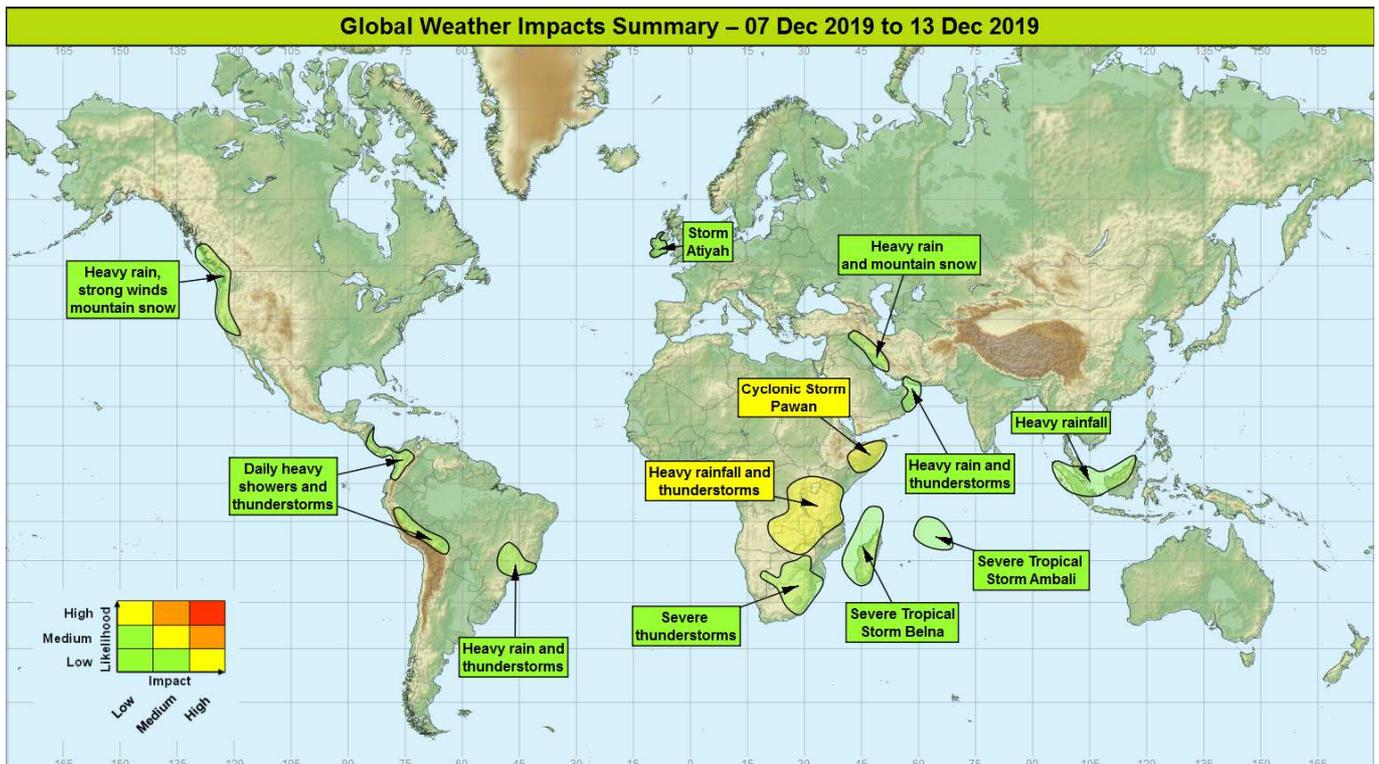


## Global Weather Impacts – Saturday 7<sup>th</sup> to Friday 13<sup>th</sup> December 2019

Issued on Saturday 7<sup>th</sup> December 2019

### HEADLINES

- Heavy rain from Cyclonic Storm Pawan impacting Somalia this weekend.
- Further heavy rain and showers for parts of eastern Africa – much wetter than normal here.
- West Indian Ocean experiencing high levels of tropical cyclone activity with Belna likely threatening Madagascar.



### DISCUSSION

#### Tropical Cyclones Cyclonic Storm Pawan Weather

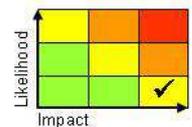
Cyclonic Storm Pawan (pronounced ‘Pavan’) has shown little change in strength through the past 24 hours as it drifted slowly over the SE Arabian Sea. Imagery suggests Pawan has now crossed the Somali coast near 7.4N 49.8E with winds gusting around 45-50mph. This system will bring torrential rain (100-200, locally 250-300mm) in a 24-48 hour period through the weekend. Winds associated with Pawan will quickly weaken.

#### Discussion

Pawan has weakened significantly prior to landfall due to increased shear. This has reduced the wind gust strength but there is high confidence in a period of heavy rainfall for parts of E/NE Somalia through Saturday. There is the potential for this to have high impacts; a similar event in November 2013 required an international response.

#### Expected Impacts

Potential for flooding rains leading to threat to life, destruction of homes, displacement of populations, disruption to transport and utilities.



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

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## Severe Tropical Storm Belna Weather

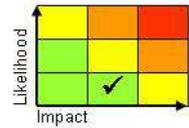
Belna was named by RSMC La Reunion on Friday. It continues to strengthen and is soon expected to become an Intense Tropical Cyclone, with wind gusts of up to 125mph as it moves south towards Madagascar. Here it looks likely to bring heavy rain (of order 100-300, locally 400mm) this weekend and into the early part of next week. There is still large uncertainty in the track, although landfall in western Madagascar looks most likely sometime early next week.

### Discussion

Developments have been slow, but marginally favourable wind shear conditions and SSTs of 28-29°C along the system's most likely track should see a steady strengthening. Ensemble output shows a very wide spread in tracks, but there is currently little evidence to suggest it will affect anywhere other than Madagascar later this week or early next week.

### Expected Impacts

Potential for torrential rainfall to bring flash floods to northern parts of Madagascar, along with destructive winds and an enhanced landslide risk.



## Severe Tropical Storm Ambali Weather

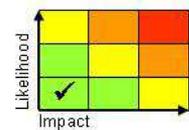
Ambali has weakened from its peak, now with sustained winds of around 60 mph. It will remain well away from land and will continue weakening before dissipating by early Monday.

### Discussion

Good consistent model signal for this system to continue weakening through the weekend due to lower SSTs, increasing vertical wind shear and ingress of drier air, with the system remaining well away from land.

### Expected Impacts

Nil.



## Europe Republic of Ireland Weather

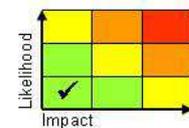
Storm Atiyah is expected to track between Iceland and Ireland on Sunday, generating a swathe of very strong winds across the country. Gusts could reach up to 80 mph along the western coast of Ireland and as high as 60 mph elsewhere in the country. Winds will gradually ease down through Monday morning.

### Discussion

Storm Atiyah was named by Met Eireann on Friday morning. The cold front associated with the low pressure system, which is currently deepening in the North Atlantic, will cross Ireland later today and in its wake winds will strengthen. The strongest winds are expected in coastal areas but gales are also likely inland.

### Expected Impacts

Some property damage and disruption to utilities and travel are possible, as well as coastal flooding due to a combination of high seas and storm surge.



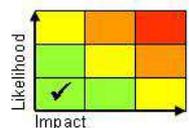
## North America US Pacific NW and N California, SW British Columbia Weather

A strong Pacific low will bring heavy rain, mountain snow and gusty winds to the area on Saturday and Saturday night.

### Discussion

A deep upper low and surface depression will feed moisture into Pacific coastal areas though Saturday, with rain turning to snow over the Sierra Nevada and Central/Northern Rocky Mountains. Gusty winds will be an additional hazard particularly over coasts and mountains.

### Expected Impacts



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Some localised coastal flooding. Flash flooding and landslides are possible inland, and may be a particular hazard in vulnerable burn scar areas in California following recent wildfires.

## South America

### Ecuador, western Colombia, Panama, Costa Rica, Peru, Bolivia and eastern Nicaragua

#### **Weather**

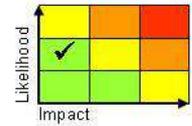
Frequent heavy showers and thunderstorms will affect these regions this weekend, with the showers each day bringing 50-80 mm in just a few hours, with some locations receiving over 200 mm. As is the nature of showers, spatial coverage on any one day will be highly variable. There are signs that activity will decrease early next week before picking up again midweek.

#### **Discussion**

With the South American Monsoon extending well south now, daily rounds of showers and thunderstorms are expected to form to the west of the Andes of Colombia and Ecuador, and to the east of the Andes further south. The region highlighted has seen above average rainfall during the past week, and is also forecast to receive the highest rainfall totals.

#### **Expected Impacts**

Flash and river flooding likely, with increased likelihood of landslides.



## Parts of eastern Brazil

#### **Weather**

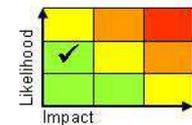
Several pulses of heavy rain and thunderstorms are expected to affect parts of eastern Brazil through the next week, bringing up to 50-75 mm in a few hours and as much as 150-200 mm through the next week. Frequent lightning is likely, and a risk of localised large hail.

#### **Discussion**

Pulses of the SACZ are expected through the next week. CAPE and PWAT are high, with localised flash flooding likely where they occur.

#### **Expected Impacts**

Localised flash flooding, and low risk of lightning damage affecting cities such as Sao Paolo and Rio de Janeiro.



## Africa

### Parts of eastern Africa

#### **Weather**

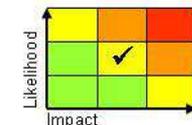
Showers and thunderstorms associated with the seasonal rains are expected to continue to be heavier than normal over the next week, with a further 100-200 mm of rain falling in places from frequent heavy, thundery, afternoon downpours. This area has also seen 200-400% of the usual rainfall over the past week.

#### **Discussion**

Enhanced seasonal rainfall in association with the strong positive Indian Ocean Dipole event which, although declining, is still influencing the large scale shower distribution. Large tracts of eastern Africa have seen well above average rainfall over the past 3-6 months. The combination of all these factors dramatically increases the likelihood of further flash and river flooding. Most recently southeast Uganda suffered flooding and landslides early this month, leaving at least 2 people dead.

#### **Expected Impacts**

An increased risk of flash flooding and landslides in the region, with further river flooding likely. Frequent lightning is also likely, along with large hail and strong wind gusts.

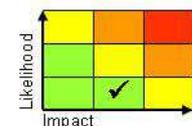


## Southern Africa

#### **Weather**

Widespread heavy showers and thunderstorms will occur through much of this period, especially from Sunday. Around 30-50 mm of rain will fall quite widely each day, with some locations seeing up to 100 mm daily. By the end of the period, accumulations of up to 250 mm are possible, which would be around twice the monthly average in many parts of the region.

#### **Discussion**



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A succession of upper troughs will engage the warm southern African plume to produce very high PWAT, high CAPE profiles that suggest some very intense downpours are likely at times, with the possibility of some long-lasting severe storms, especially from Sunday.

**Expected Impacts**

Rainfall will be largely welcome as this region of Africa has suffered droughts in the recent past. However, such intense downpours will generate flash flooding and landslides, potentially damaging infrastructure and crops.

**Madagascar and Somalia** – see *Tropical Cyclones* section

**Middle East**

**Northern Iraq and western Iran**

**Weather**

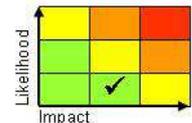
Heavy rain, with snow over the mountains, will affect this region over next day or so. The heaviest and most widespread precipitation will fall across northern Iraq and western Iran. Here 75-100mm of rain is probable, and perhaps 125-150mm in 24-36hrs in a few prone spots.

**Discussion**

A cut-off upper vortex and cold pool will maintain the risk of heavy showers into the weekend across northern Iraq and Iran, particularly in the vicinity of the northern Persian Gulf where a separate plume of warmth/moisture from Saudi Arabia will provide the ingredients for a spell of intense but localised thunderstorms.

**Expected Impacts**

Flash and river flooding, landslides, and disruption to transport and travel are possible



**Southern Iran, UAE, Oman**

**Weather**

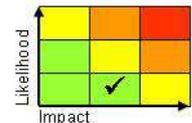
Heavy showers and thunderstorms are likely in this region this weekend and again towards the middle of next week. Up to 100-150 mm of rain could fall in a few days across a region that usually sees no more than 25 mm of rain through December.

**Discussion**

The same upper trough/vortex bringing heavy showers to areas further north looks likely to engage the plume of tropical moisture coming northwest towards the Gulf of Oman this weekend. This is associated with a tropical low west of India, though this is not currently expected to develop. Nevertheless, a day or two of heavy showers/storms is likely, although there is currently large spread in model solutions regarding the location of the heaviest rain.

**Expected Impacts**

An increased risk of flash flooding and landslides.



**Asia**

**Malaysia, Borneo, Brunei and Sumatra**

**Weather**

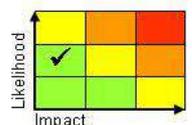
Even though it is the rainy season in this region, heavy rainfall is expected through the next week, with some places seeing up to 300mm (equivalent of 50-75% of the average monthly rainfall at this time of year).

**Discussion**

A combination of a weak MJO moving across the Maritime Continent and a surge in the Northeast Monsoon are likely to enhance convection through this week.

**Expected Impacts**

Increased threat of flash flooding and landslides.



**Australasia**

Nil.

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**Additional Information**

**Eastern Australia – Wildfire:** Numerous bushfires continue in parts of eastern New South Wales, Queensland and Australian Capital Territory with continued mostly dry weather expected through the next 4 or 5 days at least.

**Issued at:** 070330 UTC    **Meteorologists:** Laura Ellam / Mark Sidaway

**Global Guidance Unit**

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