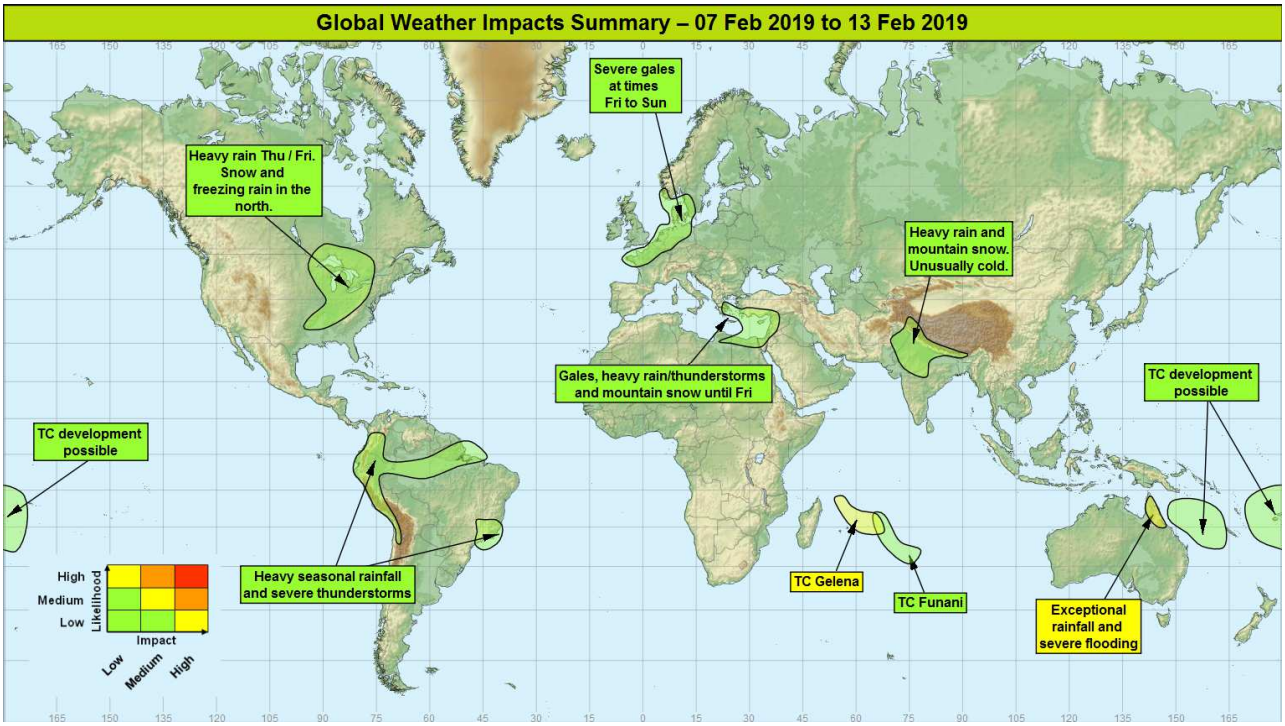
Met Office Daily Global Weather Impacts Assessment

Global Weather Impacts – Thursday 7th to Wednesday 13th February 2019

Issued on Thursday 7th February 2019

HEADLINES

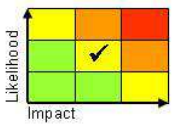
- Major river flooding over parts of Queensland, Australia, although the exceptional rainfall is now easing.
- Tropical Cyclones in the south-western Pacific threaten the tiny island of Rodrigues.
- Enhanced, heavy seasonal rainfall for parts of South America.



DISCUSSION

Tropical Cyclones

Tropical Cyclone Gelena (Southwest Indian Ocean)



Weather

Gelena has gained strength through the past 24 hours, now having mean winds of 75 mph. At the moment Gelena is to the north-east of northern Madagascar, and the system is forecast to track southeast over the coming days strengthening into an Intense Tropical Cyclone. Models are in pretty good agreement on this systems track, taking it north-east of Mauritius, and passing close to Rodrigues on Saturday.

Discussion

Imagery shows Gelena is now a compact but developed cyclone with a clear eye visible. Conditions are favourable for development and intensification over the next 24 to 48 hours as the system tracks south-east driven between a trough and the sub-tropical ridge.

Expected Impacts

Short term Gelena may produce enhanced rainfall and large waves into northeastern Madagascar. By the weekend this system poses a threat of torrential rainfall, destructive winds and coastal impacts to Mauritius, but more likely Rodrigues.

This forecast may be amended at any time
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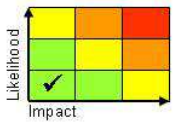
Daily Global Weather Impacts Assessment

Tropical Cyclone Funani (Southwest Indian Ocean)



Weather

Tropical Cyclone Funani has strengthened over the last 24 hours over the southwest Indian Ocean, and now has mean winds of around 95 mph. Funani is currently located around 160 miles northeast of Rodrigues and is forecast to track southeast over the coming days passing to the east of Rodrigues later today, then on into the Southern Ocean.

Discussion

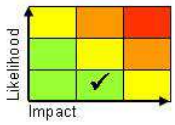
Funani is probably now close to its peak intensity before it encounters increased upper level shear which will act to begin weakening the system. There is now good model agreement for the storm to pass well to the east of Rodrigues before heading into the Southern Ocean where it will be swept up by the mid latitude flow.

Expected Impacts

The main impacts look most likely to be on maritime activities in the area from strong winds and rough seas. Rodrigues may see some strong winds and showers from the outer bands of Funani through today through these unlikely to produce significant impacts to the island.

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

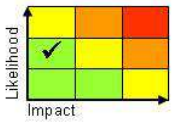
Of the two areas development is more likely over the south-western Pacific where a pre-existing tropical low exists. Presently conditions are marginal for development, with sea surface temperatures marginal, and strong vertical shear. Global models are in good agreement however for the system to track south, perhaps intensifying into a subtropical system. Meanwhile the tropical low which has helped bring unprecedented rainfall to northern Queensland is likely to exit into the Coral Sea this weekend. The chances of this system intensifying into a tropical cyclone are considered low.

Expected Impacts

Very heavy rainfall could lead to flash flooding across parts of Fiji, Samoa or Tonga. Potential tropical cyclone development brings an increased threat of damaging winds and rough seas to these areas.

Europe

Southern Greece and Turkey, Cyprus, northern-eastern parts of Libya and northern Egypt as well as the western Levant



Weather

Unsettled conditions continue to affect 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 totals are likely to be over the mountainous parts of 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 strongest winds are now beginning to east however, though some residual rough seas and lifted dust issues will continue on Thursday. Conditions should gradually improve from the west with all parts seeing less unsettled conditions from Friday.

Discussion

The cut off low and coincident surface depression continue to slowly move eastwards across the Mediterranean, now as a filling system which is likely to lose its identity by the weekend. The warm plume over the Levant which will act as a focus of thunderstorm activity over the next 24 hours or so, before this is displaces eastwards.

Expected Impacts

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter
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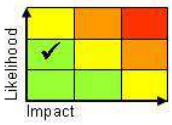
Flash and river flooding are significant threats in this region, with an enhanced likelihood of landslides in areas where the terrain is steep. Heavy snowfall chiefly over the region's mountains. Lifted dust storms may impact on aviation and air quality across North-eastern Africa, the eastern Mediterranean and into the Levant. Marine conditions should gradually ease.

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 through the rest of the 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

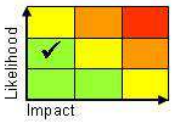
A zonal, developmental pattern over the Atlantic will see several deep low pressure systems spin up and track over northwest Europe through this week and into the weekend. Whilst most of these systems will be business-as-usual for the winter there a chance of more vigorous cyclogenesis which could bring 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 activities in particular.

North America

Parts of central, east and northeast USA and southeast Canada



Weather

Another major winter storm is likely to affect the central and eastern USA, and south-eastern Canada on Thursday and Friday. Spells of heavy rain and thunderstorms will affect many areas to the south of the Great Lakes over the next 24 hours. Rainfall totals of 30-60 mm are expected widely with 100 mm possible in places, including a risk for Louisville, Nashville and Memphis. As cold air is increasingly drawn into the back of the system winter hazards will affect the Great Lakes region, parts of the upper Midwest and southeastern-Canada, some places seeing in excess of 20 cm of snowfall. 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 24 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 with some significant disruption to power supplies possible. Further south there is an increased risk of flash flooding. Meanwhile low cloud and poor visibility may impact aviation across the eastern USA.

Central America and Caribbean

Nil significant.

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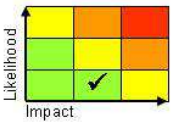
South America

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

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

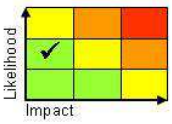
Madagascar, La Reunion, Mauritius and Rodrigues – See *Tropical Cyclones* section.

Middle East

Western Levant – See *Europe* section.

Asia

North-eastern Pakistan, northern and central India and Nepal



Weather

Rain and heavy mountain snow will continue to move east across this region on Thursday and Friday. 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, especially on Thursday and these could produce in excess of 100 mm locally. As the system clears east it will also draw some unusually cold air south across much of Pakistan, northern and central India with temperatures widely 10C below normal.

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 couple of 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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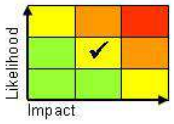
Daily Global Weather Impacts Assessment

Australasia

Northern Queensland, Australia



Weather

Many parts of northern Queensland have seen exceptional rainfall over the last 11 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 1984 mm since 28th January (Townsville average annual rainfall is around 1130mm). Conditions are now showing signs of improving across northern Queensland, although some intense downpours are still possible until the weekend. However, some of the worst affected areas, for example around Townsville, look less likely to see the most intense rainfall.

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 a low risk of 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: 070745 UTC **Meteorologist:** Mark Sidaway **Global Guidance Unit**

This forecast may be amended at any time

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