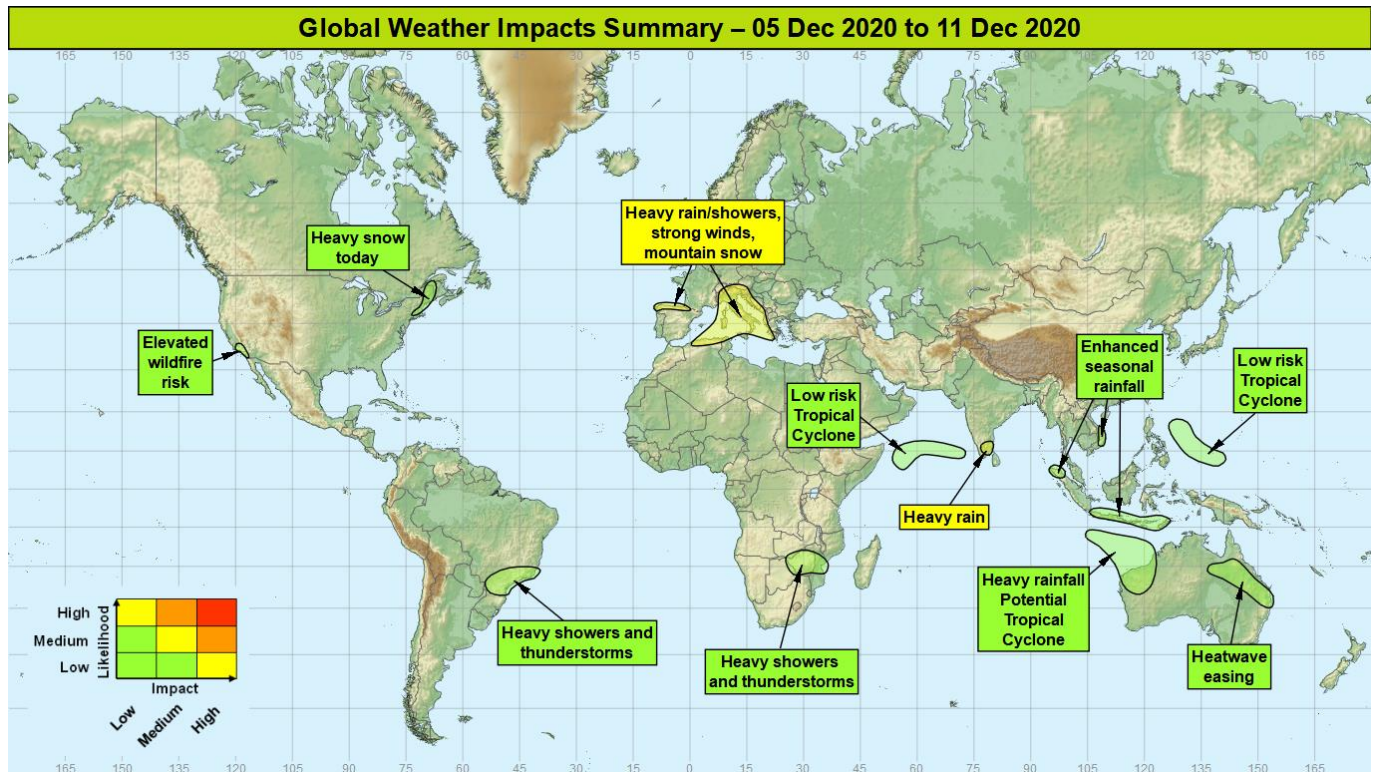


## Global Weather Impacts – Saturday 5<sup>th</sup> to Friday 11<sup>th</sup> December

Issued on Saturday 5<sup>th</sup> December 2020

### HEADLINES

- Heavy rain associated with ex-Cyclonic Storm Burevi continues across southern India today.
- Remaining very unsettled across parts of southern Europe and the Mediterranean, with heavy rainfall, strong winds, and mountain snow.



### DISCUSSION

#### Tropical Cyclones

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

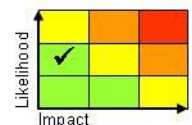
#### Eastern Indian Ocean and far northwestern Australia

##### Weather

A broad area of active shower and thunderstorm activity currently lies between Java Island and Australia. Within this zone of near-perfect environmental conditions, there is the potential for at least one (perhaps two tropical cyclones) to form over the next 7 days and be drawn southeastwards across sparsely populated parts of northwestern Australia. Even if tropical cyclones don't form, as tropical moisture is drawn into northwestern Australia 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 currently seen in satellite imagery. In near ideal environmental conditions, with very underlying SSTs (29-30°C), high environmental relative humidity, and low vertical wind shear at least one tropical cyclone is likely to form in this region over the coming 5 days. Into the middle of next week of 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.



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

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## Expected Impacts

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

## Arabian Sea

### Weather

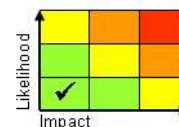
The remnants of Cyclonic Storm Burevi will emerge into the Arabian Sea on Sunday. As they move westwards through the course of next week there is a small chance that they may redevelop into a tropical cyclone, however, it is most probable that any system will dissipate low before reaching Somalia later next week.

### Discussion

As the remnants of Burevi move into the Arabian Sea they will encounter high SSTs (26-28C) and relatively weak vertical shear through Sunday and Monday, for a short time, these will be conducive for re-development of a tropical cyclone. However towards midweek environmental conditions become significantly less favourable, with decreasing SSTs, and slightly increased vertical wind shear helping push the abundant dry air surrounding the circulation into the centre (killing off convection). If by late Monday a strong and well-organised cyclone is able to form it may be able to resist these factors and slowly weaken through the following few days, however, if the circulation is weak and disorganised by that point a rapid decay and dissipation is likely.

### Expected Impacts

Minimal risk of some dangerous beach conditions and minor flash flooding for Socotra Island and parts of eastern Somalia later next week.



## Philippine Sea

### Weather

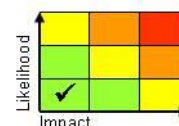
A small risk that during the middle of next week an area of showers and thunderstorms currently north of Papua New Guinea could develop into a tropical cyclone and move close to the northeast Philippines later next week. If this development were to occur strong winds and some heavier rainfall may affect the region.

### Discussion

An Equatorial Rossby Wave (ERW) will move slowly west then northwest and organise convection in the region. In reasonably favourable environmental conditions a tropical cyclone may well form across the Philippine Sea, however, if this feature were to form and continue northwest it would likely feel the influence of the subtropical jet close to the northeast Philippines, this will attempt to recurve any tropical cyclone towards the northeast, and the vertical wind shear impact the structure too.

### Expected Impacts

Dangerous sea and beach conditions possible across the northeast Philippines later next week, with minimal risk of some minor riverine and flash flooding.



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

## Southern Indian Ocean

There is a chance that at least one tropical cyclone could form in the central southern or southeast Indian Ocean over the coming days. Any system that forms will remain well away from land and out over the open ocean before decaying.

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## Europe

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

#### Weather

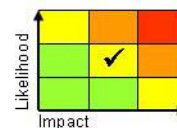
Spells of heavy rain and thunderstorms will affect this region through the weekend, bringing accumulations of up to 50-100mm in a few hours in places. By the beginning of next week, 250-400 mm of rain could have built up in a few locations. Snow is likely across the Dinaric and Italian Alps with some large accumulations here. Showers across Algeria and Tunisia 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. Further unsettled conditions are likely in the area through next week.

#### Discussion

The upper pattern will remain blocked as a major trough extension take place across region with a cold air outbreak to the rear of the trough. Areas of deep convection and heavy, orographically modulated rainfall are likely to develop in the high WBPT plumes that are drawn north on the forward side of the extending upper trough, producing some very heavy snowfall across the Italian Alps in particular. A further trough extension takes place during the middle of next week and maintains the very unsettled conditions in the region.

#### Expected Impacts

Significant 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. Some coastal flooding likely in the northern Adriatic, but the new tidal barrage likely to protect the vulnerable Venetian Lagoon.



## Northern Iberia

#### Weather

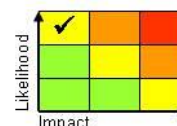
Frequent, heavy showers along with some longer spells of rain are expected to affect the region in the next few days. Rainfall will vary somewhat, but on the wetter days 50-75 mm could fall and by early next week 150-200 mm is possible in places, especially over higher ground. Precipitation will fall as snow above 800 to 1200 metres, with some significant falls likely (50 to 100 cm) over the far west of the Pyrenees. In addition to this, northerly gales or severe gales over the weekend 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.

#### 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. Some longer spells of rain and mountain snow will occur in association with frontal systems swinging southeast cross the region at times.

#### 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. Hazardous sea conditions at times, with potential for sea defences to be damaged.



## North America

### California, USA

#### Weather

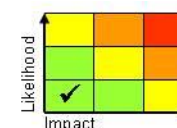
Although easing over the weekend the Santa Ana wind will remain in place and strong enough through Saturday to bring an elevated risk of wildfires to southern California through the morning and into the early afternoon before the winds diurnally weaken.

#### Discussion

High pressure to the east of the Sierra Nevada brings a cross barrier MSLP gradient, encouraging strong gap and katabatic winds including the Santa Ana across southern California. These winds will be lighter with a much lower fire risk across the region.

#### Expected Impacts

Potential that any wildfires could grow and spread bringing a risk to property and life.



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## **Northeastern USA**

### **Weather**

The first nor'easter snow event of the winter is likely across New England through the coming weekend, with the heaviest snowfall likely between Maine and New Hampshire where 30-60cm of snow is likely to fall in this region. An additional hazard will be the strong winds with gusts of 50-60 mph able to lift and blow snow resulting in whiteout conditions, extremely low wind chill and some very deep snowdrifts.

### **Discussion**

A deepening surface low engages by a sharp upper trough runs northeast along the US Eastern Seaboard through Saturday into Sunday. The western edge of the heavy precipitation bands will ride over cold underlying air drawn into the rear of the low and result in an area of very heavy snowfall moving northeast across this zone. As the low clears and winds fall light severe frost is likely across the snowfields.

### **Expected Impacts**

Major short duration disruption to travel across the region, with the potential for some utility outages with the potential for some power line icing in the area of strong winds.



## **Central America and Caribbean**

*Nil.*

## **South America**

### **Southeastern Brazil**

### **Weather**

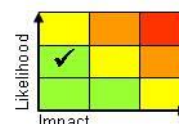
Heavy showers and thunderstorms will move northeast across this region through the coming days. These storms will be capable of bringing intense short-duration rainfall with locally (50-100 mm possible in an hour of two.

### **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, but effective bulk wind shear is likely too low for supercell formation with the high freezing level limiting hail from reaching the surface away from elevated regions.

### **Expected Impacts**

Flash flooding likely, with the potential for this to be hazardous if it affects any urban areas. There will also be an enhanced risk of landslides.



## **Africa**

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

**Somalia**– See *Tropical Cyclones section*.

## **Botswana, Mozambique, and Zimbabwe**

### **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.



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## Expected Impacts

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

## Middle East

**Socotra Island, Yemen**– See *Tropical Cyclones* section.

## Asia

### Southern India

#### Weather

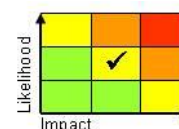
The remnants of Cyclonic Storm Burevi are currently slow moving across the far south of India, the storm itself having made landfall over southeast Tamil Nadu on Thursday before rapidly losing intensity. Heavy rainfall remains a significant hazard through the next couple of days with an additional 150-300mm 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 was downgraded by the India Meteorological Department on Thursday as frictional effects as it moved inland caused a rapid reduction in wind speed. However, very heavy and persistent rain will continue to affect Tamil Nadu well into the weekend as the low-level moisture footprint only slowly moves westward and clears from India into the Arabian Sea on Sunday.

#### Expected Impacts

An enhanced risk of flash and riverine flooding.



### Parts of Vietnam, Indonesia and East Timor

#### Weather

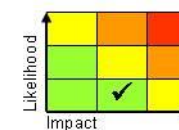
Heavy showers and thunderstorms will be more widespread and intense than usual across some parts of southeast Asia through this week. There will be some drier interludes as well, but when the showers do come along they are likely to be torrential with 50-100mm likely to fall in a short period, and some locations seeing 200-300mm over the week.

#### Discussion

A combination of factors is leading to enhanced seasonal rains in parts of the region at present. The background La Nina and its impacts on the Walker circulation favour above average rainfall in this region, also the decaying MJO as recently faded across the Maritime Continent but leaving various tropical waves in its wake to locally enhanced convection. Finally a marked cold surge is progressing into the region (this responsible for the precipitation across Vietnam) and will bring marked convergence of surface winds in the vicinity of Java Island this weekend, although the developing Borneo vortex would normally lead to the most frequent severe convection being to the east of Jakarta, this will be complicated by the potential tropical cyclone development to the south of Java during the coming week.

#### Expected Impacts

Some flash and minor riverine flooding is likely across the region with an enhanced risk of landslides in areas of steep terrain.



**Northeast Philippines**– See *Tropical Cyclones* section.

## Australasia

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

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**Northeast Australia****Weather**

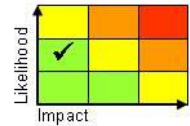
Intense heat has now become confined, mostly, to Queensland. Nevertheless, major cities such as Brisbane are likely to see temperatures into the mid-30s and over 45°C is still expected across the interior, around 5 to 8°C above-average. As a cold front moves slowly northeastwards through the coming days the heatwave will gradually reduce.

**Discussion**

Persistent upper level anticyclone will continue to produce large-scale subsidence, maintaining very hot conditions into the first part of the weekend. A cold front approaching from the southwest will then bring an easing and eventual end to the heat wave early next week.

**Expected Impacts**

Heat health impacts for older and more vulnerable members of the population and animals. An enhanced risk of wildfires.

**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.

**Issued at:** 050600 UTC    **Meteorologist:** Nick Silkstone

**Global Guidance Unit**

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