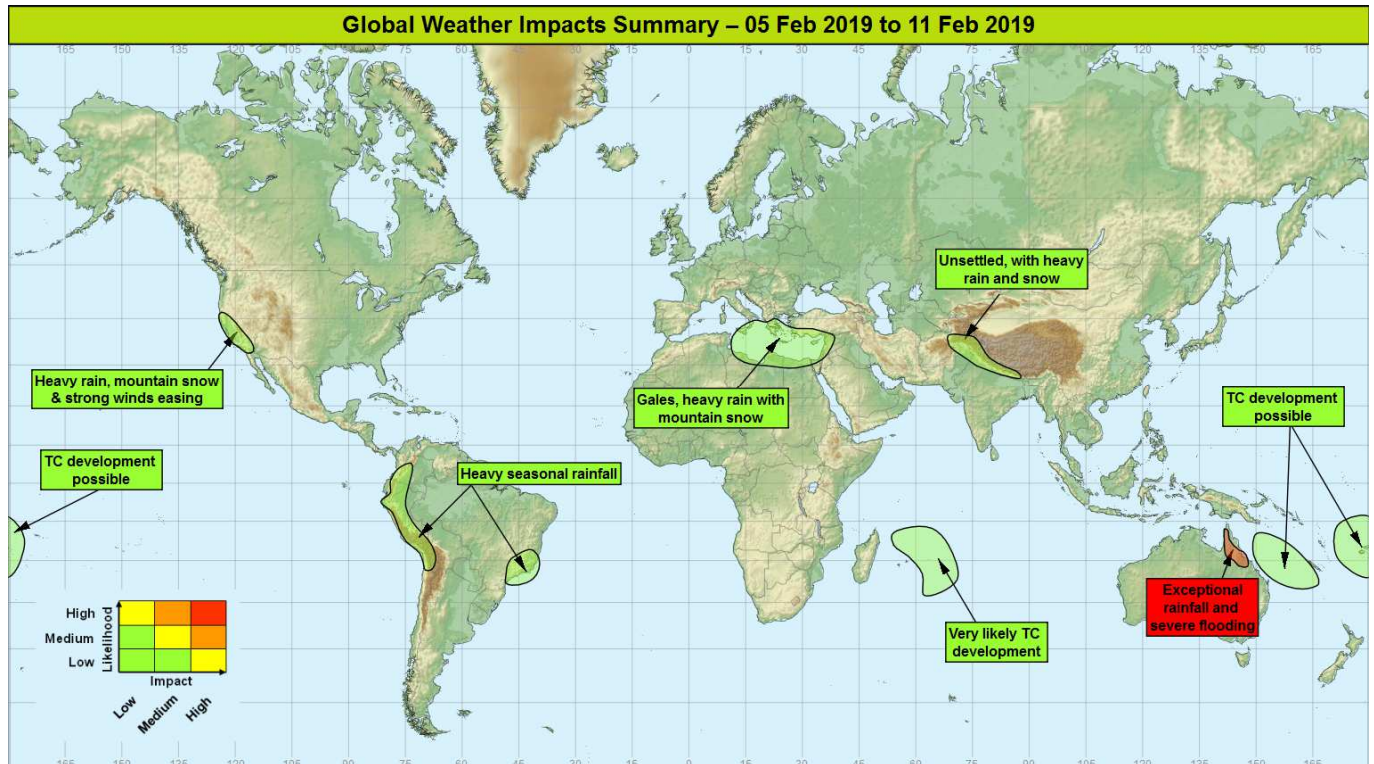


Global Weather Impacts – Tuesday 5th to Monday 11th February 2019

Issued on Tuesday 5th February 2019

HEADLINES

- Exceptional rainfall and major river flooding over parts of Queensland, Australia.
- Unsettled conditions continue to move east through the Mediterranean and adjacent countries.
- Enhanced, heavy seasonal rainfall for parts of South America.



DISCUSSION

Tropical Cyclones

There are currently no active tropical cyclones.

The following regions are being monitored for potential tropical cyclone development:

South-western Indian Ocean

Weather

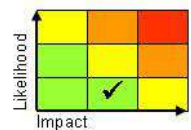
There is a high chance of tropical storm development in the south-west Indian Ocean during the next 24 to 48 hours. At this stage it is highly likely that at least one tropical cyclone will form with a moderate chance of another developing by the end of the week.

Discussion

A couple of areas of enhanced convection are becoming more organised as the southern portion of Rossby Waves pass to the N, resulting in one, or perhaps two tropical storms. The most favourable area currently located ~15S, 66E looks very likely to develop with strong support from deterministic and ensemble output for tropical cyclone formation. Another area closer to the northeast of Madagascar has a larger spread regarding its potential formation. At this stage, neither of these potential systems would be likely to make landfall, instead most likely passing well to the north-east of Mauritius.

Expected Impacts

Impacts will be limited to maritime activities as landfall is not currently anticipated.



This forecast may be amended at any time

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South Pacific Ocean and Coral Sea**Weather**

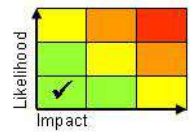
Later this week and over the coming weekend there is an increased chance of tropical cyclone formation over the Coral Sea and/or South Pacific. At this stage, there appears to only be a low chance that a tropical cyclone will form in this area and make significant landfall.

Discussion

Whilst there is a large spread in model output at present there are a number of factors which may make tropical cyclone formation more likely in these areas. These include the MJO moving over the west Pacific and Rossby wave activity moving through these areas. In addition, a quasi-stationary tropical low over Queensland may start to track east over the Coral Sea later in the week with some models then allowing this system to intensify substantially.

Expected Impacts

None expected at this stage.

**Europe****Parts of southern and south-eastern Europe, the Mediterranean, along with northern parts of Libya and Egypt and the western Levant.****Weather**

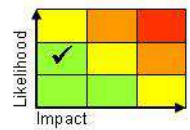
Remaining very unsettled during this week, initially across central, then later eastern parts of the Mediterranean and adjacent coasts. Periods of heavy rain and thunderstorms will affect many parts of this region. Many locations could see 50-100 mm of rainfall. Peak event totals are likely to be over the mountainous parts of the Peloponnese (Greece), with 150-200mm possible here. At higher elevations heavy snow is likely, mainly above 1000 M. Very strong winds will also be seen across large parts of this region, with gales and very rough seas likely. The winds will be strong enough across parts of North Africa to lift dense dust storms that could extend north into southern Europe at times.

Discussion

A major upper trough continues to disrupt with a cut off low forming over the central Med. The resultant surface and upper vortex will then be the main driver for very disturbed weather as both systems move erratically east. Conditions across the west of the area should improve over the next couple of days. Various shear vorticity lobes are signalled to come S into the upper vortex, renewing it and maintaining for longer than would normally be expected due to convective warming of the trough. In addition, a low level plume looks likely to be drawn north and engaged over the Levant which will then start to act as a focus of thunderstorm activity later in the week.

Expected Impacts

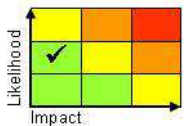
Flash and river flooding are significant threats in this region, with an enhanced likelihood of landslides in areas where the terrain is steep. Dangerous marine conditions are expected, with large waves and the possibility of coastal flooding. Heavy snowfall chiefly over the region's mountains. Lifted dust storms may impact on aviation and air quality across North Africa, southern Europe and into the Levant.

**North America****California****Weather**

Heavy rain in addition to snow on the Sierra Nevada mountains continues but should tend to ease and clear east over the next 24 hours. 20 to 40 mm of rain could fall near the coast in a few hours, with peak rainfall of 100-150 mm in the mountains (accumulating as snow at above 1500 M). Blizzards are likely over the Sierras.

Discussion

A slow-moving winter storm will finally start to move inland and substantially weaken over the next 24 hours. Before the system clears further pulses of heavy, showery rain and mountain snow will affect parts of California.

Expected Impacts

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Further flash-flooding is possible but the likelihood is beginning to reduce. Heavy rain could also lead to rockslide and mudslides over steeper terrain which could damage infrastructure and impact travel. Snowfall over the Sierra Nevada mountains may disrupt travel on high passes and will enhance the risk of avalanches here.

Central America and Caribbean

Nil significant.

South America

Columbia, Peru, Ecuador, northern Chile and southwest Bolivia as well as parts of southeast Brazil

Weather

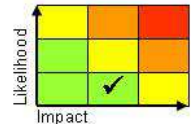
Frequent heavy showers and thunderstorms will affect this area through this week, resulting in heavy seasonal rainfall. Up to 100 mm of rain is possible in 24 hours. Some areas could see 300-500 mm building up over the course of the week if they see repeated bouts of heavy rain (two or three times the monthly average). There is the potential for significant water to run towards the Pacific through the desert regions of north-western Chile and south-western Peru.

Discussion

A north-shifted SACZ, as well as a south-shifted ITCZ are expected to combine for the next week or so, leading to periods of intense showers and thunderstorms across the region. The SACZ looks likely to be engaged by an upper trough over the next few days increasing the risk of intense rainfall for parts of southeast Brazil including Rio de Janeiro and Sao Paulo.

Expected Impacts

Flash flooding and landslides are a significant threat in the mountainous areas. Flash flooding also possible if thunderstorms impact urban areas. Disruption to aviation, as well as large hail, gusty winds and tornadoes. Across the desert regions the unusually high level of rainfall runoff may bring severe flooding in the usually dry alluvial plains that many people live and farm along.



Africa

Northern parts of Libya and Egypt – See *Europe* section.

Madagascar, La Reunion and Mauritius – See *Tropical Storms* section.

Middle East

Western Levant – See *Europe* section.

Asia

Afghanistan, Pakistan, northern India and Nepal

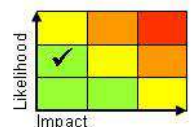
Weather

Rain and heavy mountain snow will continue to move east across this region. Across Afghanistan 50-100 cm of snowfall could affect the high mountains, with up to 10 cm possible in Kabul, although here perhaps turning to wet snow or even sleet at times. As the disturbance continues east, it will affect Kashmir and Nepal, where the precipitation will likely become even heavier. 1-2 metres of snowfall is likely across the southern Himalayas. It will also draw some unusually cold air south across much of Pakistan and northwest India.

Discussion

A very amplified upper pattern across Eurasia will lead to a major trough extension across the area. Strong, confluent flow on the trough's forward side has lead to isentropic lift, frontogenesis and the blossoming of precipitation across western Afghanistan. The resulting surface disturbance moving east ahead of the trough as the pattern begins to progress. Shortwaves running into the rear of the trough will maintain activity, ensuring an unsettled week across the area.

Expected Impacts



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Snowfall over the mountains will likely block some high road passes in the region and enhance the risk of avalanches. Snowfall in this region is a positive too though as it will top up the snowpack in the region. When this melts in the spring and early summer it provides much of this region's water prior to the monsoon arrival. Below average temperatures may impact vulnerable populations.

Australasia

Northern Queensland, Australia

Weather

Further intense rainfall and thunderstorms are expected across northern Queensland over the next few days. Rainfall should start to ease across the area towards the latter part of the week. Before then there is still scope many areas to see another 100-200 mm of rainfall with as much as 300-500 mm in places. Many areas have already seen well in excess of 1000 mm in the last 7 to 10 days. For example, since the 28th January, Woolshed, just south-west of Townsville, has received 1873mm of rain (to the end of Monday, UK time) according to the Bureau of Meteorology. Despite it being the wet season this amount of rain is unprecedented (more than a normal year's worth) and further impacts on infrastructure seem inevitable.

Discussion

The monsoon trough currently sits over the north of Queensland focusing convection here. A tropical low is embedded within it and this will help to focus severe convection and heavy rainfall. In addition, the MJO now moving over the western Pacific (Phase 7) may be having some influence in enhancing activity.

Expected Impacts

Severe flash and river flooding is ongoing in and around Townsville, with other parts of northern Queensland also seeing significant impacts. Evacuations are underway, with some 20000 homes at risk. There is the potential for some communities to be cut-off for a number of days or weeks.

Additional information

Nil.



Issued at: 050800 UTC **Meteorologist:** Chris Bulmer

Global Guidance Unit

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