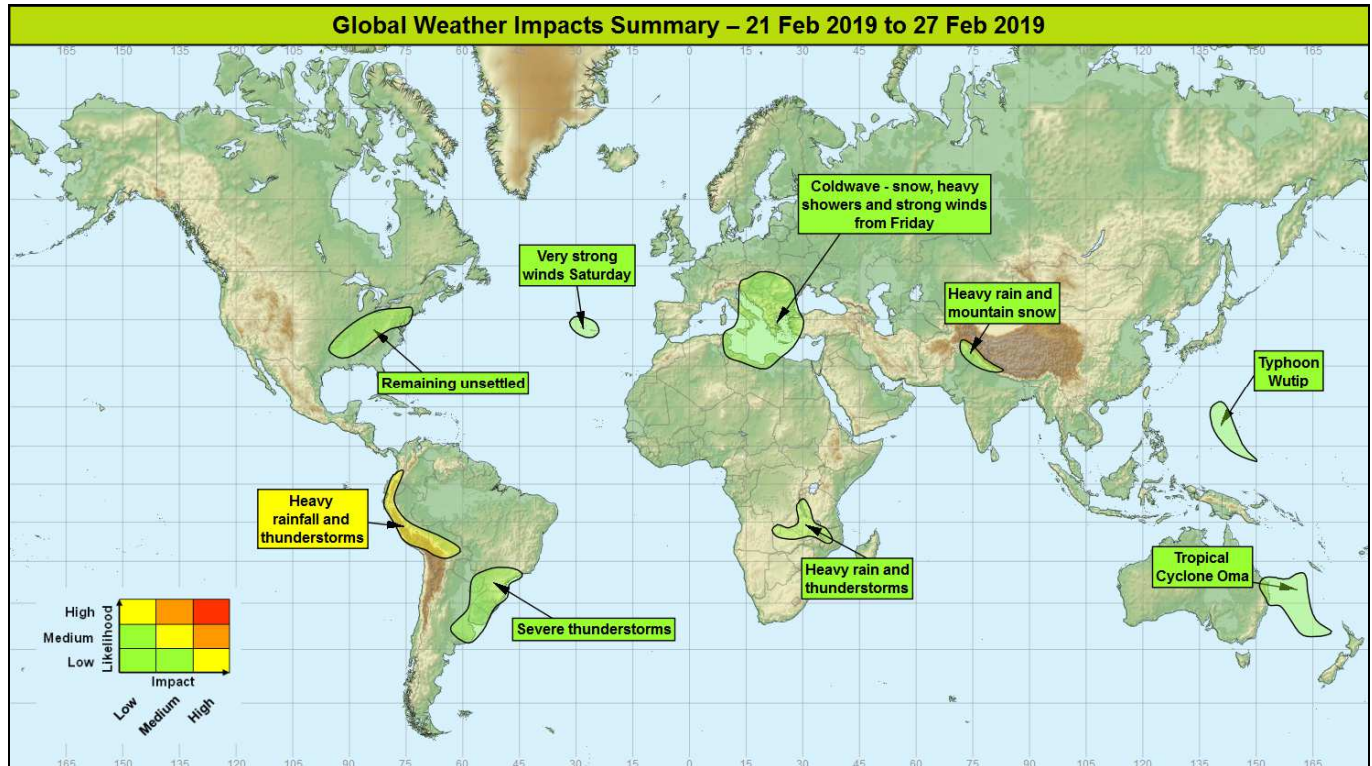


## Global Weather Impacts – Thursday 21<sup>st</sup> to Wednesday 27<sup>th</sup> February 2019

Issued on Thursday 21<sup>st</sup> February 2019

### HEADLINES

- Heavy rain and thunderstorms continuing over Colombia, Ecuador, Peru and Bolivia with flooding likely.
- Typhoon Wutip continues west in the tropical Pacific – could threaten Guam this weekend.
- Tropical Cyclone Oma moving slowly south-westwards over the Coral Sea/South Pacific.



### DISCUSSION

#### Tropical Cyclones

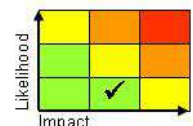
#### Tropical cyclone Oma (Australasia)

##### Weather

Tropical cyclone Oma, currently moving south-west through the Coral Sea/South Pacific, is expected to continue south-west through the next few days, staying over open waters. Oma is currently producing mean wind speeds of 55-72mph, with little change in intensity expected over the next few days. The forecast track of Oma is then open to a lot of uncertainty from the end of the week and into the weekend. There has, however, been increasing, though still not overwhelming, support for Oma to continue south-west close to north-east Australia early next week. Confidence in this evolution is low, and more concrete track information will be provided when available.

##### Discussion

Oma has weakened again to a Category 2 tropical cyclone (sustained winds of 55-72mph), though satellite imagery continues to show a mature and well-defined storm system. Uncertainty on Oma's track, and also strength, going forward is large, with the behaviour of the system being affected by uncertainties in the development of a trough-ridge-trough pattern across Australia. Once observations and imagery sample this evolution over the next few days, it is likely confidence will increase in the track of Oma. For now, the ensemble spread in track remains large.



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

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## Expected Impacts

While Oma remains over open seas, the impacts are limited to rough seas and dangerous beach conditions along adjacent coastlines. Potential for impacts from wind, rain and a modest storm surge should Oma move close to the north-east Australian coastline.

## Typhoon Wutip (Northwest Pacific)

### Weather

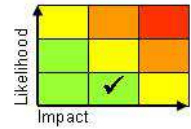
Typhoon Wutip is located near 6.1N, 149.7E at 0300Z, and was moving west-northwest at 14mph. Sustained winds in associated with Wutip are 75mph, with gusts to 110mph, and further strengthening of the system is likely in the coming days as it continues on a west-northwesterly track.

### Discussion

The northern portion of an Equatorial Rossby Wave helped organise convection a few days ago, leading to the development of Wutip. The system is in a low shear environment, over warm water, and likely to avoid land for several days, meaning the typhoon is likely to continue strengthening. There is a relatively tight EPS forecast cluster for the track of the system, with a close pass for parts of the southern Marianas signalled through Saturday.

### Expected Impacts

The forecast track of Wutip keeps it over open waters until the weekend, at which point Wutip could come close to the southern tip of the Marianas Islands, including Guam. Should it make landfall across these islands as a possible very strong typhoon, then damage from wind as well as heavy rain and modest storm surge would be expected.



## Europe

## Parts of central and SE Europe including the Balkans and Italy as well as Tunisia and northern Libya

### Weather

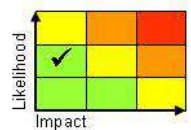
Cold wave developing with temperatures 5-10°C below normal. Several cms of snow are likely for parts of SE Europe (including higher elevations as far south as Sicily, Greece and northeast Turkey). Over the Mediterranean, frequent heavy showers/thunderstorms are likely to develop, which could bring very large amounts of rain to adjacent coasts, particularly southern Greece and Turkey. In addition, there is the potential for strong winds/gales to develop, producing rough seas and possible dust storms over Tunisia and Libya.

### Discussion

The major pattern amplification taking place over Europe looks likely to result in a surge of cold air and trough extension over E Europe, resulting in a strong cold front pushing south across the Balkans and into the eastern Mediterranean. Models continue to differ in the details of the final trough extension/disruption over the Med, and thus the location of a depression that is expected to develop, but common to all models is the potential for snow and cold air significantly far south, and a deeply unstable environment over the central/eastern Med with potential for strong winds around the periphery of the depression.

### Expected Impacts

Significantly below normal temperatures and severe overnight frosts likely to have adverse impacts on vulnerable communities, particularly given the large concentration of migrants in the area. Snow likely to lead to some travel disruption, with aviation affected. Heavy rain around the peripheries of the Mediterranean could lead to localised flash flooding, and increased landslide risk in mountainous terrain.



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

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## The Azores

### **Weather**

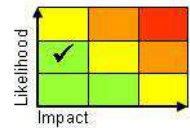
A period of very strong winds is likely to affect the Azores through Saturday, with southerly winds gusting to 60-70mph at times. Winds should ease quickly into the early hours of Sunday.

### **Discussion**

A major jetstream is expected to propagate ESE out of the Eastern Seaboard through Friday, with strong diffluence on the jet's forward side. An associated low is likely to remain a rather insipient feature until it crosses onto the cold side of the jet later Friday, and this, coupled with strong left-exit forcing is expected to lead explosive cyclogenesis (models offer falls of 25-30hPa in 24 hours). The track of the low will remain to the WNW of the Azores, though some very strong winds are likely well to the S of the low's centre.

### **Expected Impacts**

Strong winds will likely disrupt air travel to and from the islands, and rough seas will disrupt marine travel and cause localised coastal impacts such as flooding. Some minor damage to utilities and property possible, and blocked roads are possible from things such as fallen trees.



## North America

### Parts of eastern and south-eastern US

### **Weather**

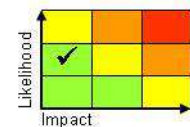
Further disturbed weather is expected across this part of the United States, with heavy rain, turning to snow and freezing rain at times in the north, continuing into the weekend. Further south, the focus will be on heavy rain, and, by the weekend, the potential for severe thunderstorms in the south. A further 100-200mm of rain is possible in some areas. Conditions should largely improve by the end of the weekend, as high pressure builds east across the area.

### **Discussion**

A major trough extension across the W of the contiguous US has set up a semi-persistent period of south-westerly upper flow. This has led to a frontal boundary across parts of the E US, which has produced copious amounts of rainfall over the last week or so. The rest of this week and into the weekend will finally see the pattern shift as the trough described above extends, and disrupts, leading to a cyclogenesis event along the stalled frontal boundary. Ppn associated with this will once again be heavy, with freezing rain and snow for a time across New England today. The low and associated frontal systems should then start to come E, though not before conditions become conducive to the development of severe thunderstorms in the S of the area during Saturday. As the trough/surface low, continues E, gph and MSLP builds rapidly to the rear, with better conditions developing by the end of the weekend.

### **Expected Impacts**

Continuing risk of flash-flooding and landslides. Disruption to travel/transport is also likely. Damage from severe thunderstorms, including large hails, very strong winds and a few tornadoes.



## Central America and Caribbean

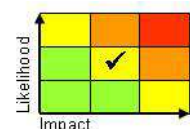
Nil significant.

## 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 into Bolivia. Up to 100 mm of rain is possible each day in isolated locations (falling within the space of a few hours) with some places seeing a further 200-250 mm of rain over the next week, which is significantly higher than the monthly average.



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## Discussion

On Thursday 14<sup>th</sup> February NOAA declared weak El Nino conditions in the Pacific (although the Australian Bureau of Meteorology maintains ENSO neutral conditions). Along the South American Pacific coastline north of NE Peru 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 air to the usually dry western Andes, with an unusually high frequency of heavy showers and thunderstorms occurring here.

## Expected Impacts

Further flash flooding and landslides are a significant threat in the mountainous areas, even for places downstream of the mountains (where it may have been dry) as rainfall draining off the mountains causes usually dry rivers to rapidly rise and fall. Parts of Peru and Bolivia appear to have been badly affected so far, with a state of emergency declared in a number of provinces. Information on further impacts from the ongoing storms has been difficult to come by in recent days, so we tentatively reduce this event from amber to yellow (likelihood reduced to medium).

## South-east Brazil, E Paraguay, far NE of Argentina

### Weather

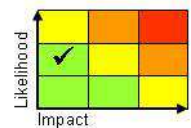
A spell of severe thunderstorms is expected to develop across the southwest of this from today, and then transfer northeastwards over the coming week. Rainfall totals in isolated locations may reach 50-100mm, with much of this falling in a short period of time; in addition other hazards associated with severe thunderstorms will be present.

### Discussion

A southward extrusion of the monsoon plume across this region will begin to be engaged by a shortwave upper trough in the sub-tropical jet stream tomorrow. This will result in an active band of severe thunderstorms moving northeast across this region.

### Expected Impacts

Potential for flash-flooding. In addition large hail, frequent lightning, strong, gusty winds and the odd tornado may bring significant but highly localised impacts. Later in the week as the severe thunderstorms reach some of the more populated and mountainous cities along Brazils Atlantic coastline (such as Sao Paulo), landslide will become an increased threat.



## Africa

## Tunisia and north Libya – See Europe

## Northern Mozambique, Malawi and Zambia, as well as western Tanzania

### Weather

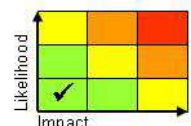
Heavy showers and thunderstorms are expected in places over the next week, with locally torrential downpours bringing 50-100mm of rain within a day, much of which will fall in a few hours.

### Discussion

A mid-latitude cold front has stalled across this region with a plume of warm, moist air just ahead of it. As has been the case in recent days, this plume is forecast to be the source for further severe thunderstorms across the area.

### Expected Impacts

Heavy rain and thunderstorms bring an increased risk of flash flooding and landslides. Transport and utilities may be temporarily affected. Strong gusty winds associated with these storms may cause hazardous conditions over areas of open water (such as Lake Malawi).



## Middle East

Nil significant.

## Asia

## Marshall Islands, Caroline Islands and Mariana Islands – See Tropical Storm Wutip

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

Further spells of heavy rain and mountain snow are expected across the area through today (Thursday), before easing later tomorrow (Friday). A further 40-80mm of rain is possible, with up to a metre of additional snow fall likely over mountainous areas, primarily above 2000m.

**Discussion**

Marked baroclinicity across the W of the area will phase in with a potent upper trough over the next 24 hours. This, coupled with orographic lift, will continue to produce widespread heavy ppn across the area. As the trough relaxes through tomorrow, impetus for further lift diminishes, and ppn rates will come down quickly, before dying out by the end of the day.

**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, mainly across Pakistan.

**Australasia**

**E/NE Australia** – See *Tropical Cyclones* section.

**Additional information**

Nil.

**Issued at:** 210855 UTC    **Meteorologist:** Jason Kelly

**Global Guidance Unit**

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