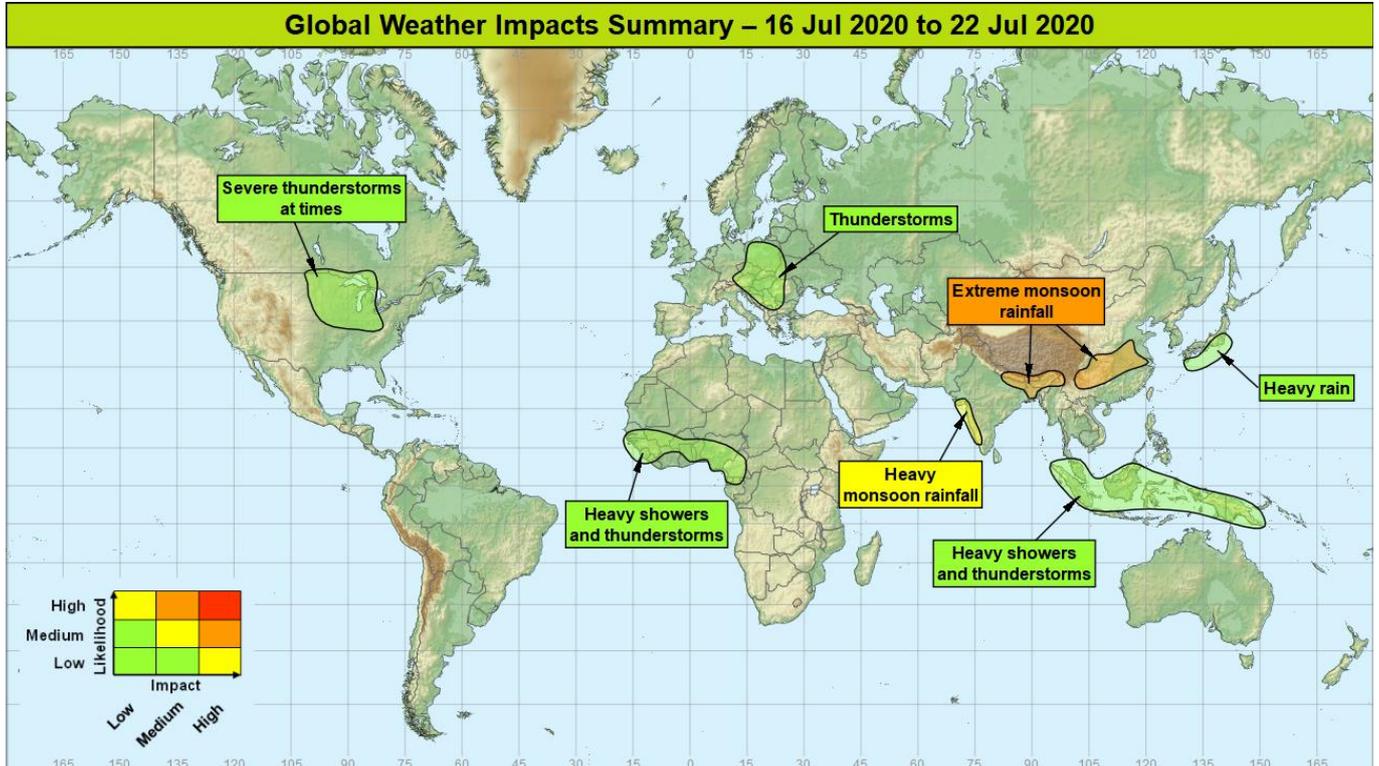


## Global Weather Impacts – Thursday 16<sup>th</sup> July to Wednesday 22<sup>nd</sup> July 2020

Issued on Thursday 16<sup>th</sup> July 2020

### HEADLINE

- Extremely heavy monsoon rainfall will continue 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

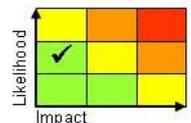
Daily thunderstorms will develop in parts of this area over the next few days. Thunderstorms likely to bring short-period heavy rain (30-50mm in 1-2 hours in places), with around 75-100mm in places in a short period a worst case scenario. This is roughly equivalent to a month's worth of rain. Thunderstorms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

#### Discussion

A cold front will move SE across Europe and then become slow-moving as the driving upper trough disrupts 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**

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

**North America****Areas of the USA and Canada around the Great Lakes****Weather**

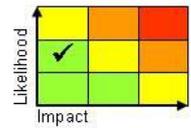
There will be the threat of severe thunderstorms at times through the next 7 days, with intense rainfall (50-100 mm), large hail, very strong winds and tornadoes all possible. However, much of the highlighted area will miss the worst thunderstorms.

**Discussion**

A succession of upper trough 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**

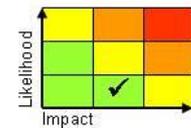
Heavy showers and thunderstorms are likely to be more frequent than usual through much of this week across parts of West Africa, producing 50-100mm of rain in just a few hours in places. The heaviest rainfall is likely to affect the western part of this region (Sierra Leone, and Guinea) where up to 350mm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

Nil.

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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

© Crown copyright 2020. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

## Asia

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

#### Weather

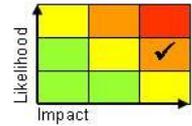
Following extreme rainfall across the hills and mountains in this region through the past few weeks, we are now in a less active monsoon phase, with rainfall amounts having returned to normal levels for the monsoon season. This still means that there will be heavy showers and thunderstorms each day (many places seeing 25-50 mm most days), with some locally very large daily rainfall amounts (locally 100-200 mm). Another active period of monsoon rainfall is expected to develop across the region from Saturday, with more widespread daily rainfall totals of 50-100 mm being seen and 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

The development of a Monsoon low pressure system (LPS) cross central India has cut off the moist SW'ly monsoon flow to this region. The LPS will track west-northwest in the coming days to extend this rather subdued monsoon rainfall period across this region until the end of the week. However, 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

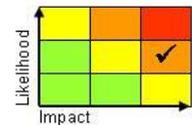
Following exceptional rainfall across central and eastern China over recent weeks, the Mei-yu monsoon front is expected to become increasingly active again through the next 3 or 4 days, with further pulses of intense rain and thunderstorms. Another 100-200mm of rain is expected widely across this region, with peak accumulations over the hills and mountains are likely to be in the region of 300-500mm. 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.



This forecast may be amended at any time

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

## Western India

### **Weather**

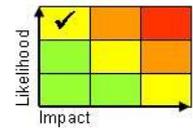
A period of heavy monsoon rainfall (intense showers and thunderstorms) is expected through the next few days, with up to 600mm of rain falling (50-75% the average July rainfall). From the weekend the shower and thunderstorms are expected to become less frequent, with rainfall totals decreasing back to or below normal levels.

### **Discussion**

A deep, strong and moist SW'ly airflow will be enhanced during the next few days as a monsoon low pressure system (LPS) tracks west-northwest across central India (bringing locally intense rainfall through frequent thunderstorms). This regime will produce an active period of monsoon rainfall for this part of India through until the end of the week. 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**

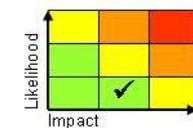
Above average rainfall will continue across this region in the form of heavy showers and thunderstorms. These will be capable of locally bringing 50-100 mm of precipitation in a short duration, with some locations likely to see 150-250 mm through the coming days. Average precipitation accumulations at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

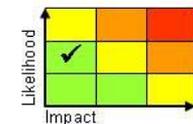
Heavy rain is likely for parts of southern Japan over the next few days. 50-100 mm of rain is likely in many places with perhaps very isolated totals of 150-200 mm.

### **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.

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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

**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**

Through the rest of the week showers or thunderstorms will be fairly well scattered and mostly fairly short lived (5-10mm of rainfall per day typically, locally 15-20mm). However showers will likely become more widespread from the weekend and into next week, likely producing an increased threat of local flash flood events, especially in the Western Highlands.

**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:** 160700 UTC**Meteorologist:** Chris Bulmer / Mark Sidaway**Global Guidance Unit**

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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

© Crown copyright 2020. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.