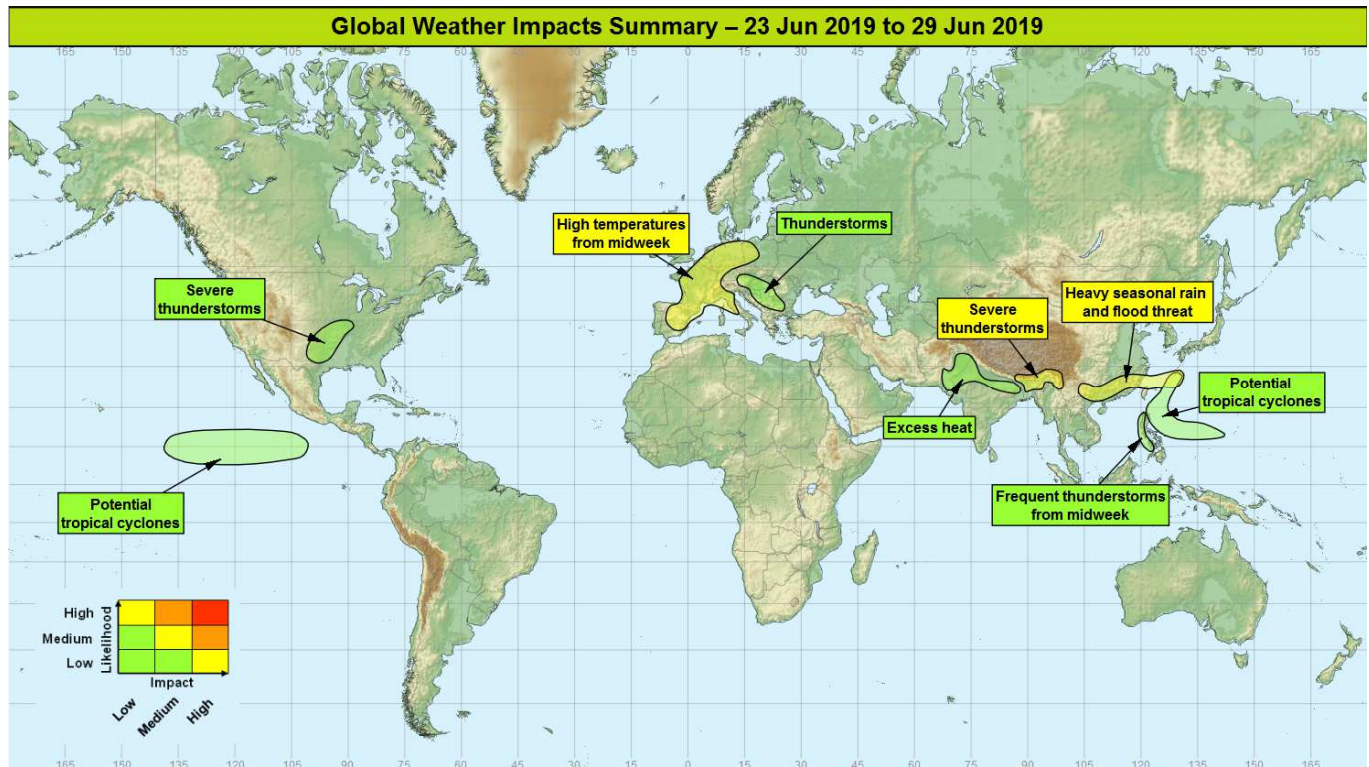


**Global Weather Impacts – Sunday 23<sup>rd</sup> to Saturday 29<sup>th</sup> June 2019**Issued on Sunday 23<sup>rd</sup> June 2019**HEADLINES**

- Heatwave developing across W/Central Europe; accompanied by severe storms at times in W.
- Heavy rain/thunderstorms NE India, N Bangladesh extending eastwards across China.
- Potential for weak tropical cyclones in both east and west Pacific Ocean.

**DISCUSSION****Tropical Cyclones**

*There are no tropical cyclones currently, but the following areas are being monitored for potential development:*

**Western North Pacific and Philippines****Weather**

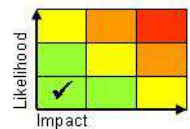
There continues to be a small signal for weak tropical cyclone development in the West Pacific. There remains a small probability that this could bring heavy rain to the east of Luzon, but the most likely scenario sees the heaviest rainfall staying offshore as the system curves northwards towards the southern islands of Japan.

**Discussion**

The area of convection associated with an ERW in the wake of the MJO continues to look fairly disorganised but models continue to indicate weak development as the convection takes place within an environment of weak wind shear and high SSTs. There is further potential for tropical cyclogenesis in a similar area in the wake of this feature.

**Expected Impacts**

There is a low probability of localised flooding across eastern Luzon should the system make it this far west before re-curving out to sea.



This forecast may be amended at any time

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## Eastern North Pacific Ocean

### **Weather**

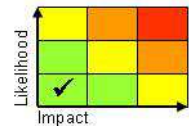
There is a moderate chance that one or more weak tropical cyclones may form along the Intertropical Convergence Zone, over the East Pacific early next week. Any system that does form is not expected to affect land.

### **Discussion**

Shear instability along the ITCZ will provide areas of enhanced convection, organisation of these then potentially aided by a number of AEWs crossing Central America over the next few days. There is a weak signal in the global deterministic models, and a stronger signal in ensemble output, for the formation of one or more weak tropical cyclones during the first part of next week.

### **Expected Impacts**

Nil.



## Europe

### Western Europe

### **Weather**

Temperatures 10°C to very locally 15°C above average are expected to develop through next week, peaking most widely on Wednesday/Thursday before a gradual cooling takes place from the north and west of the region highlighted. Maxima into the mid 30s of Celsius, are expected, with some places seeing high 30s to low 40s of Celsius, more especially across France and Spain later in the coming week. Overnight minima may not fall below 25°C in a few places. National June temperature records are likely to fall, but the heat is likely to be accompanied by severe thunderstorms in the far west of this region at times.

### **Discussion**

Low pressure anchored to the southwest of the UK will act to draw a very warm, and along the western boundary, moist air mass across western and parts of central Europe. With predominantly settled/subsided conditions, the boundary layer will also heat up in-situ given the net diabatic input at this time of year. Close to the low, where forcing is strongest and the flow has originated from the Atlantic, precipitable water values will be high, leading to the risk of very energetic and severe storm development along the western periphery of the warm air.

### **Expected Impacts**

High temperatures will bring heat health impacts to vulnerable populations, particularly given the spell of tropical nights (minima >20°C), whilst placing strain on some utilities and transport networks (e.g. railways). In addition, some places may see strong winds which could lead to an increased threat of wildfires. Where severe convection develops, extreme rainfall, lightning, large hail and tornadic storms are all possible.



## Parts of Central and Southeast Europe

### **Weather**

With the heat building across Western Europe, thunderstorms associated with a moist and unstable airmass over central and Eastern Europe will slowly become displaced further east and southeast over the coming days. Thunderstorms will occur quite widely across Eastern Europe at first; the area highlighted expected to see the most severe and long-lived storms with the potential for in excess of 50mm of rain in 2-3 hours. Large hail, gusty winds and isolated tornadoes are also possible. However, even within this area many places will stay predominantly dry. By the middle of next week, the weather will become more settled.

### **Discussion**

A high WBPT airmass over Central and Eastern Europe will gradually be displaced southwards as a surface and upper ridge builds to the north and across this region. Despite this, within the air mass itself there is enough low level moisture and warmth to render the whole air mass unstable, with widespread pulse type storms forming as a result. Within the highlighted region however, a cut-off upper vortex will provide forcing for more energetic convection, as well as organisation which will see some storms persisting overnight. High PWAT and CAPE brings a risk of large hail and heavy rain, strong directional shear on the eastern side of the vortex brings potential for tornadic developments too.



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## Expected Impacts

Localised flash flooding along with power outages and disruption to the transport networks (especially aviation) is possible. Strong wind gusts and large hail are likely to cause localised disruption to transport and damage to crops, some buildings and vehicles.

## North America

### Central and Southern Plains, USA

#### **Weather**

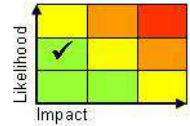
Severe thunderstorms with the potential for very large hail and damaging, locally destructive winds are expected to continue over the next couple of days. As well as these hazards, the storms will bring locally torrential rainfall, with in excess of 100 mm possible in a few hours in one or two locations. Thunderstorm activity will tend to become much less severe towards the middle of next week.

#### **Discussion**

An upper trough crossing the Rockies will interact with a high WBPT plume moving north from the Gulf of Mexico to produce a risk of a severe thunderstorm outbreak across the Central and Southern Plains. High CAPE (in excess of 4000 J/kg) and large amounts of vertical wind shear suggest supercells are possible, with strong low-level flow supporting isolated tornadic activity. Bowing segmented line convection is also possible, with damaging straight-line winds a more widespread hazard.

#### **Expected Impacts**

Localised flash flooding along with power outages and disruption to the transport networks (especially aviation) is possible. Large hail and tornadoes have the potential to cause damage to crops, some buildings and vehicles.



## Central America and Caribbean

Nil.

## South America

Nil.

## Africa

Nil.

## Middle East

Nil.

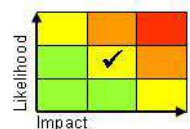
## Asia

### North Bangladesh and far northeast India

#### **Weather**

Thunderstorms with increasingly torrential rainfall are expected to develop across this region, activity peaking from Tuesday onwards where many places will see over 100mm per day, and perhaps locally as much as 1000 mm over the next 5-7 days. These thunderstorms may be accompanied by hail and gusty winds, but torrential rainfall is likely to be the cause of the most significant impacts. Very isolated tornadic activity is also possible.

#### **Discussion**



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Regular diurnal destabilisation of the extremely, moist and unstable air mass over this region will produce severe thunderstorms, organised at times by cyclonicity aloft and upscale growth. The most frequent and persistent storms will likely form on the southern upslopes of the Himalayas and the western upslopes of the Patkai hills, all draining into the Brahmaputra catchment. Very large precipitable water and very tall, skinny CAPE will result in torrential downpours; low level shear evident in forecast profiles also favours the risk of tornadoes with potential for wind damage associated with this.

## **Expected Impacts**

Flash flooding and localised damage of property/infrastructure and transport links are probable. River flooding of smaller rivers in the Brahmaputra basin are possible and landslides are likely over the higher terrain.

## **Southern China, and outlying southern Japanese Islands**

### **Weather**

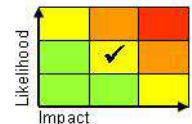
Further torrential rain and severe thunderstorms will affect parts of southern China over the next three days. Widely in excess of 200 mm of rain is expected with some locations receiving up to 500 mm. There is also the potential for severe thunderstorms which could produce hail and strong winds.

### **Discussion**

Strong convergence along the Mei-yu front and heating of the high terrain in the moist air to its south will continue to produce heavy rain in the form of showers and thunderstorms. Although shear is fairly modest for mid-latitudes, in the tropics this is sufficient for MCS development.

### **Expected Impacts**

Both fluvial and flash flooding is possible within the central and lower Yangtze River basin, with an additional risk of landslides in mountainous areas. Disruption to transport and infrastructure is also likely in what is a densely populated area.



## **Philippines (Western Luzon and Western Visayas)**

### **Weather**

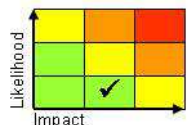
A period of frequent heavy showers and thunderstorms are likely to develop from the middle of next week onwards, with potential for 80-100, locally 150 mm of rain in some locations per 24 hours. The most significant impacts will occur should the wind direction be correct to funnel these in towards Manila.

### **Discussion**

A surge in the SW'ly monsoonal winds, possibly in the wake of a tropical system forecast to come close to the east of Luzon, from around Wednesday/Thursday next week will see an increase in the frequency of heavy showers and thunderstorms.

### **Expected Impacts**

Flash flooding, which will be particularly impactful should it affect significant urban areas such as Manila.



## **Northern India and western Pakistan**

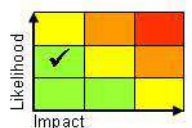
### **Weather**

The pre-monsoon heat wave continues, with the Indian Summer Monsoon arriving a week to two weeks late across India despite a recent surge across north-eastern parts of the country. Temperatures in excess of 40°C are expected, over 45°C in the north-west of this region (which could also be accompanied by isolated severe thunderstorms). This is likely to compound impacts reported over the past couple of weeks, including fatalities due to the heat and drought conditions being experienced across wide parts of the country.

### **Discussion**

The late arrival of the monsoon means that the pre-monsoon heatwave has been more impactful than normal over the past couple of weeks. The most affected state, Bihar, has over the past couple of days seen the arrival of the monsoon, despite this temperatures are forecast to creep up above 40°C as a monsoon break develops later in the coming week.

### **Expected Impacts**



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Further fatalities from heat health related issues, water supply vulnerability, and significant stress to vulnerable human and animal populations. Power cuts due to increased energy demand, and isolated flash flooding/wind damage from severe storms triggered by the excess heat.

**Australasia**

Nil.

**Additional information**

Nil.

**Issued at:** 230600 UTC    **Meteorologists** D J Harris/Matthew Lehnert    **Global Guidance Unit**

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