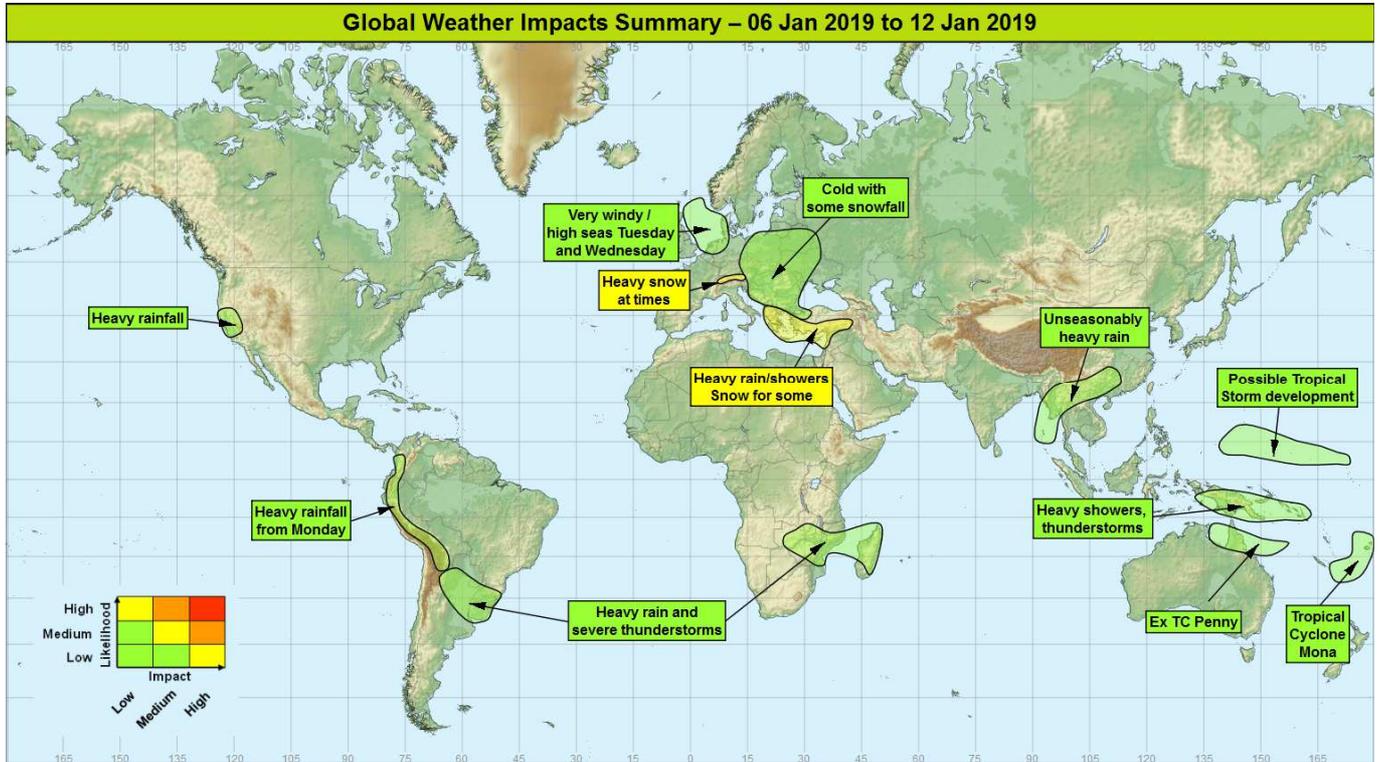


Global Weather Impacts – Sunday 6th to Saturday 12th January 2019

Issued on Sunday 6th January 2019

HEADLINES

- Heavy snow expected across the Alps at times, disrupting transport and increasing avalanche threat.
- Several days of heavy showers/thunderstorms for the Levant, southern Turkey and northern Syria.



DISCUSSION

Tropical Cyclones

Tropical Cyclone Mona, (Fiji, Tonga)

Weather

Tropical Cyclone Mona was centred approximately 120 km north of the Fijian island of Vanua Levu at 06/0300Z, maintaining category 1 cyclone status (sustained winds of 39-54 mph). Mona is expected to remain a category 1 cyclone as it tracks southeast then southwest, passing just to the east then south of the main Fijian islands during the next few days.

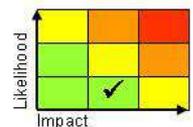
There is growing confidence for this track which is likely to keep the heaviest rain away from the two main islands in Fiji, although up to 50-100 mm of rain could affect these islands, along with the northern Tonga islands.

Discussion

There has been increasing agreement between models and EPS output for the track of Mona, which builds confidence in the advice given in this assessment.

Expected Impacts

Strong winds, high seas and locally torrential rainfall are likely to cause some disruption to road, sea and air travel across region; possibly affect utilities; with a heightened threat of flash flooding and landslides. However, these impacts are not particularly unusual given the time of year, and the likelihood of these impacts affecting the main populated island of Viti Levu have receded.



This forecast may be amended at any time

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Ex-Tropical Cyclone Penny, (Northeastern Queensland, Australia)

Weather

Tropical Cyclone Penny has been downgraded to a tropical depression, and was located 900 km east-northeast of Townsville, Queensland at 06/0000Z.

The remains of Penny will steadily track southwestwards towards Townsville, where it will likely become slow moving from Monday through to Thursday.

During this time widespread thunderstorm activity could produce event rainfall totals of up to 600 mm to parts of northeastern Queensland (around 200% of the January average rainfall).

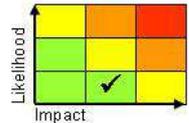
Towards the weekend the remnants of Penny are expected to track west into the Gulf of Carpentaria.

Discussion

Good model agreement for the remains of Penny to tracks towards Townsville and become slow moving.

Expected Impacts

Significant risk of flash and river flooding as the remnants of Penny make landfall on the Queensland coast, possibly affecting Townsville, and perhaps Cairns.



Potential tropical storm in the Northwest Pacific (Micronesia)

Weather

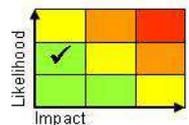
An area of widespread thunderstorms is expected to track west from the Marshall Islands across the Caroline Islands towards the southern Mariana Islands through the next week. There is a possibility that this tropical low pressure area strengthens to become a tropical storm. This system could produce up to 300 mm of rain in a few days along the track, which is close to the average rainfall through the whole of January.

Discussion

An Equatorial Rossby Wave has developed a tropical low level circulation, and will aid a westward track across Micronesia through the coming week.

Expected Impacts

Possibility of local flash flooding, with a much lower likelihood of wind impacts.



Europe

Greece, Cyprus, The Levant, Turkey, northern Syria and northern Iraq

Weather

A repetitive pattern of weather systems over the Eastern Mediterranean will see a number of spells of heavy showers and thunderstorms affecting in particular southern Turkey and the Levant coastline.

Up to 50-100 mm could fall in some locations on any particular day, with up to 300 mm in some places building up over the course of the next few days. The precipitation will produce heavy snowfall across parts of Turkey.

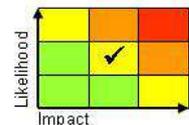
Discussion

The remarkably persistent planetary scale ridge near to the meridian will continue to feed trough extensions south towards the eastern Mediterranean, creating an unstable environment and spinning up a number of waves/lows which will then feed showers/thunderstorms across the region. On the northern edge of the systems cold air will result in heavy snowfall across parts of Turkey. The largest and most reliable rainfall totals through the period look likely to be western facing slopes of the Levant, and southern facing slopes of southern Turkey.

The orientation of the upper trough is expected to subtly change around midweek to focus the heavier rainfall into Greece and western Turkey, with welcome drier weather further east.

Expected Impacts

Further heavy rainfall will lead to an enhanced threat of flash flooding and landslides in the region after a lot of wet weather in recent weeks and months. In addition strong winds and below average temperatures are likely to affect vulnerable populations in parts of southern Turkey and the Levant region. Significant snowfall in parts of Turkey will likely disrupt transport, perhaps cause utility outages and impact vulnerable populations.



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Eastern Europe

Weather

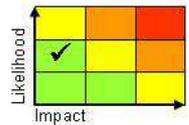
Cold air is well established across a large part of Eastern Europe, bringing bitterly cold temperatures as well as some snowfall. A less cold airmass is expected to push southeast across this region through the first part of the week, bringing temperatures back to average levels for January. However, there is the possibility of another cold airmass following later in the week.

Discussion

The southeastwards track of a depression into Eastern Europe by midweek will displace the cold airmass eastwards, allowing for a recover in temperature back to average levels. Another colder airmass may follow south as this depression clears eastwards across Ukraine later in the week.

Expected Impacts

Severe cold will stress vulnerable sections of the population across a wide area. In additional snowfall will likely lead to some localised disruption of travel.



Alps, Switzerland, Austria and southern Germany

Weather

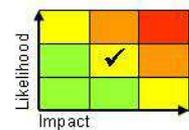
A succession of frontal systems will sweep south across Continental Europe through the next week, producing further significant snowfall across the Swiss, southern German and especially the Austrian Alps. The heaviest snowfall is signalled this (Sunday) morning and again on Tuesday and Wednesday. In total over coming 4 or 5 days some parts of the higher Austrian Alps are likely to see a further 1.5 metres of fresh snowfall, bringing a high likelihood of avalanches.

Discussion

Frontal systems arriving from the north or northwest, bringing higher WBPT/moister air, combined with brisk northerly flow will generate significant orographically enhanced ppn, including snow to above approximately 600m. Flow and ppn will tend to ease through today (Sunday), but further weather systems pushing down from the north will likely see a resurgence of snow by midweek. Rising and falling freezing levels associated with the passage of systems will make the snow pack more unstable than usual, increasing the risk of avalanches, with the Austrian Meteorological Service (ZAMG) highlighting a top level 5 catastrophic avalanche risk.

Expected Impacts

Even in a region so well prepared for such weather, this amount of snowfall is likely to cause disruption to air and land based transport. With weekends being a busy switchover day for people on skiing holidays, the disruption has the potential to affect many more people than it would on any other day. Additional snow will also increase the threat of avalanche in the region, particularly next week.



North Sea and adjacent coastlines

Weather

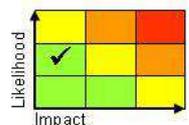
Severe gale force winds (sustained winds of 47-54 mph) northwesterly or northerly winds will transfer across the North Sea through Tuesday and Wednesday, building high seas.

Discussion

A deep depression will track southeast across the North Sea and Denmark this coming week, producing 65 kt gradient winds and pushing a lot of water south through the increasingly shallow North Sea.

Expected Impacts

Significant disruption to marine and offshore activities is expected. Wind damage is possible across Denmark, northern Germany and the Netherlands, with these coastlines seeing the threat of storm surge flooding.



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North America

California

Weather

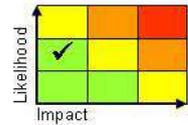
Several spells of wet weather is expected to affect California through the next week, possibly producing as much as 300 mm of rainfall, with 24 hour totals as much as 100 mm today (Sunday) and Wednesday. Across the Sierra Nevadas heavy snowfall is expected.

Discussion

A series of active Pacific frontal systems will run across California through the next week.

Expected Impacts

Flash flooding is likely in more mountainous parts of California. Mudslides are a significant threat in burn scar regions of the State. Heightened avalanche threat is also likely in the Sierra Nevadas.



Central America and Caribbean

Nil significant.

South America

Northern Argentina, far south of Brazil, south Paraguay, and Uruguay

Weather

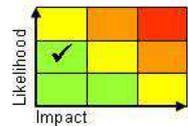
Pulses of frequent heavy showers and severe thunderstorms are expected to affect this area through much of the coming week, producing a combination of torrential, short-period rainfall, large hail, damaging wind gusts and a tornado threat. Storms will develop during most afternoons, persisting well into the night time.

Discussion

Successive episodes of severe convection are expected as the seasonal warm plume is drawn south and engaged by shortwave upper troughs crossing South America. A combination of large CAPE and vertical wind shear will support the development of persistent MCS and discrete supercells.

Expected Impacts

Impacts will be fairly localised given the nature of showers, but flash flooding from heavy rainfall is likely. Additionally, large hail, frequent lightning and strong winds/tornadoes are likely to cause some damage to property and utilities infrastructure, as well as pose a threat to life.



Western Colombia, Ecuador, Peru and Bolivia

Weather

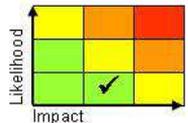
Increased amounts of rainfall, through more frequent showers and thunderstorms, is expected from Monday, with the potential for up to 300 mm of rain in a 5 day period. This is likely to equate to the average January rainfall in just 5 days.

Discussion

The MJO will be moving through tropical South America during the coming week, which is likely to enhance convection across the Andes region.

Expected Impacts

Increased likelihood of flooding and landslides.



Africa

Mozambique, Zimbabwe, Zambia, Malawi, Madagascar

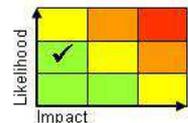
Weather

Enhanced seasonal rains are expected to continue through much of the coming week in the form of more frequent thunderstorms. These could locally bring 30-80mm of rainfall in a short period, with some locations potentially seeing around 200mm through the week. This would be close to the average January rainfall falling in a week. In addition to heavy rainfall, these will likely produce frequent lightning, strong downdraughts and possibly large hailstones too.

Discussion

Enhanced seasonal rainfall associated with monsoon plume is forecast to continue over the next week, with significant rainfall anomalies being generated by the models. Showers will mainly be focussed by the (at times diffuse) axis of high WBPT.

Expected Impacts



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The majority of the area highlighted is sparsely populated; however there are a few large densely populated cities within it. Impacts will be fairly localised given the nature of showers, but flash flooding from heavy rainfall is possible. Additionally, large hail, frequent lightning and strong winds are likely to cause some damage to property, crops and infrastructure, as well as posing a threat to life. The likelihood of a populated area being significantly affected is rather low.

Middle East

Syria, Iraq and Levant – See *Europe* section.

Asia

Northern Andaman Islands, Myanmar, northern parts of Thailand, Laos and Vietnam, and southern China

Weather

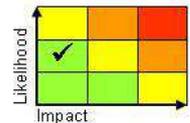
An unseasonable area of heavy rain is expected to transfer northeast across this region during the next 3 or 4 days, bringing the potential for 100-200mm of rain quite widely. The main notability of this event is that this region is usually dry during this time of year.

Discussion

The sharp upper trough responsible for earlier snowfall further west will continue to track east, engaging with the remnant warm plume of Ex-Tropical Cyclone Pabuk to produce an area of out of season very heavy rainfall.

Expected Impacts

This region deals with these sorts of rainfall totals regularly through the summer monsoon season. However, with this being the dry season there is the possibility that flash flooding and landslides could surprise populations in this region, disrupting transport and agricultural activities.



Eastern Indonesia, Papua New Guinea, Solomon Islands

Weather

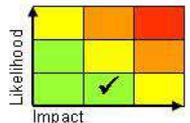
Heavy showers and thunderstorms will bring above average rainfall to the region over the next 4 or 5 days. Up to 100 mm could fall in any one location in a 24 hour period, but many places will remain dry. 350 mm could accumulate in some places by the end of this period, which is roughly a month and a half to two month's worth of rain.

Discussion

The MJO now moving through Phase 7 into Phase 8 is taking the deepest convection gradually further E, with this region of enhanced rainfall gradually shrinking back from the west through the period. The presence of the Phase 7-8 MJO, along with Equatorial Rossby Wave activity, is expected to maintain a greater than average shower frequency and intensity, with models suggesting peak totals in the region of 200-400 mm over the next 5-7 days. Higher ground will tend to be favoured for the largest rainfall totals.

Expected Impacts

Flash flooding and particularly enhanced risk of landslides are the most likely impacts, leading to damage to homes and businesses, local transport disruption, and risk to life.



Australasia

Papua New Guinea, Solomon Islands, Fiji, Tonga and northeastern Australia – see *Tropical Cyclone* and *Asia* sections.

Additional information

Nil.

Issued at: 060800 UTC **Meteorologist:** Paul Hutcheon

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