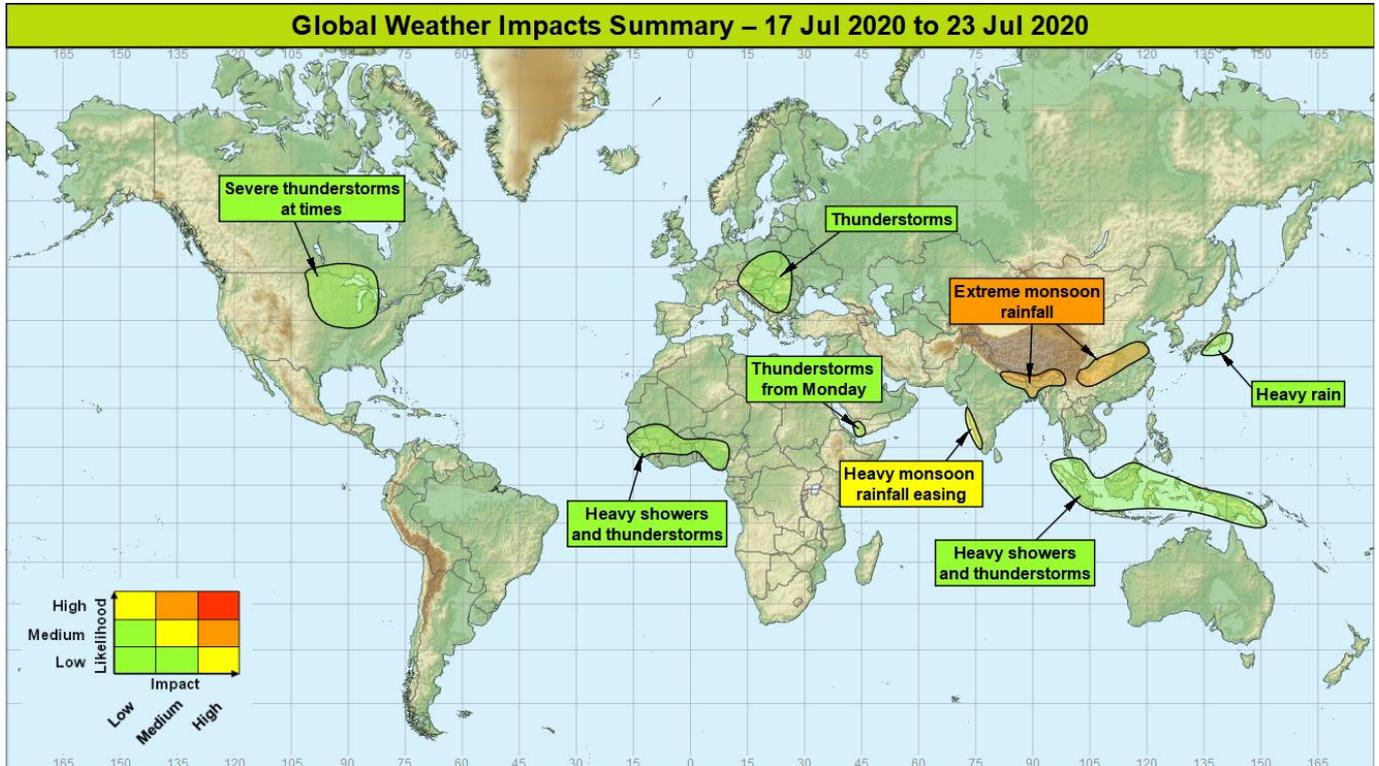


## Global Weather Impacts – Friday 17<sup>th</sup> July to Thursday 23<sup>rd</sup> July 2020

Issued on Friday 17<sup>th</sup> July 2020

### HEADLINE

- Extremely heavy monsoon rainfall continuing in parts of South and East Asia.



### DISCUSSION

#### Tropical Cyclones

*There are no active tropical cyclones and none are likely to form and impact land through this period.*

#### Europe

##### Parts of central and eastern Europe

##### Weather

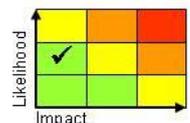
Daily thunderstorms will continue to develop across parts of this area over the next few days. Thunderstorms likely to bring short-period heavy rain (30-50mm in 1-2 hours in places), with around 75-100mm in places in a short period a worst case scenario. This is roughly equivalent to a month's worth of rain. Thunderstorms will also bring frequent lightning and large hail.

##### Discussion

A cold front has moved SE across Europe and become slow-moving as the driving upper trough has disrupted resulting in a slow-moving upper vortex. This will allow daily heavy showers and thunderstorms to develop, these most organised and severe in the higher WBPT plume.

##### Expected Impacts

There is a chance of flash flooding, with secondary impacts related to lightning strikes, such as interruptions to power supplies, also possible.



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

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## North America

### Areas of the USA and Canada around the Great Lakes

#### **Weather**

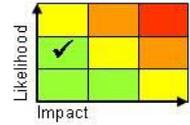
There will be the threat of severe thunderstorms in places, at times through the next 7 days, with intense rainfall (50-100 mm), large hail, very strong winds and tornadoes all possible. However, much of the highlighted area will miss the worst thunderstorms.

#### **Discussion**

A succession of upper troughs will run east across Canada through the coming week, with significant upper forcing engaging with pulses of the very warm plume in-situ over the USA to produce large CAPE storms that will see enough vertical wind shear to produce long lasting MCS storms. There may be enough low level shear at times to produce a tornado threat.

#### **Expected Impacts**

Flash flooding is likely in places, with a lower likelihood of damage from tornadoes and large hail. However, damage from strong winds looks likely at times from some storms, with frequent lightning possibly impacting power and transport networks.



## Central America and Caribbean

Nil.

## South America

Nil.

## Africa

### Parts of West Africa

#### **Weather**

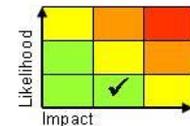
Heavy showers and thunderstorms are likely to be more frequent than usual through much of this week across parts of West Africa, producing 50-100mm of rain in just a few hours in places. The heaviest rainfall is likely to affect the western part of this region (Sierra Leone, Gambia and Guinea) where up to 350mm of rain could accumulate (average monthly rainfall in this region is 400-600mm).

#### **Discussion**

More active or more frequent African Easterly Waves are likely to affect West Africa through the coming week, producing above average rainfall in places, especially close to the Atlantic coastline.

#### **Expected Impacts**

Increased likelihood of flash flooding and landslides.



## Middle East

### Yemen

#### **Weather**

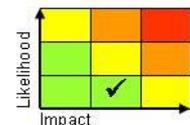
Showers will likely become more widespread from the weekend and more especially from Monday with daily thunderstorms looking likely. These likely producing an increased threat of local flash flood events, especially in the Western Highlands although there is an increased chance of heavy showers for many parts of the country. Whilst most areas will miss the highest rainfall totals, intense downpours could bring 50-100mm in places within a few hours. This is roughly equivalent to around a month's worth of rainfall. July and August are typically the wettest months across the Western Highlands (including for places like Sana'a and Ta'izz).

#### **Discussion**

An ERW moving W over the Arabian Sea over the coming days looks likely to drag a shallow monsoon depression across the country. This increased source of moisture will allow diurnal shower and thunderstorm development to become more intense and widespread.

#### **Expected Impacts**

Increased threat of flash flooding.



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## Asia

### Northeast India, eastern Nepal, northern Bangladesh, Bhutan, and northern Myanmar

#### **Weather**

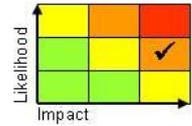
Following extreme rainfall across the hills and mountains in this region through the past few weeks, another active phase is expected to develop into next week. More widespread daily rainfall totals of 50-100 mm are expected with peak daily rainfall totals of up to 200-350 mm in a few upland areas. Widespread 7 day totals of 150-250 mm are expected, with peak totals in some upland areas reaching 1000 mm. The typical average at this time of year of 300-500 mm per month across low lying regions, and 1000-2000 mm per month over the mountain sites. The recent extreme monsoon rainfall is moving down the large river systems and now causing flooding to the south of the extreme rainfall region.

#### **Discussion**

A renewed surge of moist SW'ly winds will return to the region from the weekend, resulting in further widespread, deep, moist convection and another peak rainfall period for the region. With rivers (including the Brahmaputra) already high/in flood, and numerous significant impacts reported, the situation is likely to remain serious through the quieter rainfall period through the rest of this week and then become more serious next week. The river systems that continue south through Bangladesh are already flooding, extending the impacts south of where the heaviest rainfall has fallen.

#### **Expected Impacts**

Flooding and fatalities, as well as widespread population displacement has already been widely reported, and continued significant river flooding is expected to affect the region. There is also a very high threat of further landslides in the higher terrain. The impact region has been extended south to cover the existing and forecast river flooding in Bangladesh.



### South-eastern China

#### **Weather**

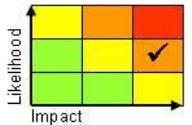
Following exceptional rainfall across central and eastern China over recent weeks, the Mei-yu monsoon front is expected to become increasingly active again until early next week, with further pulses of intense rain and thunderstorms. Another 100-200mm of rain is expected widely across this region, with peak accumulations over the hills and mountains are likely to be in the region of 300-400mm. The intense rain and thunderstorms then may ease to some degree during next week.

#### **Discussion**

The southerly winds associated with the monsoon are drawing very warm and moist flow across this region with extremely high values of PWAT (>75mm). This moisture will combine with increased upper forcing (due to a strengthening zonal flow) to produce another active period of monsoon rainfall. This will generate further torrential downpours from rain, showers and thunderstorms, with the mountains seeing the highest totals. Flooding and widespread population displacement has already been widely reported, with many rivers and some lakes recording record water levels in and around the Yangtze Basin. An upper trough will sweep a Mei-yu frontal wave eastwards across the Korean Peninsula this weekend, likely producing impacts here.

#### **Expected Impacts**

Widespread surface and continued significant river and lake flooding affecting the region, and likelihood of landslides in the higher terrain.



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## Western India

### **Weather**

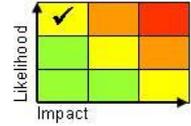
A period of heavy monsoon rainfall (intense showers and thunderstorms) will continue for another couple of days. Another 100-200 mm will fall in places before rains ease back with conditions returning back closer to normal.

### **Discussion**

A deep, strong and moist SW'ly airflow has been enhanced as a monsoon low pressure system (LPS) tracks west-northwest across central India (bringing locally intense rainfall through frequent thunderstorms). From the weekend the SW'ly flow will ease and deep convection become less widespread.

### **Expected Impacts**

Increased likelihood of flash flooding and landslides until the end of the week.



## Parts of Malaysia, Indonesia and Papua New Guinea

### **Weather**

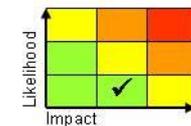
Above average rainfall will continue across this region in the form of heavy showers and thunderstorms. These will be capable of locally bringing 50-100 mm of precipitation in a short duration, with some locations likely to see 150-250 mm through the coming days. Average precipitation accumulations at this time of year across this region is around 250 mm per month.

### **Discussion**

Strong and consistent signal from NWP for enhanced rainfall across this region no doubt aided by positive SST anomalies of 1 to 2C. In addition, a number of tropical waves are likely to move east across the area through the coming week, with evidence for enhanced low level convergence from a significant SE'ly flow from northern Australia.

### **Expected Impacts**

An increased risk of flash flooding and landslides in regions where terrain is steep.



## Southern Japan

### **Weather**

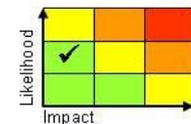
Heavy rain is likely for parts of southern Japan over the next few days. 50-100 mm of rain is likely in many places with perhaps very isolated totals of 150-200 mm.

### **Discussion**

An ERW and high SSTs combined to help a tropical depression form close to Luzon a few days ago. There has been little development since then as it tracked north into Taiwan, and through Wednesday this system encountered increased vertical wind shear as it continued NE towards Japan. This likely injecting added moisture into the Baiu frontal system and pushing this monsoon front north close to southeast Japan for the next few days to bring the threat of heavy rain and thunderstorms for a time.

### **Expected Impacts**

Localised flash flooding possible.



## Australasia

Nil.

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**Additional Information****Cox's Bazar, southeast Bangladesh**

From the weekend, a general increase in shower and thunderstorm activity is expected, increasing both flash flooding and landslide risk once more although conditions probably fairly typical for the time of year with very heavy monsoon rain staying well to the north.

**Yemen**

See Middle East section.

**Sudan/South Sudan**

Rainfall activity is expected to be above average over the coming week across South Sudan and the far south of Sudan with more frequent/widespread heavy showers and thunderstorms across the region. Over the next week the wettest spots could see 125-175 mm accumulate, which is around the average rainfall for the whole of July.

**Issued at:** 170700 UTC**Meteorologist:** Chris Bulmer / Tony Wardle**Global Guidance Unit**

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