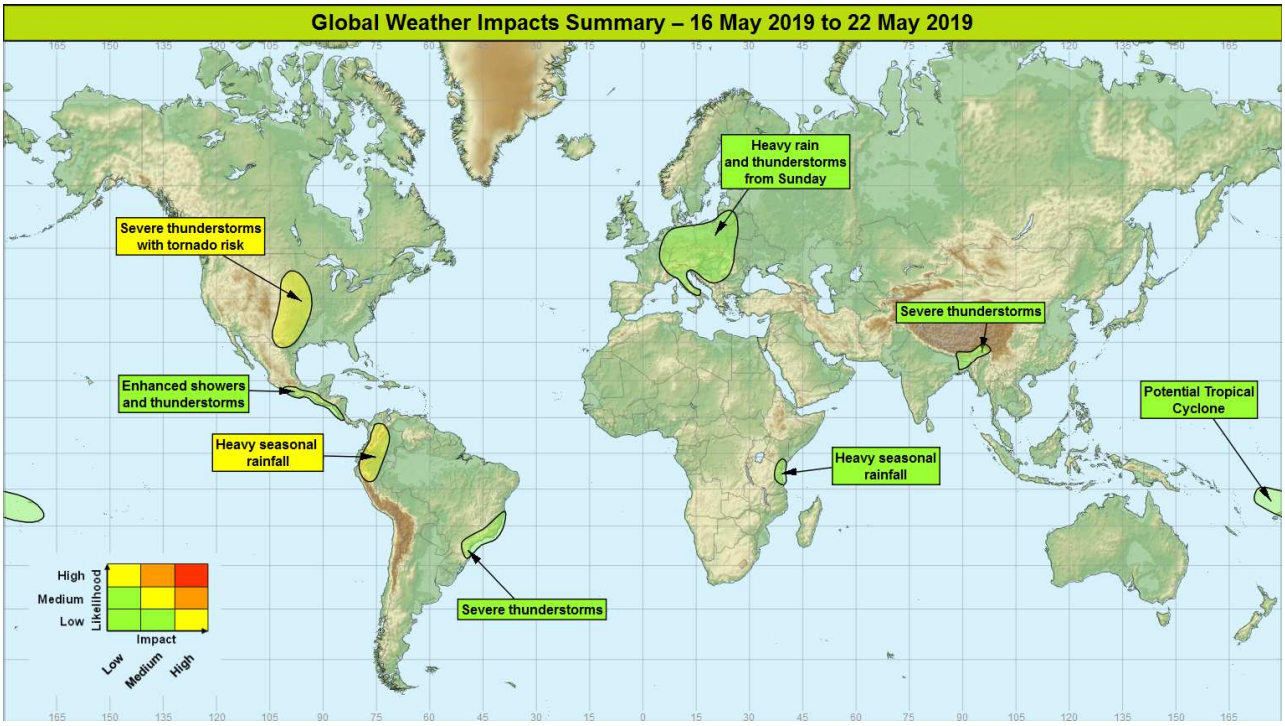
Daily Global Weather Impacts Assessment

Global Weather Impacts – Thursday 16th to Wednesday 22nd May 2019

Issued on Thursday 16th May 2019 – CORRECTION TO GRAPHIC

HEADLINES

- Heavy seasonal rainfall across the northwest of South America.
- Severe thunderstorm and tornado outbreak into the weekend across the central and southern Plains of the US.
- Increase in thunderstorm intensity and coverage across Europe from late this coming weekend.

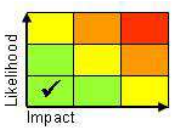


DISCUSSION

Tropical Cyclones

There are no tropical cyclones at time of issue.
However the following area is being monitored for a potential tropical cyclone:

Southwest Pacific (Tuvalu, Fiji, Samoa)



Weather

A cluster of thunderstorms over the open ocean approximately 1000km north-west of Fiji could organise into a weak tropical cyclone over the next few days.

Discussion

Ensemble output highlights this area as having increased potential for tropical cyclogenesis over the next few days. The signal from the global deterministic models is rather muted – should a cyclone develop it is likely to be weak in terms of wind but some output suggests significant rainfall for the islands in the region, with over 200mm being signalled for Samoa.

Expected Impacts

Should a cyclone develop, it is most likely to stay over open water and be relatively weak. The main impact would be from heavy rain and attendant increased risk of flash flooding.

This forecast may be amended at any time
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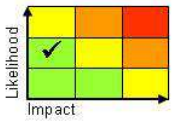
Europe

Much of central, then western Europe from Sunday



Weather

Areas of heavy rain and organised thunderstorms are expected to develop across eastern Europe on Sunday, before spreading west to affect many other parts of mainland Europe into next week. 25-50 mm of rain is likely widely, with some areas, particularly higher ground, seeing 75-125 mm. Much of this precipitation will fall in relatively short periods of time.

Discussion

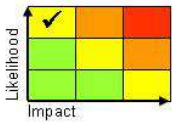
The recently dominant upper high is signalled to be eroded/displaced to the NE through the weekend, with a major upper trough becoming established by the end of Sunday. At low-levels, persistent ESE'ly will likely draw increasingly warm and moist air W across many parts of Europe, reaching France early next week. The combination of a cyclonic upper pattern along with high theta-W, and plentiful CAPE would lead to widespread heavy showers, with the threat of severe thunderstorms at times.

Expected Impacts

Flash flooding is likely in places. Thunderstorms are also expected to be associated with frequent lightning and a threat of hail. Potentially significant disruption to aviation, both for airport hubs as well as transit across the area, is possible.

North America

Central and southern Plains of the US, from central Texas to Nebraska



Weather

Increasing risk of severe thunderstorms from Saturday onward, with damaging winds, large hail and tornadoes as an area of low pressure develops, and then tracks north-east across the central United States. Where the most severe storms develop, 150-250 mm of rain can be expected.

Discussion

A major trough extension and then disruption across the Desert Southwest is expected to phase in with marked baroclinicity on its forward side late this week. The low (unusually deep for May: sub-995hPa) is then expected to track NE across the central US. Within the broad warm sector, predominant S'ly flow is signalled to draw theta-W in excess of 23°C N. As upper lapse rates increase, CAPE in excess of 2000-2500J/kg is likely. Add to this marked shear, and all the ingredients are there for a severe convective outbreak.

Expected Impacts

Flash-flooding, large to extremely large hail, damaging winds and tornadoes are all likely. Disruption to infrastructure as well as transport across the area (including large cities such as Dallas) can also be expected. There is a high likelihood of low impacts (requiring regional resources) within this area, and a low risk of medium impact events (requiring national resources) if any particularly severe storms and/or tornadoes impact any significant population centres.

Central America and Caribbean

Far north of Mexico – *see North America section.*

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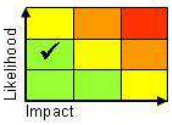
South-eastern areas of Mexico, Guatemala and El Salvador, as well as southern Honduras



Weather

Showers and thunderstorms are likely to become more numerous and persistent across the area over the next few days, lasting into next week. 50-100 mm of rain could fall locally daily, with some areas seeing 250-300 mm of rain by the end of the period. For context, the average rainfall total for Acajutla (Pacific coast of El Salvador) for May is 168.8 mm.

Discussion

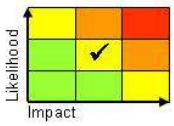
The MJO is expected to continue to propagate E across the tropical Pacific, ramping up convection as it does so. Activation of the ITCZ looks like being most marked along the Pacific coast of parts of Central America, and it is here that forecast profiles support deep convection. Large amounts of precipitable water are available, as well as copious amounts of CAPE (3000J/kg).

Expected Impacts

Flash-flooding, land-slides in what is a mountainous area, large hail and gusty winds are all likely.

South America

Colombia, Ecuador, and Peru



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.

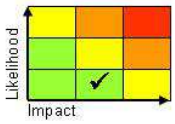
Discussion

Good model agreement for another spell of heavy seasonal rainfall. This active period of weather is likely to be due to the passage of a Kelvin wave followed by the MJO across the region.

Expected Impacts

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

Southeast Brazil



Weather

Heavy showers and severe thunderstorms will continue across parts of southeast Brazil over the coming week. Each day the focus of the heaviest rainfall should tend to drift northwards. 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 over the coming days. SSTs will be sufficiently high to trigger deep convection and with an onshore flow this will mean the heaviest and most frequent rain will tend to be focused near the coast.

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. Although exactly where the heaviest rain will fall is uncertain the area does include the most densely populated parts of Brazil (includes Sao Paulo and Rio de Janeiro).

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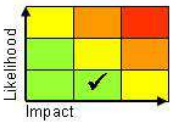
Africa

Eastern parts of Tanzania and Kenya



Weather

Heavy seasonal rains continue, with numerous showers and thunderstorms drifting into coastal regions off the Indian Ocean. Some large rainfall totals have been reported in recent days, and whilst some heavy rain will continue across eastern parts of Tanzania and southern Kenya over the coming week, rainfall totals are likely to ease to some degree compared to the last week or so.

Discussion

The inter-tropical convergence zone will maintain the focus for frequent heavy showers and thunderstorms across eastern Tanzania and the extreme southeast of Kenya. Increasing south-westerly flow to the south of the ITCZ, associated with developing monsoonal flow in the Indian Ocean Basin, will also contribute to the enhancement of showers and thunderstorms in this region, but models are consistent in taking the worst off the showers offshore by Tuesday.

Expected Impacts

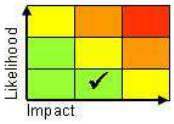
Further flash flooding and damage to property and infrastructure in large cities like Dar es Salaam and Mombasa, plus the popular tourist destination of Zanzibar.

Middle East

Nil significant.

Asia

Northeast India, Bhutan, northern Bangladesh and northern Myanmar



Weather

Severe thunderstorms are likely to affect the region during the next week. As well as intense rainfall (up to 150mm daily although many areas will miss the heaviest rain), large hail and strong winds are possible.

Discussion

A slow-moving upper trough over northern India and Nepal will lead to destabilisation of the air mass 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

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.

Australasia

Nil significant.

Additional information

Nil.

Issued at: 160810 UTC **Meteorologists:** Jason Kelly / D J Harris **Global Guidance Unit**

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