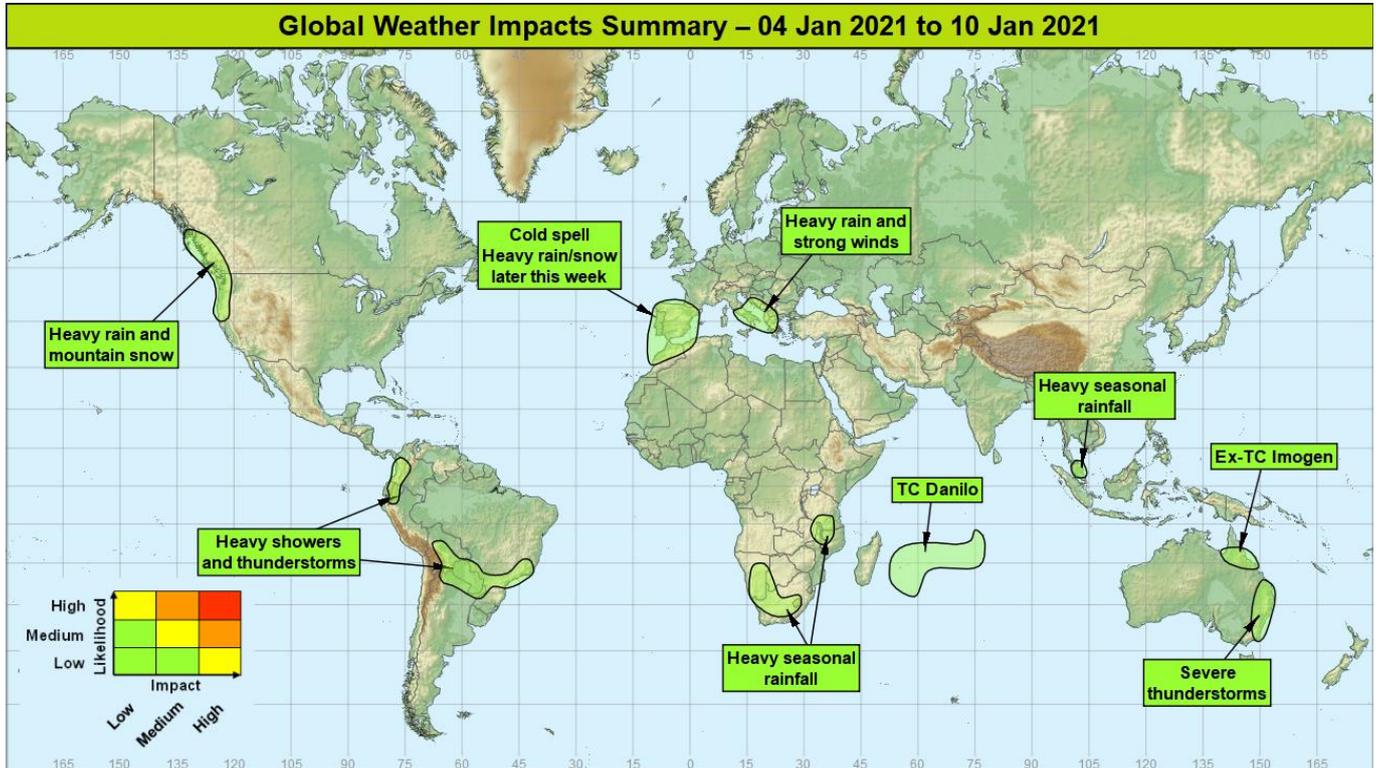


Global Weather Impacts – Monday 4th to Sunday 10th January 2021

Issued on Monday 4th January 2021

HEADLINES

- Tropical Cyclone Danilo threatens Mauritius and Reunion later this week and over the weekend.
- Tropical Cyclone Imogen was named ahead of landfall yesterday over Queensland, Australia.



Tropical Cyclones

Tropical Cyclone Danilo – Mauritius and Reunion

Weather

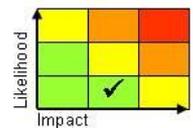
Danilo which formed on New Year's Day has continued to track slowly southeast over the open southern Indian Ocean. During midweek the system is expected to turn and start tracking westwards. There is significant uncertainty in both its track and intensity but Danilo does bring an increased threat of impacts for Rodrigues (Mauritius) later this week and then Mauritius and Reunion over the weekend.

Discussion

NWP is in good agreement that Danilo will start to be steered westwards from Tuesday due to the sub-tropical ridge to the south. This therefore brings an enhanced risk of landfall for the small islands in the SW Indian Ocean. There is a much greater spread in its intensity. The environment looks marginal for significant strengthening. While vertical wind shear is likely to be weak to moderate SSTs are only around 26C which may be a limiting factor.

Expected Impacts

Increased threat of damaging winds and flash flooding from torrential rain.



This forecast may be amended at any time

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Ex-Tropical Cyclone Imogen – Queensland, Australia

Weather

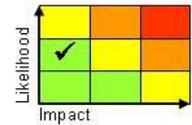
Imogen was named briefly yesterday ahead of landfall near Karumba, Queensland. The system is now over land and has been downgraded to just a tropical low, and it will continue weakening as it continues to track southeast inland. However, these remnants will still produce a corridor of very heavy rainfall across an area down towards Townsville. Widespread rainfall totals of 50-100 mm are likely over the next couple of days with as much as 250-300 mm in places. Even once Imogen has fully dissipated heavy showers and thunderstorms will continue to feed west across northeast Queensland. By the end of the week, some areas near the coast could see 400-500 mm of rain build up. This is typically the wettest time of the year for this part of Australia but even so the wettest areas are expected to see well in excess of a typical month's worth of rain.

Discussion

The deep moist tropical airmass will continue to take hold over these northern parts of Australia, fuelled by SSTs in excess of 30 °C in places with BOM stating that the monsoon has arrived in Darwin (slightly early thanks to La Niña). This short-lived tropical cyclone which formed on Sunday will continue dissipate as it moves further inland during Monday but will help focus areas of torrential rainfall over the coming days.

Expected Impacts

Much of this region is sparsely populated, and so impacts will be minimal, but flash, and possibly riverine, flooding is likely.



Europe

Italy, Croatia, Bosnia, Montenegro, Albania, Kosovo, North Macedonia and Greece

Weather

Unsettled conditions are expected to persist through this week with heavy showers and thunderstorms in places along with some more prolonged rainfall in places. Daily rainfall accumulations of around 50-75 mm are likely in places with 7-day accumulations of up to 250mm possible. These higher accumulations are more likely over Montenegro, Albania and Greece with rainfall signalled to become more prolonged across these areas later this week. This would suggest some places receiving their January monthly rainfall in under a week. Above around 1500 metres, heavy snow is expected to accumulate. Strong winds can also be expected at times which may lead to rough seas.

Discussion

A longwave upper trough extending over southern Europe will start to relax away to the NE over the next 24 hours. Which should lead to a gradual reduction in the extent of showers. However, during Thursday and Friday a frontal zone is likely to become aligned with the flow for a time potentially leading to further heavy rain in the SE of this area with the potential for significant orographic enhancement.

Expected Impacts

Flash flooding is likely, with some riverine flooding possible. At higher elevations, an enhanced avalanche risk is expected to develop.



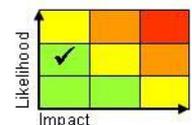
Iberia, Algeria and Morocco

Weather

Cold weather will persist across northern parts of Iberia over the next week with temperatures 5-10C below average. Further south the cold weather is likely to break by Wednesday. A marked change is expected from midweek with an increasingly active weather system expected to develop. This bringing heavy rain, potential for 100-150 mm to fall in places, across southern areas with a spell of heavy snow on the system's northern flank (most likely over central Spain) from Thursday onwards. Strong winds and gales likely for some coastal districts.

Discussion

A major trough extension W of Iberia later this week will draw a plume of high WBPT air N'wards. This colliding with the in-situ cold airmass leading to a frontogenic environment from Wednesday onwards leading to heavy rain in the S and heavy snow over parts of Spain.



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Expected Impacts

Continued wintry hazards in places (ice, hill snow and health impacts) over the coming days. Towards the end of the week significant disruption is possible due to snow across parts of Spain whilst further south heavy rain brings an increased threat of flash flooding.

North America

Southwest Canada and northwest USA

Weather

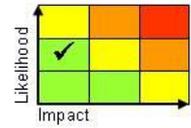
Repeated frontal systems will bring heavy rain (coastal regions) or snow (higher ground) through the coming week. Some areas are likely to accumulate 50-80 mm in 24 hrs (or 20-30 cm snow inland) - heavier accumulations of snow of over 1 m are possible in places. Totals over the course of a week could exceed 300 mm in places.

Discussion

A succession of active Pacific frontal systems will move across the region, with upper troughs engaging tropical moisture drawn northwards ahead of them and fuelling development.

Expected Impacts

Some coastal flash flooding is possible, with an increased risk of avalanches in mountainous terrain.



Central America and Caribbean

Nil.

South America

Southern Brazil, Bolivia, Paraguay and northern Argentina

Weather

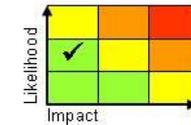
Heavy showers and severe thunderstorms are likely to affect this region through the coming week. Rainfall totals will vary between locations but in the wetter locations 100-200 mm is possible. Rio de Janeiro typically sees 130 mm of rainfall per month in the wettest period of the year. The most severe thunderstorms (risk large hail, frequent lightning and strong gusty winds) are likely to be across the west of this area.

Discussion

The South American Convergence Zone (SACZ) has become established and is extruding tropical moisture southeastwards across this region. Precipitable water values of between 50-60mm, as well as CAPE values over 2500 Jkg⁻¹, will lead to some slow-moving severe convection which will support significant short period accumulations. Heavier bursts will also be helped by the occasional appearance of mid-latitude upper troughs extending north.

Expected Impacts

Continued threat of flash flooding and landslides. Some very localised damage is possible for hail/strong winds/lightning.



Western Columbia and Peru

Weather

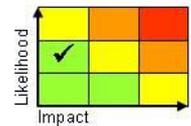
Heavy showers and thunderstorms will more frequent than normal over the coming days bringing daily accumulations of up to 150-200mm in places. This equates to around half the average January rainfall for the area.

Discussion

A strengthening of the cross-equatorial flow will aid a low pressure centre to develop off the Pacific coast of Columbia, enhancing precipitation here for a while.

Expected Impacts

Increased risk of flash flooding and landslides in steep terrain.



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Africa

Parts of southern Africa

Weather

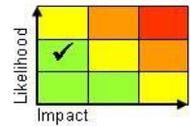
Heavy showers and thunderstorms are expected to remain more frequent than is usual through the coming week with daily rainfall accumulations of 75-100 mm locally possible, aided by moisture from the remnants of Ex-Chalane. Around Lake Malawi some places are likely to exceed their typical average rainfall for January in under a week.

Discussion

The remnants of Chalane which is set to run back east over southern Africa will continue to provide an injection of moisture for heavy shower and thunderstorm development.

Expected Impacts

Rainfall has been above average over the past 3 months across much of this region making it more susceptible to impacts from flooding.



Algeria and Morocco – See Europe section.

Middle East

Nil.

Asia

Malaysia

Weather

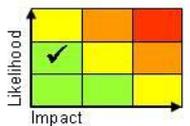
Heavy rain and thunderstorms will continue to affect the region over the coming week. 50-100 mm of rain may fall in a few locations in 24 hours. Some places are likely to receive in excess of 300 mm of rain by the end of this week. However, this is the wet season and so this is not too unusual even though there will be some impacts.

Discussion

Strong NE monsoonal flow coupled with potential tropical wave activity will lead to enhanced convection across Malaysia over the coming week, particularly windward regions.

Expected Impacts

Flash and riverine flooding likely in places.



Australasia

Northern Australia – See *Tropical Cyclone section*

Eastern Australia

Weather

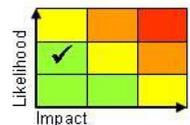
Heavy showers and locally severe thunderstorms are expected over the next week, with daily rainfall totals of up to 50-100 mm possible, along with a threat of large hail and strong, gusty winds.

Discussion

A series of upper troughs are likely to engage a southern extension of the monsoon plume to produce a severe thunderstorm threat across parts of New South Wales and southeast Queensland, as well as parts of Victoria at first.

Expected Impacts

Some localised impacts could be seen from flash flooding and hail / wind damage due to the severe storms.



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Additional information**Eastern Asia**

Cold surge across Eastern Asia is likely to continue well into the coming week. Temperatures are around 10 °C below average resulting in widespread air frosts across the region. Strong or gale force winds will produce a potentially dangerous wind chill, but this change of airmass should improve the air quality in parts of China, at least for a few days. Heavy snowfall is likely across windward topography of Japan.

Much of the Maritime Continent

Many eastern parts of the Maritime Continent will continue to experience above average rainfall amounts in the coming week. Higher than average sea temperatures in the area thanks to the current La Nina conditions will continue to fuel torrential downpours though any impacts expected to be very localised and very difficult to pinpoint.

Issued at: 040830UTC**Meteorologist:**

Chris Bulmer / Chris Almond

Global Guidance Unit

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