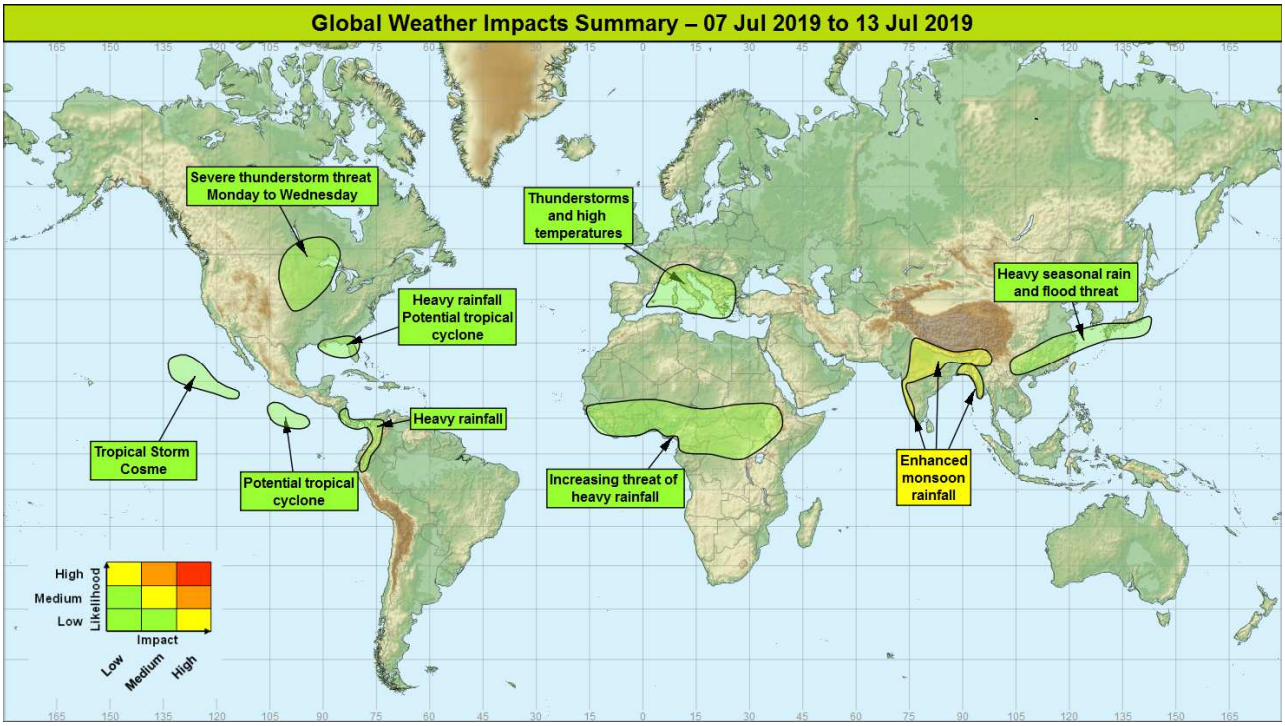
Daily Global Weather Impacts Assessment

Global Weather Impacts – Sunday 7th to Saturday 13th July 2019

Issued on Sunday 7th July 2019

HEADLINES

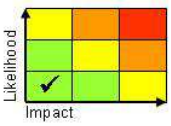
- Heavy monsoon rains continue across many parts of southern and eastern Asia, including a significant threat for Cox's Bazar in southeastern Bangladesh.
- Low, but increasing, likelihood of tropical storm formation in the Gulf of Mexico later this week.



DISCUSSION

Tropical Cyclones

Tropical Storm Cosme – eastern Pacific



Weather

Tropical Storm Cosme, which formed in the eastern Pacific Ocean during Saturday, will move west or northwest further out into open ocean through the coming week. Currently, 1-minute sustained wind speeds are around 50 mph and Cosme is expected to gradually weaken over the next couple of days before becoming post tropical.

Discussion

Marginal SSTs will probably maintain this tropical storm over the new few days, before a combination of cooler waters and higher wind shear, begin to weaken the system. Cosme poses no threat to land.

Expected Impacts

Any impacts will be limited to maritime activities.

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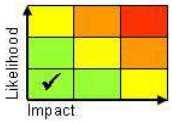
The following areas are being monitored for possible tropical cyclone development:

East North Pacific



Weather

There is potential for further tropical storms to form in this part of the Pacific Ocean through this coming week. Any systems that do develop will track westwards and remain over the open ocean.

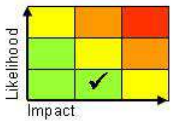
Discussion

Following the recent formation of Cosme, there remains a signal from all models for at least one more tropical storm development in this region along the ITCZ later this week, influenced by African Easterly Waves and the weak MJO.

Expected Impacts

Any impacts will be limited to maritime activities.

Gulf of Mexico



Weather

Areas of heavy showers and thunderstorms, in the Gulf of Mexico, are expected to gradually become better organised through this week and could eventually consolidate into a tropical storm. There is currently large uncertainty whether a storm will develop along with the location and intensity of such a development. If a tropical storm were to form, then this is most probable later this week and could impact the Gulf coastline of Florida round to New Orleans. Regardless of development, increasingly heavy rainfall is expected to affect the region this week – *see North America section.*

Discussion

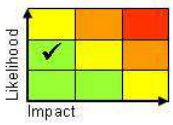
Initially an upper vortex will lead to widespread destabilisation of the high WBPT airmass over the region and allow intense and long-lived thunderstorms to break out. Later in the week, as the vortex weakens and vertical wind shear drops, the formation of tropical storm is increasingly likely in the region.

Expected Impacts

Impacts mainly from heavy rainfall, with flash flooding the primary hazard. Wind damage and coastal flooding would occur if a storm develops.

Europe

Southern Europe



Weather

Anomalously high temperatures are expected to continue though much of this week across the Mediterranean region. Temperatures are likely to remain around 5 °C above average through much of the coming 7 days, and could still reach 35-40 °C in places, with the focus gradually transferring from Italy and The Balearics to Greece. Thunderstorms will form in places each day, especially across areas of high ground, producing up to 30-50 mm of rainfall in a few hours, along with large hail, gusty winds and frequent lightning.

Discussion

There will continue to be a sharp north-south divide across Europe regarding airmasses, with the anomalous heat confined to southern parts. A zonal flow with embedded short wave upper troughs will produce a deep convective threat, especially with elevated heat sourced input.

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). Increased likelihood of wildfires. Flash flooding, large hail and damaging winds are possible where intense thunderstorms form.

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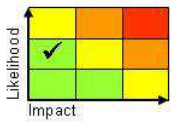
North America

Northern Plains of the USA and southern parts of central Canada



Weather

There is a significant threat of severe thunderstorms developing in this part of North America during the first part the week. These storms could produce 50-100 mm of rain in a few hours, along with frequent lightning, large hail and strong winds, with a tornado threat too.

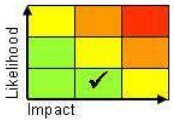
Discussion

The combination of an eastward travelling upper trough and a significant northward push of very high WBPT air will result in a significant likelihood of severe storms, with forecast profiles showing up to 4000J/Kg of CAPE and large vertical windshear.

Expected Impacts

Flash flooding looks likely in places, with potential for power and aviation disruption too. There is also a low likelihood of structural damage from high winds or tornadoes.

Southeastern USA and Gulf of Mexico



Weather

From Wednesday there is an increasing threat of widespread heavy showers and thunderstorms developing along the Gulf Coast of the southeastern USA, producing the potential for up to 200 mm of rain in a few days, equivalent to the rainfall for the whole of July. There is also a low probability of a tropical storm development just offshore in the Gulf of Mexico – *see tropical cyclone section for more details.*

Discussion

There is a reasonably strong signal for heavy rainfall in this region from the middle of next week, probably as a result of a cut-off vortex engaging a warm plume over anomalously warm seas in the northeastern Gulf of Mexico. It is worth noting that there is now a stronger NWP signal for a tropical storm development in the region later this week.

Expected Impacts

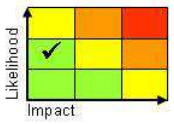
Flash flooding is the most likely impact, but with the low likelihood of minor wind damage and coastal flooding if a tropical storm develops.

Central America and Caribbean

Nicaragua, Costa Rica and Panama – see *South America* section.

South America

Western Colombia, Ecuador, Nicaragua, Costa Rica and Panama



Weather

Increased frequency of heavy showers and thunderstorms are expected in this region through much of the week, although Ecuador should see drier conditions from Tuesday. Up to a further 200 mm of rain could fall in places, which is in excess of an average monthly rainfall at this time of year in southern parts of Central America, and well above the average monthly rainfall further south, especially in Ecuador where it is now the drier season.

Discussion

The combination of an active MJO phase and the westward progression of African Easterly Waves will enhance seasonal rainfall in this region through this week. In addition the potential formation of Central American Gyre is signalled in southern parts of Central America, and these systems can lead to exceptional rainfall accumulations during the rainy season.

Expected Impacts

An enhanced threat of flash flooding and landslides will be the most likely impacts this week.

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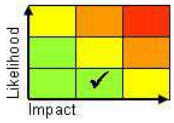
Africa

Central parts of Africa



Weather

There will be an increasing likelihood of more widespread heavy showers and thunderstorms as we go through the coming week across these central latitudes of Africa. Up to 75-100 mm of rain could accumulate in just a few hours, with a threat of strong winds. The strong winds could lift dense dust storms on the northern edge of this active shower region which still has a dry ground state.

Discussion

The advance of the MJO will likely help to enhance the convective rainfall across central latitudes of Africa along the ITCZ. This will result in more frequent and / or active African Easterly Waves, as well as a higher likelihood of large MCS events.

Expected Impacts

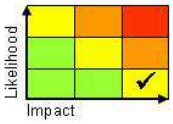
Flash flooding is the most likely impact, with a lower likelihood of wind damage. Dense dust storms on the northern edge of this region will produce hazardous air quality.

Middle East

Nil.

Asia

Bangladesh and western Myanmar



Weather

There is a significant threat of very heavy monsoon rainfall in this region during the coming week, with up to 750-1000 mm of rain (which is equivalent of a month's worth of rain) likely to fall in places during this period. Most places will see over 20-300 mm during this time. The rain will come in the form of very heavy showers and thunderstorms, and could produce 100 mm of rain in a few hours.

Discussion

The development of a monsoon low pressure system through the weekend across northern India will help to strengthen the very moist and unstable southwest monsoon flow into this region. There is a consistent signal from deterministic and ensemble output for a significant monsoon rainfall event in this region, and may significantly affect the Cox's Bazar humanitarian camps. There are differences in rainfall accumulations between models, with the GM tending to produce the higher rainfall totals, but also likely to be excessive.

Expected Impacts

There is an increased threat of flooding and landslides in this region, which included Cox's Bazar humanitarian camps. The vulnerability of these camps is thought to be much reduced compared to 12 months ago, due to the actions of international organisations. Measures taken to reduce vulnerability include the relocation of people from the more hazardous areas, re-vegetation programs to improve land stability, improved drainage/ water supply, and making materials available to improve shelters. As a result the likelihood of international resources (additional to those already present) being required to assist with the impacts of this event is assessed to be low.

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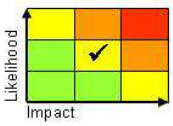
Northern and western India, Nepal and Bhutan



Weather

Heavy monsoon rain is expected in these locations through the coming week, with many areas seeing in excess of 200 mm, with up to 500 mm in places in a few days, which is equivalent to up to two months worth of monsoon rainfall in places.

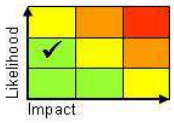
Discussion

The active phase of the Indian Summer Monsoon is expected to continue transferring north over the next week due to the MJO progression east from the Eastern Pacific into Africa. There is a strong model signal for a monsoon depression to slowly track west-northwest across northern India. Heavier and more frequent than normal showers/thunderstorms across the far west of India is likely to weaken as the south-westerly monsoon gradient eases (another MJO teleconnection).

Expected Impacts

Torrential rain will increase the threat of flooding and landslides.

Southern China and south-western Japan



Weather

Torrential rain and severe thunderstorms associated with the seasonal rains will affect this region through much of the week ahead, with 150-250 mm widely, locally as much as 500 mm falling. 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.

Australasia

Nil.

Additional information

Parts of S and Central Alaska are experiencing a significant heat wave with temperatures in some places reaching the low to mid 30's of Celsius – Bethel Airport in the far southwest reported a maximum of 35ºC on Saturday. Temperatures are expected to continue running at 15 to locally 20ºC above normal, with further maxima into the mid 30's over the next few days. The heat may trigger some thunderstorms, and brings a significantly increased risk of wildfires.

Issued at: 070550 UTC **Meteorologists** Brent Walker / D J Harris **Global Guidance Unit**

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