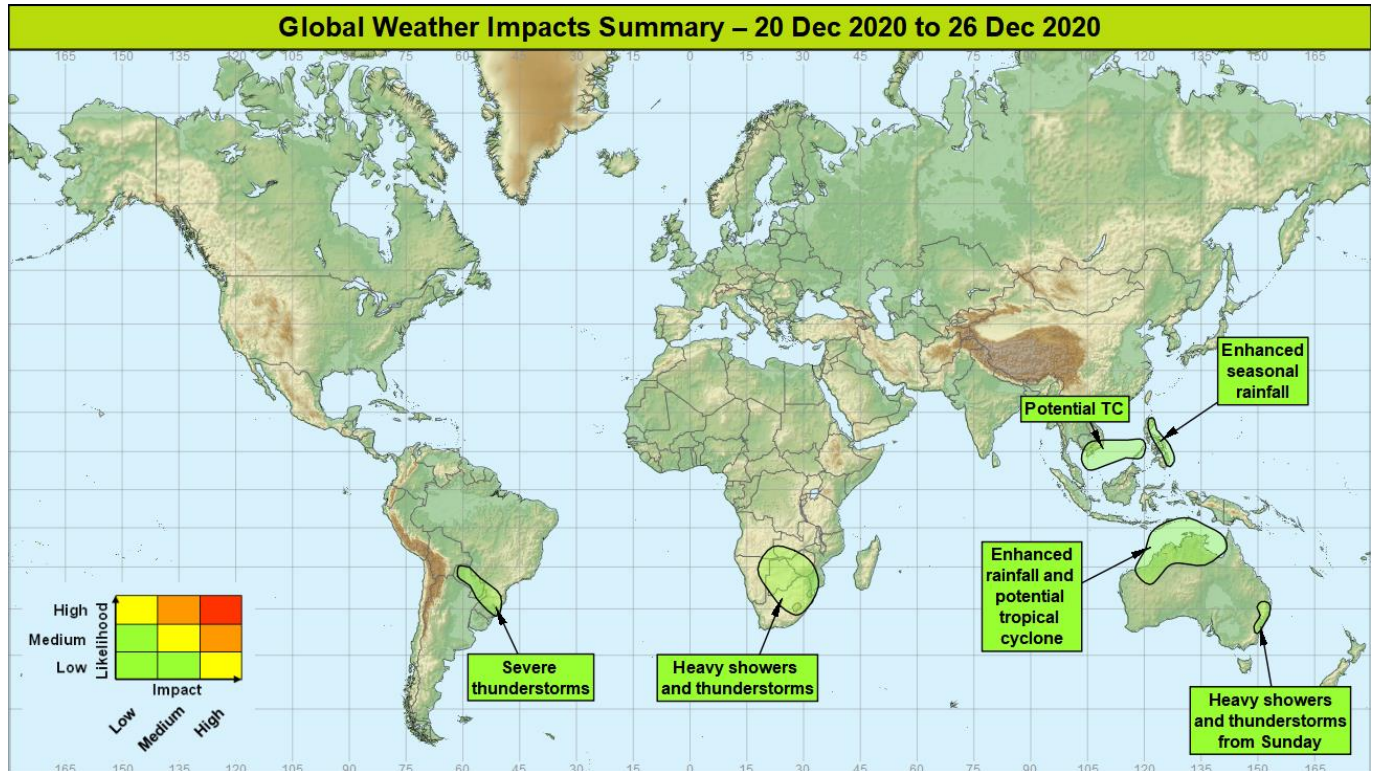


## Global Weather Impacts – Sunday 20<sup>th</sup> to Saturday 26<sup>th</sup> December

Issued on Sunday 20<sup>th</sup> December 2020

### HEADLINES

- Further intense thunderstorms across parts of South America.



### Tropical Cyclones

There are no named tropical cyclones at this time.

*The following areas are also being monitored for tropical cyclone development that may impact land over the coming 7 days.*

#### Sula Sea (north of Borneo)

##### Weather

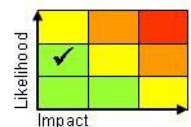
A tropical continues to meander slowly west across the Sula Sea in between northern Borneo and The Philippines. This feature is likely to track across Palawan, then on into the South China Sea. Some modest strengthening is likely and this system may well become a tropical storm. The system is expected to maintain a broadly westerly course toward the southern Indochina Peninsula around midweek, but is not expected to develop significantly.

##### Discussion

An unfavourable vertical shear environment is likely to limit development of this system as it most likely tracks steadily west over the coming days. Models diverge as to its eventual destination, most taking it south of Vietnam toward the Gulf of Thailand.

##### Expected Impacts

Enhanced rainfall across Palawan for a few days, then a risk of enhanced rainfall to parts of Indochina later this week.



This forecast may be amended at any time

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## Timor Sea (Northern and northwestern Australia)

### **Weather**

A tropical low lies inland across NW Australia close to Kalumburu. The majority of model output suggest this system will head further inland. However a minority (<10%) of ensemble output allow this to move west and offshore Pilbara, in which case it could strengthen into a tropical storm. Regardless of development heavy rainfall is expected across this sparsely populated region with many locations seeing 200-300mm through the coming week, locally more if a tropical cyclone does form.

### **Discussion**

An Equatorial Rossby Wave (ERW) continues to enhance vorticity along the monsoon trough and has allowed a tropical low to form. Most models take this low further inland, although it does undergo some strengthening. However for a tropical cyclone to form it needs to move offshore, and only a minority of ensemble solutions support this.

### **Expected Impacts**

Due to the area being sparsely populated, impacts will be minimal, but flash and riverine flooding are possible, along with storm surge and strong winds.

*The following areas are also being monitored for tropical cyclone development but no interaction with land is expected in the next seven days.*

Areas of convection across the southern Indian Ocean could be the focus for tropical cyclone development. RSMC La Reunion has a moderate chance of formation through the coming days, however at this stage no interaction with land is expected

## Europe

Nil.

## North America

Nil.

## Central America and Caribbean

Nil.

## South America

### Paraguay, northern Argentina and southern Brazil

### **Weather**

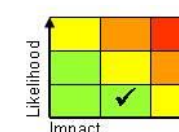
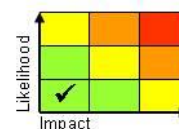
Further bouts of heavy showers and severe thunderstorms are likely to affect this region at times in the next couple of days before conditions improve from the south next week. Rainfall totals will vary over short distances, but in the wettest locations 50-75mm (locally up to 100mm) of rain could fall in a short period. The Paraguayan capital Asuncion sees 150mm of rainfall on average through December. Large hail and tornadoes are also possible.

### **Discussion**

Profiles show extreme amounts of available CAPE (locally in excess of 3000J/kg) which will again lead to some very intense and long-lived cells. Meanwhile a final upper trough will finally push the plume northwards, as an active cold front, such that it become sufficiently remote from upper forcing that activity will reduce and become less organised by Tuesday.

### **Expected Impacts**

The main impacts are likely to be from flash flooding. Large hail, tornadoes and very strong winds are additional hazards, and may lead to impacts on transport, travel and crops. Parts of southern Brazil around Santa Catarina have been particularly affected by flash floods and landslides in recent days.



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

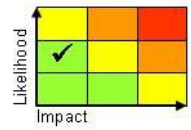
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**Africa****Areas of south and south-central Africa****Weather**

The rainy season continues across this region with further enhanced shower and thunderstorm activity over the next few days. Showers will be capable of bringing 50-100mm of rainfall in a short duration with some locations seeing as much as 150-250mm during the week. Typical December rainfall totals in this region are around (200-250mm).

**Discussion**

As is typical for the time of year the plume of tropical air has been drawn southwards across the region of high topography, with weakening mid-latitude fronts (and their moisture footprints) making some northwards progress across the far south of the continent. This will lead to diurnal rounds of deep convection, aided by enhanced surface convergence close to the frontal zones. Profiles tend to show low shear, high precipitable water suggesting the heavy rainfall and lightning the most probable hazards. There is also a possibility of cyclogenesis across South Africa next week which would further enhance rainfall in the southern part of the highlighted area, and could also produce some strong winds.

**Expected Impacts**

Some flash and minor riverine flooding expected with an enhanced risk of landslides. Lightning will be an additional hazard. Risk of strong and gusty winds.

**Middle East**

Nil.

**Asia****Parts of The Philippines****Weather**

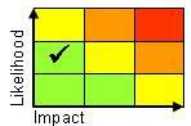
Seasonal heavy showers and thunderstorms will be more frequent and intense than usual in the next couple of days. Rainfall totals of 50-100mm could occur over the course of a few hours, with some locations seeing a further 150-200 mm of rainfall in places. Typically this region sees around 300-400mm of rainfall during the whole of December. Rainfall is likely to return to more normal values by Tuesday or Wednesday.

**Discussion**

Within the context of the La Nina background state which favours above-average convection across this region, the passage of at least one Kelvin Wave and an Equatorial Rossby Wave (ERW) couplet through this area will lead to further enhanced convection. The developed tropical depression over the Sula Sea will also strengthen flow into these coasts, further enhancing activity. PWAT is in excess of 60mm with a high skinny CAPE environment suggestive of heavy rainfall being the primary hazards.

**Expected Impacts**

Potential for flash flooding and an enhanced risk of landslides.

**Australasia**

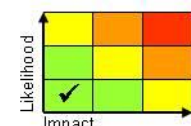
**Northern and northwestern Australia** – See *Tropical Cyclones* section.

**Southeast Queensland and northeast New South Wales, Australia****Weather**

Following recent disturbed weather yet another bout of unsettled weather is likely across this region on Monday. Daily rainfall totals of 20-40mm are likely across quite a large area, whilst some places may see over 100mm in association with heaviest showers.

**Discussion**

A mid-latitude trough crossing central and southern Australia will engage warm air being drawn south across this region. Heavy showers and thunderstorms will result, with the distribution dictated by the progression of the mid-latitude trough.



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**Expected Impacts**

Increased risk of flash and riverine flooding.

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**Additional information****Northern India, Pakistan, Afghanistan and parts of eastern China**

Urban pollution will continue to generate high levels of air pollution in this area over the coming months. Hazardous air quality has continued to be reported in cities in the area including Delhi, Varanasi, Lahore, and Kabul.

**Issued at:** 200600UTC

**Meteorologists:** Mark Sidaway

**Global Guidance Unit**

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

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