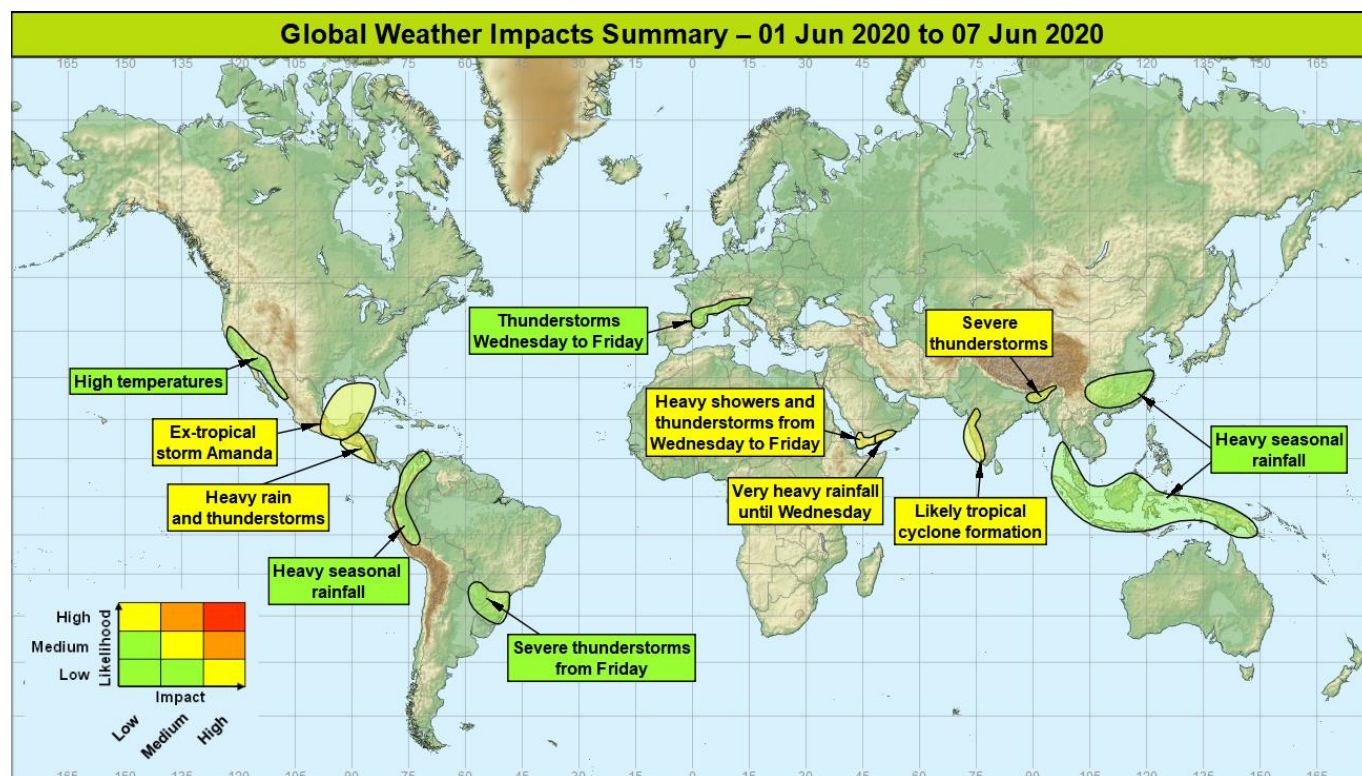


Global Weather Impacts – Monday 1st to Sunday 7th June 2020

Issued on Monday 1st June 2020

HEADLINES

- Heavy rainfall affecting southwestern Oman and parts of Yemen this week.
- Heavy rainfall across parts of Central America with potential tropical storm development in the Gulf of Mexico at the weekend.
- Tropical cyclone likely affecting western India this week.
- Further heavy rainfall and thunderstorms for Northeast India, Bhutan and northern Bangladesh,



DISCUSSION

Tropical Cyclones

Ex-tropical storm Amanda (Southern Mexico, northern Guatemala, Belize and Gulf of Mexico)

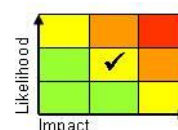
Weather

An area of showers and thunderstorms just south of Guatemala developed into tropical storm Amanda on Sunday just prior to landfall. The storm then quickly decayed into a remnant low once across Guatemala and southeast Mexico overnight.

This system is expected to remain slow moving through much of the coming week, perhaps emerging over the southeastern Bay of Campeche in the next day or so, leading to the possibility that this system may redevelop.

Regardless of any redevelopment, very heavy rainfall is likely to continue over portions of southern Mexico, Guatemala and Belize during the next 5 days, with widespread 150-300mm accumulating (around the average rainfall for the whole of June), and peak totals of up to 1000mm by the end of the week.

Through the weekend there is the potential for this system to develop further and track north into the Gulf of Mexico. This would ease the rainfall to the south, but bring a threat of very strong winds and very rough seas.



This forecast may be amended at any time

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Discussion

A Central American Gyre over the eastern North Pacific has led to a broad cyclonic circulation across parts of southern Mexico and Central America. Winds around the gyre continue to advect abundant moisture into portions of Central America and southeastern Mexico. This will help maintain the activity of the remnants of tropical storm Amanda in the coming week. There remains some uncertainty as to whether any redevelopment of this system takes place if it moves across the Bay of Campeche, but nevertheless further heavy rainfall and thunderstorms are expected to lead to some significant impacts. There is a growing model signal for this system to be steered north ahead of an extending upper trough, perhaps resulting in a developing tropical storm in the Gulf of Mexico this coming weekend.

Expected Impacts

Flash flooding and mud/landslides, especially in area of mountainous terrain. Dangerous sea conditions looks likely if a tropical storm develops in the Gulf of Mexico this weekend.

The following area is being monitored for potential development:

Eastern Arabian Sea (Western India)

Weather

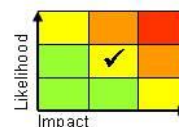
An area of heavy showers and thunderstorms currently located offshore to the west of Goa will be steadily steered northwards and is likely to develop into a tropical cyclone within the next 24 hours. This cyclone looks most likely to make landfall close to Mumbai On Wednesday or Thursday as a Severe Cyclonic Storm with sustained wind speeds of around 70 mph on landfall. Heavy rainfall will be seen along the coastal areas of western India, with widespread accumulations of 200mm and peak totals of 500mm. A modest storm surge is also possible.

Discussion

Satellite imagery continues to highlight an area of enhanced convection west of Goa associated with an Equatorial Rossby Wave that has now developed into a tropical depression. This is expected to intensify further as it moves across SSTs exceeding 30°C and an environment of lowering wind shear to become a tropical cyclone in the next few days. Once formed the cyclone is most likely to move N, then curve NE'wards to make landfall close to Mumbai on Wednesday or Thursday.

Expected Impacts

Flash floods and landslides look the most likely impacts, but with a threat of damaging winds close to the landfall location of this system. Hazardous maritime conditions can also be expected, with a lower threat of coastal flooding for any storm surge.



Europe

Northeast Spain, southern France, northern Italy and Slovenia

Weather

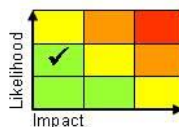
Heavy showers and thunderstorms will develop across northeastern Spain later on Wednesday, transferring into southern France and northern Italy through Thursday as they become more widespread and perhaps severe. Through Friday the heavy showers and thunderstorms are then expected to transfer east into Slovenia before become less significant as they clear to the east.

Rainfall totals look most significant for parts of northern Italy, with up to 150mm possibly falling in just 24 hours, which is around the average rainfall for the whole of June. As well as heavy rainfall, frequent lightning, hail, and locally strong wind gusts are likely, with storms likely persisting well into the night-time period.

Discussion

A major upper trough extensions/disruptions will take place across western Europe towards the middle of this week, engaging the resident warm plume. This will generate an area of significant destabilisation leading to frequent, and potentially severe thunderstorms. Whilst there are inevitable model differences at this range there is a consistent signal for this broad evolution.

Expected Impacts



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Some disruption to transport, homes and businesses is possible given the potential for localised flash flooding.

North America

Southwest USA, northwest Mexico

Weather

Temperatures in excess of 40°C are expected across this area over the next few days, initially in the south of the highlighted region but expanding towards California. Higher than normal temperatures and enhanced fire weather conditions are expected widely across the western US over the next few days, but the area highlighted is expected to experience the highest of these.

Discussion

A broad plume of warm air and associated ridging will affect parts of western US in the coming week. Whilst high temperatures are not too unusual in this part of the world, the prolonged nature of temperatures 5-8°C above normal may begin to cause impacts.

Expected Impacts

Heat stress impacts on vulnerable populations and livestock. Increased risk of wildfires.



Central America and the Caribbean

Southern Mexico, northern Guatemala and Belize— see *Tropical Cyclones* section.

Southern Guatemala, El Salvador, southern Honduras and western Nicaragua

Weather

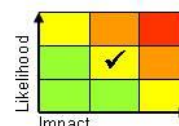
Heavy rain and thunderstorms is expected to affect this region in the coming week, with up to 400mm of rainfall in places by the end of this week. The average June rainfall in this region is 150-300mm.

Discussion

A Central American Gyre over the eastern North Pacific has led to a broad cyclonic circulation across parts America. The very moist winds associated with the gyre will enhance the heavy rain and thunderstorm activity in the coming week.

Expected Impacts

Flash flooding and mud/landslides, especially in area of mountainous terrain.



South America

Western Colombia, eastern Ecuador, and far west of Venezuela

Weather

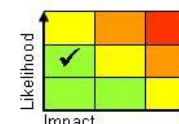
Enhanced heavy shower and thunderstorm activity is expected over the week. Each day there is a chance of 50-100 mm falling within a short period in places. The wettest areas are likely to be west of the Andes in Colombia and east of the Ecuadorian Andes with locally 200-300 mm of rain building up in the wettest areas.

Discussion

The MJO has now departing this region, which until now has helped to enhance convection. As such, there is likely to be a gradual downward trend in shower activity through this coming week, but models consistently signal around 200-300mm in the wettest locations. Whilst this is typically the wettest time of the year, parts of this region have been especially wet over the past few weeks and months, and observed rainfall anomalies for the last 7-days are 125-150%

Expected Impacts

Slightly heightened threat of flash flooding and landslides than normal for the time of year.

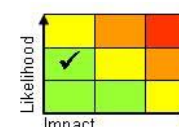


Eastern Paraguay, far northwest Argentina and far south of Brazil

Weather

An area of heavy rain and thunderstorms is likely to become more significant from Friday, with up to 50-100mm perhaps falling in some places in a 24 hour period.

Discussion



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A slow moving baroclinic zone will remain slow moving this week across the region, but will become much more active later this week as an upper trough disrupts to the south, with the resultant vortex slowly tracking east across the region.

Expected Impacts

Flash flooding is possible later this week with a threat of landslides in more mountainous areas.

Africa

Nil significant.

Middle East

Southwest Oman and southeast Yemen

Weather

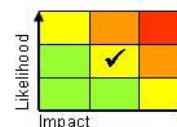
A tropical disturbance will slowly move westwards across the southeast of Yemen through the next 2 or 3 days, resulting in the very heavy rainfall transferring westwards during this period. In the last few days this has primarily impacted southwestern Oman with Salalah reporting over 200mm of rain in the last few days. Through the coming few days the south of the Hadramaut region of Yemen will see the focus for the heaviest rainfall, with up to 500mm of rain likely to accumulate. This is a very dry part of the world, with the average June rainfall of just around 15mm suggesting that this is a rare event. Through the rest of the week the system will weaken as it tracks further west.

Discussion

An Equatorial Rossby Wave has moved west over the Arabian Sea and formed a tropical depression forming near the coast of southwest Oman. The seasonal Somali low-level jet has become established and is likely helping to focus moisture in this disturbance. Orographic enhancement this region has led to some extreme rainfall in the last few days across parts of southwest Oman. There is good model agreement for the system to will be slowly steered away south-westwards whilst degrading, but the remnants providing significant moisture and instability to generate heavy daily showers and thunderstorms as it moves across eastern and southern Yemen. There is poorer model agreement for the precip details of this degrading system with the UKGM looking a little too slow and too weak with the westward transfer of the precip signal.

Expected Impacts

Flash flooding has already been reported across this region, with further significant flash flooding expected.



Western Yemen

Weather

Increasingly heavy showers and thunderstorms are expected to develop across this part of Yemen from Wednesday as the remnants of the tropical disturbance (see above) move westwards. Up to 50-80mm of rain is likely to fall in the heaviest showers, with 2 or 3 days of enhanced shower activity expected until the end of the week.

Discussion

The remnants of the tropical disturbance described in the previous section will be drifting across this region come mid-week. Whilst rainfall is not expected to be as heavy (hence the lower impact assessment), daily heavy showers and thunderstorms are expected at what is generally an increasingly dry time of the year.

Expected Impacts

Threat of flash flooding and landslides will be increased compared to what is usual at this time of year.



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Asia**Northeast India, Bhutan and northern Bangladesh****Weather**

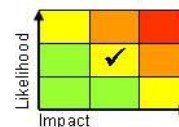
Severe thunderstorms are expected to continue to affect this region over the coming week. Many areas are likely to receive in excess of 150mm of rain per day during this time, with locally in excess of 400mm possible to the north of Dhaka. In addition to heavy rainfall, damaging hail, strong winds and a few tornadoes are possible. Shower activity may begin to decline towards the end of this period.

Discussion

Persistent moisture advection from the Bay of Bengal and minor disturbances embedded within the westerly upper flow south of the Himalayas will provide a highly supportive environment for severe convection with a combination of high instability and high shear in the coming week.

Expected Impacts

Although this region commonly experiences heavy rainfall at this time of year, this follows the recent passage of Cyclone Amphan and rainfall amounts over the next few days will continue to be above average. Flooding and landslides are probable. Crops, property and infrastructure could also see further damage.

**Southern China****Weather**

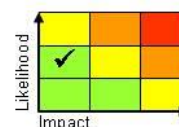
Heavy rainfall is expected over the coming week associated with the seasonal Mei-yu front. Some places are likely to see 100-150mm per day in association with heavy and persistent rain across quite a wide area of central and southern China. 300-500mm of rainfall are most likely in total across the worst affected areas.

Discussion

Increasing southerly flow into South China will enhance moisture and wind convergence associated with the seasonal Mei-yu front, leading to episodes of heavy rain and thunderstorms. Whilst the upper flow is not especially conducive so large scale development, a number of short-waves embedded within the flow will continue to trigger rainfall across a similar area along the quasi-stationary front, leading to large rainfall accumulations building up.

Expected Impacts

Risk of flash flooding, and localised landslides will be the primary impact.

**Southern Thailand, Malaysia, Singapore, Indonesia and Papua New Guinea****Weather**

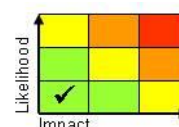
Showers and thunderstorms are expected to be a little more frequent than normal across the region this week. Parts of Borneo, Sulawesi and Papua in Indonesia are most likely to receive above average rainfall during this period.

Discussion

The MJO is now analysed in Phase 1 which would typically see suppressed convection over the Maritime Continent. However above average rainfall is still signalled, and this may be due to SSTs being widely a degree or so above average.

Expected Impacts

Slightly increased likelihood of flash flooding and landslides, particularly given recent impacts in East Kalimantan, West Java, South Sumatra and East Nusa Tenggara over recent weeks.

**Australasia**

Nil.

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Additional Information

Cox's Bazar, southeast Bangladesh

There will be a threat of a heavy shower or thunderstorm most days, especially through the next few days, but with only a low likelihood of any flash flooding impacts. This activity is likely to be well below what is usually expected for early June.

Western Yemen

See section in main text

Tristan da Cunha

Strong to gale force westerly winds (gusts to 50mph) will soon ease today as a major low pressure area moves away to the south-east. Further strong winds are likely in association with another deep area of low pressure from later on Tuesday through to the end of Thursday, but these winds are not expected to be as strong as they are at present.

Issued at: 010710UTC **Meteorologist:** Tony Wardle / Paul Hutcheon **Global Guidance Unit**

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