

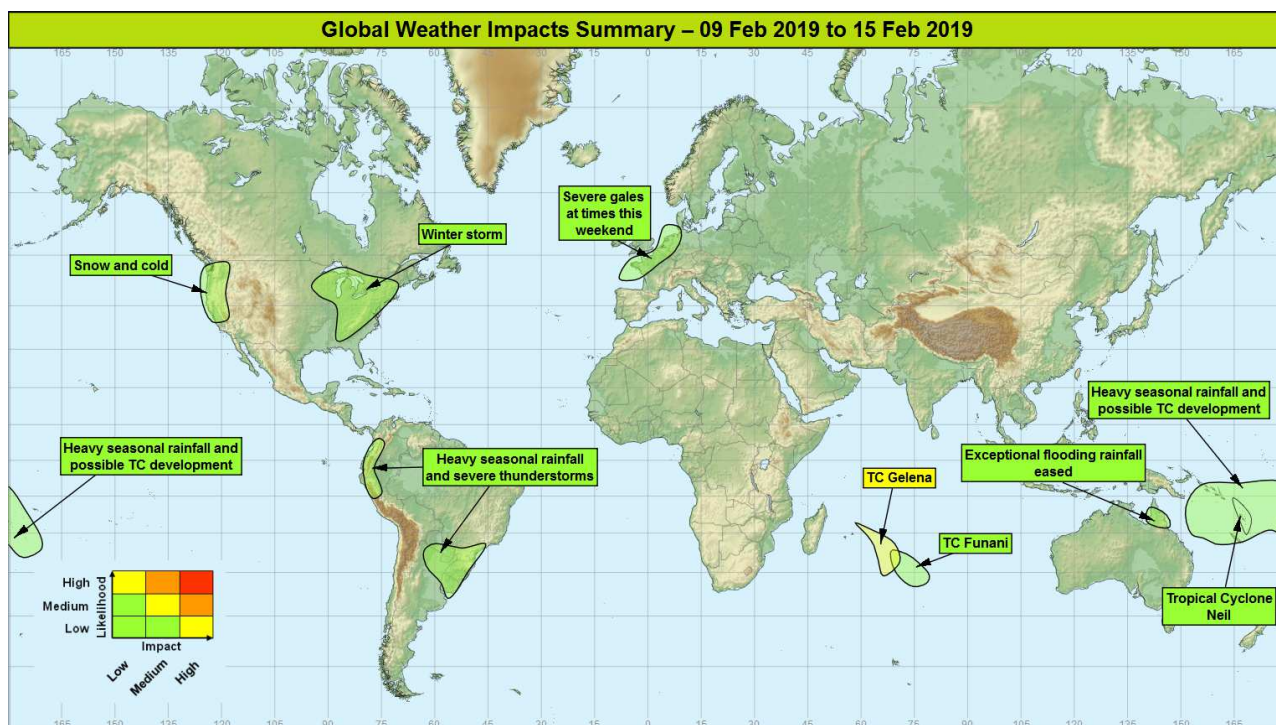
Global Weather Impacts – Saturday 9th to Friday 15th February 2019

Issued on Saturday 9th February 2019

Upgrading of likely Tropical Cyclone Gelena impacts across Rodrigues tonight.

HEADLINES

- Tropical Cyclone Gelena likely to affect Rodrigues, Southwest Indian Ocean, on Saturday night.
- Tropical Cyclone Neil has recent formed and is expected to affect Tonga on Saturday night.
- Risk of further tropical storm developments across the Coral Sea and towards Fiji in the coming week.
- Heavy seasonal rainfall is expected to continue across parts of South America.



DISCUSSION

Tropical Cyclones

Intense Tropical Cyclone Gelena (Southwest Indian Ocean)

Weather

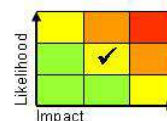
Tropical Cyclone Gelena was located around 230 miles west-northwest of Rodrigues at 09/0900 UTC and was tracking east-southeast at 18mph with maximum sustained winds of 120mph. Gelena is expected to continue on this track and move across or very close to Rodrigues through Saturday night, only weakening a little (sustained winds likely around 110mph). Thereafter, Gelena is expected to steadily weaken further as it tracks southeast and over the southwestern Indian Ocean, and pose no further threat to land.

Discussion

Latest satellite imagery shows Gelena has developed further in the past 6 hours. There is good model agreement for this intense tropical cyclone to pass close enough to Rodrigues on Saturday night to pose a significant threat to the island. Thereafter strengthening upper level winds will lead to a weakening trend as it tracks over the open waters of the SW Indian Ocean.

Expected Impacts

Swells from Gelena are expected to continue affecting La Reunion, Mauritius and Rodrigues over the next few days leading to dangerous rip current and surf conditions, with up to 300 mm of rain in 24 hours bringing a flash flood threat. There now appears a higher likelihood of destructive winds and coastal storm surge flooding as it moves close to Rodrigues on Saturday night.



This forecast may be amended at any time

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Tropical Cyclone Funani (Southwest Indian Ocean)**Weather**

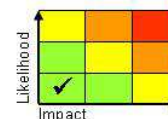
Tropical Cyclone Funani was located around 1120 miles southeast of Rodrigues 09/0300 UTC, with maximum sustained winds of 75mph and was tracking southeast at 16mph. The cyclone is over open water and is not expected to pose a threat to land, plus will gradually weaken in the next few days.

Discussion

Funani will continue to weaken in the coming days in an environment of increasing vertical wind shear and decreasing ocean heat. There is good model agreement for its track and evolution.

Expected Impacts

As Funani is well over the open water across the Indian Ocean it is not considered to produce significant impacts.

**Tropical Cyclone Neil (Tonga)****Weather**

Tropical Cyclone Neil has developed late last night between Fiji and Tonga. Neil is a Category 1 storm with mean winds between 40 and 54mph and is tracking southeast towards Tonga. This storm is expected to remain at its current intensity and move across, or very close to, Tonga on Saturday night.

Discussion

Latest satellite imagery shows deep convection and increasing organisation in the last 6 to 12 hours. There is reasonable model agreement for the track and speed of this system, though increasing uncertainty with time. Currently the estimated position accuracy close to Tonga is around 135 miles. Nevertheless once clear of Tonga there is good model agreement for this storm to move across open water and gradually weaken from Sunday.

Expected Impacts

Heavy rain is likely to bring up to 150mm to Tonga as it tracks across, or close to the island on Saturday night. This brings the risk of some flooding and enhanced the landslide risk. Rough seas are also expected in association with the storm force winds.

The following region is being monitored for potential tropical cyclone development:**Southwest Pacific Ocean and Coral Sea****Weather**

Through the coming week there is an increased chance of tropical cyclone formation over the Coral Sea and/or South Pacific in the vicinity of the Solomon Islands and Fiji. There is a very low probability of a significant tropical storm developing between the Solomon Islands and Vanuatu early next week. 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

The tropical low which has brought historic rainfall to northern Queensland has emerged across the Coral Sea with the potential for gradual development early next week as it tracks east. There is considerable uncertainty as to the potential developments across the region, with the models differing considerably. However it is worth noting that there are some solutions that give a low probability for a more significant storm will develop from early next week close to Solomon Islands and Vanuatu.

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.



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Europe

Northwest Europe

Weather

A period of very unsettled weather across Northwest Europe in the coming days with some very strong winds in places. Gale or severe gale force west or southwesterly winds are expected to affect the southern North Sea and surrounding coasts on Saturday, and through the English Channel and Biscay on Saturday night.

Discussion

A strong gradient on the southern flank of a deep area of low pressure centred to the north of Scotland, plus a frontal wave will bring very strong winds to parts of northwest Europe over the weekend. Generally there is good model agreement for the synoptic evolution that brings these strong winds.

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.



North America

Eastern USA and eastern Canada

Weather

A winter storm is expected to develop early next week to affect parts of the eastern USA and southeastern Canada. Snow, freezing rain, heavy rain, thunderstorms and strong winds are associated with this feature.

Discussion

An upper trough is expected to engage with higher WBPT air across the southern States and develop an area of low pressure to the east of the Rockies. There is good model agreement for this to then track northeast bringing heavy rain from Texas to Virginia on Monday. On the northern flank this will turn to snow or freezing rain across parts of Iowa to Pennsylvania on Monday, then to parts of SE Canada and the northeastern States, including New York on Tuesday before clearing. This will be exacerbated by strong winds. To the south of this, along a trailing cold front, heavy rain and locally severe thunderstorms could bring up to 100mm per day across parts of the eastern States on Tuesday and into Wednesday.

Expected Impacts

Travel disruption is likely to be the main impact, though some disruption to power supplies is possible.



Western USA

Weather

A succession of weather systems are expected to bring an increased risk of valley rain and mountain snow, plus widely significantly below average temperatures in the coming week. Some snow is expected to fall to relatively low levels, including parts of Seattle and Portland where up to 30 cm of snow is possible over weekend, blown into drifts in places by strong winds. The heaviest snowfall will be reserved for the higher passes of the Cascades and Sierra Nevada ranges where a further 60 to 100cm of fresh snow could fall. Cold Canadian air may also result in some locally record breaking low temperatures for parts of coastal Washington and Oregon states. Further sleet and snow is expected to develop across the area early next week, though the main snow risk is across the higher ground and inland towards Idaho, with a rain (heavy at times) and snow mix at lower levels and close to the Pacific coast.

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.

Expected Impacts



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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. Heavy rain early next week along the coast may lead to some surface water impacts and river flooding.

Central America and Caribbean

Nil significant.

South America

Northern Argentina, Uruguay, southern Brazil, Paraguay and Bolivia

Weather

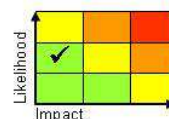
Heavy showers and thunderstorms are expected to become more frequent across the region from Sunday onwards. This zone of organised thunderstorms lying southeast to northwest and initially lying through Uruguay and towards Bolivia will gradually drift towards, and through Sao Paulo to Paraguay by mid-week. Some places likely to receive 100-150 mm of rain in 24 hours and 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

An upper trough will gradually move north across the area. Associated heavy showers and thunderstorms are likely to develop from Sunday onwards. This will engage the resident warm plume and likely trigger further MCS and super cell thunderstorms similar to that were seen during January.

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 and Peru)

Weather

Frequent heavy showers and thunderstorms are expected to continue across the northern Andes through the next week. Up to 75 mm of rain is possible in 24 hours with some places seeing a further 150-200 mm of rain over the next week which is significantly higher than 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 seen.

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.



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Africa**Rodrigues, Southwest Indian Ocean** – See *Tropical Cyclones* section.**Middle East**

Nil significant.

Asia

Nil

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. The heaviest rainfall has now moved away from the area with largely dry conditions expected in the coming week.

Discussion

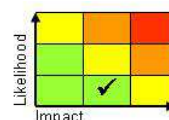
The combination of the tropical low (that was responsible for the extreme rainfall across the region) moving away from the region across the Coral Sea and the current MJO phase supports a significant reduction in rainfall. As such the recent heavy showers and thunderstorms have now died away, with largely dry week expected. This will aid the ongoing clean-up operations.

Expected Impacts

Northern Queensland continues to experience major flooding, particularly in the Townsville region. Despite the largely dry week expected, river levels will only slowly subside as water moves through individual catchments.

Additional information

Nil.

**Issued at:** 091055 UTC **Meteorologist:** Tony Wardle / Paul Hutcheon**Global Guidance Unit**

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