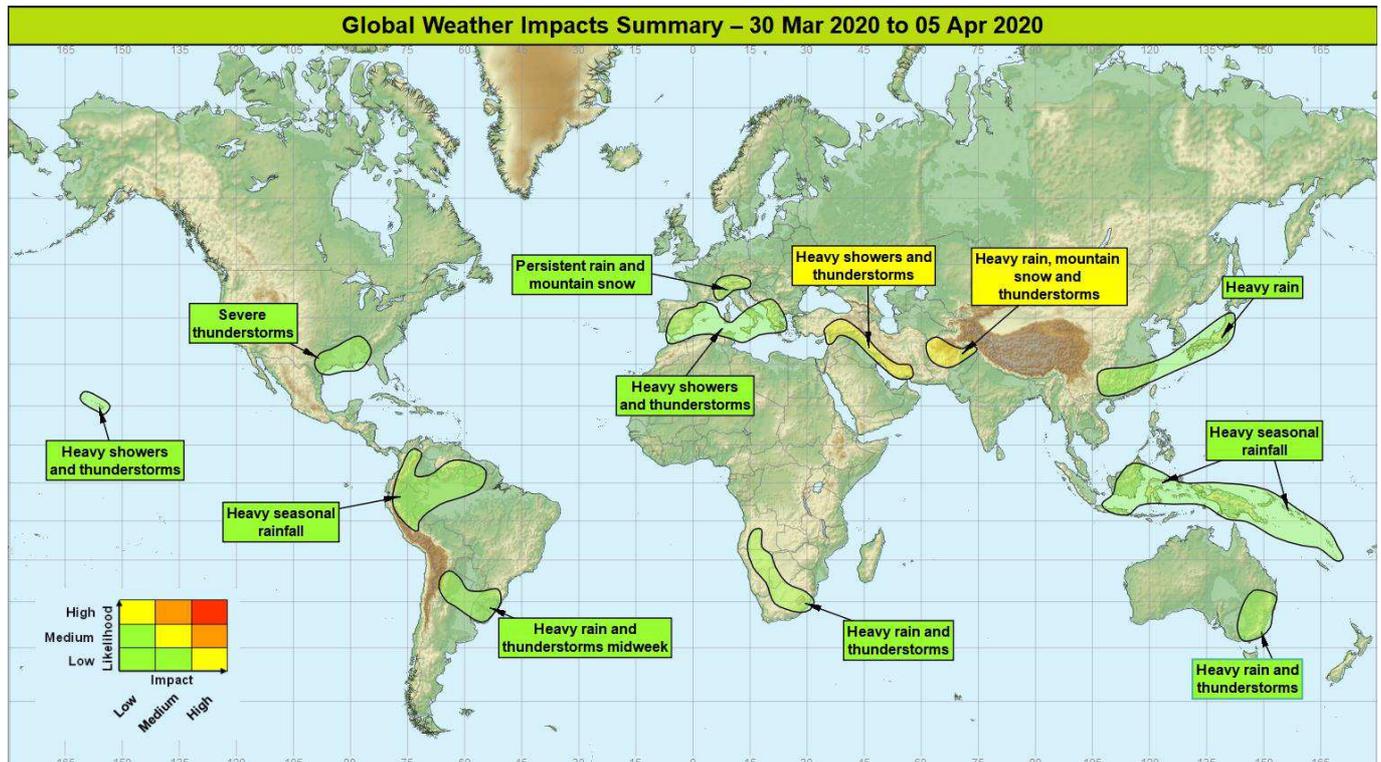


## Global Weather Impacts – Monday 30<sup>th</sup> March to Sunday 5<sup>th</sup> April 2020

Issued on Monday 30<sup>th</sup> March 2020

### HEADLINES

- A series of active depressions across the Middle East and southwest Asia, will bring heavy rain, thunderstorms and mountain snow.
- Unsettled conditions likely to continue across a broad swathe of southern Europe.



### DISCUSSION

#### Tropical Cyclones

There are no active tropical cyclones and tropical cyclone development is unlikely to affect land during the next 7 days.

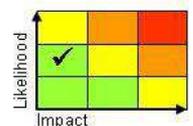
#### Europe

#### Northern Italy, Southern Germany, Switzerland, Austria, and Slovenia

#### Weather

Rain and mountain snow, prolonged and heavy at times, will affect the Alps and northern Italy through Monday and Tuesday. 40-60 mm of rain is likely at low levels, whilst 40-70 cm of fresh snow is possible over high ground. Initially, snow will be confined to high ground (above 900 metres), but by Tuesday, this will fall to lower levels (around 300 metres). Strong winds will lead to blizzard conditions at times.

#### Discussion



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

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A strong anticyclone building into cold air has led to an outbreak of Am air southwards, strengthening baroclinicity over southern Europe early this week. Associated with the cold plunge, a marked upper trough extension is underway. Increasing frontogenesis and orographic enhancement looks likely to combine to produce a spell of slow-moving, and at times heavy precipitation, which will produce large snowfall amounts over parts of the Alps, and potentially large rainfall accumulations for the lower ground to the south of the Alps and in Southern Germany.

### **Expected Impacts**

Heavy rain will likely lead to increased risk of river flooding; this coming quite quickly after previous significant rainfall earlier in the week. Heavy snowfall may lead to some transport disruption.

### **Southern Europe**

#### **Weather**

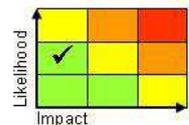
Heavy rain, mountain snow and thunderstorms will affect large parts of the central and western Mediterranean early this week. Initially, the heaviest rain will be across much of Spain and southern Portugal during Tuesday, before parts of Italy and the Balkans turn increasingly wet from midweek. Around 50-75 mm of rain could fall in a day in places, with up to 150 mm building over a few days in a few locations.

#### **Discussion**

An upper trough will extend southeast across western Europe early this week, disrupting in a rather complex and erratic fashion to form an upper vortex by midweek over southern Europe. Strong forcing will interact with a well-defined baroclinic zone, strung out across the Mediterranean generating several wave depressions and areas of heavy rain. In addition, the airmass destabilises allowing thunderstorms to develop, which could be locally severe.

#### **Expected Impacts**

Flash and some isolated fluvial flooding both likely (particularly for Mediterranean coastal regions of Spain, southern Portugal and southwestern Italy), along with an enhanced risk of landslides in areas where terrain is steep. Gusty winds may lead to some localised damage.



### **North America**

#### **Deep South USA**

#### **Weather**

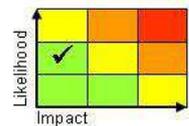
Isolated to scattered severe thunderstorms are possible across parts of the southern Great Plains during Monday afternoon and evening with the risk shifting east into the northeastern Gulf Coast region on Tuesday. Hail and strong winds appear the primary hazards from these storms but a tornado risk cannot be ruled out.

#### **Discussion**

A residual frontal zone lying along the Gulf Coast will return northward early this week whilst a dryline/Pacific cold front will sweep eastward. Cooling aloft in response to an approaching shortwave trough will act to steepen lapse rates, whilst strong surface heating in conjunction with an eastward moving cold front will act as a trigger. Upscale development into organised storm structures is likely, including bowing segments and supercells.

#### **Expected Impacts**

Localised property and infrastructure damage from a combination of flash flooding, large hail and damaging wind gusts.

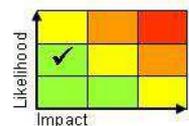


### **Hawaii**

#### **Weather**

Heavy showers and thunderstorms are expected to affect windward portions of the main Hawaiian Islands through Monday, and again through the second half of this week. This follows a period of heavy rainfall and flooding earlier in March.

#### **Discussion**



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An upper low will transfer east across the archipelago triggering heavy rainfall across parts of the main islands with trade winds focussing showers over windward areas. Whilst rainfall should ease early this week, further heavy rain is likely to develop through midweek as another upper trough transfers east from Wednesday through Friday.

**Expected Impacts**

Surface water and riverine flooding. Road closures possible in some areas. Landslides are possible in steep terrain.

**Central America**

Nil.

**South America**

**Colombia, Peru, Ecuador, northern Brazil, Suriname, Guyana and Venezuela**

**Weather**

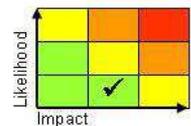
Enhanced shower and thunderstorm activity is signalled to continue across much of the northern Andes and Amazon through this period. A further 150-300mm of rainfall is likely to fall across the area. This represents locally more than double the average rainfall for parts of this region which have been very wet over recent weeks.

**Discussion**

Convective activity is forecast to remain well above average across the northern Andes over the next week. For Colombia and Ecuador, above average SST's are likely contributing to the increased activity, with onshore winds triggering convection up against the western upslopes. For Peru, surface convergence dictated by topography and larger scale systems will generate repetitive convective outbreaks.

**Expected Impacts**

Continued threat of landslides and flash flooding, particularly in the steep terrain of the northern Andes.



**Northern Argentina, Uruguay and southeast Brazil**

**Weather**

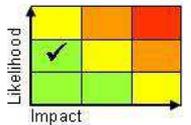
After a lull in activity, severe thunderstorms are likely to once again affect the region from the middle of this week. As well as torrential rain (50-75 mm within 6 hours), large hail and strong winds are likely to accompany these storms; even a low risk of tornadoes.

**Discussion**

A cold front will be driven N/NE across South America by a mid-latitude upper trough. Ahead of this front, conditions will become conducive to severe thunderstorm development with large CAPE and a conducive shear environment.

**Expected Impacts**

Some flash flooding and fluvial flooding, with a low risk of some highly localised damage from the odd weak tornado.



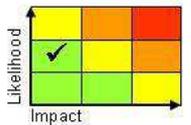
**Africa**

**Southern Angola, Northeastern Namibia, Botswana, South Africa and Lesotho**

**Weather**

Scattered heavy showers and thunderstorms, locally severe, will develop across the region through Monday and Tuesday. Some of these thunderstorms will be capable of producing large hail, frequent lightning and strong winds. The focus will transfer southeast to primarily affect eastern South Africa and Lesotho from Wednesday until Friday.

**Discussion**



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An upper trough is expected to engage a plume of warm, tropical air being drawn southward from Angola through Monday and Tuesday. Forecast instability and deep layer shear support upscale development into organised multicells and some persistence overnight. The northern portion of this trough is expected to partially disrupt, becoming slow-moving and maintain the risk of further heavy showers and thunderstorms through to Friday.

**Expected Impacts**

Flash flooding and exacerbation of ongoing flood impacts across southern Angola following recent heavy rain. Localised damage to property, infrastructure and crops from a combination of lightning, large hail and strong winds.

**Middle East**

**Southeast Turkey, Syria, Iraq and Iran**

**Weather**

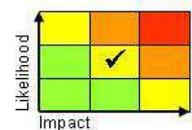
Conditions are likely to remain unsettled across the region until the middle of this week with further spells of heavy rain as well as strong winds. Some severe thunderstorms are possible, mainly concentrated in mountainous areas. The heaviest rainfall seems likely to be concentrated over parts of southern Turkey and northern Iraq, where a further 50-100 mm could fall over the next 5 days. For context, the average rainfall for all of March in this area is between 40-80 mm.

**Discussion**

A disturbed and slightly south-shifted STJ is likely to continue to bring further spells of very unsettled weather to the region. One such system is currently passing to the east of the region today (Monday). Each spell of heavy rain/showers will progress from W-E, and as warm air is drawn N on the forward side of the short-wave upper troughs, there is scope for some severe convection at times.

**Expected Impacts**

Increased likelihood of flash flooding and an enhanced risk of landslides where terrain is steep. Parts of southern Iran which have already recently experienced flooding and fatalities will be especially vulnerable, as will be northern Iraq and southern Turkey where the largest rainfall totals are expected. Strong winds and large hail are additional hazards, as is lifted and blowing dust/sand where surfaces remain dry, this in turn affecting air quality.



**Asia**

**Afghanistan and northern Pakistan**

**Weather**

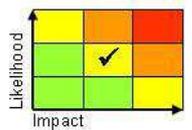
Following a drier interlude in the last couple of days, conditions will turn very unsettled again during the next few days with rain, mountain snow and thunderstorms once again affecting the region. Around 50-100 mm of precipitation could fall quite widely over a couple of days, with as much as 200 mm possible across northern parts of Pakistan.

**Discussion**

Yet another upper trough will relax northeast across Afghanistan and into Pakistan early this week. This will draw a high WBPT northwards and generate heavy rain within it. Thunderstorms are an additional hazard in the south and east of the region and snow should be confined to the very highest mountains above ~2800 metres.

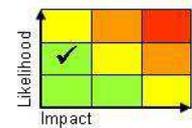
**Expected Impacts**

Surface water and riverine flooding (with a contribution from snow melt) and landslides are likely. Lightning and wind damage is also possible.



**Southern China and parts of Japan**

**Weather**



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Further heavy rain and thunderstorms are expected to affect this region for the next few days, with activity modulating day to day. During this period, 50-100mm of rainfall is likely to fall quite widely with peaks of 200-250mm possible. In many locations half of the total precipitation will likely fall in under 24 hours on one of the more active days, this would be equivalent to around the average March rainfall for eastern China.

### Discussion

A strong baroclinic zone will become established across this region and remain fairly slow-moving. Various shortwave features in a modest sub-tropical jet will engage this zone, generating areas of heavy rainfall and thunderstorms which will run eastwards, affecting southern Japan as well. However as this is near the start of the wet season in this area, impacts are expected to be minimal.

### Expected Impacts

Localised flash flooding causing damage to property and infrastructure.

## Malaysia, Indonesia, Papua New Guinea, Solomon Islands and Vanuatu

### Weather

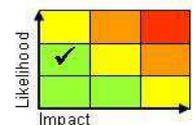
Shower and thunderstorm activity are expected to remain more widespread than normal over this week with many places receiving 50-100 mm during this time, with 250 mm in a few places. The heaviest rain is expected to occur over Vanuatu and New Guinea, including Port Moresby, during this period.

### Discussion

Multiple tropical waves are already active in this region, and in addition the MJO is expected to continue to propagate across the Maritime Continent later this week. This will continue to promote above average rainfall across the region in general.

### Expected Impacts

Increased risk of flash flooding and landslides, particularly in areas that have been affected by recent heavy rainfall.



## Australasia

### Eastern Australia

### Weather

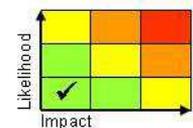
During Wednesday an area of low pressure will develop over southern Queensland and New South Wales bringing heavy rain, strong N'y winds and some severe thunderstorms to the area. During the period from Wednesday to Friday rainfall totals could reach 80-100mm, well above the monthly average, and could lead to some flooding after a wet end to the summer period.

### Discussion

An upper trough will sharpen and advect tropical air southwards into Eastern parts of Australia during Wednesday. This will help develop an area of low pressure, but also destabilise the atmosphere enough to help develop some severe thunderstorms with large PWAT available in the tropical air, producing some torrential downpours.

### Expected Impacts

Localised flash flooding, landslides in the steep terrain and disruption to transport.



### Additional Information

Nil.

**Issued at:** 300730 UTC **Meteorologists:** Chris Tubbs / Paul Hutcheon

**Global Guidance Unit**

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

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