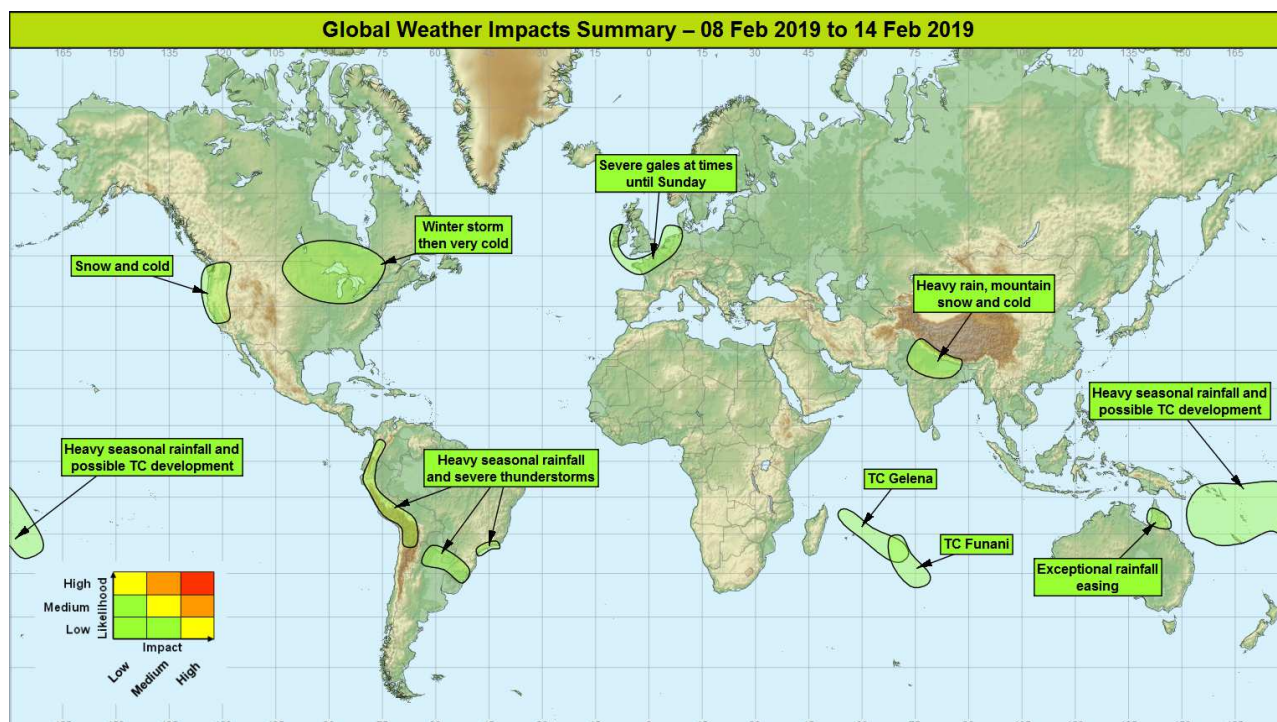


Global Weather Impacts – Friday 8th to Thursday 14th February 2019

Issued on Friday 8th February 2019

HEADLINES

- Historic rainfall across Northern Queensland is now abating, but major river flooding continues.
- Tropical Cyclone Gelena is likely to affect Rodrigues (near Mauritius) on Saturday night.
- Heavy seasonal rainfall is expected to continue across parts of South America.



DISCUSSION

Tropical Cyclones

Tropical Cyclone Gelena (Southwest Indian Ocean)

Weather

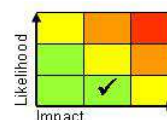
Gelena has continued to steadily strengthen through Thursday and was producing maximum sustained wind speeds of 90 mph on Friday morning. Gelena was located around 425 miles northwest of Mauritius and is expected to track southeast towards Rodrigues by Saturday night, strengthening further into an intense tropical cyclone (maximum sustained wind speeds of 110 mph). Thereafter, Gelena is expected to steadily weaken but pose no further threat to land.

Discussion

Gelena's appearance on recent satellite imagery has continued to improve, most likely due to now moving over waters that have not been previously upwelled by the system. There is now good agreement for the system to accelerate southeastward as an intense tropical cyclone and pass close to Rodrigues on Saturday night before strengthening upper level winds will lead to a weakening trend thereafter.

Expected Impacts

Swells from Gelena are expected to continue affecting eastern Madagascar, La Reunion, Mauritius and Rodrigues over the next few days leading to dangerous rip current and surf conditions. However, the system poses a threat of torrential rainfall (300 mm in 24 hours), destructive winds and very high waves to Rodrigues, whilst the threat to Mauritius has decreased.



This forecast may be amended at any time

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Tropical Cyclone Funani (Southwest Indian Ocean)

Weather

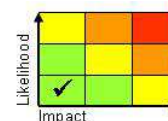
Tropical Cyclone Funani has also continued to strengthen through Thursday and was producing maximum sustained wind speeds of 110 mph on Friday morning. Funani was located around 475 miles southeast of Rodrigues but is not expected to pose a threat to land whilst it gradually weakens this weekend.

Discussion

Funani has passed its peak intensity and a recent eyewall replacement cycle, whilst expanding the wind field, has contributed towards its overall weakening. Increasing vertical wind shear and decreasing ocean heat content will contribute to a continued weakening trend through the remainder of the week.

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

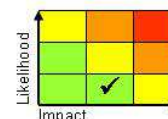
Through the next 4-5 days, there is an increased chance of tropical cyclone formation over the Coral Sea and/or South Pacific in the vicinity of Fiji. Irrespective of tropical cyclone formation, Polynesian islands south of the equator as well as the Solomon Islands, Vanuatu, New Caledonia and Fiji are likely to see more frequent heavy showers and thunderstorms over the coming days. Some places may receive 100-150 mm in a day, which is equivalent to around 2 weeks rainfall at this time of year.

Discussion

Although two low-level circulations already exist, their development is currently limited by land interaction (Queensland) and an unfavourable wind shear environment (near Tonga). Global models are in good agreement for the pre-existing circulation near Tonga to track south, perhaps intensifying into a subtropical system over open water. Meanwhile, the tropical low which has brought historic rainfall to northern Queensland is expected to emerge into the Coral Sea this weekend with potential for gradual development early next week.

Expected Impacts

Very heavy rainfall could lead to localised flooding and an increased risk of landslides across southern hemisphere Polynesia, Solomon Islands, Vanuatu, New Caledonia and Fiji. Potential tropical cyclone development brings an increased risk of damaging winds and rough seas to a similar area.



Europe

Northwest Europe

Weather

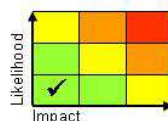
A succession of weather systems is expected to maintain an unsettled theme through the remainder of the week. Storm *Erik* is expected to bring a spell of very strong winds to western Ireland on Friday with gusts of 70-80 mph possible. Strong winds are expected to affect parts of northwestern continental Europe through Saturday before another weather system affects a similar region on Sunday.

Discussion

A zonal, developmental pattern will result in a succession of deep areas of low pressure being spawned and track across northwest Europe through the remainder of the week. Whilst there is now good agreement with Friday's system, there remains some uncertainty to the strength of winds across northwest Europe with Sunday's system.

Expected Impacts

Very high seas are likely to disrupt maritime transport and lead to some coastal flooding. Strong winds may disrupt aviation transport and lead to some short term loss of power.



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North America**Eastern USA and eastern Canada****Weather**

A potent winter storm is currently affecting eastern USA and eastern Canada bringing a combination of snow, freezing rain, heavy rain and strong winds. In its wake, very cold air is expected to affect the eastern half of Canada, the Great Lakes and New England although this is not expected to be particularly long-lived nor as severe as the previous cold spell.

Discussion

This system has now undergone its deepening phase with pressure falls associated with the low across southern Canada beginning to reduce. Nevertheless, a considerable envelope of freezing precipitation is now affecting southern Canada and strong cold advection on its western flank will result in <-12C 850hPa WBPT airmass being drawn south into the Great Lakes region. With upper forcing relaxing northeast, heavy rain and locally severe thunderstorms along the trailing cold front will tend to ease during Friday.

Expected Impacts

Travel disruption is expected to continue during early Friday, in addition to some disruption to power supplies. Cold temperatures following across the region may have an adverse impact to vulnerable populations.

**Western USA****Weather**

A succession of weather systems are expected to bring an increased risk of valley rain and mountain snow alongside widely significantly below average temperatures. Some snow is expected to fall to relatively low levels, including parts of Seattle and Portland where up to 15 cm of snow is possible, blown into drifts in places by strong winds during Friday night and Saturday. The heaviest snowfall will be reserved for the higher passes of the Cascades and Sierra Nevada ranges. Cold Canadian air may also result in some locally record breaking low temperatures for parts of coastal Washington and Oregon states.

Discussion

A persistent upper ridge over Alaska is contributing to a somewhat abnormal storm track across the Pacific Northwest with systems moving due south along the coastline and drawing cold air from western Canada. One such system is expected to bring snow to relatively low levels from Friday night.

Expected Impacts

Travel disruption is likely with delays on roads and at airports. Blowing snow may result in some communities being temporarily cut-off and lead to interruptions to power supplies. Cold temperatures following across the region may have an adverse impact to vulnerable populations.

**Central America and Caribbean**

Nil significant.

South America**Northern Argentina, southern Brazil and southern Paraguay****Weather**

Heavy showers and thunderstorms are expected to become more frequent across the region from Sunday onwards with some places likely to receive 100-150 mm of rain in 24 hours. Over the next week, some places may receive 200-250 mm. This region typically receives 40-60 mm of rain over a week. Thunderstorms are likely to be severe at times with strong winds, large hail and frequent lightning additional hazards.

Discussion

With an upper trough becoming slow-moving across the region, several episodes of heavy showers and thunderstorms are likely to develop from Sunday onwards. This will engage the resident warm plume and likely trigger further MCS and supercell thunderstorms that were seen during January.



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Expected Impacts

Parts of northern Argentina, southern Brazil and Uruguay have received 150-400% of normal rainfall over the past 3 months which means that further rainfall is likely to fall into sensitive river catchments and onto saturated ground. This additional rainfall is likely to trigger further flash flooding as well as landslides in more mountainous areas. Strong winds, large hail and frequent lightning may also cause damage to property and infrastructure as well as be a threat to life.

Northern Andes (Colombia, Ecuador, western Brazil, northern Chile, Peru and Bolivia)

Weather

Frequent heavy showers and thunderstorms are expected to continue across the northern Andes through the next week. Up to 100 mm of rain is possible in 24 hours with some places seeing a further 250-300 mm of rain over the next week which is around double the monthly average.

Discussion

With the MJO moving east across the Pacific through the next week, this will likely maintain enhanced convection across the region. Although significant rainfall typically occurs during this time of year, the cumulative effects of above average rainfall for many parts of this region during the wet season so far are likely to be observed. Most recently, 16 people died as a result of landslides in Bolivia and a railway bridge collapsed in Antofagasta, Chile.

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

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

Middle East

Nil significant.

Asia

Nepal and northern India

Weather

Rain and heavy mountain snow will continue to move east across Nepal and northern India on Friday and early Saturday. Over the next 24 hours, many places are likely to receive 15-30 mm of rain in valleys whilst mountains above around 3000 metres are likely to receive 50-75 cm of snow. As the systems clears east over the weekend, it will be draw some unusually cold air across the region with temperatures 5-8°C below normal.

Discussion

An active cold front will continue to move east, engaged by a marked upper trough with precipitation enhanced along the southern upslopes of the Himalayas. A much colder airmass will follow leading to some cold overnight temperatures over the weekend and early next week before the airmass begins to warm up in-situ.

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**Southern hemisphere Polynesia, Solomon Islands, Vanuatu, New Caledonia and Fiji –**See *Tropical Cyclones* section.**Northern Queensland, Australia****Weather**

Many parts of Northern Queensland have received exceptional rainfall over the past couple of weeks. Since Monday 28th January, Woolshed, southwest of Townsville, has received 2035 mm of rainfall. As context, Woolshed should normally receive around 280 mm during the entire month of February and 1069 mm annually. The highest daily rainfall recorded during the current event was 506 mm at Ingham Pump Station on 3rd February. Over the next couple of days, further rainfall should continue to decrease in amount and spatial coverage with largely dry conditions developing by Sunday.

Discussion

With the tropical low that was responsible for the extreme rainfall across the region now beginning to move away into the Coral Sea, as well as an MJO phase that tends to support a reduction in rainfall activity, heavy showers and thunderstorms are expected to be fewer than normal over the next couple of weeks.

Expected Impacts

Northern Queensland continues to experience major flooding, particularly in the Townsville region. Despite a gradually improving situation concerning rainfall over the next week, river levels will only slowly subside through mid-month as water moves through individual catchments.

Additional information

Nil.

**Issued at:** 080750 UTC **Meteorologist:** Matthew Lewis**Global Guidance Unit**

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