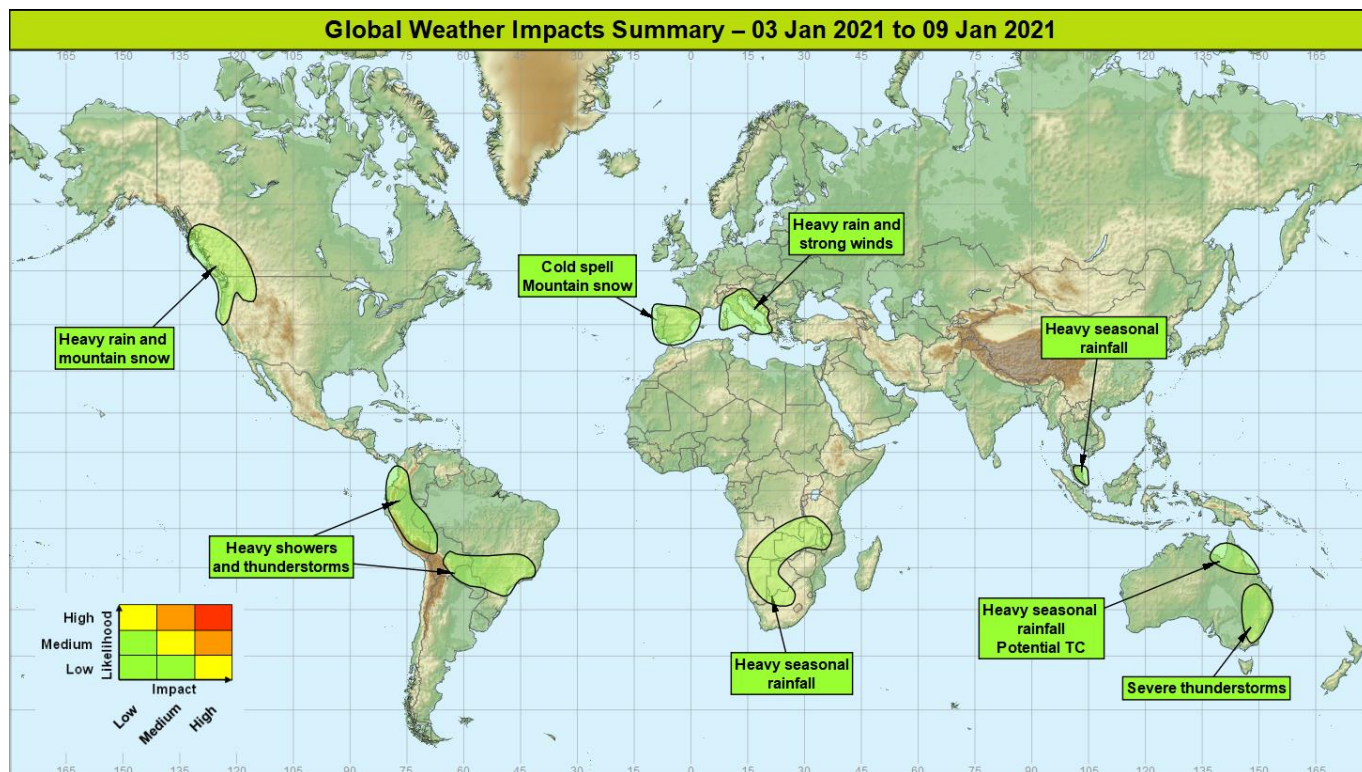


Global Weather Impacts – Sunday 3rd to Saturday 9th January 2021

Issued on Sunday 3rd January 2021

HEADLINES

- Heavy rainfall across southern Africa, aided by Ex-Chalane.
- Significant winter storm bring disruptive weather to parts of Northern America.
- Possible tropical cyclone development close to northern Australia early this week.



Tropical Cyclones

There are currently no active tropical cyclones affecting land. The following tropical cyclones may affect land during this forecast period:

Tropical Storm Danilo - Southern Indian Ocean

Weather

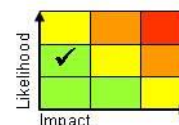
Danilo formed over the southern Indian Ocean on New Years' Day. Although the system is expected to strengthen it is likely to remain over open water through the coming week, drifting slowly toward Rodriguez toward the end of the week.

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

Northern Australia

Weather

Heavy seasonal rainfall and thunderstorms are likely to continue this week across the north of Australia as the monsoon rainy season continues. There is a developing signal for a possible tropical storm to form across the Gulf of Carpentaria early next week. Any development is likely to then track south-east across the north-end of Queensland. Daily rainfall totals of 50-100 mm may develop quite widely, with localised totals of 200-300 mm possible in the event of a tropical development.



This forecast may be amended at any time

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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). A slow moving tropical low has formed and it is this which may well consolidate into a tropical storm over the next couple of days.

Expected Impacts

Much of this region is sparsely populated, and so impacts will be minimal, but flash, and possibly riverine, flooding is likely, along with an increasing chance of strong and gusty winds.

Europe

Parts of Italy and the Adriatic coastline

Weather

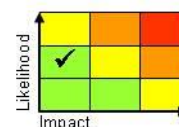
Very unsettled conditions are expected across to continue across this part of southern Europe with frequent heavy showers and thunderstorms on most days. Daily rainfall accumulations of around 50-75 mm are likely in places with 7-day accumulations of up to 250mm possible. These higher accumulations are most likely to occur over the Adriatic Coast from Southern Croatia to northern Albania. This would suggest some places receiving their January monthly rainfall in under a week. Above around 1500 metres, heavy snow is expected to accumulate.

Discussion

A longwave upper trough is established over Europe with the southern flank of this vortex drawing upon warmth and moisture over the Mediterranean to generate multiple episodes of thunderstorms and more persistent precipitation over windward topography. A brief respite on Monday before conditions turn unsettled once again by midweek as a portion of the disrupted trough swings NE from Iberia towards the region.

Expected Impacts

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



Iberia

Weather

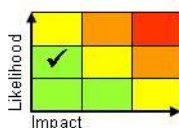
Heavy snow is expected to continue along the Cantabrian Mountains in northern Spain until later Monday or early on Tuesday. This is likely to bring accumulations of up to 25cm of snow per day in places. This is part of a widespread and prolonged cold spell across the Iberian Peninsula throughout the coming week. Temperatures will widely be 5 to 10 C below average, with some unusually low overnight temperatures a particular feature.

Discussion

A succession of frontal systems followed by a northerly flow will continue to bring snowfall to northern Spain over the next couple of days, with the cold air sinking south to bring a widely cold period to Iberia.

Expected Impacts

Dangerous road conditions in the mountains and increased risk of avalanches. Unusually cold overnight temperatures could impact agriculture across the region.



North America

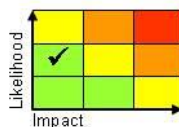
Southwest Canada and northwest USA

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 more 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 surface features will move across the region, with upper troughs engaging tropical moisture drawn northwards ahead of them and fuelling development.



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Expected Impacts

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

Central America and Caribbean

Nil.

South America

Central/southeastern Brazil, Paraguay, Bolivia and southern Peru

Weather

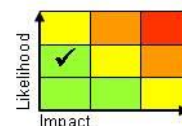
Heavy showers and severe thunderstorms are likely to affect this region through the coming week. Rainfall totals will vary between locations but in the wetter locations 100-200 mm is possible. Rio de Janeiro typically sees 130 mm of rainfall per month in the wettest period of the year.

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 in to the area.

Expected Impacts

Continued threat of flash flooding and landslides.



Western Columbia and northern Peru

Weather

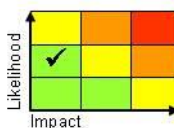
Heavy showers and thunderstorms will become more frequent through this weekend and into the first part of next week bringing daily accumulations of up to 150-200mm in places. This equates to around half the average January rainfall for the area.

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.



Africa

Parts of southern Africa

Weather

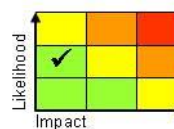
Heavy showers and thunderstorms are expected to remain more frequent than is usual through the coming week with daily rainfall accumulations of 75-100 mm locally possible, aided by moisture from the remnants of Ex-Chalane. Around Lake Malawi some places are likely to exceed their typical average rainfall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

Discussion

The passage of Tropical Depression Chalane to the south will act to further enhance the low level convergence that has contributed to above average rainfall across this region through the early stages of the wet season.

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.



Middle East

Nil.

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**Asia****Malaysia****Weather**

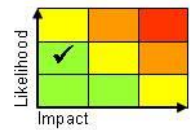
Heavy rain and thunderstorms will continue to affect the region over the coming week. 50-100 mm of rain may fall in a few locations in 24 hours. Some places are likely to receive in excess of 300 mm of rain by the end of this week. However, this is the wet season and so this is not too unusual even though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

Discussion

Strong NE monsoonal flow coupled with Equatorial Rossby Wave and Kelvin 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.



Other areas of east Asia and Maritime Continent – See *Additional information* section.

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.

**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 some severe thunderstorms at times.

Issued at: 030600UTC

Meteorologist: David Oliver

Global Guidance Unit

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