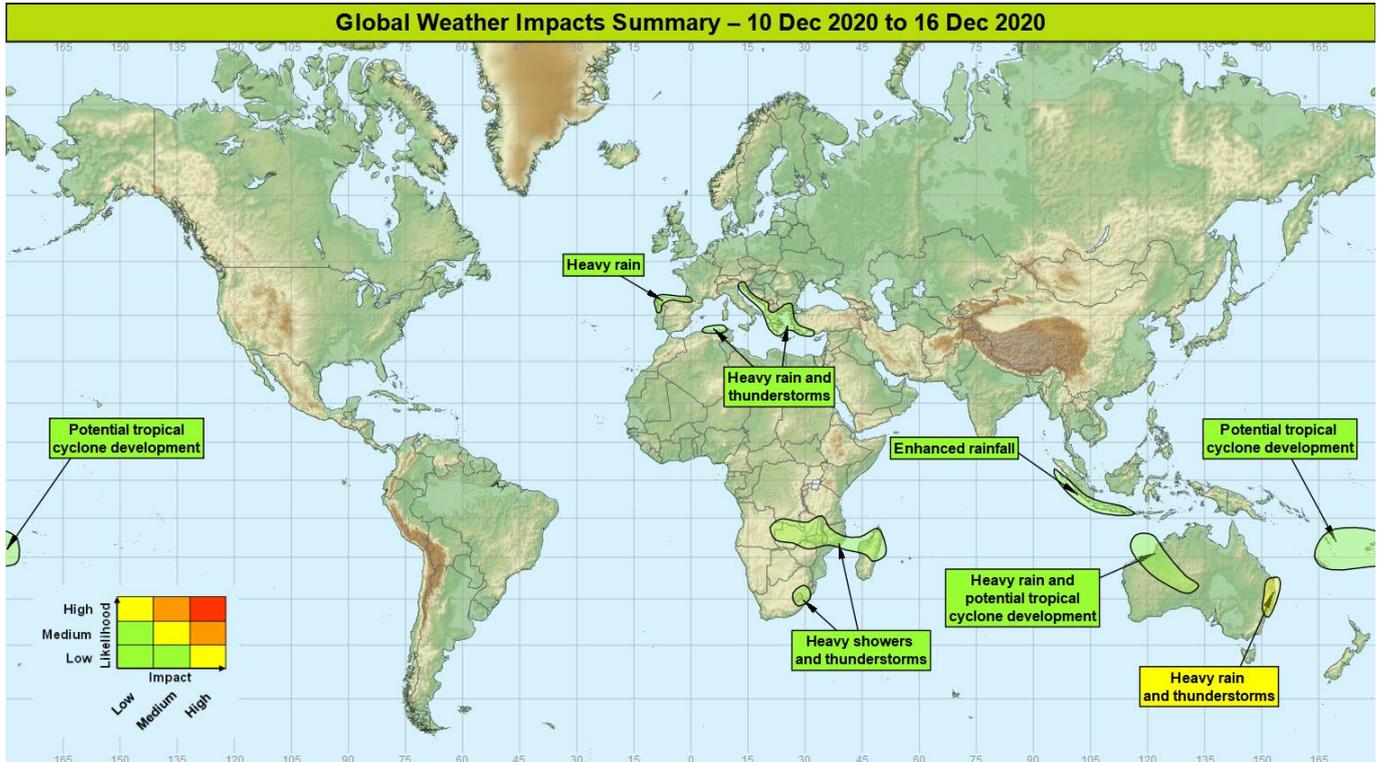


## Global Weather Impacts – Thursday 10<sup>th</sup> to Wednesday 16<sup>th</sup> December

Issued on Thursday 10<sup>th</sup> December 2020

### HEADLINES

- Severe thunderstorms and heavy rain for eastern Australia.
- Heavy rain and thunderstorms continue to affect southeast Europe.
- Potential tropical cyclone development in the southwest Pacific, including Fiji and Vanuatu.
- Heavy rain and thunderstorms affecting parts of southeast Africa and Madagascar.



### Tropical Cyclones

There are currently no named tropical cyclones globally. The following areas are being monitored for development that may impact land:

#### Eastern Indian Ocean and northwestern Australia Weather

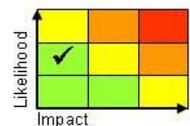
A large area of heavy showers extends southeast from a tropical low centred south of Java across the Kimberley coast of Australia and the desert interior. There is a low likelihood of this area of low pressure developing into a tropical cyclone as it nears the West Australia coast tomorrow (Friday). Irrespective of development, heavy rain is expected to affect the sparsely populated regions of Kimberley and Pilbara over the next 3-4 days. Event totals of 150-200 mm are expected quite widely which is more than double the average December rainfall for even coastal locations (e.g. Broome and Port Headland).

#### Discussion

Tropical Low 02U south of Java is expected to move slowly southeast to reach the Pilbara coast by Friday. Whether this feature acquires tropical characteristics before landfall is considered unlikely but is still likely to bring strong winds and more notably heavy rain to a relatively dry, albeit unpopulated region.

#### Expected Impacts

Increased likelihood of flash flooding, particularly for Pilbara and Kimberley coastal communities. Large waves and rip currents may affect coastal areas of northern WA.



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

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## Southwest Pacific (including New Caledonia, Vanuatu and Fiji)

### **Weather**

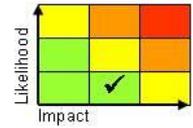
There is a moderate likelihood of tropical cyclone development later this week or early next week in the southwest Pacific Ocean between Vanuatu and Fiji. Were tropical cyclone development to occur, it is likely any system would drift slowly southwest potentially impacting New Caledonia. Irrespective of development, frequent heavy showers and thunderstorms will affect this region over the next week with event totals likely 75-100 mm quite widely with locally 250-400 mm possible. These larger totals would be equivalent to average wet season (January to May) monthly rainfall.

### **Discussion**

There is a signal from all models for tropical cyclone development through the 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.



## Europe

### Southeast Europe

#### **Weather**

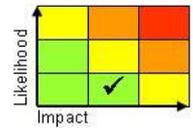
Further heavy rain, mountain snow and coastal thunderstorms are expected to affect the region over the next several days although the focus for the heaviest rain and associated impacts is expected to transfer east such that drier conditions should develop along the Adriatic coast by Sunday. Spells of more organised rain will affect the region Friday and Sunday with scattered, locally severe, thunderstorms in between. 75-150 mm, locally 250 mm, of rain is expected to fall over the southern Adriatic and eastern Aegean coastlines by the end of the week.

#### **Discussion**

A southward displacement of the main polar front jet will maintain the unsettled conditions across the Mediterranean and surrounding areas. Marked trough extensions will lead to a persistently cyclonic surface pattern with slow progression leading to a gradual eastward trend in highest rainfall totals.

#### **Expected Impacts**

Ongoing river flooding risk across the northern Adriatic due to recent rainfall events but this is likely to extend south and eastward through the remainder of the week. Flash flooding and landslides will be additional hazards, with snow over higher routes also posing an elevated avalanche risk.



## Northern Portugal and northwest Spain and far southwest France

### **Weather**

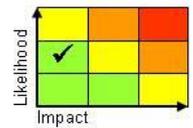
Heavy rain is expected to develop across the region on Thursday and Friday before conditions generally improve over the weekend. 75-150 mm of rain is expected quite widely in this region with the higher end of this range approaching the typical average rainfall for the entire month of December.

### **Discussion**

An Azores high displaced to the southeast towards the Canaries allows frontal systems to affect Iberia, moving into central and southern Europe to reinforce the slow-moving vortex that has been established here for the past several days. Into the weekend, the storm track begins to migrate north again and this allows drier conditions to return across southwest Europe.

### **Expected Impacts**

Increased likelihood of flash flooding and minor transport disruption.



## North America

Nil.

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

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## Central America and Caribbean

Nil.

## South America

Nil.

## Africa

### Tunisia and Algeria

#### **Weather**

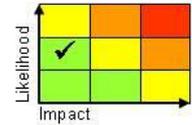
Heavy showers and thunderstorms will continue to affect the eastern Algeria and northern Tunisia coast through the next 3-4 days before easing through Sunday into early next week. During this time some locations may receive 100-150 mm of rainfall which exceeds the typical December monthly rainfall for this region of 75-100 mm.

#### **Discussion**

Upper trough disrupting into southern and southeast Europe will maintain an unsettled regime across this area over the next few days, primarily in the form of heavy showers and thunderstorms impinging on the north Africa coast. Whilst thunderstorms aren't expected to be particularly severe, their frequency will allow rainfall totals to build up.

#### **Expected Impacts**

Ongoing likelihood of flash flooding and landslides, particularly in areas of more steeply sided terrain.



### Eastern Angola, Zambia, southern DRC, Malawi, northern Mozambique, northern Zimbabwe and northern Madagascar

#### **Weather**

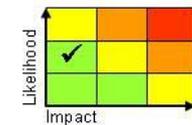
Enhanced shower and thunderstorm activity will affect this region over the next week. Showers will be capable of locally bringing 50-100 mm of rainfall in a short duration with some locations see as much as 200-400 mm over the course of a week. Despite this being the wettest period of the year for this region, these totals are above the average rainfall for the whole of December (200-250mm).

#### **Discussion**

Incursions of lower WBPT airmass has acted to increase baroclinicity at relatively low latitudes across southeast Africa. A fairly strong anticyclone within the cooler airmass south of Madagascar is contributing to increased convergence against the trade wind flow to the north leading to more frequent heavy showers and thunderstorms than is normal for the time of year.

#### **Expected Impacts**

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



### Eastern South Africa and Lesotho

#### **Weather**

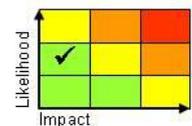
Daily heavy showers and thunderstorms are expected to continue over the next few days but locally severe thunderstorms become increasingly likely over the weekend before drier conditions return early next week. These thunderstorms are expected to be capable of producing locally torrential rain (75-100 mm in a few hours), large hail, frequent lightning and strong winds.

#### **Discussion**

Tropical moisture being drawn south across eastern South Africa is expected to be engaged by a potent upper trough arriving from the west on Saturday before relaxing southeast during Sunday. High instability (~3000 J/kg) combined with moderate wind shear will support locally severe thunderstorm development on Saturday in particular.

#### **Expected Impacts**

Severe thunderstorms over the weekend present multiple, albeit localised hazards including flash flooding and damage to property and infrastructure from a combination of lightning, large hail and strong winds.



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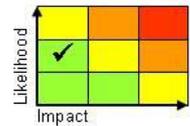
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**Middle East**

Nil.

**Asia****Parts of Sumatra and Java****Weather**

Spells of heavy rain and showers will become more frequent and intense in the coming days, with the highlighted areas seeing 50-75 mm a day quite widely. By the middle of next week, some coastal districts of both Sumatra and Java may see as much as 400 mm of rainfall, this approaching the December average for the area.

**Discussion**

A succession of ERWs as well as an advancing KW (which may well emerge as the MJO in the coming days) will act to increase shower activity and intensity across this area. Higher than average SSTs will aid in shower development, with PWAT in excess of 60mm, and CAPE in excess of 2000J/kg means some particularly active storms are likely.

**Expected Impacts**

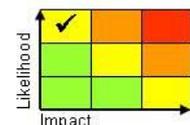
Potential for flash-flooding, as well as landslides.

**Australasia**

**Northwest Australia, Fiji, Vanuatu and New Caledonia** – See *Tropical Cyclones* section.

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

Heavy showers and thunderstorms, and perhaps more prolonged spells of heavy rain, are expected to affect the region this weekend and early next week. The heaviest rainfall is likely to affect the region from Brisbane south to Newcastle (north of Sydney), including Gold Coast. It is along the coast where the heaviest rainfall is expected where 100-200 mm is expected quite widely with isolated accumulations of 400 mm possible by Tuesday. These larger totals would be well in excess of average December rainfall (130 mm for Gold Coast, for instance), and if realised, could break the record for wettest December in some locations.

**Discussion**

A mid-latitude upper trough is expected to disrupt and form a cut-off low across eastern Australia over the weekend and remain slow-moving across the region into early next week. Meanwhile, tropical moisture is expected to be drawn southwest as a consequence of potential tropical cyclone development along the South Pacific Convergence Zone.

**Expected Impacts**

Increased likelihood of flash and riverine flooding over the weekend and early next week.

**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, Kabul and Huai'an.

**Northeastern China, North Korea, South Korea and Japan**

A plunge over very cold air from Siberia is expected to spread south over this area at the weekend and in to next week. Although cold weather is normal at this time of year, temperatures are likely to be more than 10°C below average in some parts, with some very cold nights in particular. The change from current conditions makes this more notable.

**Issued at:** 100800 UTC      **Meteorologists:** Jason Kelly/Chris Almond

**Global Guidance Unit**

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