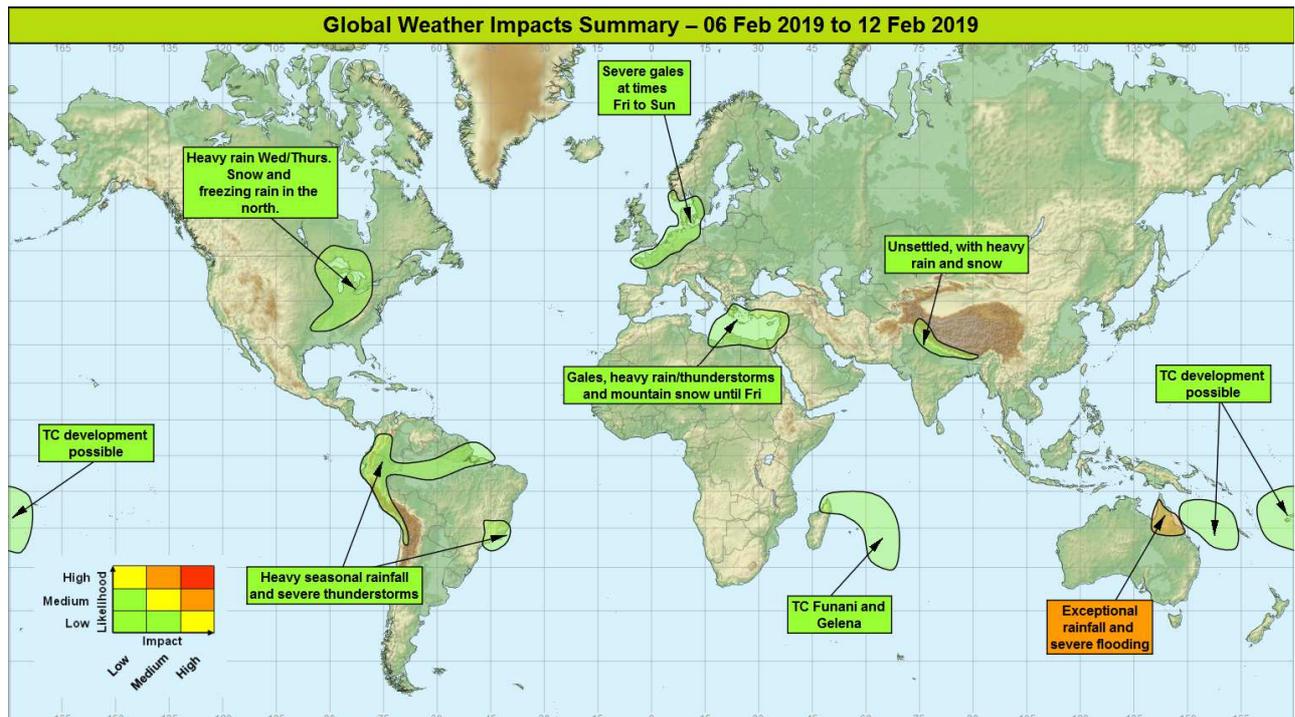


Global Weather Impacts – Wednesday 6th to Tuesday 12th February 2019

Issued on Wednesday 6th February 2019

HEADLINES

- Major river flooding over parts of Queensland, Australia, exceptional rainfall waning over the next few days.
- Unsettled conditions over the eastern Mediterranean and adjacent countries.
- Enhanced, heavy seasonal rainfall for parts of South America.



DISCUSSION

Tropical Cyclones

Tropical Cyclone Gelena (Southwest Indian Ocean)

Weather

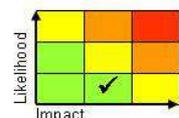
Another area of enhanced convection to the west of Funani (just off northeast Madagascar) has now been named Gelena. Again this system is forecast to track southeast over the coming days, most likely staying to the northeast of Mauritius but with a greater chance (but still low) of bringing impacts from very heavy rain and strong winds to Rodrigues.

Discussion

IR imagery loops show evidence of a low level circulation starting to form in this area. Conditions are favourable for development and intensification over the next 24 to 48 hours. Significant landfall looks unlikely at this stage with the system most likely to be steered southeast under the influence of a sub-tropical ridge.

Expected Impacts

Impacts will be mostly limited to maritime activities. Low chance of flash flooding and damaging winds for Rodrigues during Friday and/or Saturday. Associated very heavy rain also brings an increased risk of flash flooding and landslides over northern Madagascar.



This forecast may be amended at any time

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Tropical Cyclone Funani (Southwest Indian Ocean)

Weather

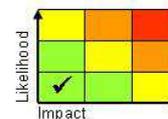
Tropical Cyclone Funani has formed over the last 24 hours over the southwest Indian Ocean. Funani is currently located around 425 miles northeast of Mauritius and is forecast to track south or southeast over the coming days. The island of Rodrigues currently looks to be the only land area which may be affected with a spell of very heavy rain and strong winds possible over the next few days although it is more likely the cyclone will be steered to the east of the island.

Discussion

Funani has intensified into a tropical cyclone and conditions remain favourable for further intensification over the next couple of days (low vertical wind shear and very high SSTs). There continues to model differences in the rate of intensification and track although all output suggests it will turn more southerly or southeasterly with significant landfall looking very unlikely.

Expected Impacts

The main impacts look most likely to be on maritime activities in the area from strong winds and rough seas. Small chance of flash flooding for Rodrigues.



The following region is being monitored for potential tropical cyclone development:

Southwest Pacific Ocean and Coral Sea

Weather

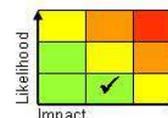
Later this week and over the coming weekend there is an increased chance of tropical cyclone formation over the Coral Sea and/or South Pacific. Whether or not tropical cyclone(s) form in this area, the Pacific Islands within the highlighted area are likely to see spells of very heavy rainfall and thunderstorms over the coming days. Each day rainfall totals of 150-200 mm are possible in places.

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

Very heavy rainfall could lead to flash flooding. Potential tropical cyclone development brings an increased threat of damaging winds and rough seas.



Europe

Southern Greece and Turkey along with northern parts of Libya and Egypt as well as the western Levant

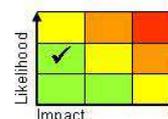
Weather

Unsettled conditions are now becoming more confined to the eastern Mediterranean and adjacent coasts. Periods of heavy rain and thunderstorms will continue to affect many parts of this region. Some locations could see 40-80 mm of rainfall. Peak event totals are likely to be over the mountainous parts of the Peloponnese (Greece) and southern Turkey, with 100-150 mm possible here. At higher elevations heavy snow is likely, mainly above 1200 metres. 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 further north at times. Conditions should gradually improve from the west with all parts seeing less unsettled conditions from Friday.

Discussion

A cut off low and coincident surface depression continue to slowly move eastwards across the Mediterranean. Various shear vorticity lobes are signalled to come south 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 is now being drawn north and engaged over the Levant which will also act as a focus of thunderstorm activity over the next 48 hours.

Expected Impacts



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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.

Parts of northwest Europe including France, the Low Countries, northern Germany and southern Scandinavia

Weather

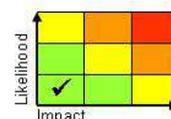
Unsettled with several bouts of heavy rain and strong winds. A number of weather systems are expected to run across northwestern Europe later this week and over the weekend bringing the potential for severe gales at times. There remains some uncertainty regarding peak wind strengths and areas worst affected.

Discussion

A zonal, developmental pattern over the Atlantic will see several deep low pressure systems spin up and track over northwest Europe through this week and into the weekend. Whilst most of these systems will be business-as-usual for the winter there a chance of more vigorous cyclogenesis which could bring swathes of damaging winds (and named windstorms). Whilst there is fairly good agreement with Friday's large scale system there is much greater uncertainty in the potential for rapid cyclogenesis during Sunday.

Expected Impacts

At this stage, the most likely impacts will be to travel, aviation and maritime in particular.



North America

Parts of east and northeast USA and southeast Canada

Weather

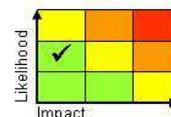
Spells of heavy rain and thunderstorms will affect many areas to the south of the Great Lakes over the next 48 hours. Rainfall totals of 30-60 mm are expected widely with 100-120 mm possible in places, including a risk for Louisville, Nashville and Memphis. Across the north and northeast of the area spells of heavy snow are expected with accumulations typically in the order of 10-25 cm. In addition around the Great Lakes some areas are expected to see some freezing rain leading to icy conditions; the Chicago area at risk today. Conditions should improve during Friday with very cold but more benign conditions following.

Discussion

The remnants of the slow-moving system which brought heavy rain to California over recent days has moved eastwards over the USA and is now being engaged by a longwave upper trough. This will see a very active depression forming across east and northeastern parts of the USA and into Canada over the next 48 hours. Whilst the system will be associated with very mild/warm air as it comes into contact with the frigid air over the north of the continent heavy snow will develop and in the transition zone freezing rain is also expected.

Expected Impacts

Main impacts will be to transport, particularly from snow and ice in the north and northeast of the area. Further south there is an increased risk of flash flooding.



Central America and Caribbean

Nil significant.

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South America

Colombia, Peru, Ecuador, northern Chile as well as parts of Brazil

Weather

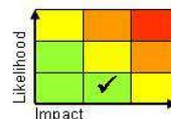
Frequent heavy showers and thunderstorms will affect this area through this week, resulting in enhanced seasonal rainfall. Up to 100 mm of rain is possible in 24 hours. Some areas could see 300-500 mm building up over the course of the week if they see repeated bouts of heavy rain (two or three times 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 Cyclones* section.

Middle East

Western Levant – See *Europe* section.

Asia

Afghanistan, Pakistan, northern India and Nepal

Weather

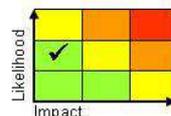
Rain and heavy mountain snow will continue to move east across this region. As the disturbance continues east, it will affect Kashmir and Nepal, where the precipitation will likely become even heavier. 1-2 metres of snowfall is likely across the southern Himalayas. Parts of northern India will see some heavy showers and thunderstorms over the next few days. As the system clears east it will also draw some unusually cold air south across much of Pakistan and northwest India.

Discussion

A surface disturbance will continue to move east ahead of a pronounced upper trough. Shortwaves running into the rear of the trough will maintain activity, ensuring an unsettled few days across the area.

Expected Impacts

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.



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Australasia**Northern Queensland, Australia****Weather**

Many parts of northern Queensland have seen exceptional rainfall over the last 10 days. According to the Bureau and Meteorology over 2 metres of rainfall has fallen at Paluma and Bluewater. Woolshed, just southwest of Townsville, has now seen 1962 mm since 28th January (Townsville average annual rainfall is around 1130mm). Further intense rainfall and thunderstorms are expected over parts of Queensland today and tomorrow with 100-200 mm in place each day. However, some of the worst affected areas, for example around Townsville, look less likely to see the most intense rainfall. By Friday there should be a general reduction in rainfall across much of Queensland.

Discussion

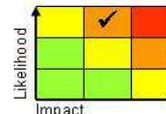
The monsoon trough currently sits over the north of Queensland focusing convection here. A tropical low is embedded within it and this will help to focus severe convection and heavy rainfall. In addition, the MJO now moving over the western Pacific (Phase 7) may be having some influence in enhancing activity. By the weekend the tropical low is expected to have moved out over the Coral Sea (with potential TC formation – see above) with the monsoon trough retreating northwards.

Expected Impacts

Severe flash and river flooding is ongoing in and around Townsville, with other parts of northern Queensland also seeing significant impacts. Despite a gradually improving situation in terms of rainfall over the next few days river response and major fluvial flooding can be expected to continue for the next week or so. There is the potential for some communities to be cut-off for a number of days or weeks.

Additional information

Nil.



Issued at: 060745 UTC **Meteorologist:** Chris Bulmer

Global Guidance Unit

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