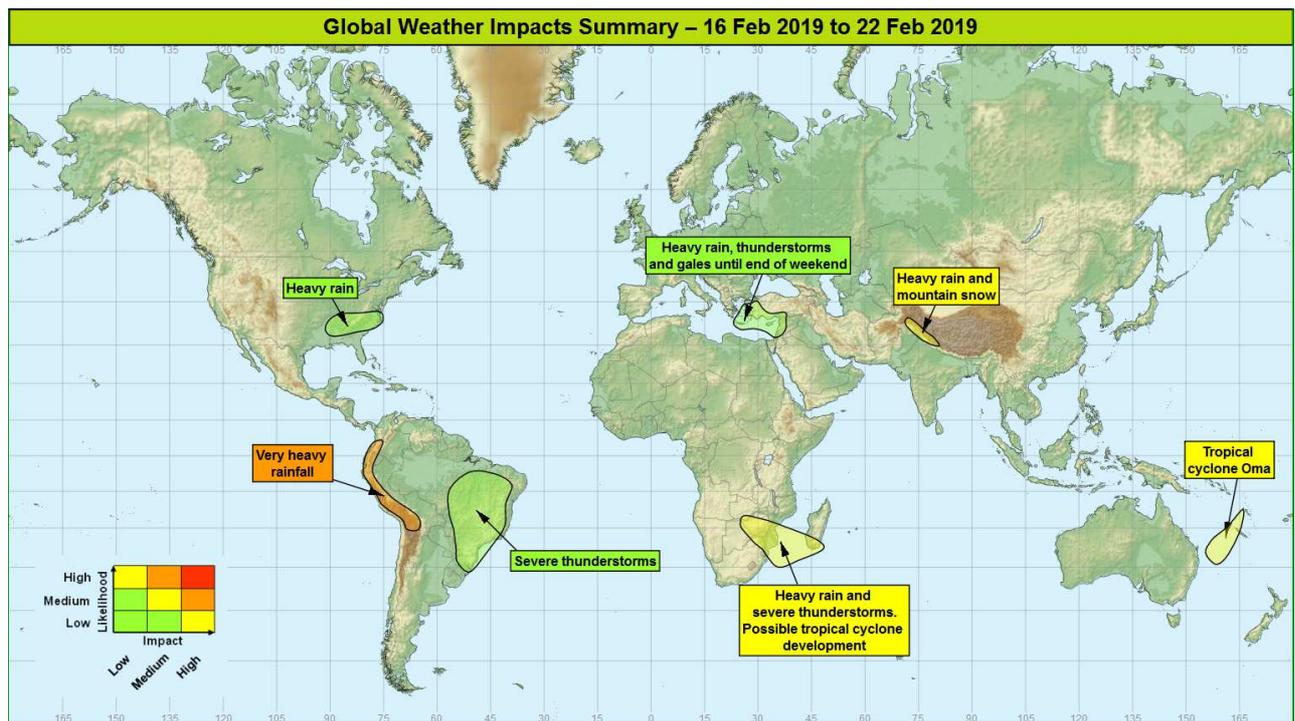


## Global Weather Impacts – Saturday 16<sup>th</sup> to Friday 22<sup>nd</sup> February 2019

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

### HEADLINES

- Heavy rain and severe thunderstorms persist over parts of South America.
- Tropical cyclone Oma is expected to pass to the west of New Caledonia through the next week.
- Severe thunderstorms affecting parts of south-eastern Africa.
- Very heavy rain and mountain snow for northern parts of Pakistan and India.



### DISCUSSION

#### Tropical Cyclones

#### Tropical Cyclone Oma (Southwest Pacific, Vanuatu and New Caledonia)

##### Weather

Oma moved very little during Friday, but has started to move slowly west-southwest over the last few hours. Oma is presently a Category 2 cyclone with sustained winds of 55 to 73 mph, but is expected to increase to a Category 3 cyclone (sustained winds of 74 to 98 mph) through today.

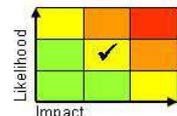
The strongest winds from Oma are likely to remain offshore, though some strong winds could affect western parts of New Caledonia by Monday. Whilst the forecast storm track is further west than recent days, strong onshore flow caused by Oma, is likely to lead to persistent heavy showers coming onshore onto the northern coast of New Caledonia. By the time these ease, some areas along the north coast could see as much as 1000 mm of rain, which would be as much as five times the average rainfall for February.

##### Discussion

The official track from RSMC Nadi is similar to the multi-model consensus for Oma to be slow moving through the next few days as it strengthens a little then to track southwestwards. Spread amongst EPS output has reduced, with reasonable agreement now between models that Oma will pass to the west of New Caledonia early next week.

##### Expected Impacts

Flash flooding and landslides are a significant threat, with storm surge flooding also possible.



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

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The following regions are being monitored for possible development:  
**Southwest Indian Ocean (Mozambique Channel)** – See *Africa* section.

### **Europe**

#### **Parts of Greece and western Turkey, Cyprus and the Levant coast**

##### **Weather**

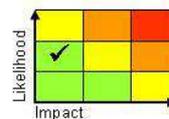
Disturbed weather will continue across this region until early next week. Outbreaks of very heavy rain are likely along with thunderstorms. Up to 40-70 mm could fall in places each day (much of this in only a few hours) which is the equivalent of nearly a month's worth of rainfall. In addition, very strong, gusty winds and with coastal gales at times, especially through the Aegean Sea. An improvement looks likely into next week.

##### **Discussion**

The complex driving upper trough is signalled to continue to be the source of active convection through today and tomorrow. As a major ridge amplification develops across central, then E Europe, the build of gph will initially elongate, before shifting the vortex away to the S, allowing an improvement in conditions across the area.

##### **Expected Impacts**

Increased threat of flash flooding and landslides in mountainous areas. Strong winds and rough seas could impact aviation and maritime transport. Threat of impacts to vulnerable and displaced populations in the region.



### **North America**

#### **Northern Alabama east to North Carolina and Virginia**

##### **Weather**

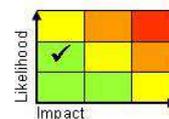
Several spells of very heavy rain are expected to affect this part of southeastern USA from today, with thunderstorms producing intense rainfall at times during this period. Up to 50 mm of rain could fall in a 24 hour period with up to 150-200 mm of rain accumulating up to Thursday.

##### **Discussion**

An active frontal wave will run eastwards across this region during today, with a similar event later on Sunday and through Monday. The frontal zone is then likely to become slow moving early next week. A synoptic scale trough is expected to dig S across the central and E US, drawing up a plume of very warm air from the Gulf of Mexico. This will act to exacerbate rain, as well as bring the threat of a few tornadoes across the SE US. As the trough progresses E, forcing for the front becomes less conducive to further heavy rainfall.

##### **Expected Impacts**

Flash flooding is very likely, with a growing likelihood of river flooding and landslides. There is also the potential for some severe storm impacts such as damaging winds and large hail, and later, a few tornadoes. Some winter hazards (heavy snow / freezing rain) possible at times on the northern edge of these frontal waves.



### **Central America and Caribbean**

Nil significant

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## South America

### Northern Andes (Southern Colombia, Ecuador, Peru and Bolivia)

#### **Weather**

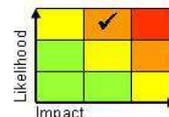
Frequent heavy showers and thunderstorms are expected to continue across the northern Andes through the next week, extending to Bolivia as times. 100-150 mm of rain is possible each day in places (falling within the space of a few hours) with some places seeing a further 250-350 mm of rain over the next week, which is significantly higher than the monthly average.

#### **Discussion**

On Thursday 14<sup>th</sup> February NOAA declared weak El Nino were conditions in the Pacific (although the Australian Bureau of Meteorology maintains ENSO neutral conditions). Along the South American Pacific coastline there are positive SST anomalies (as often seen on El Nino events), and these indicate a weakening of trade winds and the Humboldt Current in this region. This setup allows sea breezes to draw moist oceanic to the usually dry western Andes, with an unusual frequency of heavy showers and thunderstorms occurring here. In addition the MJO is moving east across the Pacific through the next week, this will likely maintain or even further enhance convection across the region

#### **Expected Impacts**

Further flash flooding and landslides are a significant threat in the mountainous areas. Flash flooding is also possible if thunderstorms impact urban areas. Significant river flooding is being reported from the region, with areas often caught out as rivers rapidly rise and fall. Parts of Peru in particular have been badly affected with a state of emergency declared in a number of provinces, and there are similar reports from parts of Ecuador.



## Eastern Brazil

#### **Weather**

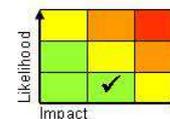
Heavy showers and thunderstorms are expected to be frequent across the region during the next week. Further areas of organised thunderstorms are likely to form then drift north across this area. Some places are likely to receive 100-150 mm of rain in 24 hours and, over the week, some places may receive around 200-300 mm. This region typically receives 40-60 mm of rain over a week at this time of year. Thunderstorms are likely to be severe at times with strong winds, large hail and frequent lightning additional hazards.

#### **Discussion**

An upper trough over northern Argentina will extend northwards into south-eastern Brazil through the rest of the weekend weekend, enhancing activity on the SACZ. Associated heavy showers and thunderstorms are likely to develop with low level convergence helping to focus activity. The vortex engaging the resident warm plume will likely trigger MCS and super cell thunderstorms similar to those seen during January.

#### **Expected Impacts**

Much of eastern Brazil (away from the far southeast) has seen below average monsoon rainfall in the past few months; rainfall will be welcome. However, intense rainfall will trigger flash flooding as well as landslides in more mountainous areas, perhaps impacting large cities. Strong winds, large hail and frequent lightning may also cause damage to property and infrastructure as well as posing a threat to life.



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**Africa**

**Northeast South Africa, Swaziland, eastern Botswana, Zimbabwe, southern Mozambique and southern Madagascar**

**Weather**

Heavy rain and severe thunderstorms will continue to affect much of this region through the next few days. There is the potential for 100-150 mm to fall in places within a 24 hour period, with as much as 300-400 mm over the period of a few days. Severe thunderstorms will bring additional hazards of strong winds, large hail and frequent lightning.

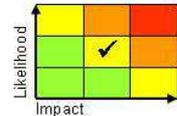
During Monday, the worst of the thunderstorm activity will move offshore into the Mozambique Channel, potentially developing into a tropical or sub-tropical cyclone as it continues southeastwards, perhaps close to southern Madagascar

**Discussion**

Enhanced rainfall and thunderstorm activity will affect these areas over the next few days with a signal for increased low level convergence helping to organise activity. In addition, the MJO moving into Phase 8 could be linked to positive precip anomalies in these areas. There is a signal from all models for a depression to develop over the weekend, and then emerge into the southern Mozambique Channel next week. The engagement of an upper trough will perhaps result in this system being a sub-tropical rather than a tropical cyclone.

**Expected Impacts**

Whilst the rain will be welcome to some extent in many of these areas (especially Zimbabwe and eastern Botswana) the intensity will bring an increased chance of flash flooding. Large hail, strong winds and frequent lightning from thunderstorms could also disrupt transport (especially aviation) and power networks. Growing risk of strong winds across southern Mozambique, southern Madagascar and the Mozambique channel early next week.



**Middle East**

**Levant coast** – See *Europe* section.

**Asia**

**Northern Pakistan, far northwest of India and western Nepal**

**Weather**

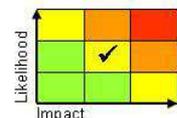
A prolonged spell of heavy rain and mountain snowfall is expected from Monday to Thursday. Up to 100-150 mm of rain could fall in a 24 hour period (equating to 1-1.5 metres of mountain snowfall), with an event total of up to 350 mm of rain (up to 3.5 metres of mountain snowfall). The average rainfall for February in this region is 75-125 mm.

**Discussion**

A very strong sub-tropical jet will extend east into the region from later on Sunday, with marked influence leading to ascent and frontogenesis. A blossoming area of cloud is signalled by all models, with this then being reinforced by jet streaks running through the STJ. The snow level looks likely to be around 2000 metres for much of the time, but will fluctuate between 1700 metres and 2500 metres.

**Expected Impacts**

Very heavy snow over the mountains will block some key high road passes in the region, collapse roofs and enhance the risk of avalanches. The combination of snowmelt and heavy rain at lower levels could lead to flash and/or fluvial flooding at lower elevations.



**Australasia**

**Vanuatu and New Caledonia**– See *Tropical Cyclones* section.

**Additional information**

Nil.

**Issued at:** 160800 UTC **Meteorologist:** Jason Kelly

**Global Guidance Unit**

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