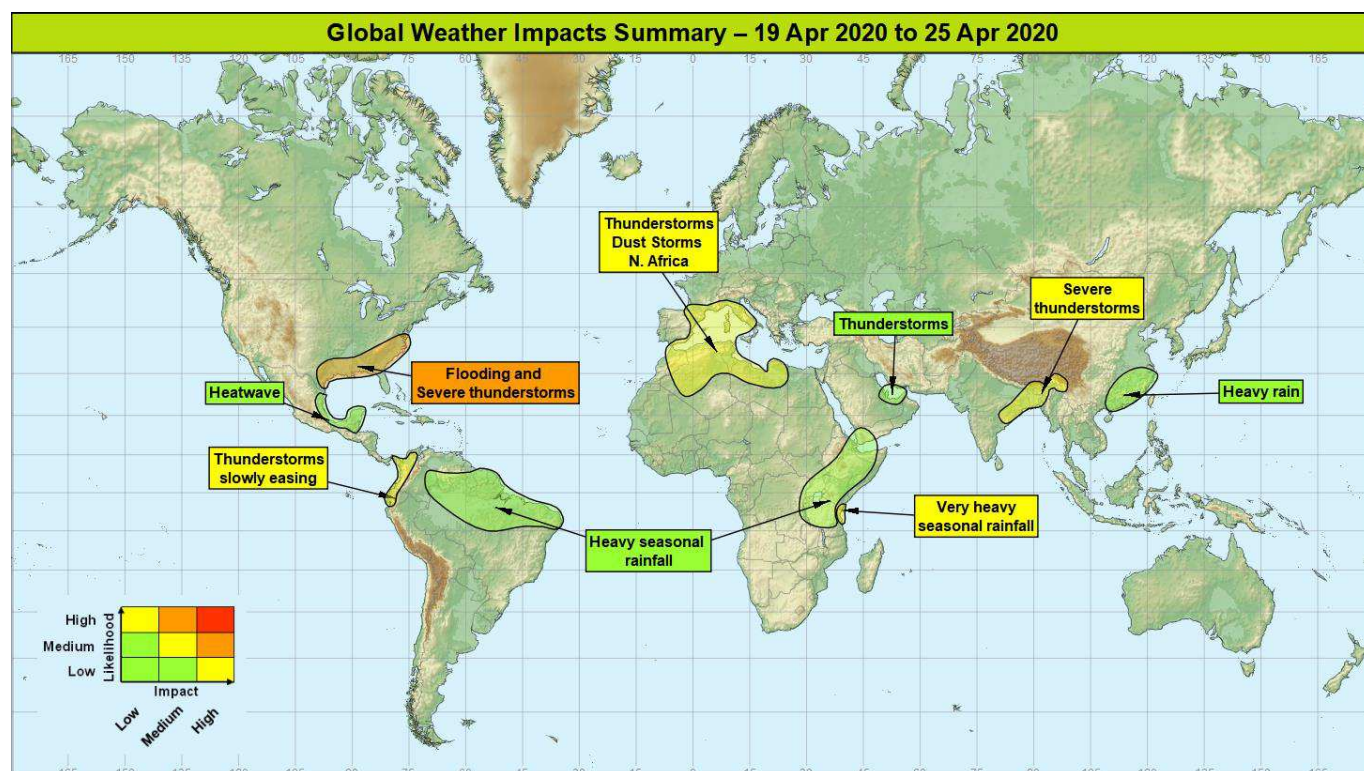


## Global Weather Impacts – Sunday 19<sup>th</sup> to Saturday 25<sup>th</sup> April 2020

Issued on Sunday 19<sup>th</sup> April 2020

### HEADLINES

- Severe storms/tornado outbreak affecting SE US today, and possibly again mid next week.
- One more day of very heavy rain possible for east Tanzania and south-east Kenya.
- Severe thunderstorms and torrential downpours NE India and Bangladesh.
- Large system bringing thunderstorms and dust storms to parts of north Africa, more persistent but still heavy at times rainfall for southern Europe.
- Further frequent heavy showers for Ecuador/Colombia, but activity declining over next few days.



### DISCUSSION

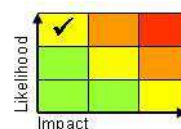
#### Tropical Cyclones

*No impactful tropical cyclones are expected during the next seven days.*

#### Europe

#### Parts of southern Europe, along with Morocco, Algeria, Tunisia and northern Libya

An active and large low pressure system with areas of heavy rain and thunderstorms is developing across this region today. Ahead of this, strong SE to SW'ly winds will generate large areas of blowing sand and dust, impacting populated areas across a swathe of north Africa. Heavy rain and thunderstorms will bring 50-75mm of rain to parts of Algeria and Tunisia over the next couple of days. North of this, persistent and at times heavy rain will affect the highlighted area of southern Europe, with some prone spots of southeast France and north-east Spain possibly seeing as much as 150mm over a couple of days.



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

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## Discussion

A sharp upper trough extending across this region today has dredged up a plume of high WBPT from Africa, generating a desert low and associated strong winds. The associated frontal zone will be most active over Africa today, before the forcing relaxes northwards to generate persistent and topographically focussed rainfall over parts of southern Europe. A second vortex arriving from the W on Tuesday will reinforce this pattern allowing for locally large rainfall accumulations to build up.

## Expected Impacts

Flash flooding possible, most likely across north Africa – less so across Europe, but increased risk of river flooding here. Frequent lightning possible across Tunisia/NE Algeria on Monday. Large areas of poor visibility in blowing dust, posing a risk to health and transportation.

## North America

### SE USA (esp. Louisiana, Arkansas, Mississippi, Alabama, Georgia and the Carolinas)

#### Weather

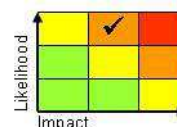
Severe thunderstorms and heavy rain are likely to affect southeastern parts the USA from Texas eastwards today (Sunday) and tomorrow (Monday) These storms are likely to be capable of producing 50-100, possibly 150 mm of rainfall in a few hours, with large hail, damaging winds and significant tornadoes all likely. Following a more settled, cooler period developing in the wake of the storms, a very similar set-up looks likely to redevelop later Wednesday bringing similar hazards, as well as the potential for a further 150-200mm of rain.

#### Discussion

A repetitive pattern which sees mobile shortwaves initiating cyclogenesis events over the central US, engaging and advecting high WBPT plumes from the Gulf of Mexico northwards before destabilising them significantly as the forcing runs across. There will be a range of convective modes present within these broad areas, but significant lift, moisture and CAPE will ensure that severe weather hazards are likely to develop.

#### Expected Impacts

Flash flooding expected, and river flooding increasingly probable. Damage/destruction of property and significant threat to life, with this region having a large proportion of less resilient mobile homes. Large hail and frequent lightning will be additional hazards, impacting property and infrastructure more locally.



## Central America

### Mexico, Guatemala, and Belize

#### Weather

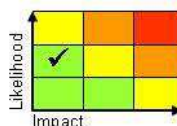
A spell of hot weather is expected through the coming seven days. Although it is approaching the hottest time of the year for this region, maximum temperatures are expected to be around 5-8°C above average, with some areas exceeding 40°C and coming close to breaking records.

#### Discussion

Diabatic heating, topography, and strong subsidence on the equatorward side of an active jet will all contribute to temperatures widely above average in this region. Maximum temperatures exceeding 40°C are not unheard of here, but the prolonged spell of above average temperatures could begin to cause impacts.

#### Expected Impacts

Increased potential for power cuts and loss of utilities due to increased energy demand. Vulnerable demographics may begin to suffer from heat-related illness.



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## South America

### Ecuador and western Colombia

#### **Weather**

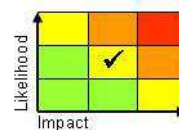
Daily rounds of scattered thunderstorms are expected to affect this region, bringing short periods of heavy rain and occasional lightning. The heaviest showers are expected over the next couple of days, with activity generally reducing further into next week. 50-75mm is possible in any one location each day, with 50-100mm widely and locally 175mm most probably building up over the next 4-5 days. This would be around half a month's worth of rain for many stations in this region, on top of what has been a wet few weeks with various reports of flash and river flooding.

#### **Discussion**

Although the MJO has moved on, convection will tend to redevelop in this similar area each day through the next few days, triggered by convergence and forced ascent of the moist W'ly Pacific flow onto the high terrain of the northern Andes. Profiles suggest very tall deep and moist convection over the next couple of days, before the depth of instability and CAPE values begin to reduce into the middle of next week.

#### **Expected Impacts**

Flash and river flooding, and landslides will be the primary impacts.



## Brazil

#### **Weather**

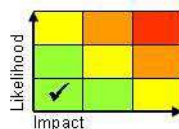
Further heavy rainfall is expected to affect large swathes of northern Brazil over the next week. Large areas are expected to see accumulations around 50-100mm with peaks of over 250mm. Whilst overall the region is sparsely populated, there are some large cities and more densely populated regions which could be affected.

#### **Discussion**

Strong model signal from all models for enhanced rainfall in this region over the coming 7 days. An active ITCZ, and later next week, a WIG arriving from the Atlantic, are likely to be contributing factors.

#### **Expected Impacts**

Enhanced risk of landslides, river and flash flooding, but very localised within this broad region.



## Africa

### Eastern Africa, SW Arabian Peninsula

#### **Weather**

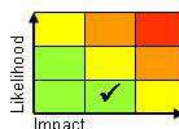
Further rounds of heavy showers and thunderstorms are expected across this region, which will likely slowly ease from the west through this period. Some places will see 50-75mm in a day, and broadly across the area, widely 50-100, and locally 150-200mm of rain is likely over the next 5-7 days. These showers could extend into Yemen initially where recent flash flooding has been reported in the capital, but conditions should be improving here soon.

#### **Discussion**

The MJO which has recently traversed Africa is now moving away, allowing conditions to ease from the west. Nonetheless a further period of enhanced convection is forecast over the next few days.

#### **Expected Impacts**

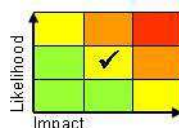
Flash flooding and some riverine flooding will become increasingly likely, as will landslides in mountainous terrain.



## Tanzania and Kenya

#### **Weather**

A further day of very heavy showers is expected for coastal parts of Kenya and Tanzania today before conditions improve. Another 75-100mm of rain could fall, on top of what has been a very wet period. Zanzibar reported 203mm in 24 hours on Saturday, taking the monthly total there above 400mm, compared to the monthly average of around 250-275mm in the region.



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## Discussion

High SSTs and strong SW'ly flow, combined with the MJO and an active ITCZ, has contributed to enhanced convective activity drifting onto this part of coastal Africa. The MJO is now moving on, with the ITCZ expected to creep north and hints of a developing Somali low level jet blocking the path of further convection, leading to conditions markedly drying here next week.

## Expected Impacts

Severe flash and river flooding probable.

**Northern parts of Morocco, Algeria and Tunisia** – see *Europe section*

## Middle East

### Qatar, UAE

#### Weather

Energetic thunderstorms developing today (Sunday) and drifting across the region – likely to have high bases by the time they reach UAE and be less active.

#### Discussion

A high WBPT plume will lie across this region today, with surface convergence and high temperatures likely triggering some energetic thunderstorms. Heavy rain and frequent lightning are possible, with Doha potentially in the firing line for this.

#### Expected Impacts

Some disruption to aviation in the region is possible

## Asia

### Bangladesh, north-east India, Bhutan

#### Weather

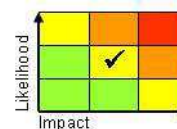
Severe thunderstorms are expected to continue across this region for another week, producing intense rainfall (up to 50-75, locally 100 mm in just a few hours) along with the threat of large hail and tornadoes. This is now the peak season for severe storm impacts in this region and a few locations could well see over 500 mm of rainfall over the next seven days.

#### Discussion

Advancing upper troughs in a mobile flow aloft will the zone of high WBPT in this region. Forecast profiles across Bangladesh exhibit large CAPE with moisture streaming N from the Bay of Bengal and cold air/steep mid-level lapse rates aloft. A drier BL source further south and east across the main part of India results in higher based thunderstorms, with lightning more of a risk here but less in the way of extreme rainfall or tornadic potential.

#### Expected Impacts

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



## Southeast China

#### Weather

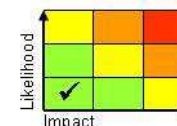
Pulses of enhanced rainfall with embedded thunderstorms are likely to develop across this part of China at times next week. 50 to 75 mm of rainfall per day is possible, with 150-200 mm in some places, equivalent to a month's rainfall.

#### Discussion

Upper troughs running east will engage the baroclinic zone across this region, generating pulses of activity. Forecast profiles support EMBD CB, with skinny cape and PWAT 40-45 mm likely to produce some intense downpours.

#### Expected Impacts

Flash flooding is likely the main impact from these events.



## Australasia

Nil.

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**Additional Information:**

Nil.

**Issued at:** 190300 UTC **Meteorologists:** D J Harris**Global Guidance Unit**

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