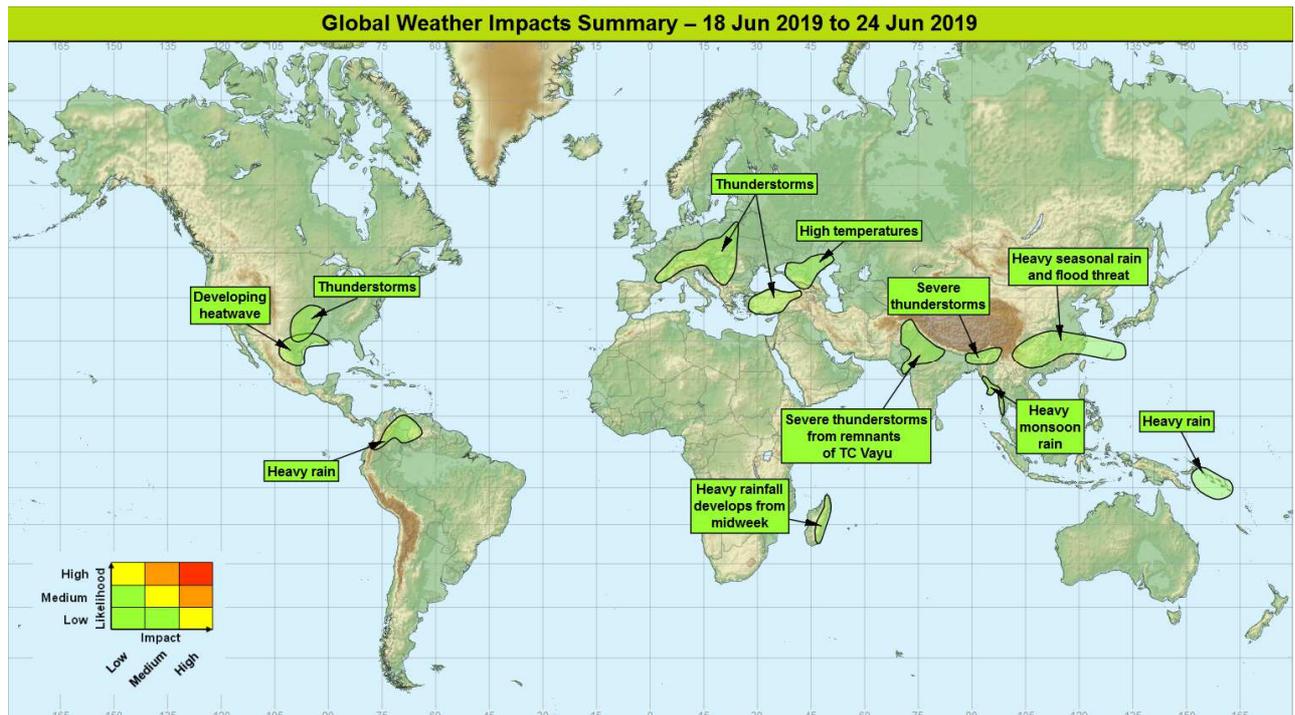


**Global Weather Impacts – Tuesday 18<sup>th</sup> to Monday 24<sup>th</sup> June 2019**

 Issued on Tuesday 18<sup>th</sup> June 2019

**HEADLINES**

- Cyclonic Storm Vayu weakens further, with remnants moving inland across Pakistan & India.
- Heavy monsoon rainfall is expected to develop across western Myanmar this week.
- High temperatures across far southeast of Europe, and parts of Mexico and Texas.


**DISCUSSION**
**Tropical Cyclones**
**Ex-Vayu – Arabian Sea, including north-western India Weather**

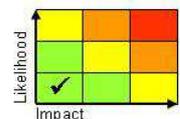
The remnants of Vayu are expected to move eastwards during Tuesday bringing a spell of heavy rain to parts northwestern parts of India on Tuesday and Wednesday.

**Discussion**

Vayu will continue to weaken as it moves inland and continues to entrain dry air from SW Asia continent. However, the injection of low and mid-level moisture will allow severe storms to break out over the next few days.

**Expected Impacts**

See Asia section.



**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 2019 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.

## Europe

### Parts of Central, Eastern and Southeastern Europe

#### Weather

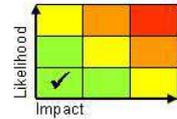
Although many parts of Europe will experience thunderstorms at times through the coming week, the two areas identified will see the most frequent severe thunderstorms over the next 5-6 days. Although many places will only see 15-30mm of precipitation, some spot locations could see in excess of 100mm, with most of this likely falling in a short space of time.

#### Discussion

With high WBPT air in place across much of central and southeast Europe, and various elements of upper forcing running across these regions the outbreak of heavy, locally severe thunderstorms is likely through this region over the coming week. Given the combination of high precipitable water, and large CAPE, there is scope for significant rain/large hail.

#### 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 is likely to cause localised disruption to transport and damage to crops, some buildings and vehicles.



### Southwest Russia, Georgia and western Kazakhstan

#### Weather

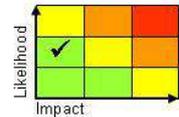
High temperatures are expected to develop across the region through the next week. Temperatures will increase to be around 10C above average for June, and in some places could be close to breaking June records as daytime maxima approach PS40.

#### Discussion

A broad northward extension of the hot air over Mesopotamia and Iran is expected to extend northwards to affect the far SE of Europe around the NW shores of the Caspian Sea over the rest of the week. While temperatures may approach June records in some areas, heat waves in July and August to be more severe with higher temperatures.

#### Expected Impacts

High temperatures are likely to impact vulnerable populations such as infants and the elderly. In addition, high temperatures can strain utilities such as water and power through increased demand.



## North America

### Texas, Louisiana and northeast Mexico

#### Weather

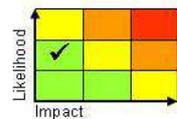
High temperatures will develop across this region through the rest of the week with temperatures rising each day. Parts of Texas and northeast Mexico could see temperatures reach the mid-40s°C, threatening some locations maximum June temperature records.

#### Discussion

An upper ridge amplifies over this region over the coming week, with a marked heat low eventually able to form over the southern Rockies in response to strong insolation. Trajectories show warm advection bringing air northwards from central Mexico, but also air descending from 400hPa to the boundary layer over coming few days. This method of adiabatic heating of the descending air has been shown to be a major source of heat in several record breaking heat waves in recent years.

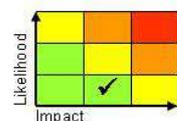
#### Expected Impacts

Heat stress likely to adversely affect vulnerable and exposed (no access to air conditioning) people. Additional impacts likely for livestock and crops in the region.



### Oklahoma and Texas

#### Weather



**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)

There is an enhanced risk of severe thunderstorms across parts of the southern and central Plains today (Tuesday). The main focus for the storms is likely to be across parts of western Oklahoma and west Texas and could potentially see 30-50mm of rain in a short space of time. Some spots may see up to 100mm where storms line up. Large hail and very gusty winds are also expected.

### Discussion

An upper trough will interact with the high WBPT air across the region. This will lead to strong instability of the environment leading to the development of storms, with this process enhanced by a heat low. Profiles show very high CAPE values (widespread 2000-2500 J/kg, locally 4000 J/Kg) with the potential for MCS development.

### 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 is likely to cause localised disruption to transport and damage to crops, some buildings and vehicles.

## Central America and Caribbean

*Northeast Mexico: See North America section.*

## South America

### Colombia and Venezuela

#### Weather

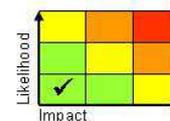
The focus for heavy rainfall is expected to move from Ecuador and north Peru towards central Colombia and Venezuela from Tuesday. The highest rainfall totals most likely over east facing slopes of the Andes mountains in Colombia where 100-150mm per day is possible.

#### Discussion

The ITCZ remains active in the areas, with a series of African Easterly Waves helping to maintain activity along it, and through this area for the next week. The Andes will likely aid lift, resulting in orographically focused rain totals.

#### Expected Impacts

Further flash flooding and landslides are likely in this region. There is also the potential for river flooding along tributaries of the Rio Negra and Orinoco.



## Africa

### Eastern Madagascar

#### Weather

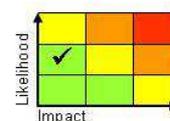
Persistent heavy rainfall will develop across the eastern hills and mountains of Madagascar from Tuesday lasting for 4 or 5 days. 50-100mm of precipitation is likely to fall widely, with in excess of 250mm falling in the mountains over a few days.

#### Discussion

A strong anticyclone forms across the southwest Indian Ocean by midweek which will then remain slow moving through until early next week. Madagascar will remain to the north of this feature, with strong easterly winds bring a constant stream of warm tropical air to the island, which will be forced to rise over the high orography and produce a period of heavy rainfall. In the upper air a trough disruption (which helps maintain the slowly evolving surface pattern) will leave a cut-off upper vortex above the island, which will help aid the release of convection and heavy rainfall in the tropical airmass.

#### Expected Impacts

Some flash and river flooding is likely towards the later part of the week, particularly focused on the wettest eastern parts of the island. Where terrain is steep increasingly saturated soils will enhance the risk of 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 2019 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

### Western Myanmar

#### **Weather**

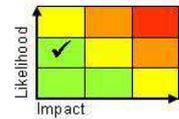
Further frequent intense showers and thunderstorms are expected in the coming days, associated with the South Asian Summer Monsoon. 100-150 mm of rain is expected widely across the region, with some more prone areas receiving between 300 and 400 mm over the next 5-7 days (around double what would normally be expected for the time of year).

#### **Discussion**

The arrival of the southwest monsoon winds will continue to draw moisture northeast into Myanmar leading to frequent thunderstorms and torrential rain over coast and inland mountains. This is fairly common during monsoon season, and the delayed onset this year means that river catchments are likely to have seen less rainfall than normal up to present.

#### **Expected Impacts**

Flash flooding looks like the main impact although the region in general will be used to this kind of rainfall. Although some showers may fringe into Cox's Bazar region of Bangladesh at times, the number and intensity appear to be close to what would be expected at this time of year.



### Northwest India, and northern Pakistan

#### **Weather**

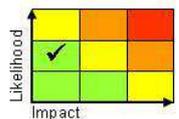
Through until Friday each day isolated severe thunderstorms are likely to develop in this region, largely due to the abundant moisture in the mid-upper atmosphere associated with the remnants of Cyclonic Storm Vayu. Individual storms may be long-lived and severe giving a wide variety of hazards to some locations.

#### **Discussion**

The remnants of Cyclonic Storm Vayu bring an injection of moisture to mid and upper levels of the atmosphere in this region. High temperatures at low levels and the heating of elevated terrain will allow the release of deep and energetic convection; with the subtropical jet overlaying this region strong vertical wind shear will assist with the formation of organised and severe long lived cells. Into the weekend, upper ridging builds from the west and suppresses convection.

#### **Expected Impacts**

A variety of hazards likely including heavy rain, the potential for very strong convective wind gusts (capable of causing damage to poorly constructed buildings), and hail in mountainous regions. Towards the south of the region storms may be capable of producing the odd tornado.



### North Bangladesh, far north-east India.

#### **Weather**

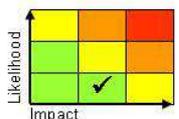
Thunderstorms with torrential rain and strong gusty winds will affect the region over the next several days, before activity slowly eases down to less severe levels. Many areas will see around 50mm per day, up to 150 mm in the heaviest rain. Locally 200-300 mm is possible in total.

#### **Discussion**

Regular diurnal destabilisation of the very warm, moist and unstable air mass over this region will produce severe thunderstorms, organised at times by cyclonicity aloft and upscale growth. 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.

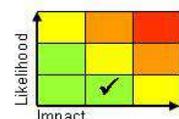
#### **Expected Impacts**

Flash flooding and localised damage of property/infrastructure and transport links are possible.



### Southern China, and outlying southern Japanese Islands

#### **Weather**



**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)

Further torrential rain and severe thunderstorms will affect parts of southern China from Wednesday and last for a further 4-5 days. 200-300 mm of rain could fall in places within a few days and there is also the potential for severe thunderstorms that 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.

**Australasia****Solomon Islands****Weather**

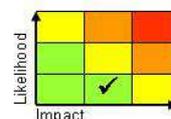
Heavy showers and thunderstorms are expected across the Solomon Islands over the next few days, with the potential for isolated peaks of over 100 mm of rain per day. Rainfall amounts should decline over the weekend.

**Discussion**

The eastward propagation of the MJO across into the Western Pacific will enhance rainfall and thunderstorm activity along the South Pacific Convergence Zone, leading to a risk of high rainfall accumulations across the Solomon Islands. There is a very weak signal from the ensembles currently for tropical cyclogenesis in this region associated with ERW in the wake of the MJO.

**Expected Impacts**

Flash flooding is likely to be the main impact, along with an increased risk of landslides as rainfall starts to accumulate over windward mountain slopes.

**Additional information**

Nil.

**Issued at:** 180715 UTC **Meteorologists** Neil Armstrong / Tony Wardle

**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 2019 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.