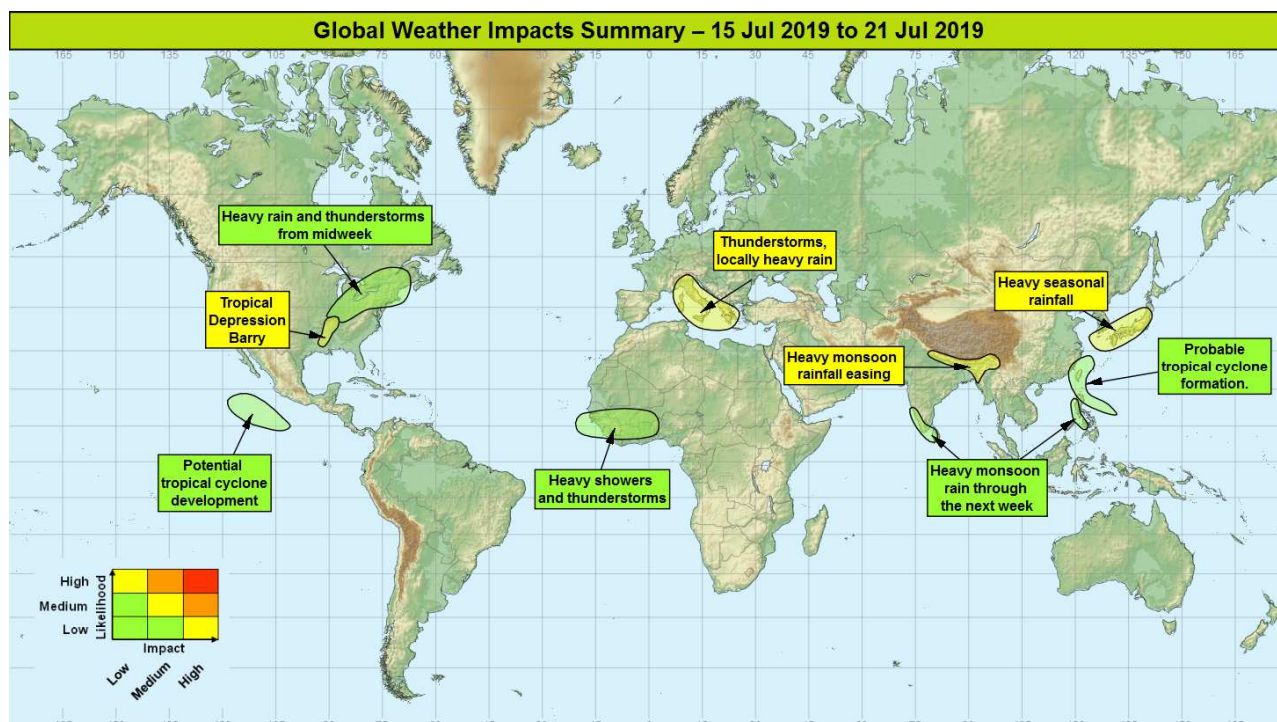


Global Weather Impacts – Monday 15th to Sunday 21st July 2019

Issued on Monday 15th July 2019

HEADLINES

- Tropical Depression Barry (Ex-hurricane) decaying across the southern / central USA.
- Continued heavy rainfall and flooding across parts of south and east Asia.
- Threat of severe thunderstorms for parts of southern and southeastern Europe.



DISCUSSION

Tropical Cyclones

Tropical Depression Barry (southern / central USA)

Weather

After a landfall over the weekend Barry has continued to weaken as it tracked slowly north across the southern USA. The system is now just a tropical depression, with further decay to a remnant low expected through today. Heavy rainfall will continue along Barry's track, with up to 250 mm of rainfall in parts of Louisiana, Arkansas and Mississippi on Monday, and then up to 150 mm in northern Arkansas, southern Missouri and western Tennessee on Tuesday into Wednesday. The average July rainfall in this region is 80-100 mm. There is a low risk of severe thunderstorms on Monday, producing frequent lightning and perhaps tornadoes.

Discussion

Frictional convergence after landfall has led to the quick weakening over Barry with dissipation of the remnant low expected today. Despite the winds and low level circulation weakening, the moisture footprint associated with the decaying system will continue to bring heavy rainfall to parts of the southern Mississippi catchment.

Expected Impacts

A combination of very heavy rainfall and the already high river levels will result in a heightened threat of river flooding. Flash flooding is also expected in this region.

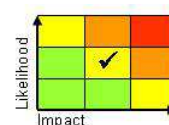
The following areas are also being monitored for potential Tropical Cyclone development:

This forecast may be amended at any time

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Western North Pacific (including Taiwan, northern Philippines and southeast China)

Weather

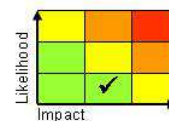
A cluster of thunderstorms in the Philippine Sea has continued to show signs of organisation in the last 24 hours. This area is felt likely to undergo further development over the day or two with a tropical storm likely to form in this area and cross the northern Philippines, at this stage the risk of this system reaching typhoon strength is considered low. The system is then forecast to then turn northwards and push towards Taiwan and parts of eastern China in the middle of next week. Irrespective of development, it is likely that increased shower and thunderstorm activity will contribute to some locally heavy rainfall during this time. 300-600 mm of rain could fall in a few days in this region, which is twice or three times the average July rainfall.

Discussion

Organised convection associated with an Equatorial Rossby Wave has good agreement from the main forecast models for development of a tropical storm over the next couple of day or so. There is fairly high probability that this will become a tropical storm. There is reasonable consistency for this feature to then transfer towards Taiwan and southeastern China, where a slow dissipation of the system will likely occur.

Expected Impacts

Primary impacts would likely be from heavy rain (flooding, threat of landslides) over the mountainous islands of the region, but damaging winds could develop and these could also produce hazardous sea conditions.



Northeast tropical Pacific

Weather

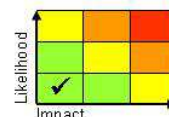
An area of thunderstorms currently across Central America will move out into the open tropical northeast Pacific over the next few days. The area into which these storms move will be favourable for the gradual development of a tropical cyclone, with a small risk of a system developing later this week.

Discussion

An African Easterly Wave (AEW) currently across central America will emerge into the northeast Pacific and experience favourable environmental conditions to allow the wave to slowly develop into a tropical cyclone (low vertical wind shear, and high SSTs etc).

Expected Impacts

Nil as any system that does develop would remain over open ocean during this period.



Europe

Southern and southeastern Europe (especially Italy and Greece)

Weather

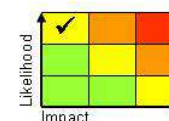
Heavy showers and thunderstorms currently across northern Italy are expected to transfer south across Italy and Greece, before transferring towards Turkey as a weakening feature on Wednesday. Up to 100 mm of rain is possible in a few places (falling in a very short space of time), this may also be accompanied by frequent lightning, squally winds, large hail and an isolated tornado or waterspout.

Discussion

An upper trough will sweep southeast across this region, engaging a plume as well as passing over anomalously warm sea surface temperatures, resulting in deep convective generation. Forecast profiles support the possibility of long lasting, complex thunderstorms, possibly MCS type storms. Strong winds are likely to generate some rough seas.

Expected Impacts

Although impacts from severe thunderstorms are typically isolated, flash flooding, property and infrastructure damage, power interruptions and a threat to life are possible.



North America

Southern / central USA – see *Tropical Cyclones* section.

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Northeast USA and southeast Canada

Weather

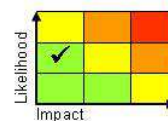
The remnants of Ex-hurricane Barry are likely to transfer northeast across this part of North America this week, producing heavy rainfall and thunderstorms that could produce up to 100 mm of rain in a few hours (close to the average July rainfall).

Discussion

The deep moisture footprint of Barry will track northeast to be engaged by upper troughs from midweek, resulting in deeply moist and unstable profiles that will pose the threat of intense rainfall. There remains much model spread for timing and location though.

Expected Impacts

Flash flooding looks like the most likely impact, but frequent lightning could cause issues with the power network.



Central America and Caribbean

Nil significant.

South America

Nil significant.

Africa

West Africa inland from the Gulf of Guinea to Sahel region

Weather

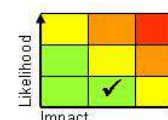
An active area of thunderstorms is currently progressing westwards across this zone, and is not expected into the eastern Atlantic until Friday. These storms may bring in excess of 50mm of rainfall in a short period of time, with over 100mm possible if a location experiences several storms. In addition to the heavy rainfall, strong damaging winds may be associated with this area, particularly towards the Sahel.

Discussion

An active AEW currently transferring across the area is producing an impressive array of MCS activity stretching from the Sahel to down close to the Gulf of Guinea coastline. This feature is expected to remain fairly coherent through to its exit into the Atlantic, where there are subtle signals of the potential for a subtle circulation close to the Cabo Verde Islands.

Expected Impacts

Flash flooding from short duration heavy rainfall is possible, especially if the rainfall affects any urban centres. The rainfall will also enhance the risk of landslides where terrain is steep. In the north of the region strong winds may also accompany storms, these able to damage poorly built structures and lift areas of dense sand and dust.



Middle East

Nil significant.

Asia

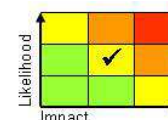
Taiwan, northern Philippines and southeast China – see *Tropical Cyclones* section.

Northern India, Nepal, northern/eastern Bangladesh, Bhutan and northern/western

Myanmar

Weather

Frequent torrential thunderstorms are expected to affect the region over the next day or two, before daily rainfall accumulations are expected to decrease by midweek. Whilst rainfall amounts will vary significantly from location to location, an additional 125-200 mm of rain is expected across the southern foothills of the Himalayas, with lesser amounts elsewhere.



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Discussion

A further day or so of enhanced heavy shower/thunderstorm activity is expected across this region (which has been very wet over recent weeks), thereafter an upper high will strengthen across the region and result in a marked reduction of shower and thunderstorm activity. Although the rainfall will ease, flooding in some of the regions large and slower responding rivers will likely continue through this week.

Expected Impacts

After a very wet period when the focus of the Indian Summer Monsoon transferred further north into a much more mountainous region, flooding and landslides have been reported across a wide area. Although rainfall will ease over the coming days river flooding impacts are likely to continue through much of the coming week..

Southwest India, western Sri Lanka, and western Philippines**Weather**

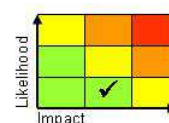
The monsoon rains will become increasingly heavy through the coming week, with rainfall accumulations by the end of the week reaching up to 500 mm in places, with widespread accumulations of 100-250 mm. Many places may see the average July rainfall falling in just a week.

Discussion

There is a consistent signal from all models for a strengthening of the southwest monsoon flow as a new active monsoon pulse develops in the low latitudes. The rainfall will be in the form of thunderstorms with good vertical wind shear, large CAPE and PWAT of 60-70 mm producing the threat of intense rainfall events in the region.

Expected Impacts

Flash flooding will be increasingly likely, as will landslides in mountainous regions.

**Japan and southern South Korea****Weather**

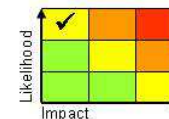
Torrential rain and severe thunderstorms associated with the seasonal rains will affect this region, especially from Thursday. By this time 150-250 mm of rain, perhaps locally 400 mm falling per day. This is around a month to two month's worth of rain for some locations.

Discussion

Strong convergence along the Mei-yu (Baiu) front will continue to provide a focus for intense rainfall and a threat of severe storms. A succession of upper troughs will engage the northern edge of the monsoon frontal plume through much of the coming week, resulting in persistent, heavy rains in places.

Expected Impacts

Both fluvial and flash flooding is possible, with an additional risk of landslides in mountainous areas. Disruption to transport and infrastructure is likely in what is a densely populated area due to the slow-moving seasonal heavy rainfall. There must even be a chance of large scale evacuations (judging by a similar event 2 weeks ago) across southern Japan.

**Australasia**

Nil.

Additional information

Nil.

Issued at: 150900 UTC

Meteorologists: Tony Wardle and Nick Silkstone

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