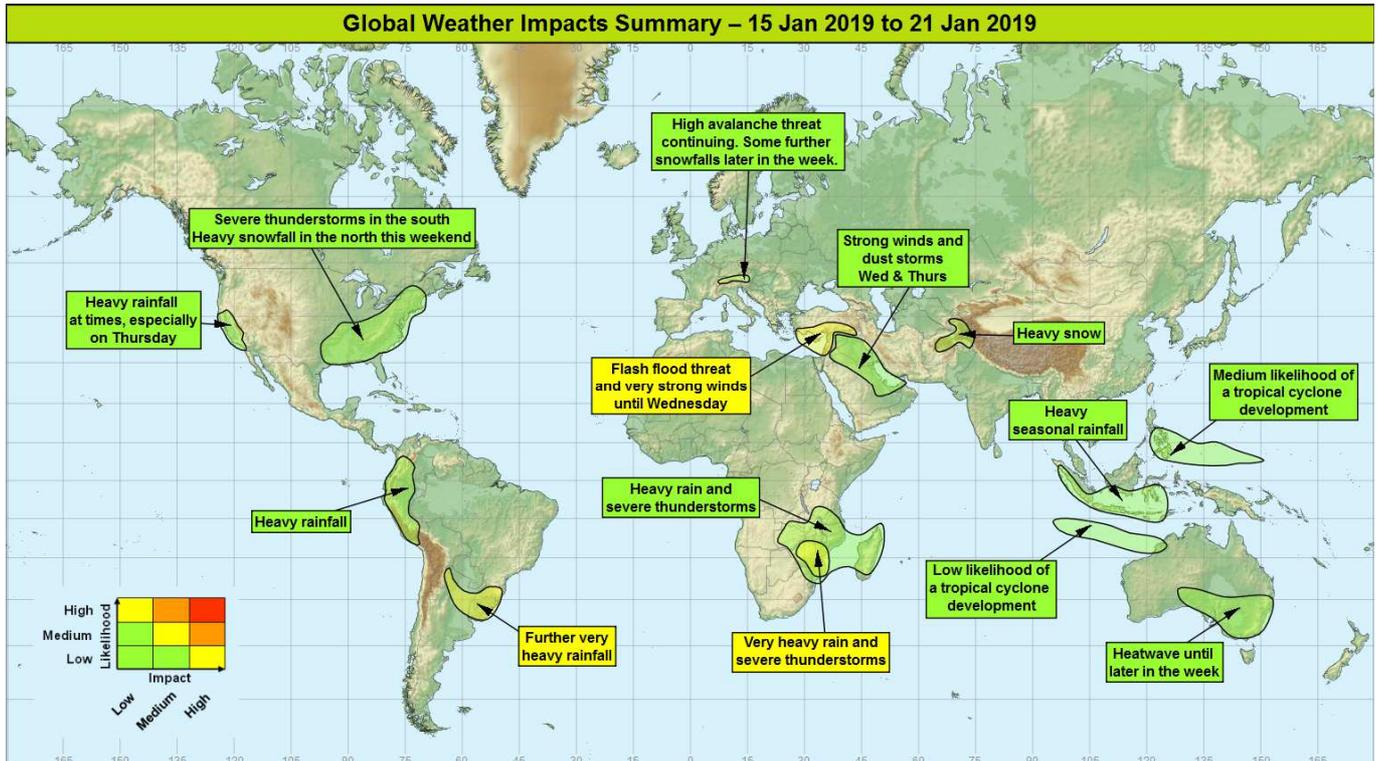


## Global Weather Impacts – Tuesday 15<sup>th</sup> to Monday 21<sup>st</sup> January 2019

Issued on Tuesday 15<sup>th</sup> January 2019

### HEADLINES

- A continued high avalanche threat over the Alps but recent heavy snowfalls now easing.
- Threat of damaging winds and flash flooding for Cyprus and southern Turkey today (Tuesday).
- Increasing likelihood of severe flooding in parts of South America and southeast Africa.
- Risk of some very heavy rainfall for parts of south-eastern Africa later this week.



### DISCUSSION

#### Tropical Cyclones

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

#### Northwest Pacific (Micronesia and southern Philippines)

##### Weather

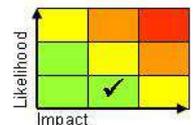
An enhanced area of thunderstorms is expected to track west towards the southern Philippines (Mindanao) through the coming week, producing up to 200 mm of rainfall in 24 hours. There is a medium probability that the convective activity could become organised to form a tropical cyclone as it tracks over the Philippine Sea. This area looks likely to reach the southern Philippines over the coming weekend bringing the potential for heavy rainfall and strong winds.

##### Discussion

The interaction of an equatorial Rossby wave may help develop this system into a tropical cyclone through the coming week. Favourable conditions (high SSTs and low vertical wind shear) exist and current deterministic output from shows this area becoming more organised, although there remains much uncertainty as to the intensity and track of any development. EPS output highlights a medium likelihood of tropical cyclone formation.

##### 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 lower likelihood of wind related impacts.



**This forecast may be amended at any time**

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter  
Tel: +44(0)1392 884319 VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

© Crown copyright 2019 This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

## Far northwest of Australia and eastern Indian Ocean

### **Weather**

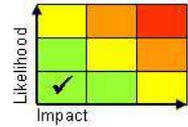
The remnant moisture associated with ex-Tropical Cyclone Penny has moved west to affect the northeastern fringe of Western Australia, producing an area of heavy showers and thunderstorms. Through the next few days there is a low probability that the thunderstorms could form a new tropical cyclone next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

### **Discussion**

The probability of a tropical cyclone developing from this area of thunderstorms remains low with the signal from deterministic and EPS model output becoming increasingly muted.

### **Expected Impacts**

Any developing system should remain offshore with 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 today (Tuesday) and tomorrow. The focus for the heaviest rainfall will be across southern Turkey and the Levant coastline. Some heavy snowfall is expected across higher ground, especially across Turkey. Up to 50-100 mm, perhaps 150 mm across parts of southern Turkey, could fall in some locations today, with up to 250 mm accumulating in some parts of southern Turkey by the end of Wednesday.

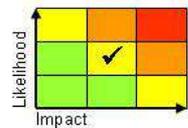
A major area of low pressure over the eastern Med will continue east-northeastwards over the next couple of days. This system could produce winds gusts of up to 60 mph across parts of Cyprus and southern Turkey. This magnitude of wind is very unusual in this region. In the wake of the system cold air will be drawn south which will lead to several days of significantly below average temperatures.

### **Discussion**

A sharpening upper trough will run across the area over the next 48 hours engaging the surface depression and maintaining a very disturbed spell of weather here. Once this system clears east during Wednesday much more settled and benign, but notably cold conditions will follow from Thursday into next week.

### **Expected Impacts**

An enhanced threat of flash flooding and landslides in the region, particularly as this follows previous wet weather in recent weeks/months. In addition strong winds and below average temperatures are likely to affect vulnerable populations in parts of southern Turkey and the Levant region, these lasting into next week. 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.

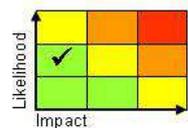


## Alps, Switzerland, Austria and southern Germany

### **Weather**

Snow continues to ease across the Austrian, Swiss and German Alps with some much needed respite for the region. Further occasional snowfalls look likely across parts of the Alps from Thursday but with much lower amounts than during recent days; typically 5-15 cm in places over 24 hours.

### **Discussion**



**This forecast may be amended at any time**

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter  
Tel: +44(0)1392 884319 VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

© Crown copyright 2019 This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

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. The cold N'yly plunge which has been producing recent very heavy snowfalls is now starting to be displaced E'wards. Further upper troughs moving E'wards across the area later in the week and into the weekend will bring more snowfalls to the Alps but these should tend to be pushed through as a more mobile pattern becomes established over the Atlantic which will help limit accumulations.

### 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. 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 America

### California Weather

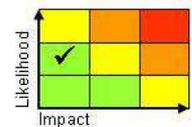
Further Pacific weather systems are expected to affect the state through the next week, producing spells of heavy rainfall, falling as snow above 1700-2200 metres thus giving further significant falls over the Sierra Nevada range. The main precipitation event looks likely to be on Thursday when up to 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 in excess of 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 with the risk remaining elevated this week, particularly on Thursday. Mudslides are a significant threat in burn scar regions of California. Heightened avalanche threat is also likely in the Sierra Nevada.



## Central and eastern USA and SE Canada

### Weather

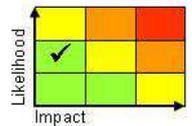
More southern states in this region will see a threat of severe thunderstorms moving east through the weekend. The more northern states will see a threat of heavy snowfall which includes Chicago, New York, Boston and Washington DC.

### 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 likely, with a threat to life from winter and severe storm (large hail, tornado, frequent lightning, flash flood) impacts.



## Central America and Caribbean

Nil significant.

**This forecast may be amended at any time**

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter  
Tel: +44(0)1392 884319 VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

© Crown copyright 2019 This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

## South America

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

#### **Weather**

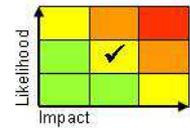
Further episodes of frequent heavy showers and severe thunderstorms are expected to affect this area over the next week, producing a combination of torrential, short-period rainfall, large hail, damaging wind gusts and a tornado threat. Storms will develop during most afternoons, persisting well into the night time. These storms are capable of producing up to 200 mm of rainfall in 24 hours (with much of this potentially falling in a much shorter time period).

#### **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 and Peru

#### **Weather**

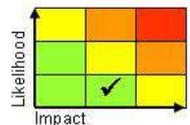
Enhanced rainfall, in association with frequent showers and thunderstorms, is expected this week across the region. There is the potential for 50-100 mm in places each day with up to 300 mm of rain across part of the Andes over the next week. This is likely to equate close to the average January rainfall in places.

#### **Discussion**

This signal 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

### Southern Mozambique and eastern Zimbabwe

#### **Weather**

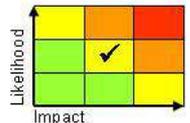
Enhanced seasonal rains are expected throughout this period with daily thunderstorm activity typically bringing 50-100 mm of rainfall in places each day. From Friday and over the coming weekend thunderstorms may become more organised with the potential for 150-250 mm to fall over several hours. Locally this could see a month's worth of rainfall in a single day. In addition to the torrential rainfall, frequent lightning, strong downdraughts and perhaps large hailstones may be additional hazards.

#### **Discussion**

Enhanced seasonal rainfall associated with monsoon plume is forecast to continue over the next week. Rainfall anomalies are signalled to increase from Friday with the potential for enhanced low level convergence and a low pressure circulation helping to organised and focus severe convection. Models continue to signal intense rainfall for this period. This GM remains at the higher end of expectations with recent runs suggesting the potential for peak totals of 400-500mm in a day (EC and GFS suggest totals closer to 200mm).

#### **Expected Impacts**

The majority of the area highlighted is sparsely populated; however there are a few large densely populated cities within it; these cities at significant risk of flash flooding. Beira and Harare have both been included within this area but whether they see the most intense rainfall is very uncertain. Torrential rain in addition to large hail, frequent lightning and strong winds are likely to cause some damage to property, crops and infrastructure.



**This forecast may be amended at any time**

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter  
Tel: +44(0)1392 884319 VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

© Crown copyright 2019 This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

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

**Weather**

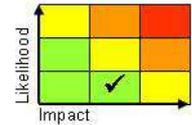
Enhanced seasonal rains are expected to continue in the form of more frequent thunderstorms. These could locally bring 50-100 mm of rainfall in 24 hours, with some significant totals perhaps falling in a short period. Some locations could see 200-300 mm over the next week, with these values close to the January average. In addition to heavy rainfall, these will likely produce frequent lightning, strong downdraughts and possibly large hailstones too.

**Discussion**

Enhanced seasonal rainfall associated with monsoon plume is forecast to continue over the next week, with significant rainfall anomalies signalled. Showers will mainly be focussed by the (at times diffuse) axis of high WBPT and enhanced low level convergence.

**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.



**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**

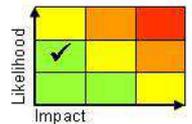
Strong or gale force winds are expected across the north of this region on Wednesday, with these winds extending southeast through and around the Persian Gulf through Thursday. These winds will likely lift widespread, dense dust storms across a large area during this period.

**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**

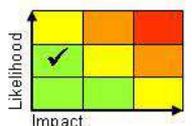
This is the wet season in Indonesia, but the seasonal rainfall could be more intense and more widespread than usual this week. Up to 100 mm of rain could fall in a few hours, perhaps with strong winds or even a tornado (as seen in western Java recent days). Rainfall totals of up to 300 mm could accumulate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

**Expected Impacts**

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

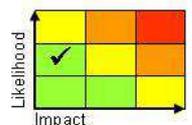


**Afghanistan, Tajikistan, southern Turkmenistan and northern Pakistan**

**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**



**This forecast may be amended at any time**

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter  
 Tel: +44(0)1392 884319 VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

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 on 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.

### **Australasia**

**Far northwest of Australia** – See *Tropical Cyclones* section.

### **Southern Australia**

#### **Weather**

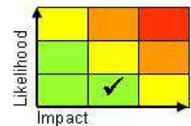
Higher than normal temperatures will be focused on South Australia, New South Wales and Victoria this week. Maximum temperatures are expected to hit the high 30s to low 40s°C by midweek towards some of the more populated areas, including Adelaide and Canberra with some inland locations into the high 40s°C (Port Augusta, South Australia reached 48.9C on Tuesday, within two degrees of the Australian record). This is some 8-12°C above normal and many more local records are likely to be broken. The heat could trigger wildfires in parts of southeastern Australia. At the end of the week a cold front will bring an end to the extreme 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 3<sup>rd</sup> 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. The Port Augusta temperature is within two degrees of the Australian record of 50.7, set at Oodnadatta, South Australia in January 1960.

#### **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:** 150800 UTC    **Meteorologist:** Chris Bulmer

**Global Guidance Unit**

**This forecast may be amended at any time**

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter  
Tel: +44(0)1392 884319 VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

© Crown copyright 2019 This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.