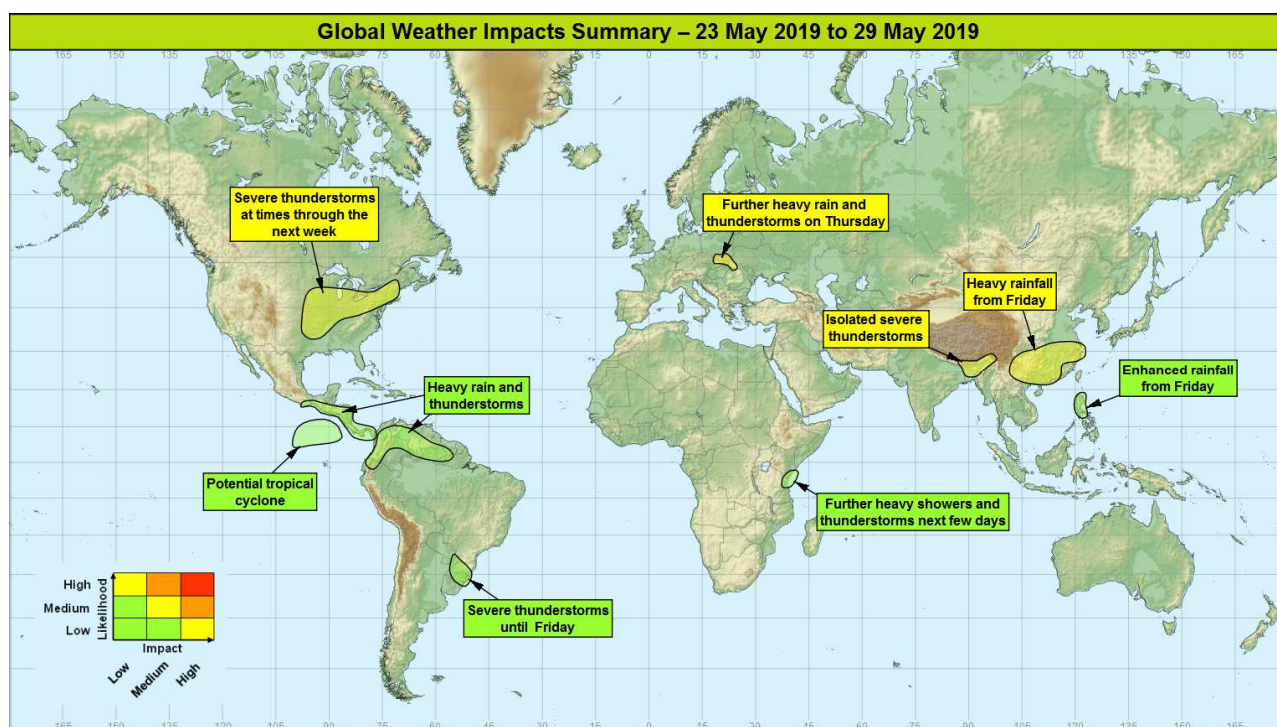


Global Weather Impacts – Thursday 23rd to Wednesday 29th May 2019

Issued on Thursday 23rd May 2019

HEADLINE

- Severe thunderstorms at times through the next week across central parts of the USA.
- Heavy rain for parts of Central/Eastern Europe continues through Thursday.
- Very heavy seasonal rains across southern and central China.
- Severe storms for parts of Bangladesh and Northeast India.



DISCUSSION

Tropical Cyclones

There are no active tropical cyclones currently. The following areas are however being monitored for tropical cyclone development:

Northeast Pacific Weather

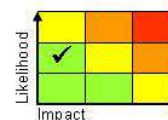
An area of persistent shower and thunderstorm activity just west of the Nicaraguan coastline may gradually develop through the weekend, with a low risk of a tropical storm forming in this area by next week.

Discussion

Shear instability along the ITCZ has resulted in the development of a shallow depression. ERW shed in the wake of the recent MJO should help to organise thunderstorm activity around it, and in co-operation with the favourable oceanic and atmospheric conditions may allow the gradual development of a tropical storm.

Expected Impacts

Regardless of whether a tropical storm forms or not, heavy, organised showers on the eastern flank of the system will bring an enhanced flash flood risk to parts of the Central American Pacific coastline. No wind impacts expected.



This forecast may be amended at any time

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Europe**Southern Poland, parts of Czech Republic and Slovakia, south-west Ukraine and northwest Romania****Weather**

Rain and thunderstorms are expected across many parts of eastern Europe through the rest of the week. The border of Poland and Slovakia looks like being the focus for the most persistent rain and thus highest rainfall totals; Bielsko-Biala reported 81mm of rain to 0600 GMT Thursday, and a further 20-30 mm is expected in the next 24 hours, taking the event total above 100mm (around 125-150% of the average May rainfall in this region) and exacerbating the flooding impacts there. Heaviest rain on Thursday is likely to fall a little further E, with a further 50-70mm on top of the 20-30mm which fell yesterday. Rainfall should steadily ease through Friday and into the weekend.

Discussion

A complex upper vortex is engaging a warm plume across eastern Europe, bringing a persistent area of heavy rainfall with embedded convection, with bands of organised showers and thunderstorms in the warm air to its east. Persistent NW'ly flow onto the north facing slopes of the Tatra mountains is adding significant orographic enhancement. The vortex will only gradually decay and withdraw south-eastwards, with the rainfall expected to persist over the next couple of days before fading and moving out of the region.

Expected Impacts

Flash flooding is the highest threat, with a lower likelihood of river flooding in the region. Danger to life and property. Severe travel disruption and loss of power, communication and utilities is possible. Lower threat of land slips in the more mountainous parts of the Poland/Czech Rep./Slovakia border.

**North America****Central parts of the USA****Weather**

There is a continued threat of severe thunderstorms in the central portion of the USA through the next 7 days. Whilst not everywhere in this region will see thunderstorms each day, there will be a significant severe thunderstorm threat in this region each day. These storms will produce very strong winds, large hail and tornadoes, with up to 150 mm of rain falling in a 24 hour period in places, and up to 300 mm of rain possible in a few places through the next week, which is around twice the average May rainfall in this region.

Discussion

A series of upper troughs will sweep east across the Rockies before relaxing northeast across the Great Lakes through the next week, with the upper forcing engaging a marked baroclinic zones and the pre-frontal broad warm sectors (850hPa of over 22°C) that contains the S'ly flow (low level jet). This setup will produce CAPE in excess of 2500J/kg at times, with marked shear providing the ingredients for severe convective outbreaks. This central region of the USA has already seen widespread river flooding through the last few months due to large snowpack melt and anomalously heavy rainfall. So further heavy rains will just exacerbate this impact.

Expected Impacts

Flash flooding, large to extremely large hail, damaging winds and strong tornadoes are all likely. Disruption to infrastructure as well as transport disruption across the area (including major disruption to aviation) can also be expected. The longevity of this event increases the likelihood of significant population centres being impacted. Another impact could be larger scale river flooding due to already very high river levels through the central part of the USA.



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Central America and Caribbean

Southwest Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama

Weather

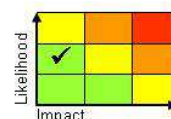
Showers and thunderstorms are likely to remain frequent and persistent across the area over the next 5 days. 50-100 mm of rain could fall locally daily, with some areas seeing accumulations of 250 mm of rain. For context, the average rainfall total for Acajutla (Pacific coast of El Salvador) for May is 168.8 mm.

Discussion

The MJO will continue to propagate E across the western hemisphere, ramping up convection as it does so. Activation of the ITCZ looks like being most marked along the Pacific coast of parts of Central America, and it is here that forecast profiles support deep convection. Large amounts of precipitable water are available, as well as copious amounts of CAPE (3000J/kg); the heaviest precipitation this week looks to be associated with the potentially enhanced flow ahead of the potential tropical storm development area.

Expected Impacts

Flash-flooding, landslides in what is a mountainous area and gusty winds are all likely. However, heavy rainfall in this region is also good news due to the drought that is being experienced in this part of Central America.



South America

North Ecuador, Colombia, Venezuela, Guyana, Suriname

Weather

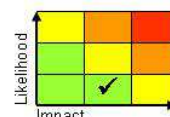
Heavy seasonal rainfall is expected across this region through the coming week with daily rounds of frequent heavy showers and thunderstorms. Where the showers occur most frequently a further 300-400 mm of rain could accumulate, which is close to the average for the whole of May in the wetter Colombian sites.

Discussion

Good model agreement for another spell of heavy seasonal rainfall towards the end of what has been an active rainy season in this region. This active period of weather is likely to be due to the passage of the MJO.

Expected Impacts

Further flash flood and landslide events seem increasingly likely through next week, threatening transport infrastructure and settlements in the region.



Southeast Brazil and the far east of Paraguay

Weather

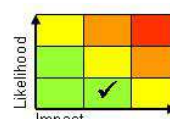
Heavy showers and severe thunderstorms will affect this region for the next few days. Whilst not all areas will see the most intense rainfall each day, 50-100 mm of rain could fall in places within a few hours. The average rainfall in this region for May is 100-200 mm.

Discussion

The South Atlantic Convergence Zone will remain active for the next few days, with a combination of short wave upper trough and the warm WBPTs triggering deep convection across this area.

Expected Impacts

Localised flash flooding and increased chance of landslides in mountainous areas. Large hail, strong winds and frequent lightning are additional hazards which may cause damage to property and disruption to transport and utilities. Parts of this region have seen a wetter than usual rainy season, and so further rainfall could result in river flooding.



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Africa

Northeast Tanzania and southeast of Kenya

Weather

Heavy seasonal rains will continue until Friday, with numerous showers and thunderstorms drifting into coastal regions off the Indian Ocean, bringing a potential further 50-100 mm of rain per day. There is a small chance that Mombasa and surrounding areas could see over 200mm through today (Thursday). Over the last few weeks these areas have been much wetter than average (receiving 200-300% of average rainfall amounts). Most of the heaviest rain will be offshore but some of the coastal cities and islands in this region will also continue to see enhanced rainfall. There are signs that showers will ease as we go into the weekend.

Discussion

The inter-tropical convergence zone will maintain the focus for frequent heavy showers and thunderstorms across this region. Steady south-southeasterly flow to the south of the ITCZ (associated with developing monsoonal flow in the Indian Ocean Basin) will contribute to the enhancement of showers and thunderstorms in this region. The anomalously warm west Indian Ocean SST's (developing positive IOD state) will also play a part. The weakening of the rains could be associated with the Equatorial Rossby Wave moving west into Africa through the weekend.

Expected Impacts

Further flash flooding and damage to property and infrastructure is possible in large cities like Mombasa, and a lower prob Dar es Salaam, plus the popular tourist destination of Zanzibar.



Middle East

Nil significant.

Asia

Northeast India, Bhutan and northern Bangladesh

Weather

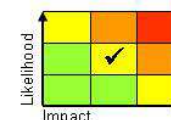
Severe thunderstorms are likely to affect the region during the next week. As well as intense rainfall (up to 100 mm daily although many areas will miss the heaviest rain), large hail and strong winds are possible.

Discussion

Various shortwave upper troughs moving northeast in the sub-tropical jet over northern India and Nepal will lead to destabilisation of the airmass and the development of diurnal thunderstorms. High CAPE and vertical wind shear will aid the development of severe, long-lasting storms, with hail and strong winds additional hazards.

Expected Impacts

Danger to life. Localised flash flooding and increased chance of landslides in mountainous areas. Large hail, strong winds and frequent lightning are additional hazards which may cause damage to property and disruption to transport and utilities. The Bangladeshi capital, Dhaka, could see severe storms and so is at threat of seeing flash flood, strong wind and large hail impacts.



Southern and central China, far north of Vietnam

Weather

Very heavy rainfall is expected to affect parts of southern and central China from Friday, with over 200 mm possible in 24 hrs. In some areas this could lead to event totals of 350 mm. This would be over the average monthly rainfall for May (which is 150-300 mm). This rainfall is an active pulse of the seasonal Mei-yu rains, and will see severe thunderstorms in places, that could produce large hail, very strong winds and frequent lightning.

Discussion

There is good model agreement for an upper trough to engage a surface warm plume from Friday. This will destabilise the plume, resulting in large CAPE / vertical wind shear profiles that also contain a signal for a low level warm nose above a shallow moist zone. These are ingredients for severe convection.



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Expected Impacts

Flooding and flash flooding are likely to be the main impacts, especially in urban areas. However, there will be an increased likelihood of landslides, with a threat of impacts on the power network from frequent lightning, and structural damage from large hail and very strong winds.

Northern Philippines (Luzon)

Weather

Enhanced showers and thunderstorms in the prevailing moist easterly flow are likely to develop and spread across the northern Philippines (particularly eastern Luzon), with potential for 200-300mm over the course of a few days. This is around twice the average for May, and approaching the maximum recorded May rainfall in this area (Tuguegarao)

Discussion

A cold front will move south into Luzon through the next 4 days, with a low latitude upper trough enhancing frontal precip.

Expected Impacts

Some flash flooding is possible, with impacts should the heaviest showers fall over urban centres. Manila will be spared the worst of the showers with shelter from the easterly wind.



Australasia

Nil significant.

Additional information

Nil.

Issued at: 230715 UTC **Meteorologists:** Paul Hutcheon / D J Harris

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