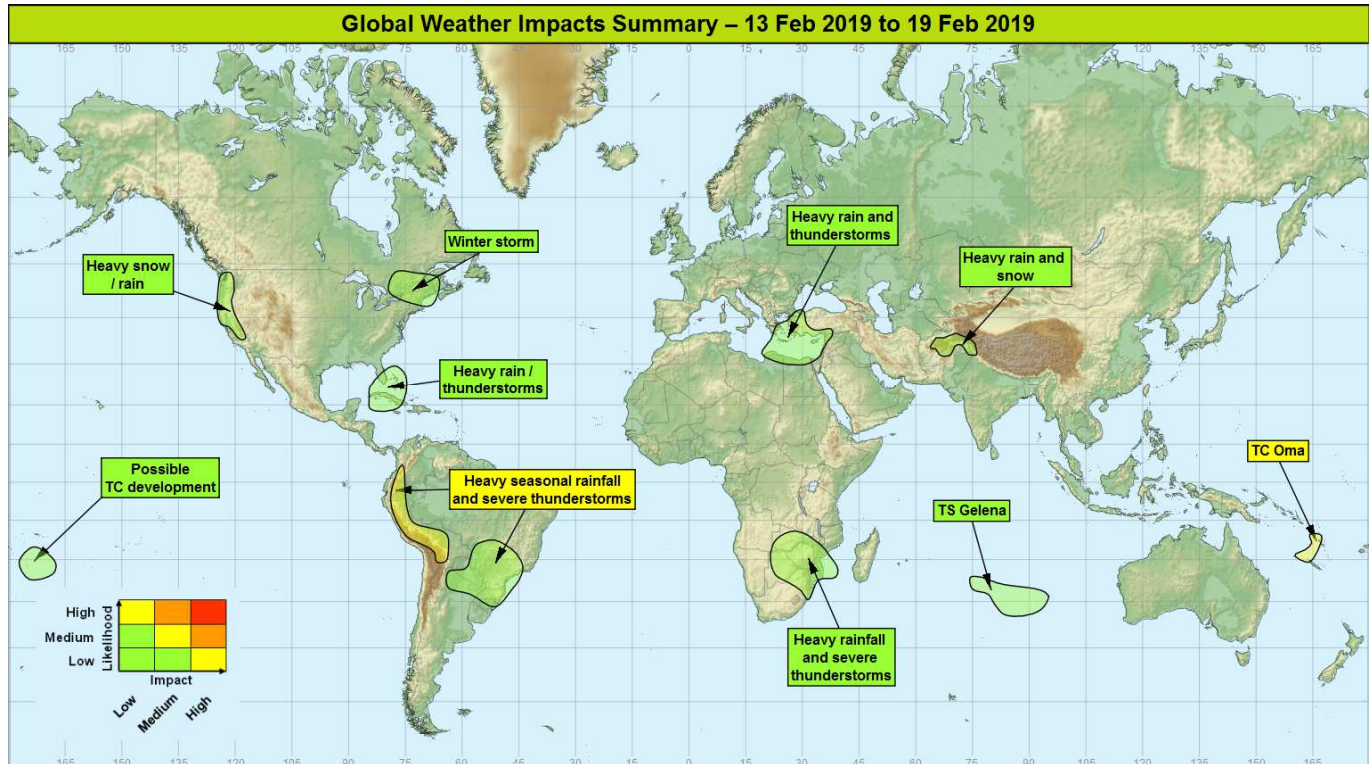


Global Weather Impacts – Wednesday 13th to Tuesday 19th February 2019

Issued on Wednesday 13th February 2019

HEADLINES

- Tropical Cyclone Oma expected to bring torrential rainfall and damaging winds to northern Vanuatu.
- Heavy seasonal rainfall and severe thunderstorms persist over parts of South America.
- Severe thunderstorms expected to develop over southeast Africa.



DISCUSSION

Tropical Cyclones

Severe Tropical Storm Gelena (Southwest Indian Ocean)

Weather

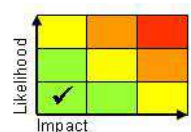
Severe Tropical Storm Gelena continues to move east to south-east across the Southern Indian Ocean, and is expected to weaken markedly through the next couple of days. Gelena poses no further threat to land and should dissipate before the end of the week.

Discussion

There is good agreement that Gelena will continue to track east or southeastwards, away from Rodrigues. Increasing wind shear is now starting to impact the cyclone, with rapid weakening and dissipation likely by Friday.

Expected Impacts

Any further impacts will be limited to maritime operations with the system forecast now remain over open waters.



This forecast may be amended at any time

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Tropical Cyclone Oma (Southwest Pacific)

Weather

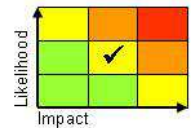
Oma formed on Tuesday and presently lies around 75 miles northwest of Espiritu Santo, northern Vanuatu. Oma is expected to pass close to or across the northern islands of Vanuatu through Wednesday, before likely turning south-southwest toward New Caledonia. The main impacts from the cyclone are likely to be from torrential rain, with 200-300 mm, locally 500 mm falling across northern Vanuatu through the next 24 to 48 hours. Although this is the rainy season, this would still equate to around one and a half times the average rainfall for February falling within two days. The winds associated with Oma are most likely equivalent to a strong tropical storm, with peak gusts of the order 70 to 75 mph.

Discussion

Oma is in a region of high sea surface temperatures but this is offset by strong vertical wind shear. The environment is marginally favourable for development, and Oma is likely to gain some strength through the next 24 hours. There is a fairly large model spread in the forecast track of Oma. The official track from RSMC Nadi slowly takes Oma close to, or across the northernmost island in the chain, Espiritu Santo. Afterwards Oma is most likely to turn south then southwest under the influence of a building sub tropical ridge, and gather speed as it heads towards New Caledonia.

Expected Impacts

Torrential rainfall will likely produce flash flooding across northern Vanuatu with river flooding possible. A modest storm surge is likely. Espiritu Santo is a fairly mountainous island, so there is an enhanced risk of landslides, although much of the population lives in small coastal communities. Some damage to buildings and infrastructure is possible due to Oma's winds.



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

Southwest Pacific Ocean

Weather

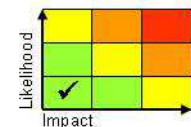
The development of Oma to the west means that there is now only a very small likelihood of a cyclone developing south of Fiji. Even if a system developed it is likely that it would remain over open water for the foreseeable future.

Discussion

There is now only a weak signal for development of anything other than a tropical low in this region. Examination of the multimodel ensemble data shows a rapid fall in the number of members tracking any system through Wednesday and Thursday, the likely effects of Oma inhibiting development.

Expected Impacts

No impacts are expected in this region.



Europe

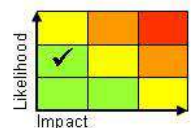
Greece, Turkey, Cyprus, the Levant coast and northern Libya and Egypt

Weather

Another period of disturbed weather for this region through the rest of this week and into the weekend. Outbreaks of very heavy rain are likely along with thunderstorms. 50-80 mm could fall in places each day (much of this in only a few hours) which is the equivalent of nearly a month's worth of rainfall. In addition, very strong, gusty winds and with coastal gales at times. This could also lift dust across northern Libya and Egypt. Later in the week, heavy mountain snow is possible, mainly over inland parts of Turkey.

Discussion

Continued amplification of the pattern over the E Atlantic and W Europe has driven an upper trough into the central Mediterranean where it is expected to undergo disruption. A strong N'ly jet on the trough's W'ern flank will help feed and maintain the resultant upper vortex over the E'ern Med, this then likely replaced by a further vortex sinking south across eastern Europe by the weekend. A sympathetic surface depression is expected to form today with upper short waves acting to organise rainfall and thunderstorms at times.



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Expected Impacts

Increased threat of flash flooding and landslides in mountainous areas. Strong winds and rough seas could impact aviation and maritime transport. Risk of impacts to vulnerable and displaced populations in the region.

North America

Southeast Canada and the New England region of the USA

Weather

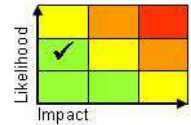
An active winter storm will continue to move north across eastern Canada today. The worst effects of the storm have now eased across most of the north-eastern USA. However parts of New England and the Canadian province of Quebec could see a further 10-20 cm, locally 30 cm of snowfall through the next few hours.

Discussion

The mature parent low is likely to fill as it tracks across the Great Lakes into eastern Canada. The upper trough then engages the warm plume to form a new low over the north-eastern USA this morning, which then runs away to the northeast through the day, driving the active cold front east into the Atlantic Ocean.

Expected Impacts

Travel disruption is likely to be the main impact, though disruption to power supplies is also possible. Heavy snow could lead to some rural communities temporarily being cut off. Flash flooding could occur in the south of the area during Tuesday.



Western USA

Weather

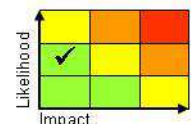
The cold spell affecting much of the western USA (and south-western Canada) looks set to persist for some time to come. A succession of weather systems are expected to bring further spells of heavy snow down to fairly low levels as well as some heavy rain. Snowfall could continue to fall in and around Seattle and Portland over the coming days. The heaviest snow and largest accumulations will be over higher ground. In particular over the Cascades with 75-150 cm possible in places and the Sierra Nevada range in California could see over three meters of snow in places through the coming week. For coastal regions of northern and central California 200 mm, locally 300 mm of rainfall is possible by the end of the week, around double the average February rainfall in this region.

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. The latest output from the longer range ECMWF model suggest that this pattern could persist well into next week.

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. There is an increased risk of avalanches. Cold temperatures following across the region may have an adverse impact to vulnerable populations. Heavy rain along the coast may lead to some surface water impacts and river flooding.



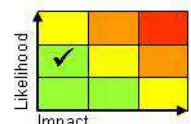
Southern Florida, USA, Cuba and The Bahamas

Weather

Heavy rainfall and severe thunderstorms are expected across this region through Wednesday and Thursday. Locally 50 to 100 mm of rainfall is possible, along with large hail and strong gusts of wind.

Discussion

A thermally well marked cold front, associated with the winter storm over the NE of the US, will be driven by a confluent upper trough. Forecast profiles through the frontal zone show 1000-1500 J/kg CAPE available along with around 50 mm precipitable water. 50-100 mm of rainfall may fall within a short period with large hail possible.



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Expected Impacts

Disruption to travel is possible along with flash flooding.

Central America and Caribbean

Cuba and The Bahamas - See *North America* Section.

South America

Northern Argentina, southern Brazil and Paraguay

Weather

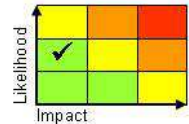
Heavy showers and thunderstorms are expected to be frequent across the region during this week. Further bouts of organised thunderstorms are likely to form then drift north across this area over the coming days. Some places are likely to receive 100-150 mm of rain in 24 hours and, over the week, some places may receive around 200 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

A recent trough disruption left a residual vortex over central Chile. This is expected to drift east over the next 48 hours acting to enhance activity on the SACZ. Associated heavy showers and thunderstorms are likely to develop with low level convergence helping to focus activity. The vortex engaging the resident warm plume will likely trigger MCS and super cell thunderstorms similar to those seen during January.

Expected Impacts

Parts of northern Argentina and southern Brazil 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 posing a threat to life.



Northern Andes (Colombia, Ecuador, Peru and Bolivia)

Weather

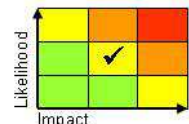
Frequent heavy showers and thunderstorms are expected to continue across the northern Andes through the next week, extending to Bolivia at times. 75-100 mm of rain is possible each day in places (falling within the space of a few hours) with some places seeing a further 150-200 mm of rain over the next week, which is significantly higher than the monthly average. There is small chance that very locally 250-350 mm may fall over the course of the week.

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 is also possible if thunderstorms impact urban areas. Parts of Peru in particular have been badly affected with a state of emergency declared in a number of provinces. Across 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

Northeast South Africa, Swaziland, Botswana, Zimbabwe, Zambia and southern Mozambique

Weather

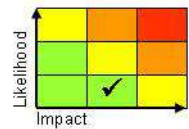
Heavy rainfall and severe thunderstorms are expected in this area through the coming week with a chance of activity becoming enhanced/heavier from today (Wednesday) onwards. There is the potential for 100-150 mm to fall in places each day with as much as 400-500 mm over the course of the week, although there is still a degree of uncertainty as to where the heaviest rainfall will fall. Thunderstorms will bring additional hazards of strong winds, large hail and frequent lightning.

Discussion

There are signs that rainfall and thunderstorm activity will become enhanced in these areas over the coming week with a signal for increased low level convergence helping to organise activity. In addition, the MJO moving into Phase 8 could be linked to positive ppn anomalies in these areas. There is still some model spread over the location of the heaviest rainfall, although less so than 24 hours ago. There is a signal from some models, notably GM, for a depression to develop over the weekend, then emerge into the southern Mozambique Channel next week, perhaps becoming a sub-tropical storm.

Expected Impacts

Whilst the rainfall will be welcome to some extent in many of these areas the intensity will bring an increased chance of flash flooding. Large hail, strong winds and frequent lightning from thunderstorms could also disrupt transport (especially aviation) and power networks.



Northern Libya and Egypt – See *Europe* section.

Middle East

Levant coast – See *Europe* section.

Asia

Afghanistan, northern Pakistan and the far northwest of India

Weather

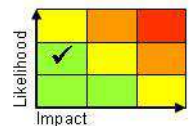
Remaining very unsettled across this area over the next few days with a combination of heavy rain and mountain snow. Over the Hindu Kush 50-100 cm of snowfall is likely. In excess of 100 mm of rain could fall at lower-levels, which would be over the equivalent of a month's worth of rainfall. Kabul has thus far seen rain, although it's still possible the city may see a brief spell of snow before it clears later today.

Discussion

An upper trough will continue east across the area having already engaged a low level plume drawn northwards of the Middle East. Its progression will be slowed somewhat in response to upstream amplification. This will result in an active depression only slowly migrating eastwards across the area during the week increasing the likelihood and large rain and snow totals. WBFLs in the range of 2000-2500m (potentially locally much lower where cold air has pooled in valleys) will make ppn phase in populated areas such as Kabul difficult to determine. The city has thus far seen rain, whereas Dahlke to the south, just 200 metres higher than Kabul has seen persistent snow.

Expected Impacts

Snowfall over the mountains will likely block some high road passes in the region and enhance the risk of avalanches. The combination of snowmelt and heavy rain at lower levels could lead to flash and/or fluvial flooding. Below average temperatures may impact vulnerable populations.



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Australasia

Vanuatu, New Caledonia and Fiji – See *Tropical Cyclones* section.

Additional information

Queensland, Australia – Flooding: The meteorological situation over Queensland has significantly improved with a largely dry outlook for much of this week. However, as a consequence of unprecedented, record breaking rainfall fluvial response continues with information from the Bureau of Meteorology highlighting ongoing major river flooding in some northwestern parts of the state. The Flinders River is experiencing its most significant flood in at least 50 years.

New Zealand – Wildfires: After recent hot and dry weather there are reports of a number of wildfires over parts of New Zealand with a wildfire near Nelson (far north of the South Island) becoming particularly newsworthy due to the evacuation of 2500-3000 people over recent days. Some rain is forecast for the South Island this week although it is likely that the Nelson area will likely be largely sheltered from this with hot and predominantly dry conditions persisting. There are some signs that less warm/hot weather will become established over the coming weekend. However, further wildfires are likely for the remainder of the austral summer and into the early autumn.

Issued at: 130815 UTC **Meteorologist:** Mark Sidaway

Global Guidance Unit

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