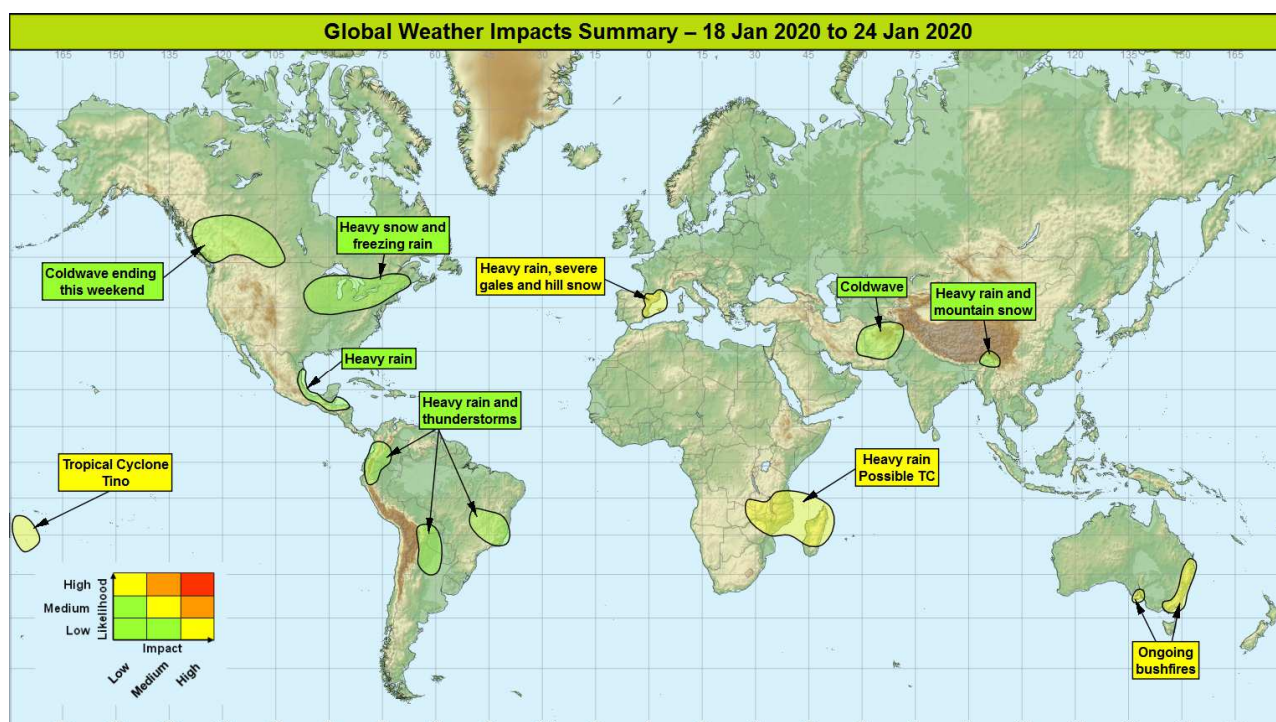


Global Weather Impacts – Saturday 18th to Friday 24th January 2020

Issued on Saturday 18th January 2020

HEADLINES

- Bushfires continue across southeast Australia, thunderstorms continuing too over the next few days.
- Severe Tropical Cyclone Tino now clear of Fiji tracking near Tonga.
- Further heavy rain across parts of southeast Africa.
- Very heavy rainfall, hill snow and strong winds expected across eastern Spain from Sunday.



DISCUSSION

Tropical Cyclones

Severe Tropical Cyclone Tino – southwest Pacific

Weather

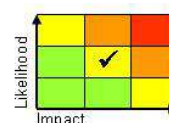
Severe Tropical Cyclone Tino has now cleared Fiji and will track close to Tonga during today (Saturday) before moving over the open ocean. Torrential rain remains likely along its path with accumulations of around 100-150 mm, locally 250 mm. In addition, damaging winds (sustained winds of 70 to 85 mph) are possible, along with rough seas and large waves.

Discussion

Consistent model signal that Tino will continue southeast probably impacting Tonga before clearing into the open ocean. Official guidance from RSMC Nadi suggest Tino will remain a 'Cat 3' cyclone over the next 24 hours.

Expected Impacts

Risk of further flash floods and damaging winds for islands within its track as has been observed/reported from Fiji over the last 24 hours.



This forecast may be amended at any time

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The following area is being monitored for potential development:

Southwest Indian Ocean**Weather**

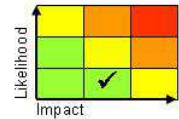
There is a low chance of tropical cyclone development next week in the vicinity of Madagascar and potentially in the Mozambique Channel. Any system would bring an increased chance of damaging winds. In addition, rainfall would be further enhanced especially across Madagascar.

Discussion

Conditions will be marginal for tropical cyclone development next week with high SSTs, moist atmosphere and predicted favourable upper level divergence, perhaps offsetting a somewhat hostile shear environment generated by a strong MJO in the Pacific Ocean. Whilst most model solutions do suggest some development taking place close to Madagascar, there is a very large spread in terms of both where and when a system forms.

Expected Impacts

Rainfall from any system that develops could further enhance the flooding risk in the region.

**Europe****Eastern Spain, The Balearics and far south of France****Weather**

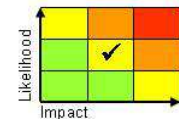
Heavy rain and high ground snow is expected to affect this region from Sunday. 75-150 mm of rain is likely to fall quite widely with up to 350 mm possible in parts of the eastern coast of Spain. The average January rainfall in this region is 30-50 mm. Snow will fall in upland areas of the mainland with up to 50 cm possible in a few locations. Strong winds are also likely with severe gales developing, building very rough seas.

Discussion

An upper trough will extend across western Europe over the weekend, forming a cut-off upper vortex in the western Mediterranean by the start of next week. Various lobes of forcing will interact with a WBPT plume over north Africa, allowing several episodes of cyclogenesis, with active frontal systems developing on the northern flank of these systems. With relatively cold air in situ, some snow is also expected, mainly above 700 metres. The developing surface low has been called 'Gloria' by AEMET (Spanish Met Service).

Expected Impacts

A combination of heavy rain and snow is likely to lead to disruption to travel. Flash flooding looks likely, with a reasonable likelihood of river flooding due to the prolonged nature of the event. Dangerous marine conditions are also likely.

**North America****Northern USA and southern Canada****Weather**

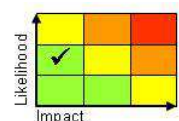
Heavy snow, freezing rain and strong winds are likely to affect the region over the weekend, with 20-40 cm of snow falling fairly widely. Some freezing rain is also possible in places, but not on the scale or severity as the event across southeast Canada last Sunday.

Discussion

A sharp trough in the buckling polar jet is signalled by all models to spin up a large depression over Central USA on Friday, which will run east-northeastwards over the weekend. Very warm air sourced from the Gulf of Mexico will be advected northwards over frigid Arctic air on the eastern flank of this system leading to a risk of snow. Freezing rain is a lower risk.

Expected Impacts

Snow and ice are likely to cause some disruption to travel and possibly some interruptions to power supplies.



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Western Canada

Weather

The prolonged cold spell, which has produced temperatures widely be 10-15°C below average and as much as 20 °C in places, will end this weekend as much milder air pushes northeast across the region allowing temperatures to recover back to nearer average.

Discussion

A persistent blocking pattern, with a weaker than normal Aleutian low, allowed conditions to turn exceptionally cold across western Canada. However, mobility from the Pacific will bring an end to the cold spell this weekend, introducing a series of frontal systems.

Expected Impacts

Cold weather related health impacts are possible in some of the major population centres in western Canada, e.g. Calgary, especially for vulnerable groups. Significant disruption to transport and power networks also occurred. The return to near normal temperatures will bring an end to those impacts, but could produce some flooding due to snow melt and heavy rainfall in coastal fringes.



Central America

Eastern Mexico, Guatemala, Belize and Honduras

Weather

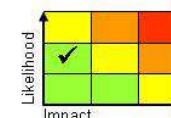
Heavy showers and thunderstorms are expected to become frequent across some of these areas from Sunday and into early next week. Each day 50-100 mm may fall in places within a few hours with 150-200 mm building up in the wettest areas. This is roughly equivalent to a month's worth of rainfall across Central America. Eastern Mexico normally sees 40-60mm of rain per month with these sorts of totals more typical of the wet season (June to September).

Discussion

Pressure building over the USA in the wake of a marked cold front will see a tightening gradient over the Gulf of Mexico. This resulting in enhanced easterly winds leading to an increase in shower activity. A low latitude upper trough running east over Mexico will also aid instability leading to potential severe thunderstorms.

Expected Impacts

Increased likelihood of flash flooding in a few places.



South America

Colombia, Ecuador and Peru

Weather

Following a period of drier weather, conditions are likely to become wetter from Sunday with heavy showers and thunderstorms gradually becoming more widespread and intense. By the middle of next week 100-200 mm of rain could potentially fall quite widely with up to 300 mm in a few locations.

Discussion

A strong MJO is currently active in the western Pacific. This is likely to remain coherent as it moves into the western hemisphere next week, enhancing convection across the region.

Expected Impacts

Flash flooding become more likely along with an increased risk of landslides.

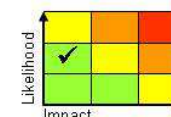


Northern Argentina, Bolivia and Paraguay

Weather

Daily rounds of heavy showers and thunderstorms are expected over northern Argentina. Heavy showers and thunderstorms are likely to become more frequent and widespread early next week. Each day 50-100 mm could fall in places with a couple of hours. Frequent lightning and large hail are also likely.

Discussion



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The thunderstorm season over northern Argentina continues and looks likely to become more active again next week as the strong MJO continues east over the Pacific. Early next week thunderstorms have the potential to be particularly severe. Whilst a lack of vertical wind shear may help limited organisation, extreme levels of CAPE are signalled (>6000 J/Kg).

Expected Impacts

Increased likelihood of flash flooding. Damage to infrastructure and/or crops is possible from large hail and lightning.

Eastern Brazil

Weather

From early next week heavy showers and thunderstorms are expected to become more frequent and organised across eastern parts of Brazil. Each day 30-60 mm will fall in places within a few hours with 150-200 mm building up in the wettest areas over 2 or 3 days. This roughly equivalent to a month's rainfall.

Discussion

As the MJO moves into Phase 7 this tends to lead to positive rainfall anomalies over many parts of South America. This is consistent in current deterministic with models suggesting the South Atlantic Convergence Zone will become increasing active over eastern parts of Brazil next week.

Expected Impacts

Increased threat of flash flooding and landslides.



Africa

Mozambique, Malawi, Tanzania, Zambia, Zimbabwe and Madagascar

Weather

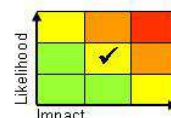
Heavy showers and thunderstorms are expected to be more frequent than normal across the region. Rainfall will vary significantly across relatively small distances but there is potential for locally 50-100 mm to fall in 24 hours with some locations receiving up to 250 mm over the course of a week. In addition, there is a low likelihood of tropical cyclone development in the Mozambique Channel next week. Should a cyclone develop then this could affect parts of Madagascar and/or southern Mozambique.

Discussion

An enhanced phase of the ITCZ is expected to bring above average thunderstorm activity across the highlighted region. There is also a growing model signal for tropical cyclogenesis in the Mozambique Channel; however, there is currently very large spread in when, where and if a tropical storm will develop.

Expected Impacts

Whilst some parts of this region have been experiencing severe drought and rainfall would be welcome, the intensity of rainfall is likely to cause some flash flooding. Large hail and frequent lightning may lead to transport disruption, damage to property, infrastructure and crops.



Middle East

Nil.

Asia

Northern India and Bhutan

Weather

Heavy rain, snow and thunderstorms will continue over Bhutan and northeast India over the weekend before clearing early next week. Around 30-50 mm of rain will fall quite widely, with perhaps 75 mm in places. Over high ground some significant snowfall is expected with 50-100cm over higher parts of Bhutan. Widely colder than average (typically 5-10°C below normal) weather is expected to follow, and as more settled conditions develop air quality is likely to deteriorate significantly in urban areas.



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Discussion

A plume of very warm, moist air is being engaged by an upper trough. Forecast profiles indicate strong synoptic ascent and high precipitable water but convective instability is fairly modest, with the primary hazard being heavy rainfall. Precipitation is likely to fall as snow over northern Bhutan, mainly above 1500 metres.

Expected Impacts

Flash flooding possible along with disruption to property, infrastructure and transport links. Heavy snow may cause further travel disruption and heighten the risk of avalanche. Below average temperatures are also likely to have a human health impact to vulnerable people.

Afghanistan, Pakistan and parts of Iran**Weather**

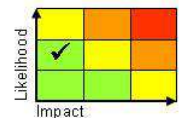
The prolonged cold spell is expected to continue into next week. Temperatures will be widely 5-10°C below average. Very cold overnight in places where snow cover is present.

Discussion

Colder-than-average conditions have prevailed across the region so far this winter and little change is expected in the coming weeks. With the jet displaced to the south of the region, cold surges from central Asia will repeatedly bring cold air outbreaks from more northern latitudes.

Expected Impacts

Heightened cold weather related health impacts.

**Australasia****Southern and eastern Australia****Weather**

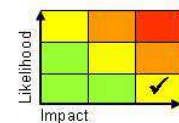
Numerous bushfires continue across parts of South Australia, Victoria and eastern New South Wales. Lower temperatures, lighter winds and higher humidity are resulting in lower fire danger ratings being issued by Australian authorities for the coming week. Conditions will be unsettled over the next few days with heavy showers and thunderstorms breaking out and possibly becoming more intense, producing up to 50-100mm of rain falling across large parts of New South Wales and Victoria. Another period of higher temperatures and stronger winds likely to develop next week, with an increased fire risk being signalled by the Australian authorities by Tuesday.

Discussion

Whilst fire weather conditions have improved in the very recent cooler airmass, it looks increasingly likely that gradual warm advection in combination with height falls aloft will support an increased likelihood of thunderstorms developing. The high-based nature of these thunderstorms will mean that dry lightning-induced fires are possible, but locally heavy rainfall falling on scorched, hydrophobic soil could lead to flash flooding and debris flows.

Expected Impacts

Existing fires will continue to produce a large amount of fine particulates and contribute to areas of very poor or hazardous air quality. Localised heavy rainfall could lead to flash flooding and debris flows if falling on burn scars whilst lightning activity poses a risk of new fire development.



Tonga – See *Tropical Cyclones* section.

Additional Information

Nil.

Issued at: 180540 UTC **Meteorologists:** Chris Bulmer / Brent Walker

Global Guidance Unit

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