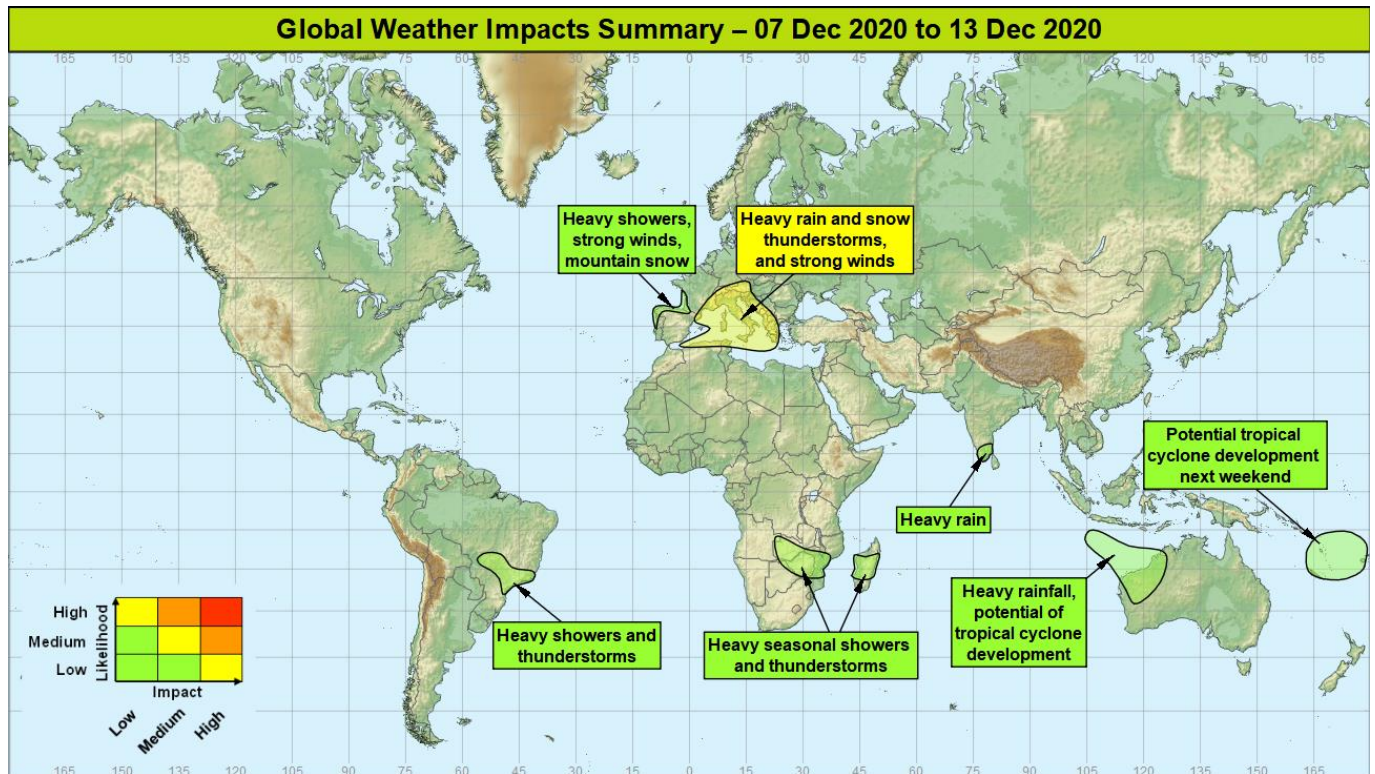


## Global Weather Impacts – Monday 7<sup>th</sup> to Sunday 13<sup>th</sup> December

Issued on Monday 7<sup>th</sup> December 2020

### HEADLINES

- Remaining very unsettled across parts of central/southern Europe and the Mediterranean, with heavy rainfall, thunderstorms, strong winds, and mountain snow.
- Heavy seasonal rainfall over parts of the southern Hemisphere.



### DISCUSSION

#### Tropical Cyclones

*No currently active tropical cyclones. The following areas are being monitored for development that may impact land:*

#### Eastern Indian Ocean and northwestern Australia

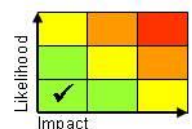
##### Weather

A broad area of active shower and thunderstorm activity currently lies between Java Island and Australia within which two weak areas of low pressure are expected to form. There is a low to moderate likelihood for either of these to develop into a tropical cyclone and be drawn south-eastwards across sparsely populated parts of north-western Australia. Even if tropical cyclones don't form, some exceptional rainfall is likely across parts of this region.

##### Discussion

A broad trough extends from northwest Australia to the western end of Java Island, with this feature organising areas of deep convection, with two distinct areas of low pressure expected to form. While environmental conditions look favourable for one or both of these to develop, signals from NWP remain mixed. Into the middle of this week a mid-latitude trough is signalled to extend just off the western coast of Australia, with the northwesterly flow ahead of this steering the tropical airmass and whatever tropical storms exist within it at this point towards northwestern Australia.

##### Expected Impacts



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Dangerous sea and coastal conditions in the region, with the potential for some flash flooding across sparsely populated parts of northwestern Australia.

## **Southwest Pacific, including New Caledonia, Vanuatu and Fiji**

### **Weather**

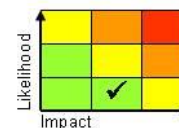
There is the potential for a tropical cyclone development next weekend in this region. Even if a tropical cyclone does not develop we are likely to see very heavy rainfall which could produce up to 200mm in a few places at the weekend, which is around the average December rainfall in this region.

### **Discussion**

There is a signal for all models for a tropical cyclone development next weekend along the South Pacific Convergence Zone, although differences in the intensity and track are apparent. This is an area to monitor since islands in this region are susceptible to significant tropical cyclone impacts.

### **Expected Impacts**

Potential for flash flooding rainfall, landslides and damaging winds.



*The following areas are being monitored for tropical cyclone development that will remain over open water:*

## **Southern Indian Ocean**

Perhaps the most likely area to see tropical cyclone development in the coming days is the southern Indian Ocean. However any system that forms will remain well away from land and out over the open ocean before decaying.

## **Arabian Sea**

The remnants of Cyclonic Storm Burevi are now in the Arabian Sea as a disorganised area of convection. There is a small chance that they may redevelop into a tropical cyclone. However any system is expected to remain over the Arabian Sea through this period.

## **Europe**

### **Southern Alps, Italy, Corsica, Sardinia, the Balkans, Greece, Algeria and Tunisia**

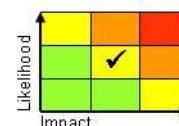
### **Weather**

Further spells of heavy rain and thunderstorms are likely to affect this region at times through the coming week, bringing 50 to 100, perhaps locally 150mm of rainfall each day, although the locations affected are likely to vary from day to day. There may be a brief lull in conditions today, but by the end of the week, 250-350mm of rain could have built up in a few locations. Perhaps parts of northeast Italy / southwest Austria / Balkan coastline looking most prone to this. Snow is likely across the Dinaric and Italian / Austrian Alps with some large accumulations here. Showers across North Africa may not be as heavy as those farther north, although given typically lower rainfall amounts here flooding impacts may occur, particularly in urban areas. Gales are likely in the Adriatic Sea, although these are not unheard of at this time of year they will likely produce a high surge across the northern Adriatic.

### **Discussion**

The upper pattern will remain cyclonic, though with the weekend's activity associated with a plume of relatively high WBPT will continue moving away to the east today. Further heavy showers are likely at times, with snow on many mountains, especially as WBFLs fall behind the trough. A further trough extension takes place during Tuesday / Wednesday and maintains the very unsettled conditions in the region. Areas of deep convection and heavy, orographically modulated rainfall are likely to develop in the high WBPT plume that will once again be drawn north on the forward side of the extending upper trough, and as it moves east, it will produce more heavy snowfall across the Dinaric and Italian / Austrian Alps, particularly the southern Alps.

### **Expected Impacts**



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Risk of flash flooding, with fluvial impacts increasingly likely. Landslides are possible as well as avalanches, with snow causing disruption to travel on higher routes. Hazardous sea conditions at times, particularly around Corsica/Sardinia and the Adriatic where coastal flooding is likely during the second half of the week.

## **Northwestern Iberia and southwest France**

### **Weather**

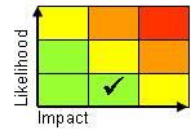
Frequent, heavy showers along with some longer spells of rain are expected to affect the region for much of this week. Rainfall will vary somewhat, but a further 50-75mm could fall and by the end of the week on top of what fall at the weekend. Precipitation will fall as snow above 800 to 1000 metres, with some significant falls likely (another 50 to 75cm) over the far west of the Pyrenees. Northwesterly gales or severe today will lead to some very large waves in the Bay of Biscay which will not only cause dangerous sea conditions but has the potential to damage sea defences – then after a lull midweek, some very strong winds are possible around the Bay of Biscay again at the end of the week.

### **Discussion**

This region lies to the west of the cyclonic block in place across western Europe, with a cold air outbreak overspreading the region and strong northwesterly surface winds. This will lead to a near-continuous feed of heavy showers off the Bay of Biscay as well as strong winds with gusts of 60 to 70mph possible. Further longer spells of rain and mountain snow will occur in association with frontal systems swinging southeast cross the region during the second-half of the week, with one potential development by Friday bringing a renewed threat of very strong winds.

### **Expected Impacts**

The main impact will be flash flooding with some disruption to travel likely, especially over mountainous regions where heavy snow will be an additional hazard. Minor wind damage and hazardous sea conditions are likely at times, with potential for sea defences to be damaged.



## **North America**

*Nil.*

## **Central America and Caribbean**

*Nil.*

## **South America**

### **Southeastern Brazil**

### **Weather**

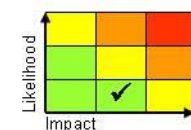
Further heavy showers and thunderstorms will affect this region through the coming days. These storms will be capable of bringing intense short-duration rainfall with locally 50 to 100mm possible in an hour or two, and up to 200 to 300mm by the end of the week – which is around a month's rainfall normally.

### **Discussion**

A combination of a tropical high WBPT and forward of a minor upper trough in the subtropical jet will encourage the destabilisation of the atmosphere and deep convection to form within this zone which will move northeast across this region through the coming days. High CAPE (locally reaching >2000J/kg) and moderate vertical wind will lead to some organisation of convection into MCS features.

### **Expected Impacts**

Flash flooding likely, with the potential for this to be hazardous if it affects any urban areas, particularly in areas built on steep hillsides with sub-standard infrastructure, where there will also be an enhanced risk of landslides.



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## Africa

**Algeria and Tunisia** – see *Europe section*

### **Parts of southern Africa and parts of Madagascar**

#### **Weather**

Enhanced shower and thunderstorm activity will affect this region over the coming week. Showers will be capable of locally bringing 50-100mm of rainfall in a short duration with some locations see as much as 200-400mm over the course of a week. Despite the region entering its wettest period of the year (December to February) locally these totals above the 200-250mm precipitation that this region experiences in an average December.

#### **Discussion**

A slow moving mid-latitude cold front lies across eastern South Africa to Madagascar. A surface high to the south of this generates a strong southeasterly flow, this meeting the northeasterly Indian Ocean trade winds and generating strong low level wind and moisture convergence. This will lead to the generation of widespread deep and moist convection across the region, with parts of Mozambique signalled for some particularly heavy rainfall.

#### **Expected Impacts**

Increased threat of flash flooding and riverine, an enhanced risk of landslides and lightning will be an additional hazard.



## **Middle East**

*Nil.*

## **Asia**

### **Southern India**

#### **Weather**

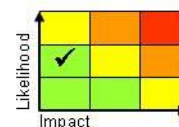
Further heavy rain or showers could bring an additional 150-300mm possible in some locations. This is the wettest part of the year for southeast India but falling on top of recent rainfall associated with Burevi will represent accumulations in excess of the December average for this region.

#### **Discussion**

Burevi has long since ceased to be a tropical cyclone, however, very heavy showers and thunderstorms in the low-level moisture legacy only slowly clearing this week, but activity should decrease, especially compared to recent days.

#### **Expected Impacts**

An enhanced risk of flash and riverine flooding.



## **Australasia**

**Northwest Australia**– See *Tropical Cyclones section*.

### **Additional Information**

**Northern India, Pakistan, Afghanistan and parts of eastern China:** Urban pollution, combined with crop burning, will continue to generate high levels of air pollution in this area over the coming months. Very unhealthy air quality has continued to be reported in cities in the area including Delhi, Lahore and Kabul.

**South Africa:** Localised heavy thunderstorms will continue to affect parts of South Africa this week, with an increasing risk of severe storms affecting large populated areas such as Jo'burg and Pretoria by the end of the week – with an increased risk of urban flooding.

**Issued at:** 070800 UTC    **Meteorologist:** Chris Almond / Paul Hutcheon    **Global Guidance Unit**

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