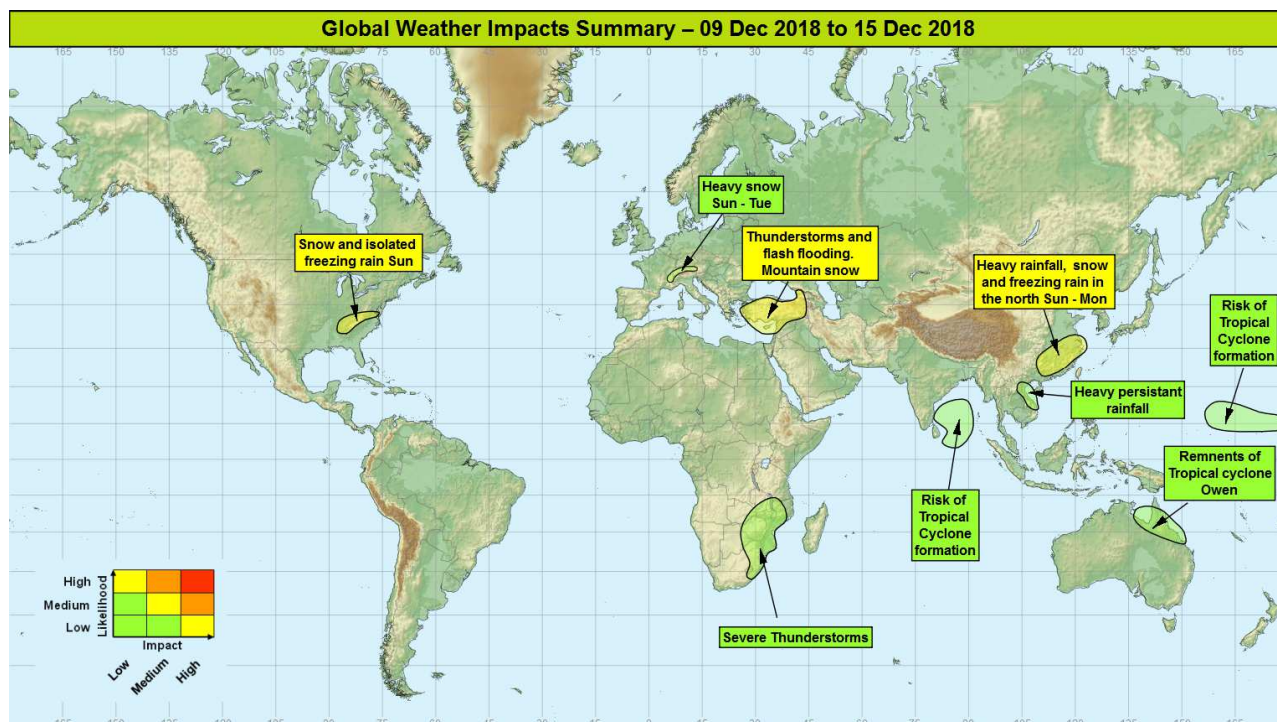


**Global Weather Impacts – Sunday 9<sup>th</sup> December to Saturday 15<sup>th</sup> December 2018**

Issued on Sunday 9<sup>th</sup> December 2018

**HEADLINES**

- Further heavy rain and thunderstorms across the eastern Mediterranean and parts of the Middle East.
- Snow and freezing rain is likely across the central/southern USA on Sunday, and China until Monday.
- Potential formation of several tropical cyclones over the coming week.



**DISCUSSION**

**Tropical Cyclones**

There are no active tropical cyclones at this time.

**Potential development from remnants of Owen (Australia)**

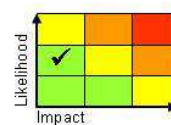
**Weather**

Enhanced, but largely welcome rain in the form of heavy showers or thunderstorms is forecast across much of eastern and northern Queensland through the coming days. This rain is due to the remnants of Tropical Cyclone Owen. Generally there looks to be a broad corridor where 50-100mm seems likely to fall quite widely, with perhaps up to 250mm in a few locations. After crossing northern Queensland and reaching the Gulf of Carpentaria on Wednesday, there is the potential for the system to redevelop into a tropical cyclone once more, before moving back southeast across Cape York.

**Discussion**

Until Wednesday the track of the remnants of Owen is fairly certain, with the feature tracking westwards across northern Queensland into the Gulf of Carpentaria. After this point it is highly uncertain what will happen. There is a risk that the system could redevelop into a tropical cyclone, and then return southeast across northern Queensland's along a similar path to that previously travelled, potentially making the severity of this event more notable.

**Expected Impacts**



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

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Given much of this rainfall is falling across a very sparsely populated region, the impacts for this event are likely to be fairly small. Enhanced rainfall may lead to some localised flash flood impacts. This rainfall should generally bring welcome relief from the heat and wildfires which have affected this region recently

## **Potential development in the Bay of Bengal**

### **Weather**

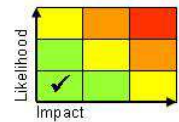
Conditions will likely become more conducive for the development of tropical cyclones in southern parts of the Bay of Bengal next week. Should a system develop, there is a low chance of it affecting Sri Lanka and southeast India. Regardless of development heavy rainfall is expected at times in this region next week.

### **Discussion**

As the MJO moves from the Indian Ocean and into the Maritime Continent, conditions become more favourable for tropical cyclone genesis in the Bay of Bengal during next week. MOGREPS-G and the ECMWF ensemble both suggest the potential for a tropical storm to develop from around midweek.

### **Expected Impacts**

Should a storm develop, strong winds will generate rough seas and large waves; however the most probable impacts are from heavy rain and therefore flash flooding and landslides.



## **Potential development in northwest Pacific Ocean**

### **Weather**

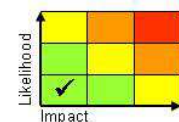
An area of organised thunderstorms in the northwest Pacific will move into an area favourable for tropical cyclone development. However, the only land it would threaten in this period would be to the Northern Mariana Islands on day 7.

### **Discussion**

The passage of a Kelvin Wave (KW) through the central Pacific has excited a pair of Equatorial Rossby Waves (ERW). The northern hemisphere component of the ERW will pass through an area favourable for gradual development into a tropical cyclone, with all the usual favourable ingredients (low vertical winds shear, high SSTs, moist medium/high level air, and good outflow in both the equator and poleward directions).

### **Expected Impacts**

Should a storm develop, strong winds will generate rough seas and large waves, however the most probable impacts are from heavy rain as the system approached the Northern Mariana islands next weekend.



## **Europe**

### **Eastern Mediterranean and adjacent countries and N Iraq**

### **Weather**

After a somewhat drier interlude, further spells of heavy showers and thunderstorms are likely to develop again next week (from Monday to Wednesday). Some very intense downpours, especially across coastal parts of Syria and southern Turkey where daily rainfall accumulations could be in the range 50-100 mm. These showers are likely to increasingly fall as snow across the high mountains of the region from Tuesday.

### **Discussion**

An omega block is expected to develop across central and eastern Europe next week, with an upper vortex probably becoming slow-moving in the Black Sea region. A strong jet, with embedded short-wave upper troughs will round the base of the vortex and interact with various WBPT plumes to produce heavy showers and thunderstorms. Forecast profiles have sufficient CAPE and vertical wind shear to generate organised convection, with upscale growth into MCS possible, particularly on Tuesday. WBFL falling as low as 1000 M, meaning that many of the regions mountain ranges are likely to see snowfall (even over Cyprus).

### **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. Landslides are also possible across more mountainous parts of southern Turkey and Cyprus. Snow over the high mountains may cause some disruption to both travel and infrastructure.



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## Northern Alps

### **Weather**

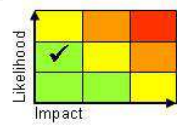
Occasional spells of heavy rain and mountain snow will continue to affect the region, probably reaching a peak on Monday, with total rainfall accumulations of 100-200 mm possible by the middle of next week. Snow will begin to fall to lower-levels and may affect more populated areas in the region, while at higher levels some significant falls are likely. Turning much drier after Tuesday.

### **Discussion**

A succession of frontal systems will move southeast across central and western Europe, with strong low-level flow leading to marked orographic enhancement to the precipitation. Initially most of the precipitation will fall as rain, but over the snow will fall to begin to fall to lower-levels (500 metres or so) as colder air sinks south across Europe.

### **Expected Impacts**

Cumulative effects of repeated heavy rainfall may lead to an increased risk of flooding. Snow may begin to affect some more populated areas of the region over the next few days, leading to disruption to travel. In addition, strong winds may lead to blizzard conditions at higher levels and a risk of avalanche.



## North America

### Eastern USA, Arkansas to Washington DC

### **Weather**

The tail end of a potent winter storm will clear the eastern USA today. This may bring a further 50 mm of precipitation to some locations; 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**

A potent winter storm developed on the boundary between a cold Arctic and warm air with origins in the Gulf of Mexico. This system has brought heavy rainfall to many of the southern states, with reports of snowfall on its northern edge. This pattern will be maintained for one final day on Sunday as the system clears away into the Atlantic.

### **Expected Impacts**

Heavy rainfall is likely to cause some flash flooding in Georgia and South Carolina, with a mixture of sleet, snow and locally freezing rain extending between Arkansas and Washington DC. Early season snowfall has the potential to bring utility outages and travel disruption to a region where snowfall is less than routine. Where freezing rain occurs, travel disruption and power/utilities outages are likely to be more widespread and significant.



## Central America and Caribbean

Nil significant.

## South America

Nil significant.

## Africa

### Eastern South Africa, Lesotho, Swaziland, Mozambique, eastern Botswana, Zimbabwe, Zambia and Tanzania

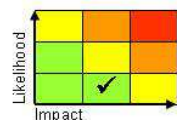
### **Weather**

Enhanced and locally severe thunderstorm activity is expected across this region until around the middle of next week. The storms could produce 50 to 100 mm of rain in a short period, with gusty winds, frequent lightning and hail possible.

### **Discussion**

A sharpening upper trough is expected to drive a cold front across South Africa. 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**



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# Met Office Daily Global Weather Impacts Assessment

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**

**Northern Iraq and Syria** - see *European Section*

## **Asia**

**Sri Lanka & Andaman Islands** – see *Tropical Cyclones* section

## **Southern China**

### **Weather**

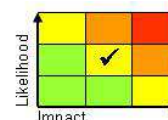
An active cold front with heavy precipitation and isolated embedded thunderstorms is likely to remain slow moving across this region through until the end of Monday. Up to 50 mm of precipitation is possible per day in places. Towards the northern limits of the precipitation band snowfall and freezing rain is increasingly likely; and with this falling across some populated regions it could potentially be fairly impactful. From Tuesday onwards conditions will become much drier.

### **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 precipitation and thunderstorms. These waves will keep the front in a similar location for a couple more days, allowing some large rainfall/snowfall totals to accumulate.

### **Expected Impacts**

Localised flooding could lead to disruption to travel. Towards the north of the region snowfall and areas of freezing rain are likely to locally cause additional and more significant impacts on transport, utilities and businesses.



## **Northern Vietnam**

### **Weather**

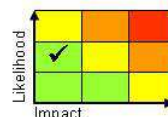
Heavy showers and thunderstorms will become more intense, frequent and long-lived across northern parts of the country over the next 5-7 days. Typical daily rainfall accumulations of 50-100mm are expected, with up to 400 mm possible in some places by the end of next week.

### **Discussion**

Repeated, but relatively modest, cold surges over central China will lead to an enhanced northeast monsoon flow across the South China Sea. The strong low-level flow will drive large amounts of moisture into northern parts of Vietnam, with heavy rainfall developing.

### **Expected Impacts**

Flash flooding and an enhanced landslide risk will be the main impacts.



## **Additional information**

Nil.

**Issued at:** 090820 UTC **Meteorologist:** Nick Silkstone

**Global Guidance Unit**

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

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