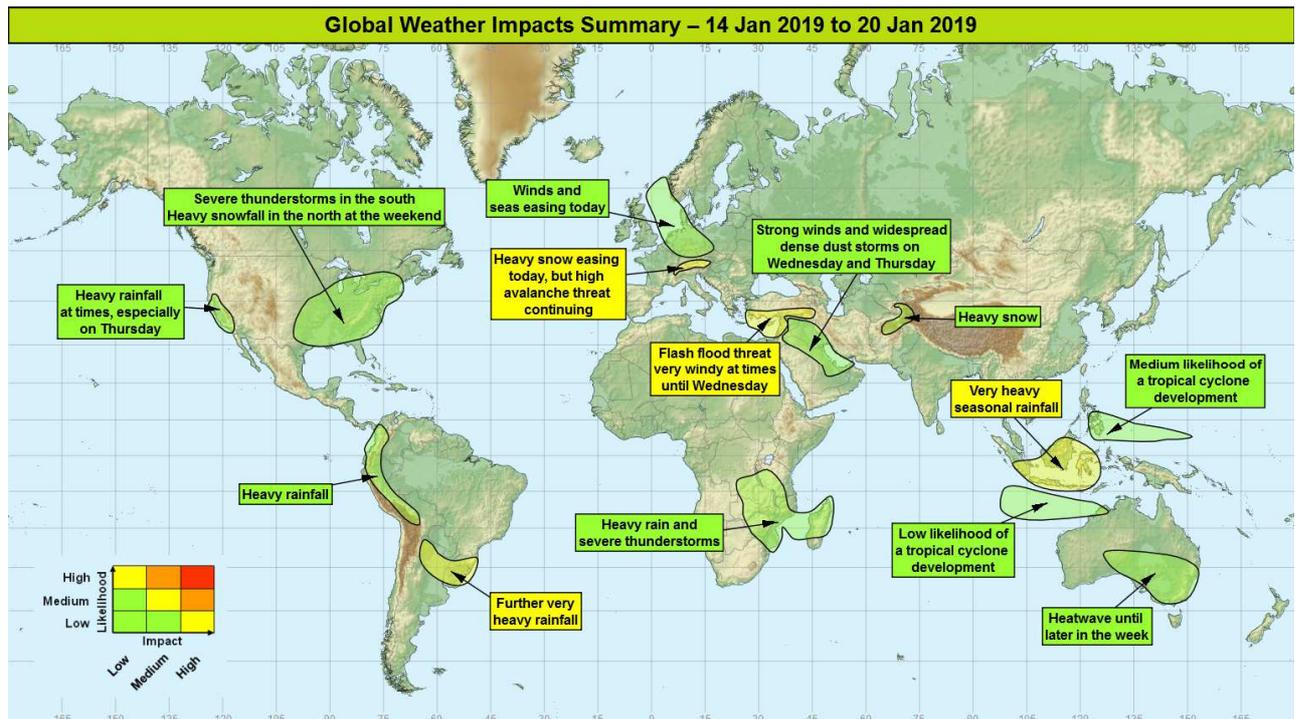


Global Weather Impacts – Monday 14th to Sunday 20th January 2019

Issued on Monday 14th January 2019

HEADLINES

- Heavy snow across the northern Alps easing through the next few days.
- Threat of damaging winds and flash flooding for Cyprus and southern Turkey on Tuesday.
- Increasing likelihood of severe flooding in parts of South America and Indonesia.



DISCUSSION

Tropical Cyclones

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

Northwest Pacific (Micronesia and southern Philippines)

Weather

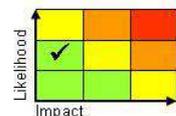
An enhanced area of thunderstorms is expected to track west from across Micronesia towards the southern Philippines (Mindanao) through the coming week, producing up to 200 mm in 24 hours. There is a medium probability that the convective activity could become organised to form a tropical cyclone as it track towards the southern Philippines later next week, perhaps bringing heavy rainfall and strong winds into the southern Philippines by or through the weekend.

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.



This forecast may be amended at any time

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Far northwest of Australia and eastern Indian Ocean

Weather

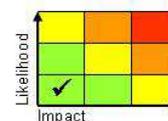
The remnant moisture associated with ex-Tropical Cyclone Penny has moved west to affect the northeastern fringe of Western Australia, producing an area of heavy showers and thunderstorms. Through the next few days there is a low probability that the thunderstorms could form a new tropical cyclone next week as it tracks westwards into the Indian Ocean.

Discussion

The deterministic and EPS model output during the past 24 hours have significantly decreased the threat of a tropical storm forming from this area of thunderstorms.

Expected Impacts

Due to this system moving offshore in the next few days, there is no threat to land.



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.

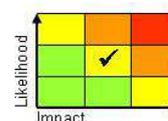
The peak event is likely to be from early Tuesday until the end of Wednesday, when a major area of low pressure will develop, and push east-northeast across the eastern Mediterranean. This system could produce gusts of up to 60 mph across parts of Cyprus and southern Turkey. This magnitude of wind is very unusual in this region. A cold few days will follow across the region with overnight frost affecting places that do not usually see air frosts.

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. Severe gale force winds across Cyprus and southern Turkey could produce structural damage and pose a threat to life.



Alps, Switzerland, Austria and southern Germany

Weather

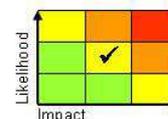
Heavy snow across the Austrian, Swiss and German Alps will slowly ease today (Monday). The snow level will lower today, bringing further significant snow accumulations to lower levels after a brief thaw on Sunday, but as much as a further 50-75 cm of snow could accumulate at higher elevations today. Much drier conditions will follow from Tuesday.

Discussion

The Austrian Met Service (ZAMG) had reported the most January snowfall since 1923 in Lackenhof (eastern Austria), and that was on Saturday before the recent heavy snowfall.

A cold front will introduce lowering WBFLs today (lowering from 1000 m to 200 m AMSL), allowing further snowfall to affect much of this region through Monday. An upper ridge will follow from the west in the following days to bring dry weather. Even though further upper troughs will push east later in the week, snowfall is not expected to be as significant as in recent days, due to a backed flow.

Expected Impacts



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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. There are reports of some places seeing the most January snowfall since 1923. It is likely that as much as 6 metres of fresh snow has fallen across the higher Alpine region in the last few weeks. Additional snowfall (up to 0.75 meters) will maintain the very high threat of avalanches in the region.

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

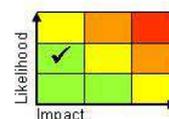
A spell of gales (sustained winds of 39-46 mph) or severe gales (sustained winds of 47-54 mph) have affect the North Sea through Sunday, but will ease today (Monday). These winds have built very rough seas, but these seas will slowly decay today. The strong winds have extended well south into central Europe, producing a threat of gales in places, but these winds will ease today.

Discussion

Good model agreement for the 40-50 kt gradient Northwest gradient easing from the west today (Monday) as a ridge backs and eases the flow.

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.



North America

California **Weather**

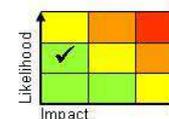
Further Pacific weather systems are expected to affect the state through the next week, producing short spells of heavy rainfall, falling as snow above 1700-2200 metres, producing further significant falls over the Sierra Nevada range. The main precipitation event looks likely to be on Thursday when up to 150 mm of rain could fall, with weekly totals of up to 250-300 mm of rainfall in the Sierra Nevada, 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 and SE Canada

Weather

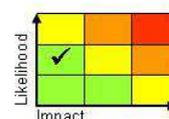
More southern states in this region will see a threat of severe thunderstorms moving east through the weekend. The more northern states will see a threat of heavy snowfall that could affect Toronto, Montreal, Chicago, New York, Boston and Washington DC this weekend.

Discussion

A marked confluent upper trough is expected to drive a developing frontal wave northeastwards across the central and eastern part of the USA at the weekend. On and just ahead of the cold front forecast profiles show the potential for severe thunderstorms, while the northern side of this system will engage the very cold Arctic airmass that will have been dragged well southwards. There is still some timing and track uncertainty between models, but there is reasonable confidence for a significant winter storm event this weekend.

Expected Impacts

Significant disruption to travel and power networks are expected, with a threat to life from winter and severe storm (large hail, tornado, frequent lightning, flash flood) impacts.



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Central America and Caribbean

Nil significant.

South America

Northern Argentina, far south of Brazil and Uruguay

Weather

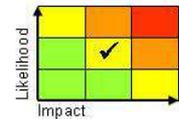
Further episodes of frequent heavy showers and severe thunderstorms are expected to affect this area over the next week, producing a combination of torrential, short-period rainfall, large hail, damaging wind gusts and a tornado threat. Storms will develop during most afternoons, persisting well into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



Western Colombia, Ecuador, Peru and Bolivia

Weather

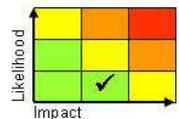
Enhanced rainfall, in association with frequent showers and thunderstorms, is expected this week across the region. There is the potential for up to 250 mm of rain across part of the Andes over the next week. This is likely to equate close to the average January rainfall in places.

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

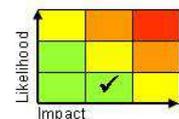
Weather

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 200-300 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 from Tuesday to Friday, 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. However, the GM rainfall accumulations (up to 745 mm) are well above the EC and GFS values.

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

Middle East

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

Much of Syria, Iraq, Jordan, Kuwait, eastern Saudi Arabia, Bahrain, Qatar and the UAE **Weather**

Strong or gale force winds are expected across the north of this region on Wednesday, with these winds extending southeast through and around the Persian Gulf through Thursday. These winds will likely lift widespread, dense dust storms across a large area during this period.

Discussion

This event is linked with the eastern Mediterranean deep depression event (see the *Europe* section). There is good model agreement for this event that will generate a strong Shamal.

Expected Impacts

Dense dust storms can have an adverse impact on human and animal health, and disrupt land and air transport links.



Asia

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

Much of Indonesia

Weather

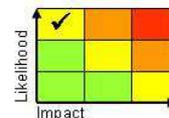
This is the wet season in Indonesia, but the seasonal rainfall could be more intense and more widespread than usual this week. Up to 100 mm of rain could fall in a few hours, perhaps with strong winds or even a tornado (as seen in western Java recent days). Rainfall totals of up to 300 mm could accumulate in places, which would be around the average January rainfall.

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

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.



Afghanistan, Tajikistan, southern Turkmenistan, Uzbekistan, northern Pakistan

Weather

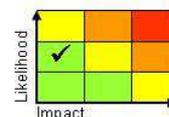
Further snow is expected to affect the region through the next week with many places seeing a further 15-25 cm of snow during this time. Isolated accumulations of up to a metre are likely, particularly over western Tajikistan and southeast Uzbekistan.

Discussion

A mobile westerly pattern will extend eastward into southwest Asia through the coming week, engaging a series of WBPT plumes emerging from the Red Sea and drawn northeastward. This will lead to widespread snow of the elevated topography of the region.

Expected Impacts

This follows another snowfall event last week affecting a similar region. Fresh snowfall is expected to disrupt air and land-based transport networks in the region whilst power supplies could be interrupted. Cold temperatures may also have adverse impacts on human and animal health. Given the mountainous nature of the region, there will also be an increased likelihood of avalanches.



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Australasia**Far northwest of Australia** – See *Tropical Cyclones* section.**Southern Australia****Weather**

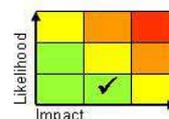
Higher than normal temperatures across parts of central western Australia are expected to extend and transfer east and southeast towards New South Wales and Victoria. Temperatures are expected to hit the high 30s to low 40s°C by midweek towards some of the more populated areas, including Adelaide and Canberra. This is some 7-10°C 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 temperatures, 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 almost a whole month, 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: 140810 UTC **Meteorologist:** Paul Hutcheon**Global Guidance Unit**

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