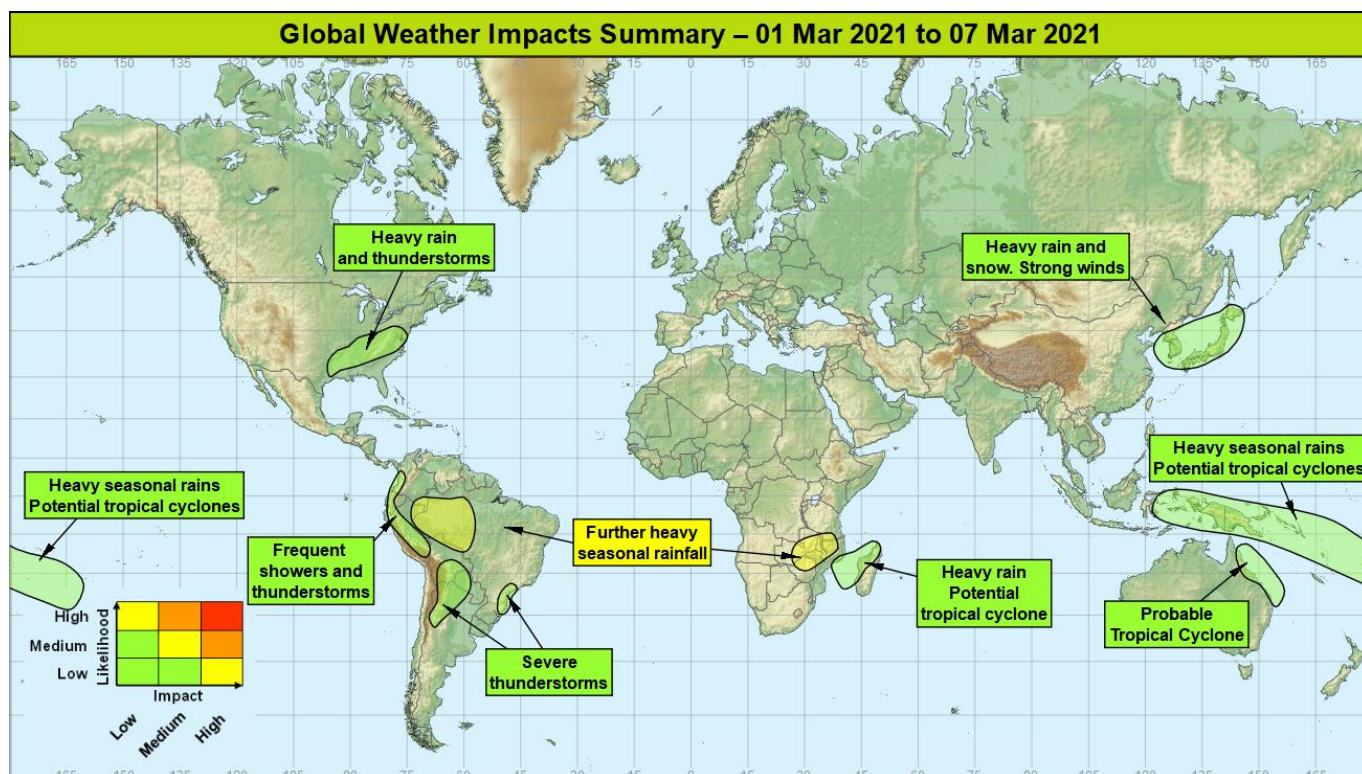


Global Weather Impacts – Monday 1st March to Sunday 7th March 2021

Issued on Monday 1st March 2021

HEADLINES

- Potential tropical cyclone activity impacting Queensland, Madagascar and some Southwest Pacific islands through the week.
- Continued heavy rainfall across parts of southern Africa and South America.



DISCUSSION

Tropical Cyclones

The following areas are being monitored for tropical cyclone development that **may** affect land:

Queensland (Northeast Australia) and Coral Sea Weather

A cluster of thunderstorms along and just east of the Queensland coastline look increasingly likely to develop into a tropical cyclone at some point today or this evening. Although a direct coastal impact is not expected, gales are possible along exposed coastal and island areas as the system reaches cyclone strength in-situ offshore. In the longer term, the system is expected to take a southeasterly track later this week, while remaining off the coast as a decaying system. Regardless of the intensity of the system, this looks likely to be primarily a heavy rain event with 100-300mm likely along the coastline.



This forecast may be amended at any time

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Discussion

The monsoon trough and the SPCZ are in an active phase and there is an increasing signal for a slow moving tropical cyclone to develop over the Coral Sea, close to the Queensland coast in the next 24 hours or so. Shear is low and SSTs would support development. The flow will steer this feature SE'ly parallel to the coastline of E'ern Australia. Cooling of SSTs by mixing/extraction of ocean heat content, and possible interaction with the coast, are mechanisms which could hinder development.

Expected Impacts

Some flooding, possibly severe, across portions of the north-east coast of Queensland. Lower likelihood of damaging winds and coastal flooding.

Southwest Pacific (Papua New Guinea, parts of Indonesia, Solomon Islands, New Caledonia, Vanuatu, Fiji, Tonga and Samoa) – see *Australasia* section

Madagascar, Mozambique Channel – see *Africa* section

*Areas being monitored for tropical cyclones/cyclone developments that are **not expected to affect land**:*

Southern Indian Ocean: Tropical Cyclone Marian formed on Friday in the southeast Indian Ocean. This is currently a strong cyclone across the over open waters and will gradually decay in the coming week. There is an increasing signal for another tropical cyclone development to the west of Marion across the central Indian Ocean by mid-week, but not expected to impact land.

Europe

Nil.

North America

Central and southeast USA

Weather

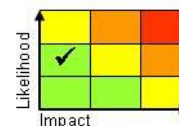
Periods of heavy rainfall and thunderstorms are expected to continue today across the area. 50 to 75 mm are possible, and this follow recent heavy rainfall. In addition to heavy rain, large hail and frequent lightning are likely, mainly in the south of the region. From Tuesday the more unsettled conditions will be found further south as the front shift south to allow colder, more settled conditions to follow from the north.

Discussion

A major trough extension over the Rockies will pull up warm, moist air from the Gulf of Mexico, increasing baroclinicity across central parts of the USA. An active front has developed bringing heavy precipitation and the risk of severe, mainly elevated thunderstorms. With these the greatest hazard is likely to be lightning and hail. However in the next 24 hours a build of high pressure across the Central USA, will clear the baroclinic weakening zone/cold front southwards.

Expected Impacts

Flash flooding possible. Increasing likelihood of river flooding, especially in smaller river catchments. Threat of damage from large hail and power outages.



Central America and Caribbean

Nil.

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**South America****Southeast Colombia, northeast Peru, northwest Bolivia and northern Brazil****Weather**

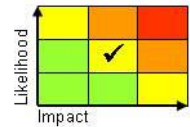
Further heavy showers and thunderstorms, though becoming less widespread than recently, across the region. The heaviest rainfall likely confined to northeast Brazil, with somewhat drier conditions developing across flood impacted northwest Brazil. Around 75 to 150 mm of rain is likely to build up widely, with some places having as much as 300 mm – double the weekly average and following several weeks of heavy rainfall.

Discussion

An active ITCZ across this region, with an abundance of warm moist air expected to bring enhanced convection widely.

Expected Impacts

Significant likelihood of flash flooding across urban areas. Given the antecedent wet conditions and recent severe flooding in the region (e.g. Acre, Brazil), further river flooding is likely, increasingly so in northeast Brazil. Lightning and strong gusty winds will continue to be additional, localised hazards.

**Southeast Brazil****Weather**

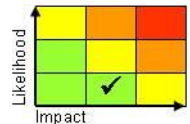
Further thunderstorms are expected to affect this region today. Daily rainfall accumulations of 50-75 mm are possible, with this following recent heavy rain across the area 50-75mm expected in places; typically this region would see 150 to 200 mm in an average February. Additional hazards of strong winds and frequent lightning strikes are possible.

Discussion

A mid-latitude upper trough is engaging the SACZ producing thunderstorms in the high WBPT plume. These storms likely to be intense, even severe especially along the coast. The relaxing of the upper trough will ease the shower risk from today.

Expected Impacts

Flash flooding probable bringing disruption to travel. Threat of disruption to power supplies.

**Northwest Argentina, Paraguay and southwest Bolivia****Weather**

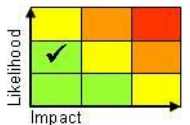
There is the potential for severe thunderstorms to develop in the coming days, especially from mid-week. 75-100mm of torrential rain is expected per day, with significant totals in a few hours likely. Large hail, strong winds and frequent lightning strikes are also possible.

Discussion

A high WBPT plume extended south from Bolivia will become under the influence of the sub-tropical jet. An upper trough relaxing NE will further destabilise the airmass early next week. CAPE is large ~2000 J/kg suggesting very energetic convection, with intense rainfall, frequent lightning strikes and large hail.

Expected Impacts

Flash flooding likely along with some localised damage to crops and property from large hail. Interruptions to power supplies are also possible.



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Ecuador and western parts of Peru and Colombia

Weather

Frequent showers and thunderstorms are expected to affect this area until Tuesday. 30-50 mm could fall in these showers in the space of an hour or two, whilst many places will see in excess of 100 mm over the next 3-5 days. Some spots could see up to 300 mm of rain.

Discussion

A Central American Gyre type formation will increase the low level convergence across the northwest of South America through the next 2 or 3 days which will increase the depth of convection and the available PWAT for intense shower development. The low level convergence will ease towards midweek allowing the shower activity to become less intense and more isolated.

Expected Impacts

Increased likelihood of flash flooding, and landslides in areas of steeper terrain.



Africa

Madagascar and eastern Mozambique

Weather

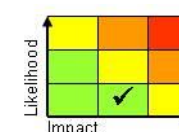
Heavy rainfall is expected to affect to develop across the Mozambique Channel and transfer towards Madagascar in the coming week. By the weekend a few places could see 300-450mm of rain, though generally 100-200 mm is more likely. This is around 2-3 weeks' worth of rain in what is currently the wet season. There are increasing signals for a depression to develop over the Mozambique Channel on Tuesday, then intensify as it tracks towards western Madagascar. There is a low probability this may form into a tropical cyclone prior to landfall, but confidence in this evolution is low.

Discussion

The ITCZ looks likely to remain active over the next few days in this region, with a number of tropical depressions likely to organise thunderstorms into clusters at times. In addition, daytime thunderstorms are expected to develop over land. The formation of a tropical cyclone in this region cannot not be ruled out.

Expected Impacts

Increased likelihood of flash flooding in the region, and landslides in steeper terrain.



Parts of Zimbabwe, Zambia, Malawi, northern Mozambique and southern Tanzania

Weather

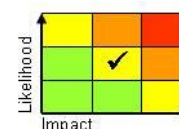
Frequent and widespread daily thunderstorms are likely to affect this region today. Given the recent wet weather this may be more impactful than normal. Up to 75-150 mm of rain is likely, more especially with locally severe thunderstorms where 50mm could fall in in a few hours. From tomorrow the showers becoming less widespread.

Discussion

Background La Niña state will be the main contributing factor to maintaining very active monsoonal rains across this region, with an abundance of warm moist air expected to bring enhanced convection widely. However, there is a strong model signal for the activity by tomorrow.

Expected Impacts

Threat of flash flooding and landslides, river flooding may be an issue too given recent conditions.



Middle East

Nil.

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**Asia****Japan, Korean Peninsula and northeast China****Weather**

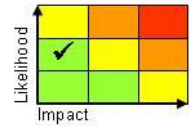
An area of heavy rain and snow across the Korean Peninsula today, transferring across the Sea of Japan on Tuesday to affect Japan. The associated intense depression will also produce a threat of strong winds.

Discussion

An upper trough and plume extends north into the Korean Peninsula today, leading to cyclogenesis across the Sea of Japan on Tuesday. This system will produce the potential for gales and heavy rainfall which will fall as snow to low elevations on the northern side of the frontal plume.

Expected Impacts

Flash flooding and wintry hazards seem like the most likely impacts.

**Australasia****North-eastern Australia, Papua New Guinea, parts of Indonesia, Solomon Islands, New Caledonia, Vanuatu, Fiji, Tonga and Samoa****Weather**

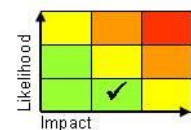
Heavy shower and thunderstorm activity is expected to be above average through much of the next week across a broad area, with daily rainfall totals of 50-100 mm likely in places and seven day accumulations of up to 500 mm. Several tropical disturbances exist, which could spin up into a tropical cyclone over the next few days, although confidence in any development at the present time is very low.

Discussion

There is a signal for an active SPCZ and monsoon trough during this period, aided by the passage of the MJO and the ongoing La Niña state. Although this is the annual wet season for much of this region, this is still more than the average monthly accumulation in some places. Several tropical circulations are likely to lie close to northern Australia and parts of Melanesia, although the model signal for any of these to develop into cyclones is currently weak and noisy.

Expected Impacts

Increased threat of flash flooding and landslides.

**Additional information**

Nil.

Issued at: 290800UTC

Meteorologist: Tony Wardle / Chris Almond

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