, then toward Taiwan, the remnants perhaps then affecting southern Japan into next week. There is the risk of further heavy rainfall for parts of northern Luzon, then Taiwan and southern Japan. There is also a risk of damaging winds for northern Luzon and Taiwan.

**Discussion**

Although there is significant uncertainty, Fung-wong is most likely to track close to northern Luzon, before then curving north, then north-east as an approaching mid-latitude trough steers the system toward Japan into next week as an extra-tropical low.

**Expected Impacts**

Impacts possible in the northernmost parts of The Philippines then Taiwan. Potential for flash flooding and landslides. Strong damaging winds, storm surge and rough seas.



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## Europe

### Italy, SE France, the southern Alps (into Switzerland and Austria), Greece/western Turkey, western/southern Balkans and parts of the central/western Mediterranean

#### Weather

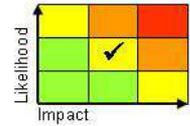
Very unsettled conditions continue across the area, these likely lasting well into next week. The heaviest rain is likely to be focused on south-facing high ground of Italy and perhaps southeast France, along with the southern Alps (fringing into Switzerland and Austria) and Greece. Some locations could see as much as 200-300 mm of precipitation over the coming week (around twice the average November rainfall), with this rain falling in a region that has already seen a very wet autumn. The precipitation will fall as snow above 1000-1500 metres, resulting in further very heavy snowfall, maintaining a high avalanche threat. Some severe thunderstorms are likely in the south and south-east of the area, bringing the threat of large hail, tornadoes and waterspouts.

#### Discussion

A strongly cyclonic upper pattern will dominate through the next week at least, 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 MCS is expected. In addition, precipitation will be modulated by orography to act as a focus for the heaviest ppn accumulations, although above 1000-1500 metres this will fall as snow.

#### Expected Impacts

Increased likelihood of flash flooding causing damage to property and infrastructure. Frequent lightning strikes, large hail and tornadoes/waterspouts could also produce localised significant damage. Further significant mountain snowfall is expected which will maintain a high avalanche threat, especially in the Alps.



## Western and southern Iberia, northern Morocco

#### Weather

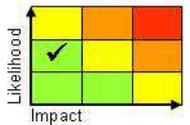
A series of low pressure systems are expected to affect this area later this week and into the weekend. Coastal gales are likely, but heavy rain will be the main hazard, with 60-100, locally 150 mm likely by the start of next week.

#### Discussion

South-shifted mobility is expected to continue on the S'ern flank of the developing cyclonic block. This is likely to lead to a succession of low pressures/frontal systems to affect Iberia. Model agreement in timing and extent is good, with rainfall totals sufficient to generate some issues.

#### Expected Impacts

Flash-flooding would be the main hazard.



## North America

### Northwest Mexico and southwest USA

#### Weather

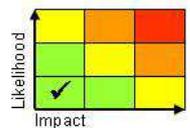
The remnants of tropical storm Raymond are likely to affect south-western parts of the USA, especially Arizona and New Mexico for the next couple of days. This will bring heavy rainfall to this desert region, with around 50-75 mm of rain falling quite widely and up to 150 mm in places, mainly mountainous areas. This is several times more than the November average, which for Phoenix is around 15mm. A month's worth of rain could fall in less than six hours very locally.

#### Discussion

A plume of tropical air, associated with the remnants of tropical storm Raymond, is expected to interact on Wednesday with a north-eastward-moving upper vortex to produce heavy showers and severe thunderstorms. A disrupting mid-latitude trough arriving from the west through today (Wednesday) is also expected to engage the plume, allowing the disturbed weather to continue at least through Thursday. This is desert region of the USA, with typically very low rainfall at this time of year.

#### Expected Impacts

Flash flooding is likely.



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## Central America and Caribbean

Northwest Mexico – see North America section

## South America

### Western Colombia, Ecuador, Peru, western Brazil and northern Bolivia

#### **Weather**

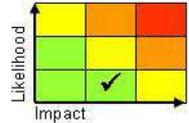
Continued enhanced shower and thunderstorm activity is likely across this region through much of the coming week. Up to 100 mm of rainfall is possible each day, with some places seeing as much as 200-400 mm in total this week (equivalent to the average November rainfall), although these totals are likely to be very localised. Conditions should ease later this week.

#### **Discussion**

The progression of the MJO 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

### Much of eastern Africa, including Madagascar

#### **Weather**

Heavy showers and thunderstorms will become heavier and more widespread through this week. The heaviest rainfall is expected to be across the Kenyan Highlands, western Tanzania, Rwanda, Burundi and eastern DRC where up to 200 mm of rain could accumulate through the week (over a month's worth of rain). Elsewhere, rainfall accumulations will be lower, but still above average.

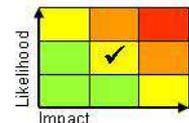
#### **Discussion**

A combination of the MJO moving across Africa and the positive IOD phase continuing, will promote above-average rainfall across this region in the coming week.

Across the south of the region, a warm plume will be the focus for further deep convection through the next week, with engagement from an upper trough crossing South Africa around midweek likely to result in a peak in activity. 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 issues.

#### **Expected Impacts**

An increased risk of flash flooding and landslides in the region, with further river flooding possible in Somalia. This is true of regions in the south of the area which have been experiencing drought conditions. Frequent lightning is also likely, along with large hail and strong wind gusts.



Northern Morocco – See *Tropical Cyclones* section.

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**Asia**

**Luzon (Philippines) and Taiwan** – See *Tropical Cyclones* section.

**Australasia****Parts of eastern Australia****Weather**

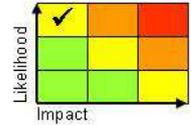
Numerous wildfires continue for parts of New South Wales and Queensland, between Sydney and Brisbane. With no significant rainfall expected in the next few days, along with likely strong wind events at times, the wildfire threat will remain very high in the region. There is the potential for some rain later this week and at the weekend which could help the situation, but the associated thunderstorms and strong winds could also spark new wildfires or spread existing 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 this week. Transient upper troughs could bring thunderstorms to the affected areas from late week, 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.

**Additional Information**

Nil.

**Issued at:** 200815 UTC    **Meteorologists:** Jason Kelly/Mark Sidaway

**Global Guidance Unit**

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