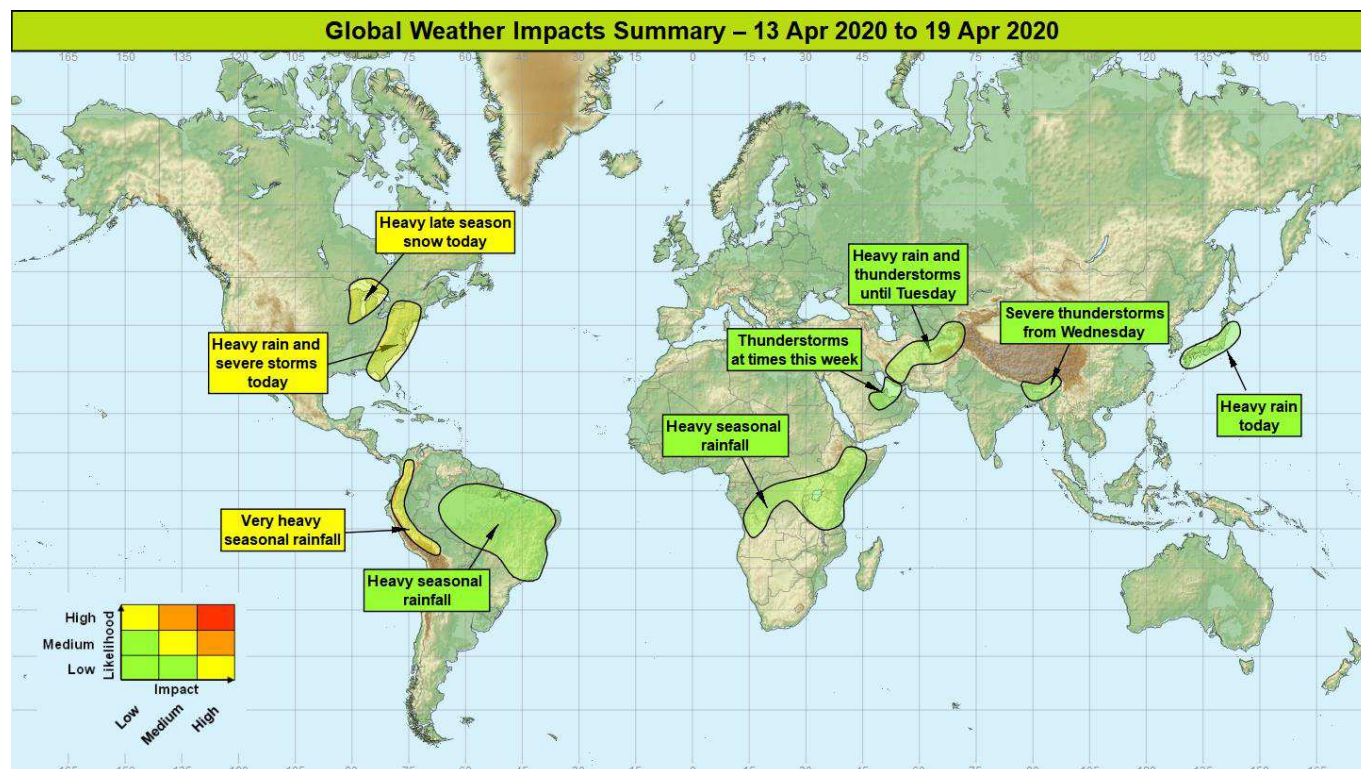


## Global Weather Impacts – Monday 13<sup>th</sup> to Sunday 19<sup>th</sup> April 2020

Issued on Monday 13<sup>th</sup> April 2020

### HEADLINES

- Heavy rain and locally severe storms across heavily populated eastern USA today.
- Late season winter storm bringing snow around the Great Lakes today.
- Very heavy seasonal rainfall across the northern Andes this coming week.



### DISCUSSION

#### Tropical Cyclones

No tropical cyclone activity that could impact land is expected over the next 7 days.

#### Europe

Nil.

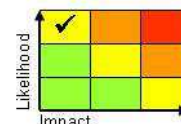
#### North America

##### Eastern parts of the USA

#### Weather

The system that brought Sunday's severe thunderstorms has continued east, and will cross heavily populated parts of the eastern USA through Monday. Although the risk of tornadoes is slightly reduced compared to Sunday (a risk remains), with other hazardous weather phenomena including heavy rainfall (locally 50-100 mm), frequent lightning, large hail and strong wind gusts remaining present.

#### Discussion

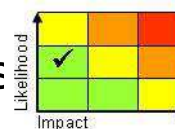


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A upper trough and surface low move northeast, with a cold front extending south all the way back to the Gulf of Mexico. Both on the cold front and in the warm sector ahead of it strong storms are possible in the form of bowing segments and embedded supercells bringing the risk of strong winds, large hail and the odd tornado.

## Expected Impacts

Localised flash flooding, hail, lightning and wind damage, in the vicinity of the severe storms. Although the severity of the weather is likely to be slightly reduced compared to Sunday, this region along the Eastern Seaboard is much more heavily populated.

## Central/northern parts of the USA and southern/central Canada

### Weather

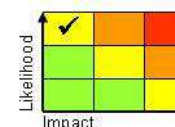
Snowfall will affect the Great Lakes area of the northern USA and southern Canada through Monday. Accumulations of 5-10cm are possible across a wide area, with perhaps over 30cm falling around Lake Superior. During this event winds will be fairly strong, leading to some localised blizzard conditions.

### Discussion

The occluded portion of the cyclone bringing the severe weather across the eastern USA, will run northeast across this region, with an undercut of cold air beneath the occlusion at the surface. As a result precipitation will readily fall as snowfall around the Great Lakes region.

### Expected Impacts

This looks like a particularly severe late season winter storm that will produce difficult travel conditions with disruption to transport, and likely temporary disruption to utilities such as power/mobile phones. Agriculture (eg calving/lambing) likely to be significantly disrupted.



## Central America

Nil.

## South America

### Much of Ecuador, Peru and Bolivia, and western Colombia

### Weather

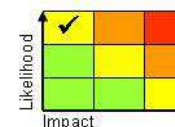
Enhanced shower and thunderstorm activity are signalled to continue across much of the northern Andes through this period. A further 150-300mm of rainfall is likely to fall across the area. This represents locally more than double the average rainfall for parts of this region which have been very wet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

### Discussion

A marked MJO will move east across this region during the next week leading to enhanced convection across the tropical regions of South America. This zone across the northern Andes has been very wet in recent weeks and months, with repeated reports of impacts due to both flooding and landslides.

### Expected Impacts

Enhanced threat of further landslides and flash flooding, particularly in areas where the terrain is steep.

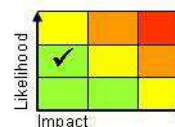


## Brazil

### Weather

Above average shower and thunderstorm activity is expected across a wide region of central Brazil over the coming week. Wide areas are expected to see accumulations around 50-100mm with peaks of over 250mm. Although much of this region is filled by the Amazon rainforest, some significant cities within it, especially around the edges

### Discussion



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A marked MJO will move east across this region during the next week leading to enhanced convection across the tropical regions of South America. In this zone the South Atlantic Convergence Zone (SACZ) which marked the retreating monsoon plume will become active for a time and bring heavy precipitation to more densely populated coastal regions, such as that around Salvador.

## **Expected Impacts**

Enhanced risk of landslides and flash flooding.

## **Africa**

### **Central parts of Africa**

#### **Weather**

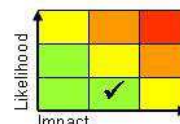
Fairly widespread showers and thunderstorms are expected in this part of Africa through the next week, with up to 50-75 mm falling a few hours, and up to 150 mm accumulating in places through the next 7 days. The region along the Tanzanian and Kenyan coastline could be particularly wet, with up to 250mm accumulating here over the coming week. It is likely that parts of this region will more than their average April rainfall accumulate within a week.

#### **Discussion**

The progress of the MJO towards Africa over the coming week, will lead to ever more enhanced convection across the tropical part of the continent, and a pulse in activity along the South Indian Ocean Convergence Zone.

#### **Expected Impacts**

Flash flooding and some riverine flooding will become increasingly likely, as will landslides in mountainous terrain.



## **Middle East**

### **Across and around the Persian Gulf**

#### **Weather**

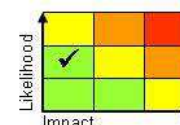
Through the next week thunderstorms are expected to affect the Persian Gulf and many areas around the Gulf. From Monday there is a higher likelihood that the thunderstorms will produce intense rainfall in places (up to 25 mm in a few hours). There will be a continued likelihood of strong winds and dense dust storms.

#### **Discussion**

A cyclonic upper pattern will persist through much of next week across the Arabian Peninsula, with the strengthening upper forcing engaging the northern edge of the resident warm plume at 700hPa. Much of the CB activity will be high based, above 700hPa with the convective column above moistening as do the sub-cloud layers, this will result in rainfall (locally intense) reaching the ground. At times storms could become organised and long lasting.

#### **Expected Impacts**

Flash flooding and dense dust storms impacting transport networks, with some property flooding likely. Damaging winds and hail possibly associated with more severe thunderstorms.



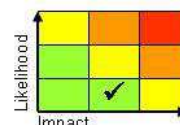
## **Asia**

### **Iran, Afghanistan, Uzbekistan, Tajikistan and Kyrgyzstan**

#### **Weather**

Further spells of persistent and locally heavy rain are expected to affect this region through the next couple of days, with thunderstorms also expected. Across many parts of the areas highlighted 40-60 mm of rainfall will build up with as much as 100 mm possible over high ground. This equivalent to more than a month's worth of rainfall in the wettest areas, and the rainfall could combine with seasonal snow melt to exacerbate the potential flooding, but this is low confidence.

#### **Discussion**



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A further Western disturbances embedded within the STJ will transfer east across this region over the next couple of days. The associated upper forcing engaging the northern side of the warm plume to produce areas of rain and thunderstorms. Although a further disturbance may also cross this area later in the week, it is expected to be minor in comparison to the one over the coming couple of days.

## **Expected Impacts**

Flash flooding looks like the main threat in this region, but locally some dense lifted dust plumes are also possible across the desert regions.

## **Bangladesh, Bhutan and northeast India**

### **Weather**

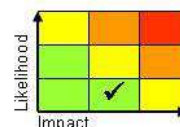
Severe thunderstorms are expected to develop across this region from midweek, producing intense rainfall (up to 100 mm in just a few hours) along with the threat of large hail and tornadoes. This is now the peak season for severe storm impacts in this region.

### **Discussion**

Advancing upper trough will engage a warm plume advecting up from the Bay of Bengal from Wednesday. This will result in forecast profiles that show very large CAPE (around 4000 J/kg) and marked vertical wind shear containing very large low helicity.

### **Expected Impacts**

Flash flooding is likely along with, strong wind and large hail damage. Very localised tornadic damage is also possible along with impacts from frequent lightning.



## **Japan**

### **Weather**

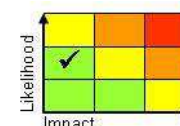
A period of very windy and wet weather will continue to transfer northeast across the large islands of Japan during today, producing a further 75-125 mm of rain in around 24 hours over the mountains (the average April rainfall in Japan between 75 and 125 mm). Gale or severe gales force winds are also expected with gusts to 55 mph possible in places.

### **Discussion**

A sharpening upper trough will drive a developing depression across or just to the south of Japan through today. This feature will clear into the open northwest Pacific overnight into Tuesday.

### **Expected Impacts**

Threat of flash flooding with a lower likelihood of landslides. Lower likelihood of some wind damage or disruption.



## **Australasia**

Nil.

## **Additional Information:**

Nil.

**Issued at:** 120500 UTC **Meteorologists:** Nick Silkstone / Chris Tubbs

**Global Guidance Unit**

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