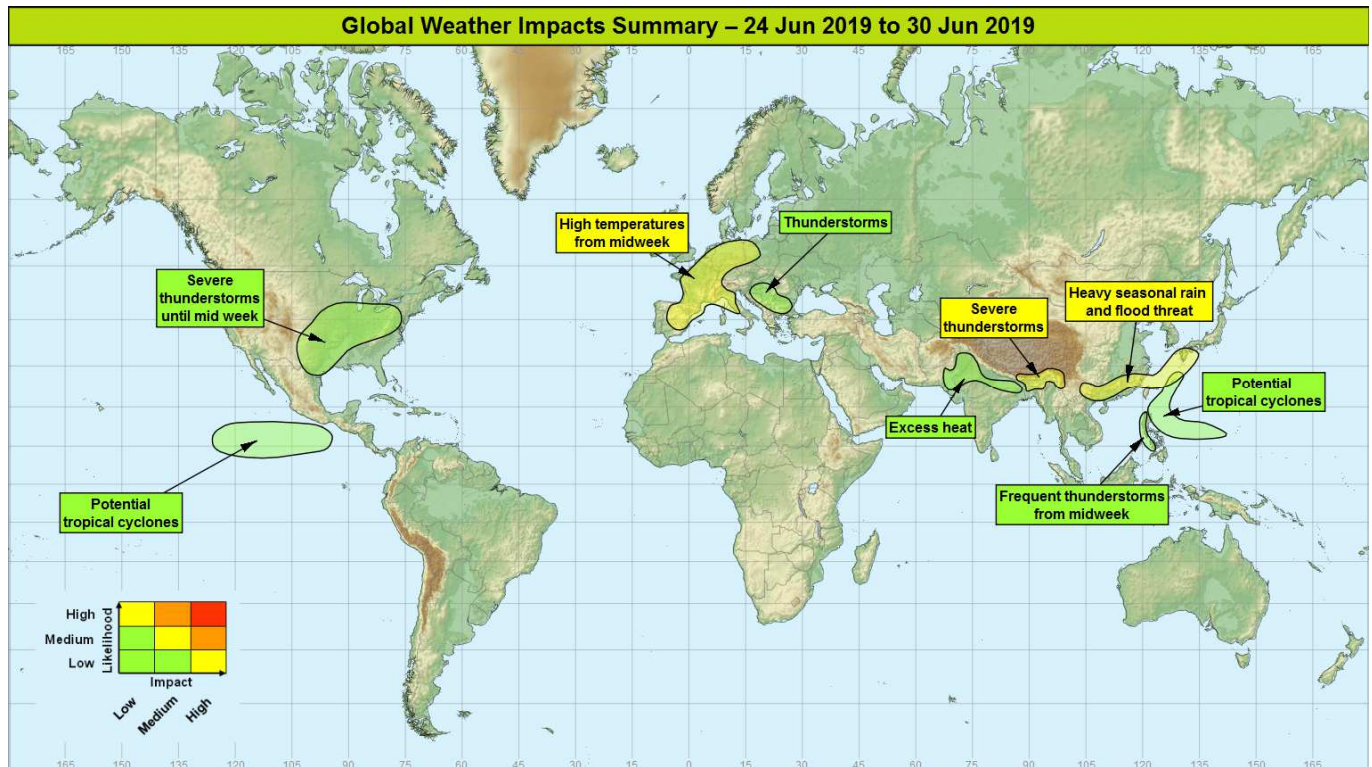


Global Weather Impacts – Monday 24th to Sunday 30th June 2019

Issued on Monday 24th June 2019

HEADLINES

- Heat wave developing across W/Central Europe; accompanied by thunderstorms in the far 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

Weather

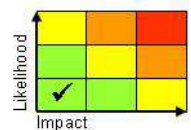
There continues to be a small signal for weak tropical cyclone development in the West Pacific. Latest data indicates that there is now little or no threat to eastern Luzon however, with associated zone of showers and thunderstorms expected to curve away to the north and stay offshore in the short term. The system may eventually form a sub tropical low which could further enhance rainfall across southern and south-western Japan later this week. (See *Asia* section below)

Discussion

The area of convection associated with an ERW in the wake of the MJO shows little sign of development although the environment remains conducive to slight strengthening over the next 24-72 hours. Ensemble probs suggest that any impacts on Luzon are now very unlikely indeed. Subsequent areas of convection to the SE of this system also have the potential to spawn weak tropical cyclones over the next few days.

Expected Impacts

See *Asia* section below.



This forecast may be amended at any time

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Eastern North Pacific Ocean

Weather

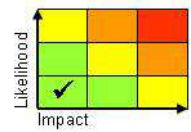
There is a moderate chance that one or more weak tropical cyclones may form along the Intertropical Convergence Zone, over the East Pacific early next week. Any system that does form is not expected to affect land.

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. The National Hurricane Centre has now highlighted a disturbance within this zone.

Expected Impacts

Nil.



Europe

Western Europe

Weather

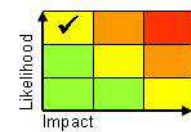
Temperatures 10°C to very locally 15°C above average are expected to develop through this week, peaking most widely on Wednesday/Thursday before a gradual cooling takes place from the north and east of the region highlighted. Maxima into the mid 30s of Celsius are expected, with some places seeing high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

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 both adiabatic compression and 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, although during the peak of the heat later this week predominantly settled conditions are expected.

Expected Impacts

High temperatures will bring heat health impacts to vulnerable populations, particularly given the spell of very warm 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, heavy rainfall, lightning and large hail are all possible.

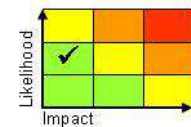


Parts of Southeast Europe

Weather

With the heat building across Western Europe, thunderstorms associated with a moist and unstable airmass over southeast Europe will slowly become displaced further east and southeast over the coming days, with severity reducing. Thunderstorms will tend to occur more broadly across south-east Europe at first; the area highlighted is 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 very isolated tornadoes are also possible. However, even within this area many places will stay predominantly dry. By the middle of the week, the weather will become more settled.

Discussion



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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 some organisation which will see some storms persisting overnight. High PWAT and CAPE brings a risk of large hail and heavy rain, strong directional shear in the south of the region brings a risk of isolated tornadic developments too.

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 may cause localised disruption to transport and damage to crops, some buildings and vehicles.

North America

Central and Southern Plains, USA

Weather

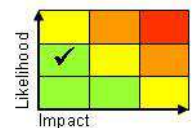
Strong to severe thunderstorms with the potential for large hail and damaging, locally destructive winds are expected to continue over the next couple of days. As well as these hazards, the storms will bring locally torrential rainfall, with in excess of 100 mm possible in a few hours in one or two locations.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

Discussion

An upper trough over Central US will continue to interact with a high WBPT plume to produce further risk of severe thunderstorms heading up towards the NE of the country today. Damaging straight line winds are the primary threat, with CAPE marginal for large hail and profiles generally less supportive of tornadic activity. This zone clears early Tuesday, strong warm advection then taking place across the Plains in its wake to recharge the atmosphere supporting strong to severe storms through daytime heating, despite a lack of upper forcing. The primary hazards will again be strong winds, and given much higher CAPE values, large hail too.

Expected Impacts

Localised flash flooding along with power outages and disruption to the transport networks (especially aviation) is possible. Strong, locally damaging wind gusts impacting property and infrastructure, whilst large hail has the potential to cause damage to crops, some buildings and vehicles.



Central America and Caribbean

Nil.

South America

Nil.

Africa

Nil.

Middle East

Nil.

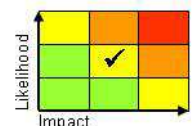
Asia

North Bangladesh, far northeast India and Bhutan

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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

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, south-western Japan

Weather

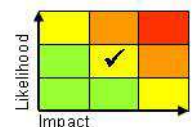
Further torrential rain and severe thunderstorms associated with the seasonal rains will affect parts of southern China over the next two to three days, before a break in the rains develops. Widely in excess of 200 mm of rain is expected with some locations receiving up to 500 mm. There is also the potential for severe thunderstorms which could produce hail and strong winds. Meanwhile an eastern extension of the rainband will affect the southern Japanese Islands then extend north to affect some parts of south-western Japan from midweek onwards.

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

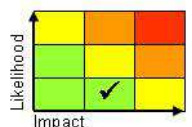
A period of frequent heavy showers and thunderstorms are likely to develop from the middle of next week onwards, with potential for 80-100, locally 150 mm of rain in some locations per 24 hours. The most significant impacts will occur should the wind direction be correct to funnel these in towards Manila.

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.

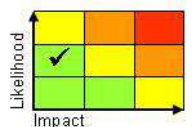
Expected Impacts

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



Northern India and western Pakistan

Weather



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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 heat wave 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

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: 240710 UTC **Meteorologists** D J Harris/Mark Sidaway

Global Guidance Unit

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