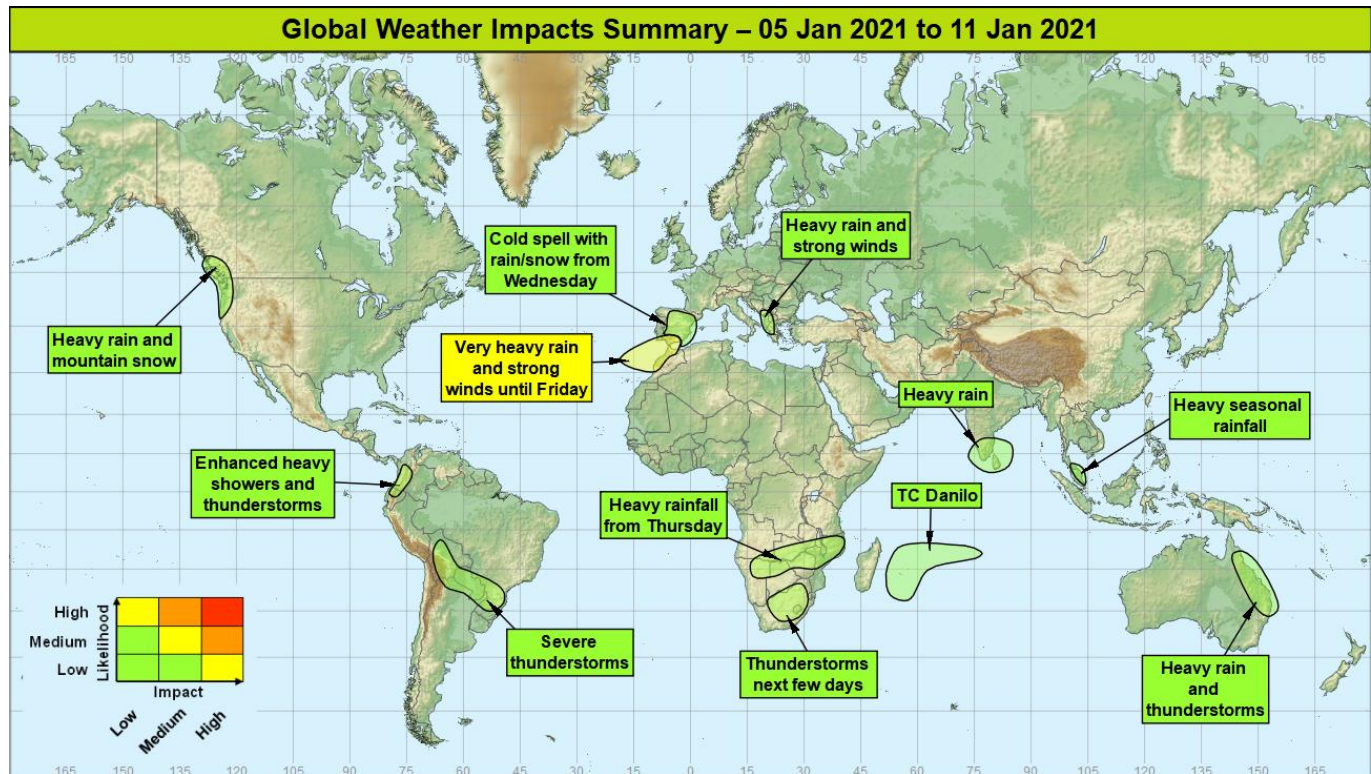


Global Weather Impacts – Tuesday 5th to Monday 11th January 2021

Issued on Tuesday 5th January 2021

HEADLINES

- Turning very unsettled across Iberia, Madeira and Morocco with impacts from heavy rain and snow.
- Tropical Cyclone Danilo may impact Mauritius and Reunion over the weekend.



Tropical Cyclones

Tropical Cyclone Danilo – Mauritius and Reunion

Weather

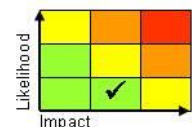
Danilo which formed on New Year's Day has continued to track slowly southeast over the open southern Indian Ocean. Over the next couple of days Danilo is expected to start to track westwards towards Mauritius and Reunion. Conditions look favourable for Danilo to strengthen over the coming days but there is still uncertainty regarding its exact track and intensity. At this stage, Danilo looks most likely to track to the north of Rodrigues on Friday, perhaps then affecting Mauritius and Reunion through the weekend with a low likelihood of Danilo being a significant cyclone.

Discussion

NWP is in good agreement that Danilo will start to be steered westwards from Tuesday due to the amplifying sub-tropical ridge to the south. This therefore brings an enhanced risk of Danilo tracking close to or making landfall over the small islands in the SW Indian Ocean. There is a much greater spread in its intensity and track by the weekend. 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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**Europe****Southern parts of Spain and Portugal (including Madeira) and Morocco****Weather**

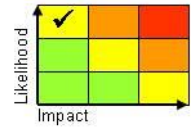
Following the ongoing cold spell, a very active weather system is expected to develop over the next couple of days bringing bouts of heavy rain and strong winds (perhaps gales by Friday) across these areas through the rest of the week. Many areas are likely to see 50-100 mm of rain build up but the wettest areas, most likely parts of Spain and Morocco adjacent to the Strait of Gibraltar, could see 250-300 mm with much of this falling on Thursday and Friday. This well in excess of typical January rainfall amounts which are around 80-100 mm for this area.

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 with a strong signal from NWP for these areas to see a spell of particularly wet weather.

Expected Impacts

Heavy rain likely to lead to flash flooding in places and also could lead to riverine flooding. Strong winds likely to cause some disruption to travel.

**Much of Spain****Weather**

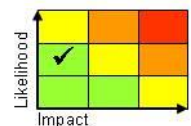
The ongoing cold weather is set to continue through this week and this means as the active weather system discussed above moves northeast later this week, this will lead to a spell of potentially disruptive snowfall for inland parts of Spain, including Madrid. Rain and spells of strong winds are expected for coastal districts

Discussion

WBFLs on the N'ern flank of the system discussed above are expected to be in the order of 600-800 metres. This makes a spell of snow likely for many inland areas (including Madrid which is around 667m above sea level) although milder air will likely slowly push north which will see snow turn back to rain across central Spain before the end of the week. However, there is still significant model uncertainty regarding the details of this potentially disruptive snow event.

Expected Impacts

Ongoing cold spell likely leading to some health impacts to vulnerable demographics. During Thursday and Friday some disruption to travel is likely due to snowfall.

**Montenegro, Albania, Kosovo, North Macedonia and Greece****Weather**

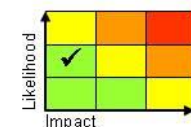
Unsettled conditions are expected to persist through this week with heavy showers and thunderstorms along with some more prolonged rainfall in places. Daily rainfall accumulations of around 50-75 mm are likely in places with 7-day accumulations of up to 250mm possible. These higher accumulations are more likely over higher ground of 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

The very unsettled conditions over recent days will ease for a short time as the driving upper trough relaxes away to the NE. However, during Wednesday, Thursday and Friday a frontal zone is likely to become aligned with the flow with the potential for significant orographic enhancement. Heavy rain and mountain snow may develop more widely over the weekend.

Expected Impacts

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



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**North America****Southwest Canada and northwest USA****Weather**

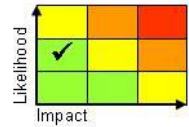
Repeated frontal systems will bring heavy rain (coastal regions) or snow (higher ground) over the next few days. Some areas are likely to accumulate 50-80 mm in 24 hrs (or 20-30 cm snow inland) - heavier accumulations of snow of over 1 m are possible in places. Totals over the course of a week could exceed 300 mm in places. Strong winds are also likely at times with the potential for coastal gales or severe gales.

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. There has already been flooding impacts in the region in recent weeks.

Expected Impacts

Further flash and riverine flooding is likely, with an increased risk of avalanches in mountainous terrain.

**Central America and Caribbean**

Nil.

South America**Southern Brazil, Bolivia, Paraguay and northern Argentina****Weather**

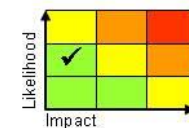
Heavy showers and severe thunderstorms are likely to affect this region through the coming week. Rainfall totals will vary between locations but in the wetter locations 100-200 mm is possible. This tends to be the wettest time of the year in these areas with typical monthly rainfall totals in the order of 100-150 mm. Thunderstorms may be severe at times bringing additional hazards of large hail, frequent lightning and strong gusty winds.

Discussion

Tropical air is now close to its seasonal southern limits across South America where during the summer months it typically is engaged periodically by mid-latitude trough extensions. This brings the ingredients for severe thunderstorms to develop with precipitable water in the order of 50-60mm and CAPE values over 2500 Jkg⁻¹.

Expected Impacts

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

**Western Colombia and Ecuador****Weather**

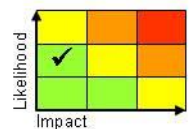
Heavy showers and thunderstorms will more frequent than normal over the coming days bringing daily accumulations of up to 150-200mm in places. This equates to around half the average January rainfall for the area.

Discussion

A strengthening of the cross-equatorial flow will aid a low pressure centre to develop off the Pacific coast of Colombia, 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 South Africa and Lesotho****Weather**

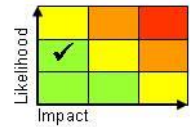
Another couple of days of heavy showers and thunderstorms are expected over parts of South Africa and Lesotho before conditions improve from the west. Daily rainfall accumulations of 75-100 mm are possible in places.

Discussion

The remnants of Chalane continue to move back east over southern Africa providing 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.

**Parts of southern Africa****Weather**

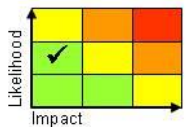
Increasingly widespread and heavy shower and thunderstorm activity is expected from parts of Mozambique west to southern Angola and Namibia from Thursday. Up to 250mm of rain could fall in places by the start of next week, with the area affected perhaps extending northwards. The average January rainfall in this region is 150-300mm.

Discussion

The mechanism for this event looks like a strengthening of the ITCZ across the region, initially from a surge of S'ly winds from the south and then N'ly winds from the north. It is also possible that there could be an influence from an Equatorial Rossby Wave.

Expected Impacts

Increasing threat of flash and riverine flooding, with the rainfall likely to affect parts of the region that saw heavy rainfall from Cyclone Chalane at the end of December.



Morocco – See Europe section.

Middle East

Nil.

Asia**Malaysia and far south of Thailand****Weather**

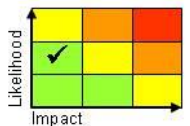
Heavy rain and thunderstorms will continue to affect the region over the coming week. 50-100 mm of rain may fall in a few locations in 24 hours. Some places are likely to receive in excess of 300 mm of rain by the end of this week. However, this is the wet season and so this is not too unusual even though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

Discussion

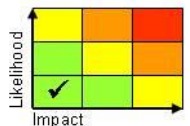
Strong NE monsoonal flow coupled with potential tropical wave activity will lead to enhanced convection across Malaysia over the coming week, particularly windward regions.

Expected Impacts

Flash and riverine flooding likely in places.

**Sri Lanka and southern India****Weather**

Spells of heavy rain are expected to move west across southern India and Sri Lanka over the coming week. Each day 50-75mm could fall in places with the wettest areas, most likely east facing coastal areas, potentially seeing 150-200 mm building up. Whilst this is unusually heavy rain for January, these sort of totals are fairly typical for the late monsoon season (Oct-Dec).

Discussion

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Consistent signal from NWP for well above average rainfall across these areas over the coming week. This looks to be due to a combination of above average SSTs and ERWs moving W at times.

Expected Impacts

Increased risk of flash flooding in places.

Australasia

Eastern Australia

Weather

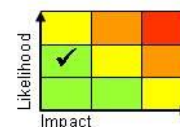
Heavy showers and locally severe thunderstorms are expected to continue through the coming week over parts of eastern Australia. Each day 50-100 mm could fall in places. The heaviest and most persistent rain is likely to be across parts of Queensland over the next couple of days in association with the remnants of tropical storm Imogen. This means 350-450 mm in possible in places over the next 3 or 4 days. This tends to be the wettest time of the year but this is still in excess of typical January rainfall amounts (200-300 mm).

Discussion

The remnants of Imogen as well as a persistent E'ly flow drawing moisture laden tropical air inland will help to provide the ingredients for heavy rain and thunderstorms over the coming days. Extensions of mid-latitude troughs over E Australia will also aid the development and organisation of thunderstorms at times.

Expected Impacts

Flash flooding likely in places along with a risk of riverine flooding over parts of Queensland. The relatively low population density will help reduce this risk of significant impacts.



Additional information

Eastern Asia

A marked cold surge is likely over eastern China during this week before extending further south over southeast Asia. This will result in temperatures widely falling 10 °C below average across the region with further very heavy snowfall across parts of northern Japan from 'lake effect' snow coming in off the Sea 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: 050800UTC

Meteorologist: Chris Bulmer / Paul Hutcheon

Global Guidance Unit

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