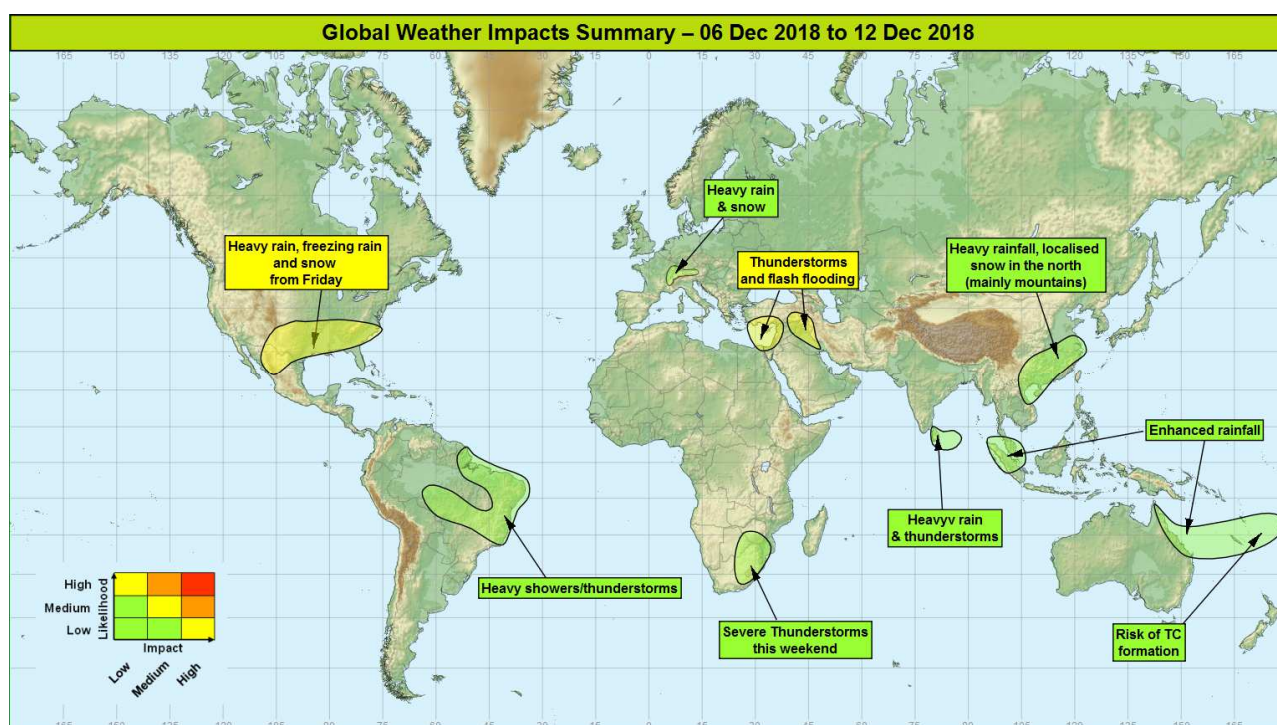


## **Global Weather Impacts – Thursday 6<sup>th</sup> December to Wednesday 12<sup>th</sup> December 2018**

Issued on Thursday 6<sup>th</sup> December 2018

### HEADLINES

- Further heavy rain and thunderstorms across the eastern Mediterranean and parts of the Middle East.
- Heavy snow and freezing rain is likely across the central/southern USA from this weekend.
- Severe thunderstorms possible across parts of south-eastern Africa.



### DISCUSSION

#### **Tropical Cyclones**

There are no active tropical cyclones at this time.

There is a low to moderate chance for a disturbance close to Tonga to develop into a tropical cyclone later this weekend or early next week. See *Australasia* section.

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

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## Europe

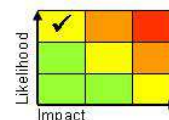
### Eastern Mediterranean

#### **Weather**

Further spells of heavy showers and thunderstorms are likely to across this region for most of the coming week, although perhaps the worst conditions should ease by the weekend. The heaviest rainfall is expected to be during today (Thursday), before a brief drier interlude. However later this weekend and into next week a further spell of unsettled weather is signalled, although perhaps less severe than at present.

#### **Discussion**

A cut-off vortex over the eastern Mediterranean is being repeatedly reinforced by further trough extensions to its rear. A combination of this upper forcing and fuelling of convection from warm seas will result in a surface low forming within the broad area of deep convection. The vortex will relax away to the east on Friday with a brief period of quieter weather expected. However, next week a mobile W'ly pattern should become established with embedded upper troughs driving areas of showers and thunderstorms through the region.



#### **Expected Impacts**

Thunderstorms will lead to a continued threat of flash flooding, with additional hazards from a combination of strong winds, large hail, frequent lightning and a few tornadoes/waterspouts today and Friday. Landslides are also possible across more mountainous parts of southern Turkey and Cyprus. Although next week's showers will likely be less severe and should move through quickly, given the already wet ground they could produce further flash flooding. Strong winds next week likely to impact marine transport.

## Northern Alps

#### **Weather**

Occasional spells of heavy rain and mountain snow will affect the region from today (Thursday) onwards, probably reaching a peak later this weekend, with 150-200 mm through the coming week. Over the weekend, snow will begin to fall to lower-levels and may affect more populated areas in the region while at higher levels some significant falls are likely.

#### **Discussion**

A succession of active frontal systems will move southeast across central and western Europe, with relatively high WBPT and strong low-level flow leading to marked orographic enhancement to the precipitation. Initially most of the precipitation will fall as rain, but over the weekend snow will fall to lower-levels (800 metres or so) as colder air sinks south across Europe.

#### **Expected Impacts**

Cumulative effect of repeated heavy rainfall may lead to an increased risk of flooding by the weekend. Snow may begin to affect more populated areas of the region by the weekend, leading to disruption to travel. Strong winds likely to lead to blizzard conditions at higher levels.



## North America

### Northern Mexico and the Southern USA

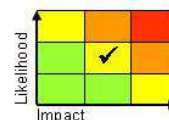
#### **Weather**

A potent winter storm is expected to form and run east across the southern and south-eastern USA this weekend. Over 200 mm of rainfall is possible in some locations along its path; however along the northern boundary of the precipitation, quite extensive snowfall (up to 20-30cm) is possible. There is also the potential for a narrow swathe of freezing rain (rain which freezes instantly onto surfaces causing a glaze of ice).

#### **Discussion**

Cold air of Arctic origin is entrenched across the continental United States. This will result in the polar front (and polar front jet) being located at unusually southern latitudes in close proximity to a plume of very warm air drawn north by an upper vortex across California on Thursday. Within this jet a sharp upper trough will quickly run east across the region and induce cyclogenesis along the polar front. This will produce an area of heavy precipitation, along the northern boundary of which precipitation will fall into cold air and bring both freezing rain and unusual early season snowfall to some southern and central states.

#### **Expected Impacts**



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This is likely to become a multi-hazard event. Very heavy rainfall is likely to cause some flash flooding across the desert regions of Northern Mexico, New Mexico and eastern Texas. However, the early season snowfall has the potential to bring utility outages and travel disruption to a region where snowfall is less than routine such as New Mexico, Texas and Oklahoma. Where freezing rain occurs, travel disruption and power/utilities outages are likely to be more widespread and significant.

## **Central America and Caribbean**

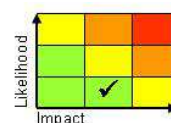
**Northern Mexico** – See *North America* section.

## **South America**

### **Brazil**

#### **Weather**

Organised heavy showers and thunderstorms are expected to continue for the next few days, bringing 30-50mm of rain in a few hours. Showers are likely to become more sporadic for a time, before a resumption of the more widespread and organised thunderstorms (which could also bring strong winds and the odd tornado) takes place in the south of the region over the weekend. There is the potential, especially in the south of the region, for 200-300mm of rain to fall by the end of the period.



#### **Discussion**

An active spell of weather is expected, as one pulse of the South Atlantic Convergence Zone (SACZ) diminishes over the next couple of days, followed by more sporadic showers, and then a resumption of a more active SACZ forced into the S of the area by a strong upper trough. Showers are likely to be heavy with thunder on all days, and along the more active, well forced SACZ organised, MCS or supercell development is possible with the potential for the odd tornado.

#### **Expected Impacts**

Heavy rain will bring the threat of flash flooding, particularly in urban areas such as Brasilia. In more mountainous terrain, heavy rain over a number of days will increase the risk of landslides. Very localised damage to homes and infrastructure given lightning and isolated tornado threat, and danger to life.

## **Africa**

**Northern Egypt** – See *Europe* section.

## **Eastern South Africa, Lesotho, Eswatini, S Mozambique, eastern Botswana, Southern Zimbabwe**

#### **Weather**

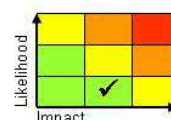
Enhanced and locally severe thunderstorm activity is expected across this region this weekend and into the early part of next week. The storms could produce 75 to 100 mm of rain in a short period, with gusty winds and hail possible.

#### **Discussion**

A sharpening upper trough is expected to drive a cold front across South Africa this weekend. As the trough encounters a warm plume to the east, it will trigger some locally severe thunderstorm activity. Forecast profiles show in excess of 2000 j/kg CAPE, with decent shear through the column supporting some organised and long lasting storms.

#### **Expected Impacts**

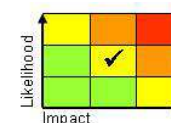
Impacts are likely to include flash flooding and an enhanced landslide risk in mountainous areas. Disruption to travel to and through the region is possible, with the risk of some disruption to power supplies.



## **Middle East**

### **Iraq, Syria and western Iran**

#### **Weather**



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Frequent thunderstorms are forecast to affect this region through the next 2 to 3 days. Each day precipitation totals could reach 25-50mm in a few locations, with this often falling over an hour or so. Over the period some of the wettest locations such as the Zagros Mountains could see in excess of 100mm of precipitation.

## Discussion

The upper vortex and subsequent troughs responsible for the unsettled weather in the eastern Mediterranean will draw a plume northeast from tropical Africa and the Red Sea across this region. As the vortex engages this plume heavy and locally severe thunderstorms are expected to break out, with storms being a mixture of surface and medium level rooted cells. A gradual decrease in activity looks likely this weekend as a zonal, perhaps ridge upper pattern becomes established

## Expected Impacts

Thunderstorms will lead to a continued threat of flash flooding, with additional hazards from a combination of strong winds (locally lifting dense dust plumes), large hail, frequent lightning. Landslides are also possible across more mountainous parts of the region.

## Asia

### Sri Lanka

#### Weather

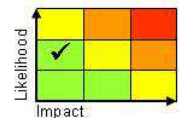
Heavy rain is expected to affect eastern parts of Sri Lanka for the next several days. Daily accumulations of around 25-75 mm are likely and by the end of the week some places may receive up to 250 mm.

#### Discussion

The northeast monsoon is expected to become more active though this week, probably in response to the MJO moving into the Indian Ocean.

#### Expected Impacts

Heavy rain will bring the threat of flash flooding. In more mountainous terrain, repeated heavy rainfall events will increase the risk of landslides.



### Eastern China and NE Vietnam

#### Weather

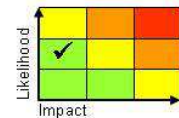
An active cold front is likely to remain slow moving across this region through the next few days. Pulses of heavy rainfall and thunderstorms are likely to move north-east, with some strong and gusty winds and large hail likely. Up to 75 mm of rain is possible per day in places. Towards the northern limits of the precipitation band snowfall is increasingly likely; whilst much of this is likely to be across the mountains some snowfall to lower levels is possible.

#### Discussion

A strong thermal gradient exists across this region between the frigid, Siberian air to the north, and the moist tropical air to the south. A strong jet aloft will induce waves along the front, bringing pulses of intense rainfall and thunderstorms. These waves will keep the front in a similar location for several days, allowing some large rainfall/snowfall totals to accumulate.

#### Expected Impacts

Flash flooding, large hail and gusty winds could lead to disruption to travel, including the busy shipping lanes through this region. Towards the north of the region snowfall is likely to locally cause additional impacts on transport, utilities and businesses.



### Malay Peninsula and Sumatra

#### Weather

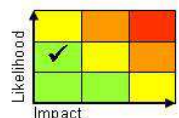
Enhanced rainfall is likely to affect this region through the next few days. 50 to 75 mm per day is possible, some places seeing over 200 mm through the period.

#### Discussion

A cold surge across SE Asia has resulted in a tight thermal gradient and a strong NE flow into this region. The result is enhanced rainfall, especially along east facing coasts and hills. The likely advance of the MJO into the region next week may further enhance rainfall.

#### Expected Impacts

Flash flooding and an enhanced landslide risk will be the main impacts. This region has been fairly wet for the past few weeks, and so may be more susceptible than usual to such impacts.



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## **Australasia**

### **Queensland, Australia, Vanuatu, New Caledonia**

#### **Weather**

Enhanced, but largely welcome rain is expected to affect much of eastern Queensland through the coming week. The remnants of tropical cyclone Owen may move west toward the east tropical and/or central Queensland coasts later this week. This could result in locally torrential rainfall developing late in the week, though there remains a large amount of uncertainty associated with the movement of the system. Meanwhile further east enhanced rainfall is expected for the next 2 to 3 days through Vanuatu and New Caledonia. 100 to 150 mm per day may fall here before drier weather spreads north next week. There is a low to moderate risk of tropical cyclone formation within this region later this weekend.

#### **Discussion**

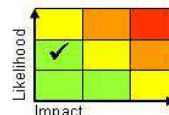
The track of Ex-Owen continues to be fairly uncertain, although the vast majority of solutions now take the feature slowly and erratically westwards in the direction of Australia where its moisture will enhance rainfall further. Ahead of this a slow moving upper vortex over Queensland will maintain shower and thunderstorm activity within the warm plume. To the east activity along the south Pacific convergence zone will remain strong for the next few days, before an amplification of the upper pattern shifts the zone of heavy precipitation northwards next week. There is a signal from models for the formation of one or more tropical disturbances within this zone, with a low to moderate chance of tropical cyclone formation close to Tonga later this weekend.

#### **Expected Impacts**

Enhanced rainfall may lead to some localised flash flood impacts. In general though the rainfall across Queensland should bring welcome relief from the heat and wildfires which have affected this region recently. There is a low to moderate chance of impacts from strong winds should a tropical cyclone form.

#### **Additional information**

Nil.



**Issued at:** 060845 UTC **Meteorologist:** Mark Sidaway

**Global Guidance Unit**

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