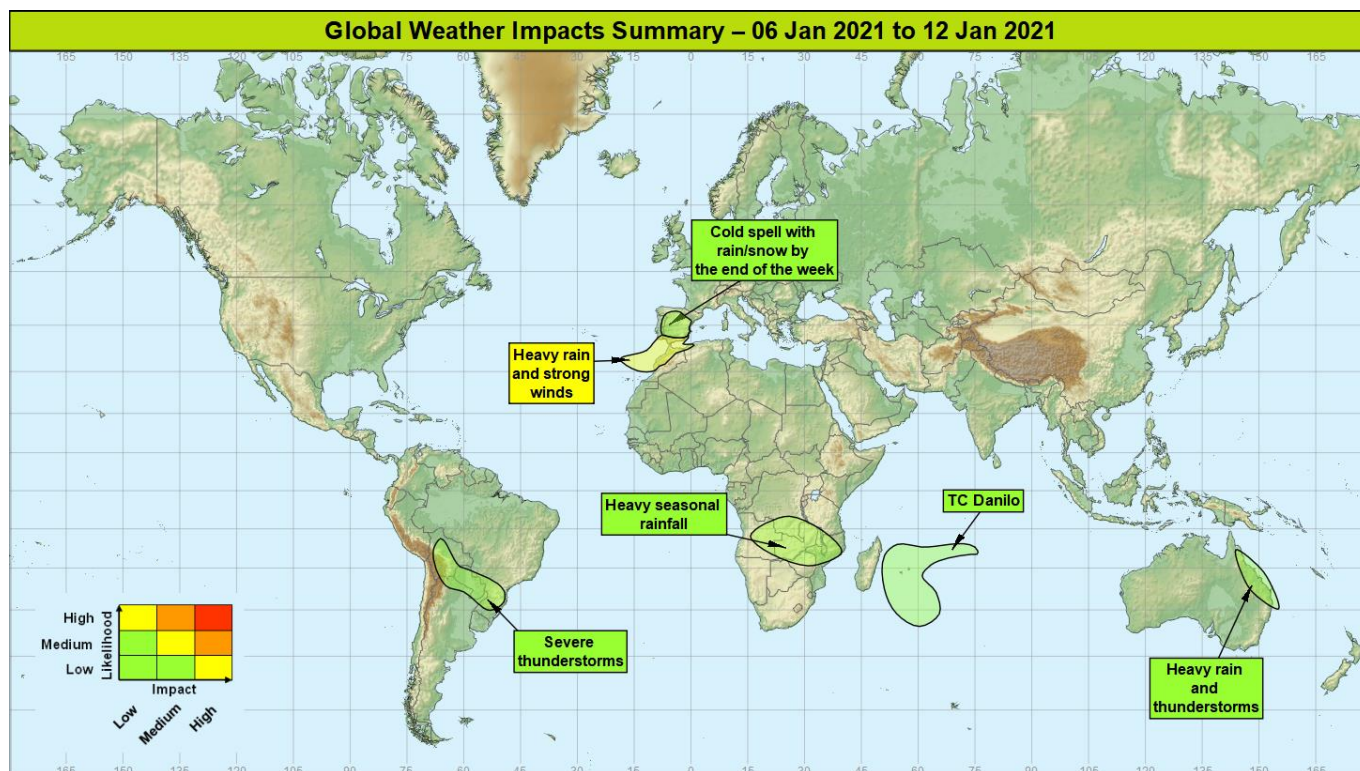


Global Weather Impacts – Wednesday 6th to Tuesday 12th January 2021

Issued on Wednesday 6th January 2021

HEADLINES

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



Tropical Cyclones

Tropical Cyclone Danilo – Mauritius and Reunion

Weather

Tropical Cyclone Danilo has been tracking slowly southeast over the open southern Indian Ocean for the last couple of days. Danilo is now starting to turn to track west then southwestwards towards Mauritius and Reunion. Conditions still look favourable for Danilo to strengthen over the coming days but there is still some uncertainty regarding its exact track and intensity. At this stage, it looks most likely to track close to the north of Rodrigues on Friday, then probably affecting Mauritius and Reunion through the weekend with a low likelihood of Danilo being a significant cyclone by this point, the official guidance from La Reunion, is for Danilo to be a “Moderate Tropical Cyclone”.

Discussion

NWP is in good agreement that Danilo will now be steered westwards 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 – with the mid-point in the spread similar to the official guidance and GM deterministic output. The environment looks marginal for significant strengthening, while vertical wind shear is likely to be weak (which is also adding to the uncertainty over where it’s going to be steered), SSTs are only around 26-27°C which may be a limiting factor.

Confidence is even lower in to next week with a spectrum of solutions: from Danilo heading for Madagascar, to recurving back round and heading east again.

Expected Impacts

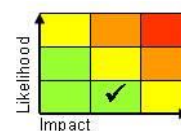
Increased threat of damaging winds and flash flooding from torrential rain.

This forecast may be amended at any time

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**Europe****Southern parts of Spain and Portugal (including Madeira), Morocco and Gibraltar**
Weather

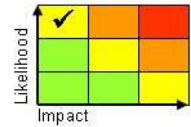
A very active weather system is expected to develop over the Atlantic in next couple of days bringing bouts of heavy rain and very strong winds (Morocco/Madeira by Friday, then more widely) across these areas through the rest of the week. Many areas are likely to see 50-100 mm of rain build up, but the 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. Winds could reach severe-gale force or even storm force, including through the Strait of Gibraltar, and this brings a risk of minor wind-damage; and large, potentially damaging waves.

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. Some embedded instability and CB activity is also likely, mainly in the south of the coloured area. The exact location of low will determine the finer details, especially with respect to wind direction lining up with topographical gaps etc.

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 on land and sea. Very low risk of lightning strikes.

**Much of inland Spain and east Portugal****Weather**

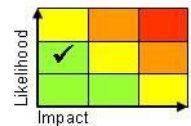
The ongoing cold weather is set to continue through this week and this means as the active weather system discussed above moves northeast later this week, this will lead to a spell of potentially disruptive snowfall for inland parts of Spain, including Madrid.

Discussion

WBFLs on the N'ern flank of the system discussed above are expected to be in the order of 500-700 metres. This makes a spell of snow likely for many inland areas (including Madrid which is around 667m above sea level – marginal here) although milder air will likely slowly push north which will see snow turn back to rain across central Spain for a time at least, before it clears. 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, some disruption to travel is likely due to snowfall.

**North America**

Nil.

Central America and Caribbean

Nil.

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

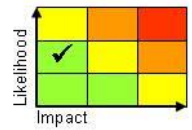
Heavy showers and severe thunderstorms are likely to affect this region through the coming week. Rainfall totals will vary between locations but in the wetter locations 100-200 mm is possible. This tends to be the wettest time of the year in these areas with typical monthly rainfall totals in the order 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.

**Africa****Parts of southern/central Africa****Weather**

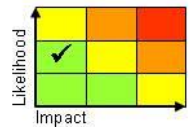
Increasingly widespread and heavy shower and thunderstorm activity is expected in this area later this week, but more especially over the weekend and in to next week. Up to 250mm of rain could fall in places by the start of next week, with the area affected perhaps extending northwards. The average January 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

Nil.

Australasia**Eastern Australia****Weather**

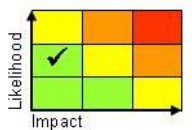
Heavy showers and locally severe thunderstorms are expected to continue through the coming week over parts of eastern Australia. Each day 50-100 mm could fall in places. The heaviest and most persistent rain is likely to be across parts of Queensland over the next couple of days in association with the remnants of tropical storm Imogen. This means 350-450 mm is 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.



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Additional information:**Eastern and Southern Asia**

A marked cold surge over eastern China during this week will spread further south over southeast Asia, will result in temperatures widely falling 10 °C below average across the region with further very heavy snowfall. Further west another will affect parts of N India (Jammu Kashmir) and northern Pakistan, but with the disruptive snow expected to ease here.

Much of the Maritime Continent & Bay of Bengal

Many parts of the Maritime Continent and areas around the Bay of Bengal will continue to experience above average rainfall amounts in the coming week. Higher than average sea temperatures in the area as well as equatorial Rossby wave activity will continue to fuel torrential downpours though any impacts expected to be localised and very difficult to pinpoint.

Saharan Africa

Large parts of northern Africa (Mainly Saharan Africa) will see very warm conditions build up over the coming days, as the deep low (mentioned in Europe section) drags some very warm air northwards ahead of it. Temperatures could be over 10oC above normal, but impacts from this are expected to be minimal.

Issued at: 060800UTC **Meteorologist:** Chris Almond/ Ele Hands **Global Guidance Unit**

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