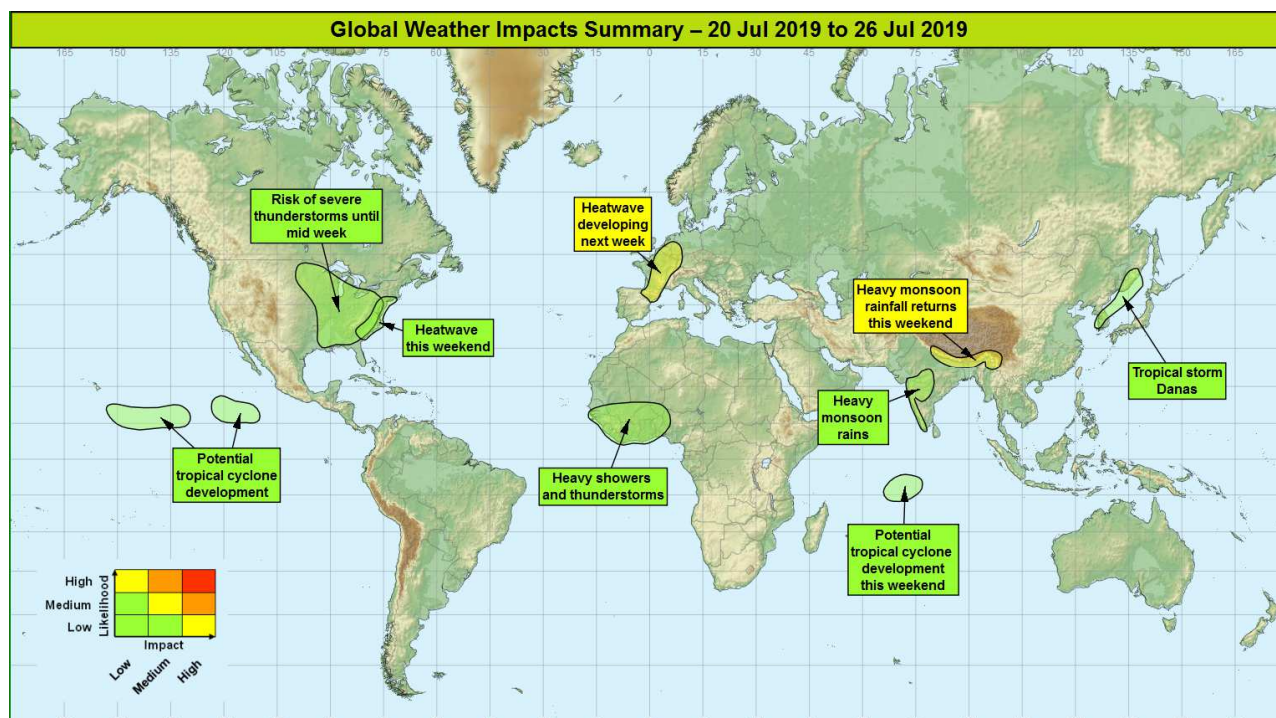


Global Weather Impacts – Saturday 20th to Friday 26th July 2019

Issued on Saturday 20th July 2019

HEADLINES

- A heatwave will develop across western Europe early next week; while the heatwave across the eastern US declines.
- Heavy rainfall returns to the foothills of the Himalayas this weekend.



DISCUSSION

Tropical Cyclones

Tropical Storm Danas – Korean Peninsula, far south-west Japan, East China

Weather

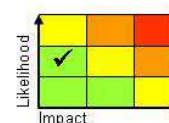
Danas is approaching the south-west part of the Korean Peninsula, bringing sustained winds of around 50 mph with gusts to 75 mph. Danas will continue to bring heavy rain to the area over the next 48 hours with a further 50 to locally 150mm of rain per day. Danas is expected to make landfall over the Korean Peninsula today, weakening into a tropical low but heavy rain associated with the system will continue north-east across North Korea and far south-east Russia in the coming days.

Discussion

Danas is moving into an environment which will lead to rapid weakening of the system. Landfall, plus SSTs <26°C and increasing shear will combine to weaken Danas.

Expected Impacts

Primary impacts would likely be from continuation of heavy rain (flooding, threat of landslides) over the mountainous areas and islands of the region. Strong winds close to the systems centre will create rough seas, potentially affecting shipping in the region.



This forecast may be amended at any time

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

Eastern North Pacific

Weather

Several areas of thunderstorms are currently moving west across the Eastern North Pacific with potential for gradual development into tropical cyclones, although are expected to remain away from land.

Discussion

Several African Easterly Waves (AEW) have crossed Central America emerged into the Pacific. Here over the coming days they experience favourable environmental conditions to allow the waves to slowly develop into tropical cyclones (low vertical wind shear, and high SSTs etc). NHC are currently monitoring a number of areas in the region.

Expected Impacts

None.



Central southern Indian Ocean (close to the British Indian Ocean Territories)

Weather

There is a moderate likelihood that a weak tropical cyclone will form in this region this weekend and track southwest close to several of the islands that comprise the British Indian Ocean Territories. Any system that does form is most likely to be weak, with the primary hazard being heavy rainfall with 75-150 mm possibly falling each day over a four or five day period as the system moves southwards, resulting in an event total of up to 250 mm. This area typically sees 130 mm of rainfall through July.

Discussion

Thunderstorms near the Equator are signalled to begin slow organisation around a shallow depression, this slowly sinking S whilst becoming more organised, with Coriolis increasing allowing the convergent surface winds to generate increasing cyclonic vorticity. There is a moderate chance that it will briefly attain tropical storm strength, but heavy rain is likely to be more of a hazard. This may last over BIOT over the weekend, but the system is expected to then continue southwards over open water whilst weakening.

Expected Impacts

Potential for some minor flash flooding, although the small size of the islands (and quick discharge of rainwater to the sea) will mean the rainfall likely to be unproblematic. Winds likely to generate some rough seas in the region, but impacts over land expected to be minimal.



Europe

Western Europe

Weather

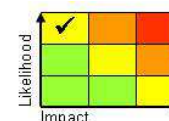
Much higher than normal temperatures will develop across northern Spain, much of France and into other adjacent countries through the first half of next week (where they will be more unusual). Temperatures will rise widely into the mid to high 30s, some favoured areas seeing maxima into the low 40s Celsius.

Discussion

An upper ridge will amplify across western and central Europe over the coming week. This will allow a gradual rise in temperatures through the result of strong day-on-day sensible heating, and warming through large scale subsidence.

Expected Impacts

The main impact is likely to be health implications with an increased risk of heat and sunstroke (and other heat related conditions), with particular concern for vulnerable groups such as the elderly, very young, tourists not acclimatised (without access to air conditioning). Through the area there is likely to be an enhanced risk of wildfires.

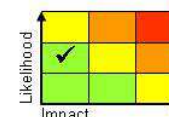


North America

Much of the eastern half of the USA

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Weather

Severe thunderstorms will be a threat across this region of North America until Sunday. These storms could produce up to 100 mm of rain in a few hours, as well as producing large hail, damaging winds and possibly even tornadoes.

Discussion

A strong baroclinic zone and strong jet will be the focus for isolated pulses of severe storm development over this weekend, generally moving E across the N of this region. Next week, the upper pattern amplifies sending the cold front SE, where it will continue to become a focus for severe storms until it reaches Georgia/the Carolinas come this middle of next week.

Expected Impacts

Flash flooding looks like the most likely impact, but with additional hazards of gusty winds, frequent lightning, large hail and the odd tornado is possible here.

North-east US states east of the Appalachians

Weather

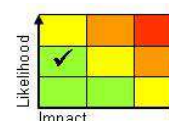
Just to the south of the storms described in the previous section, very hot conditions will develop and spread eastwards across much of the central and north-east United States. The hottest conditions are likely to be in the region described, where temperatures into the high 30s Celsius are expected, some 8-10°C above normal. Despite the larger extent of hot conditions, departure from climatology here suggests that this is the most likely area that will see impacts.

Discussion

1000-850hPa thicknesses >144dam associated with a tropical warm plume across central US will advect eastwards, temperatures increasing all the while through insolation, and large scale dynamical compression beneath a strong ridge. Fohn effects to the lee of the Appalachians on top of this mean that the highest temperatures are likely to be in the area drawn. The heatwave will come to an abrupt end, in places turning thundery, as a cold front moves down from the N early next week.

Expected Impacts

Human health impacts, mainly on vulnerable demographics such as the young, sick and elderly. Increased energy demands as air conditioning use increases dramatically, and a strain on local resources. Increased risk of wildfires.



Central America and Caribbean

Nil significant.

South America

Nil significant.

Africa

West Africa inland from the Gulf of Guinea to Sahel region

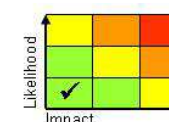
Weather

Areas of thunderstorms will progress westward across this zone through the coming week. These storms may bring in excess of 50 mm of rainfall in a short period of time, with over 100 mm possible if a location experiences several storms. In addition to heavy rainfall, strong damaging winds may be associated with this area, especially towards the Sahel.

Discussion

Several active AEW are forecast to transfer across the area stretching from the Sahel to down close to the Gulf of Guinea coastline. These features are expected to remain fairly coherent through to their exit into the Atlantic.

Expected Impacts



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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

Korean Peninsula, far south-west Japan, East China – see *Tropical Cyclones* section.

Northern India, Nepal, Bhutan and northern Myanmar**Weather**

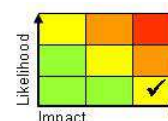
Following a very wet period in this region, a short period of respite is expected with reduced shower activity. However through this weekend a further uptick in heavy shower and thunderstorm activity is signalled, with an increased frequency of storms again capable of producing in excess of 100 mm per day in some locations (especially over the southern slopes of the Himalayas).

Discussion

There is good model agreement for an increase in rainfall from the weekend due to a strengthening southerly flow which will again draw heat and moisture northwards from the Bay of Bengal. As the reaches the foothills of the Himalayas, the forced ascent will release deep skinny CAPE, with high precipitable water (PWAT) allowing these fairly frequent cells to produce large precipitation accumulations.

Expected Impacts

After a very wet period, flooding and landslides have been reported across a wide area. Although rainfall has eased over the last few days, reports of impacts from river flooding are likely to continue. The return of heavy showers and thunderstorms over the weekend will once more enhance the threat of flash flooding and landslides, and will increase the likelihood of further river flooding.

**Southwest, and central India****Weather**

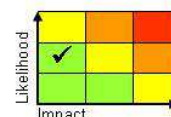
Heavy monsoon rains will continue in the coming few days, with rainfall accumulations by the early part of next week reaching up to 400 mm in places inland from the western coast, with widespread accumulations of 100-250 mm. Towards the middle of next week this rainfall should start to ease. At the same time, a weak monsoon depression over the centre of the country will focus heavy showers/severe thunderstorms to bring 100-150mm over the course of this weekend.

Discussion

There is a consistent signal from all models for a continued strong southwest monsoon flow, aided across India by a shallow monsoon low pressure system. Within this system, potential for extremely deep convection (tops as high as 55000 FT) to bring torrential downpours and thunderstorms over the weekend. There is also a strong signal for this rainfall event to ease through the course of next week as the strongest flow moves away northwards.

Expected Impacts

Some localised flash and fluvial flooding will be likely, with an enhanced risk of landslides in mountainous regions.

**Australasia**

Nil.

Additional information

Nil.

Issued at: 200535 UTC **Meteorologists:** D J Harris / Jason Kelly

Global Guidance Unit

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