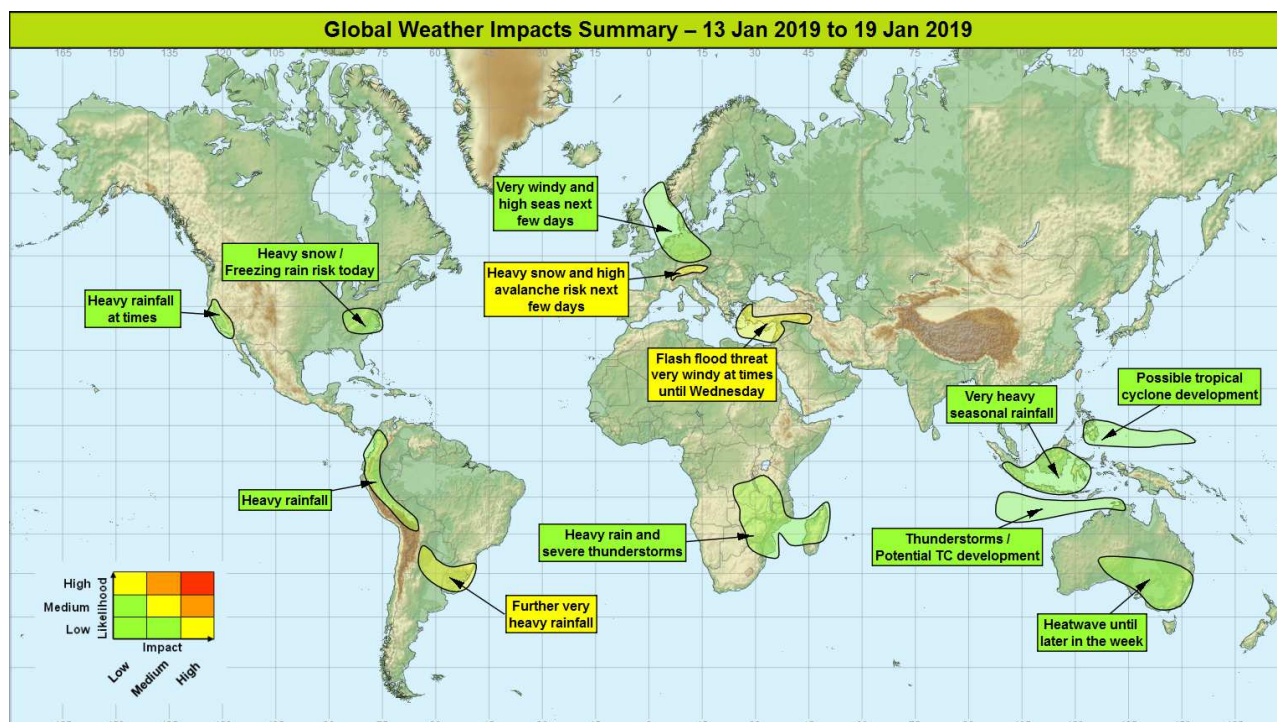


Global Weather Impacts – Sunday 13th to Saturday 19th January 2019

Issued on Sunday 13th January 2019

HEADLINES

- Further heavy snow expected across the northern Alps through the next few days.
- Very disturbed across the eastern Mediterranean until midweek.
- Increasing likelihood of severe flooding in parts of South America.



DISCUSSION

Tropical Cyclones

There are currently no named tropical cyclones. The following areas are being monitored:

Northern Australia and Timor-Leste Weather

The remnant moisture associated with ex-Tropical Cyclone Penny continues to produce an area of heavy showers and thunderstorms across northern fringes of Northern Territory in Australia, perhaps producing 50-75 mm of rain in places, including a risk to Darwin. Thereafter, there is a low to medium probability that the thunderstorms could form a new tropical cyclone next week as it tracks west from the Timor Sea.

Discussion

This system is producing fairly organised deep convection across the northern fringes of Northern Territory, with some model support for development into a tropical cyclone next week as it moves west into the Indian Ocean. However, some model output does not develop a tropical cyclone, with only modest support from EPS output. This system may need the interaction of an Equatorial Rossby Wave to encourage it to develop. There is also the additional complexity of a likely developing MJO in the Indian Ocean this week which could encourage or discourage development of this system depending on the location of the MJO and potential cyclone.



This forecast may be amended at any time

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Expected Impacts

Threat of flash flooding across the north of Northern Territory, including Darwin today (Sunday). Thereafter, this system will be offshore and so will not pose a threat to land.

Northwest Pacific (Micronesia and southern Philippines)

Weather

An enhanced area of thunderstorms is expected to track west from across Micronesia towards the southern Philippines (Mindanao) through the next week, producing up to 200 mm in 24 hours. There is a low to medium probability that the convective activity could become organised to form a tropical cyclone as it tracks towards the southern Philippines later next week.

Discussion

The interaction of an Equatorial Rossby Wave may help develop this system into a tropical cyclone through the coming week. However, there remain a wide range of model solutions, with only modest support from EPS output.

Expected Impacts

Possibility of local flash flooding affecting some of the tiny Micronesian Islands and by the end of the week towards the southern Philippines, with a much lower likelihood of wind related impacts.



Europe

Turkey, Cyprus, Lebanon, north and west Syria and northern Iraq

Weather

Further spells of heavy rain, thunderstorms, mountain snowfall and very strong winds are expected to affect the region until Wednesday. The focus for the heaviest rainfall will be across southern Turkey and the Levant coastline. Some heavy snowfall is expected across the higher ground, especially across Turkey. Up to 50-100 mm, perhaps 150 mm across parts of southern Turkey, could fall in some locations on any particular day, with up to 250 mm accumulating in some parts of southern Turkey by the end of Wednesday.

The peak event is likely to be from early Tuesday until the end of Wednesday, when a major area of low pressure will develop, and push east-northeast across the central and eastern Mediterranean.

Discussion

A succession of upper troughs will maintain the very unsettled weather across this region until midweek. The final upper trough in the series will develop a deep depression that will run northeast into Turkey on Tuesday. This feature could be particularly disruptive. An upper ridge will follow to bring a spell of much more settled weather.

Expected Impacts

Further heavy rain will lead to an enhanced threat of flash flooding and landslides in the region, particularly as this follows previous 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. Snowfall over parts of Turkey may also cause some transport disruption and perhaps utility outages. Dangerous coastal and offshore conditions could impact marine transportation.



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Alps, Switzerland, Austria and southern Germany**Weather**

Further spells of heavy snow are expected across the Austrian, Swiss and southern German Alps through the next few days. The snow level will be higher than of late today (Sunday), but will lower again on Monday. The higher snow level will allow for heavy rainfall (as much as 50-100 mm) at lower elevations.

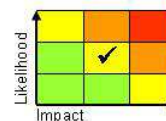
During the next few days as much as 150 cm of snow could accumulate at higher elevations, with the lowering snow level on Monday allowing for further significant snowfall at lower levels after a temporary thaw. There is also expected to be strong northerly winds across the region, with higher elevation gales producing blizzard conditions. Much drier conditions will follow from Tuesday.

Discussion

Frontal systems arriving from the north or northwest, bringing higher WBPT/moister air, combined with strong to locally gale force northerly flow will generate significant orographically enhanced precipitation. Snow will be restricted to above 800 metres today (Sunday), leading to a thaw of lying snow at low levels. Rising and fluctuating freezing levels will make the snow pack more unstable than usual, increasing the risk of avalanches. This is all linked to the persistent pattern described in the section above. Although snowfall has been most severe across the northern Alps, impacts have been felt in other parts of northern and eastern Europe in recent days, including parts of Scandinavia and Germany.

Expected Impacts

Even in a region so well prepared for such weather, this amount of snowfall will continue to cause significant disruption to air and land based transport. As much as 3 to 5 metres of fresh snow has been reported across the higher Alpine region in the last few weeks. Additional snowfall (1.5 meters) along with strong winds will increase the already very high threat of avalanches in the region. The lower level temporary thaw combined with the heavy rainfall will pose a flash flood and landslide threat at lower elevations today (Sunday).

**North Sea and adjacent coastlines, along with much of Central Europe****Weather**

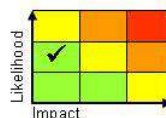
A spell of gales (sustained winds of 39-46 mph) or severe gales (sustained winds of 47-54 mph) will affect the North Sea today (Sunday), before easing through Monday. These winds will build very rough seas. The strong winds will extend well south into central Europe, producing a threat of gales in places.

Discussion

Good model agreement for a 55kt gradient North-northwest gradient to affect the North Sea today (Sunday), before a ridge backs and eases the flow through Monday.

Expected Impacts

Disruption to marine and offshore activities is likely. Wind damage is possible across Denmark, northern Germany and the Netherlands, with these coastlines seeing the threat of storm surge flooding. Inland gales are possible, which could cause aviation disruption across parts of central Europe.



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North America**California****Weather**

Further Pacific weather systems are expected to affect the state through the next week, producing short spells of heavy rainfall, falling as snow above 1700-2200 metres, producing further significant falls over the Sierra Nevada range. The main precipitation event looks likely to be on Thursday when up to 150 mm of rain could fall, with weekly totals of up to 250-300 mm of rainfall in the Sierra Nevadas, falling as snow at higher elevations. Parts of California could see the January average rainfall in the space of a few days later this week.

Discussion

A strong south shifted Pacific jet stream will feed a succession of Pacific frontal systems into the western States of the USA, bringing very heavy rainfall and mountain snowfall.

Expected Impacts

Flash flooding has already affected California in recent days so further rainfall will add to the problems. Mudslides are a significant threat in burn scar regions of California in particular. Heightened avalanche threat is also likely in the Sierra Nevada.

**Central and eastern USA****Weather**

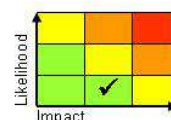
A winter storm will bring further snow to central/eastern parts of the USA today (Sunday) before moving out into the Atlantic. Up to 25 cm of snow could accumulate today, with Washington DC at threat of significant snowfall. There is also a risk of freezing rain in places.

Discussion

A frontal system will continue to slide eastwards across the southeastern part of the USA today, with the northern edge of the precip band engaging the cold boundary layer air to produce a mixture of heavy snowfall and freezing rain.

Expected Impacts

Significant travel disruption is likely along with disruption to power supplies.

**Central America and Caribbean**

Nil significant.

South America**Northern Argentina, far south of Brazil and Uruguay****Weather**

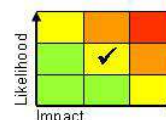
Further episodes of frequent heavy showers and severe thunderstorms are expected to affect this area over the next week, producing a combination of torrential, short-period rainfall, large hail, damaging wind gusts and a tornado threat. Storms will develop during most afternoons, persisting well into the night time. These storms are capable of producing up to 200 mm of rainfall in 24 hours, and in recent days some locations have seen 24 hour rainfall records broken.

Discussion

Successive rounds 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 MCS and supercells.

Expected Impacts

This region of South America has seen several times the average rainfall during the past month. So the impacts from the continued very wet weather could be severe, with river flooding as well as flash flooding. Additionally, large hail, frequent lightning and strong winds/tornadoes are likely to cause some damage to property and utilities infrastructure.



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Western Colombia, Ecuador, Peru and Bolivia

Weather

Enhanced rainfall, in association with frequent showers and thunderstorms, is expected this week across the region. There is the potential for up to 350 mm of rain across part of the Andes over the next week. This is likely to equate to the average January rainfall.

Discussion

This may be influenced by the significantly positive SST anomalies of 2 to 4°C along the Pacific coastline in this region.

Expected Impacts

Increased likelihood of flooding and landslides.



Africa

Mozambique, Zimbabwe, Zambia, Malawi, Madagascar, northern South Africa and Tanzania

Weather

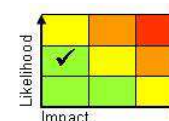
Enhanced seasonal rains are expected to continue in the form of more frequent thunderstorms. These could locally bring 50-100 mm of rainfall in 24 hours, with some significant totals perhaps falling in a short period. Some locations could see 200-250 mm over the next week, with these values close to the January average. In addition to heavy rainfall, these will likely produce frequent lightning, strong downdraughts and possibly large hailstones too. The highest rainfall totals could occur across southern Mozambique on Wednesday and Thursday, perhaps affecting the capital Maputo.

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. There is a signal for enhanced low level convergence, perhaps a low pressure circulation, across southern Mozambique by midweek, and it is this feature that could produce very intense rainfall.

Expected Impacts

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. The likelihood of a populated area being significantly affected is rather low, although Maputo looks at threat from flash flooding on Wednesday and Thursday.



Middle East

Lebanon, north and west Syria and northern Iraq – See *Europe* section.

Asia

Micronesia and the southern Philippines – See *Tropical Cyclone* section.

Much of Indonesia

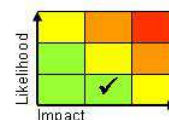
Weather

This is the wet season in Indonesia, but the seasonal rainfall could be more intense and more widespread than usual this week. Up to 100 mm of rain could fall in a few hours, perhaps with strong winds or even a tornado (as seen in western Java recent days). Rainfall totals of up to 250 mm could accumulate in places, which would approach the average January rainfall figure.

Discussion

A combination of Equatorial Rossby Waves, a strengthening cross equatorial northerly and an emerging Indian Ocean MJO is likely to result in strong seasonal rains this coming week.

Expected Impacts



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Flash flooding likely in places, with some wind damage possible near severe storms. There will also be an increasing threat of landslides and river flooding.

Australasia

Northern Australia – See *Tropical Cyclone* section.

Southern Australia

Weather

Higher than normal temperatures across parts of central western Australia are expected to extend and transfer east and southeast towards New South Wales and Victoria. Temperatures are expected to hit the high 30s to low 40s degrees Celsius by midweek towards some of the more populated areas, including Adelaide and Canberra. This is some 7-10 degrees Celsius above normal, and could trigger wildfires in parts of southeastern Australia. Later in the week a cold front will bring an end to the high temperature, and could spark some severe thunderstorms.

Discussion

High temperatures are not unusual for Australia in the last decade. The Bureau of Meteorology recently announced that 2018 was the 3rd warmest year on record. These heatwaves tend to develop over NW Australia, where the town of Marble Bar has now exceeded 40 degrees Celsius for 26 consecutive days, then spread south and east across the interior, then on to affect the more populous areas of south-eastern Australia.

Expected Impacts

Extreme heat can impact the health of the more vulnerable people and can adversely impact on the availability of water and the power network. The Australian Open tennis takes place this week in Melbourne and may impact both players and spectators alike, and may lead to some suspension of play due to heat related sickness similar to last year. The heat, combined with prolonged dry weather will also lead to an increased risk of wildfires developing.



Additional information

Nil.

Issued at: 130800 UTC **Meteorologist:** Paul Hutcheon

Global Guidance Unit

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