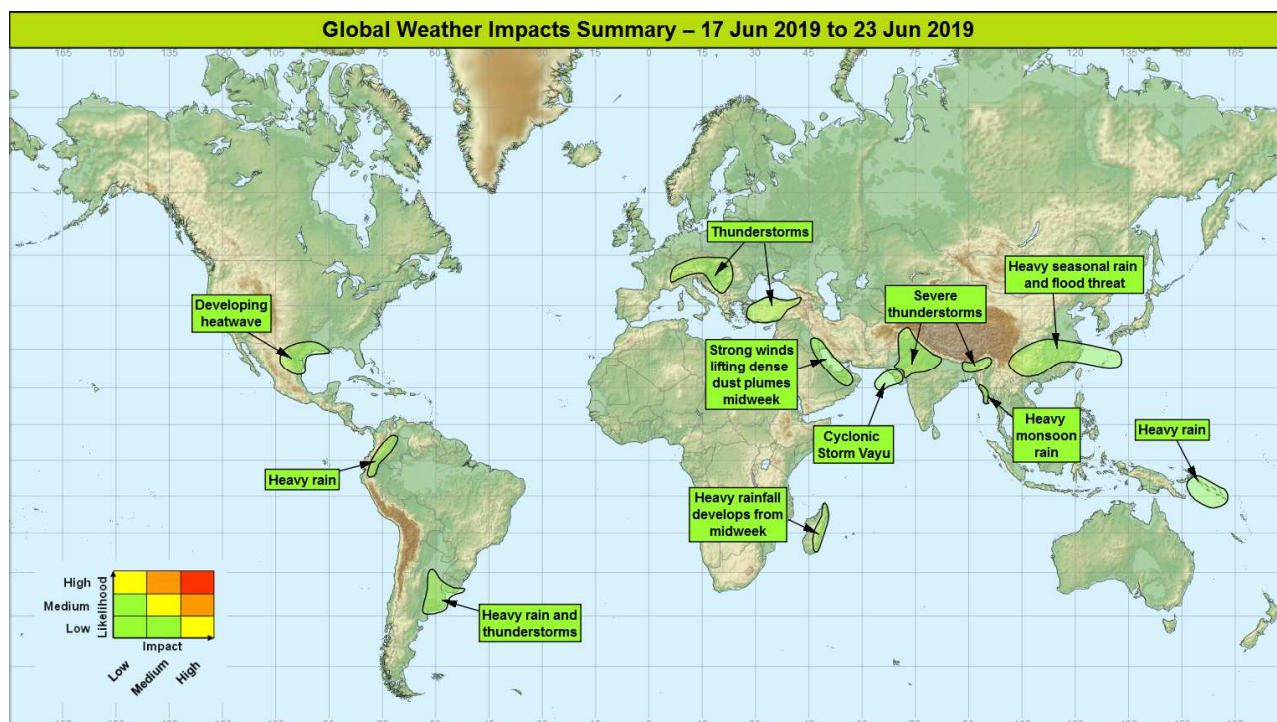


Global Weather Impacts – Monday 17th to Sunday 23rd June 2019

Issued on Monday 17th June 2019

HEADLINES

- Cyclonic Storm Vayu weakens further, with remnants moving inland across Pakistan & India.
- Heavy monsoon rainfall is expected to develop across western Myanmar this week.



DISCUSSION

Tropical Cyclones

Cyclonic Storm Vayu – Arabian Sea, including north-western India

Weather

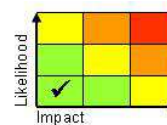
Vayu continues to weaken as it pushes northeast and is expected to shortly decay into a depression over the next 6 to 18 hours as it makes landfall across northwestern parts of India. The remnants of the system will then be drawn north across parts of Pakistan and northwest India, acting to allow thunderstorm to break out here (see Asia section for further details).

Discussion

Due to strong vertical winds shear and entrainment of dry air Vayu is now rapidly weakening, and as such is increasingly being steered northeast by the low level southwesterly trade winds in this region. As the remnants of the system are steered into Pakistan and northwest India, the injection of mid-level moisture will allow severe storms to break out here.

Expected Impacts

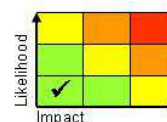
Fairly large waves generated by the storm will continue to affect the coastline of Gujarat for the next day or two.



Europe

Parts of Central and Southeastern Europe

Weather



This forecast may be amended at any time

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Although many parts of Europe will experience thunderstorms at times through the coming week, the two areas identified will see the most frequent severe thunderstorms this week. Although many places will only see 15-30mm of precipitation, some spot locations could see in excess of 100mm, with most of this likely falling in a short space of time.

Discussion

With high WBPT air in place across much of central and southeast Europe, and various elements of upper forcing running across these regions the outbreak of heavy, locally severe thunderstorms is likely through this region over the coming week. Given the combination of high precipitable water, and large CAPE, there is scope for significant rain/large hail.

Expected Impacts

Localised flash flooding along with power outages and disruption to the transport networks (especially aviation) is possible. Strong wind gusts and large hail is likely to cause localised disruption to transport and damage to crops, some buildings and vehicles.

North America

Texas, Louisiana and northeast Mexico

Weather

A heat wave develops across this region over the coming days, and continues through the week with the peak in temperatures currently signalled to be Thursday or Friday. Parts of Texas and northeast Mexico could see temperatures reach the mid-40s°C, threatening some locations maximum June temperature records.

Discussion

An upper ridge amplifies over this region over the coming week, with a marked heat low eventually able to form over the southern Rockies in response to strong insolation. Trajectories show warm advection bringing air northwards from central Mexico, but also air descending from 400hPa to the boundary layer over coming few days. This method of adiabatic heating of the descending air has been shown to be a major source of heat in several record breaking heat waves in recent years.

Expected Impacts

Heat stress likely to adversely affect vulnerable and exposed (no access to air conditioning) people. Additional impacts likely for livestock and crops in the region.



Central America and Caribbean

Northeast Mexico: See North America section.

South America

North Peru, Ecuador and Colombia

Weather

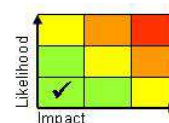
A continuation of the wetter than normal seasonal rains over northwest South America is expected, with a further 200 mm likely in some places. The highest rainfall totals most likely over east facing slopes of the Andes mountains in Colombia.

Discussion

The ITCZ remains active in the areas, with a series of African Easterly Waves helping to maintain activity along it, and through this area for the next week. The Andes will likely aid lift, resulting in orographically focused rain totals.

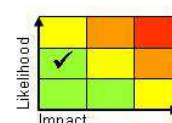
Expected Impacts

Further flash flooding and landslides are likely in this region, along with the potential for river flooding.



Uruguay and northeast Argentina.

Weather



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Heavy rain with some embedded thunderstorms will continue across the region for the next 36 hours or so. Some areas will experience an additional 50-100mm of rainfall, although this not untypical for areas surrounding the River Plate, slightly more unusual or unseasonable for areas further south.

Discussion

The South Atlantic Convergence Zone and associated high WBPT plume will be focus for heavy rain. A marked cut-off upper vortex will transfer southeast across this area, exiting into the South Atlantic later Tuesday when a reduction in convective activity will occur.

Expected Impacts

Localised flash flooding.

Africa

Eastern Madagascar

Weather

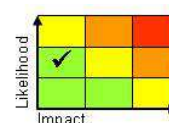
Persistent heavy rainfall will become established in the eastern hills and mountains of Madagascar during the later part of this week. 50-100mm of precipitation is likely to fall widely, with in excess of 300mm falling in the mountains over a few days.

Discussion

A strong anticyclone forms across the southwest Indian Ocean by midweek and will then remain slow moving through until early next week. Madagascar will remain to the north of this feature, with strong easterly winds bring a constant stream of warm tropical air to the island, which will be forced to rise over the high orography and produce a period of heavy rainfall. In the upper air a trough disruption (which helps maintain the slowly evolving surface pattern) will leave a cut-off upper vortex above the island, which will help aid the release of convection and heavy rainfall in the tropical airmass.

Expected Impacts

Some flash and river flooding is likely towards the later part of the week, particularly focused on the wettest eastern parts of the island. Where terrain is steep increasingly saturated soils will enhance the risk of landslides.



Middle East

Arabian Gulf region.

Weather

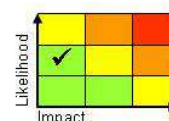
A strong northwesterly wind (known as a Shamal) will affect this region from Tuesday to Thursday, with gusts of wind reaching 35-40 mph. This is likely to lift some dense plumes of dust and sand. In addition unusually rough seas will develop across the southern Arabian Gulf.

Discussion

A strong surface high over Arabia and heat low that forms over the elevated Iranian Plateau will enhance the Shamal flow midweek. The pressure gradient will begin to ease through Thursday as conditions return towards normal.

Expected Impacts

Reduced air quality in the region, leading to difficulties for those with respiratory problems. The reduced visibility will likely affect air, land and marine transport at times, including some major hub airports such as Doha and Abu Dhabi (it's marginal how much dust will impact Dubai).



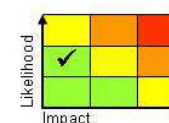
Asia

Western Myanmar

Weather

Further frequent intense showers and thunderstorms are expected in the coming days, associated with the South Asian Summer Monsoon. 100-250 mm of rain is expected widely across the region, with some more prone areas receiving between 300 and 500 mm over the next 5-7 days (around double what would normally be expected for the time of year).

Discussion



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The arrival of the southwest monsoon winds will continue to draw moisture northeast into Myanmar leading to frequent thunderstorms and torrential rain over coast and inland mountains. This is fairly routine during monsoon season, and the delayed onset this year means that river catchments are likely to have seen less rainfall than normal up to present.

Expected Impacts

Flash flooding looks like the main impact although the region in general will be used to this kind of rainfall. Although some showers may fringe into Cox's Bazar region of Bangladesh at times, the number and intensity appear to be close to what would be expected at this time of year.

Northwest India, and northern Pakistan

Weather

Through until Friday each day isolated severe thunderstorms are likely to develop in this region, largely due to the abundant moisture in the mid-upper atmosphere associated with the remnants of Cyclonic Storm Vayu. Individual storms may be long-lived and severe giving a wide variety of hazards to some locations.

Discussion

The remnants of Cyclonic Storm Vayu bring an injection of moisture to mid and upper levels of the atmosphere in this region. High temperatures at low levels and the heating of elevated terrain will allow the release of deep and energetic convection; with the subtropical jet overlaying this region strong vertical wind shear will assist with the formation of organised and severe long lived cells. Into the weekend, upper ridging builds from the west and suppresses convection.

Expected Impacts

A variety of hazards likely including heavy rain, the potential for very strong convective wind gusts (capable of causing damage to poorly constructed buildings), and hail in mountainous regions. Towards the south of the region storms may be capable of producing the odd tornado.



North Bangladesh, far north-east India.

Weather

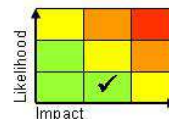
Frequent thunderstorms with torrential rain and strong gusty winds will affect the region over the couple of days, before activity slowly eases down to less severe levels. Many areas will see around 50mm per day, up to 150 mm in the heaviest rain. Locally 200-300 mm is possible in total.

Discussion

Regular diurnal destabilisation of the very warm, moist and unstable air mass over this region will produce severe thunderstorms, organised at times by cyclonicity aloft and upscale growth. Very large PWAT values and very tall, skinny CAPE will result in torrential downpours; low level shear evident in forecast profiles also favours the risk of tornadoes with potential for wind damage associated with this.

Expected Impacts

Flash flooding and localised damage of property/infrastructure and transport links are possible.



Southern China, and outlying southern Japanese Islands

Weather

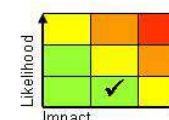
Heavy rain and thunderstorms will affect parts of southern China over the next week. 200-300 mm of rain could fall in places within a few days and there is also the potential for severe thunderstorms that could produce hail and strong winds.

Discussion

Strong convergence along the Mei-yu front and heating of the high terrain in the moist air to its south will continue to produce heavy rain in the form of showers and thunderstorms. Although shear is fairly modest for mid-latitudes, in the tropics this is sufficient for MCS development.

Expected Impacts

Both fluvial and flash flooding is possible within the central and lower Yangtze River basin, with an additional risk of landslides in mountainous areas. Disruption to transport and infrastructure is also likely in what is a densely populated area.



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Australasia**Solomon Islands****Weather**

Heavy showers and thunderstorms are expected across the Solomon Islands over the next couple of days, with the potential for isolated peaks of over 100 mm of rain per day.

Discussion

The eastward propagation of the MJO across into the Western Pacific will enhance rainfall and thunderstorm activity along the South Pacific Convergence Zone, leading to a risk of high rainfall accumulations across the Solomon Islands. There is a very weak signal from the ensembles currently for tropical cyclogenesis in this region associated with ERW in the wake of the MJO.

Expected Impacts

Flash flooding is likely to be the main impact, along with an increased risk of landslides as rainfall starts to accumulate over windward mountain slopes.

**Additional information**

Nil.

Issued at: 170720 UTC **Meteorologists** Nick Silkstone / Brent Walker

Global Guidance Unit

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