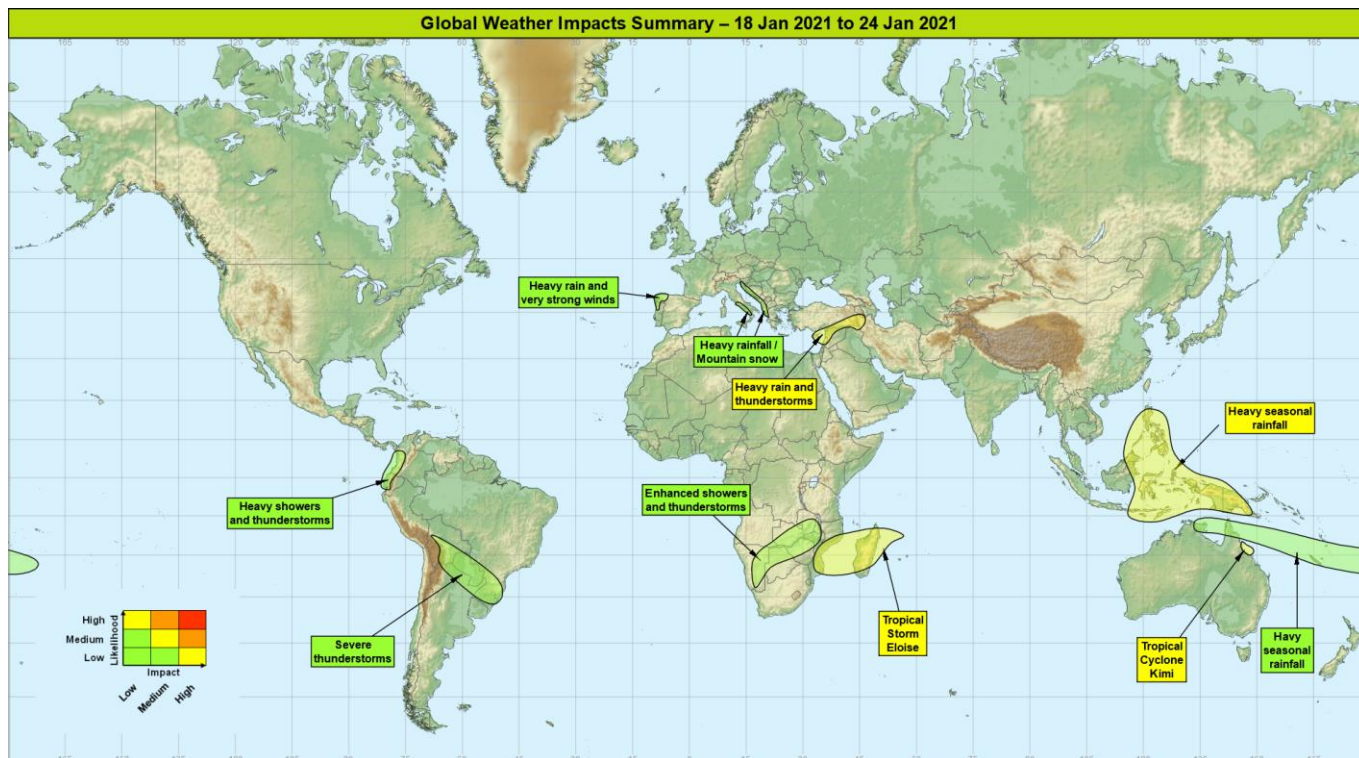


Global Weather Impacts – Monday 18 January 2021 to Sunday 24 January 2021

Issued on Monday 18 January 2021

HEADLINES

- Tropical Cyclone Kimi expected to make landfall in northeast Australia today.
- Tropical storm Eloise is expected to reach northern Madagascar late Tuesday or early Wednesday.
- Heavy rain and thunderstorms in parts of the Middle East and southeast Europe.
- Heavy seasonal rainfall for parts of southeast Asia.



DISCUSSION

Tropical Cyclones

Tropical Cyclone Kimi

Weather

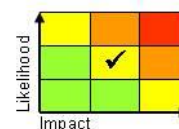
Tropical Cyclone Kimi formed in the Coral Sea off the northeast coast of Australia early on Sunday morning. It is expected to drift south offshore northern Queensland through Monday as a Category 2 Tropical Storm with sustained winds near the centre of 60 mph and gusts of 85 to 90 mph. By tomorrow the system is expected to lie offshore from Townsville, after which gradual weakening is expected. The strongest gusts of wind are expected just north of Townsville overnight Monday into Tuesday, some places may see gusts exceed 90 mph. Very heavy rainfall will affect areas of Queensland south of Cairns, with 100-200 mm, perhaps locally 300 mm over the next few days.

Discussion

Tropical Cyclone Kimi formed within the tropical convergence zone that extends eastwards from northern Queensland (see Australia section below). It was steered southwards on Sunday night while intensifying is now close to the small coastal town of Cardswell. NWP guidance has been poor for this system and its movement has been erratic. While it is possible it may still make landfall the preferred track keeps the system just offshore before weakening.

Expected Impacts

Flash and riverine flooding. Damaging winds near the coast with some large waves likely too.



This forecast may be amended at any time

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Tropical Storm Eloise

Weather

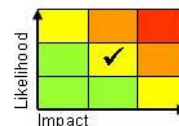
Tropical Storm Eloise will move westwards toward Madagascar over the coming days. Landfall is likely either late on Tuesday or early on Wednesday with the system forecast to be a severe tropical storm (one category below tropical cyclone), sustained winds likely around 65 mph. Whilst strong winds will affect areas close the centre of this system, heavy rainfall will likely be the biggest impact across Madagascar. Between Tuesday and Friday 200-300mm of rainfall is likely to fall across a large portion of the north of the country, this equivalent to the normal rainfall for the whole of January. Locally, totals in excess of 500mm are possible, especially over high ground. After the system has crossed Madagascar it will move toward the east coast of Africa, approaching the coast of Mozambique next weekend.

Discussion

Eloise formed from the southern element of an equatorial Rossby wave pair that has been observed crossing the Indian Ocean over recent days. The majority of NWP output indicates a strengthening of the system over the next couple of days, with RSMC Réunion forecasting it will reach Madagascar as a severe tropical storm. However, there is some uncertainty regarding the strength of the system by the time it reaches landfall, with the GM solution more intense than EC or GFS. Nonetheless, there is high confidence for a tropical system to reach Madagascar with a narrow ensemble spread for the likely track. After crossing Madagascar Eloise is likely to intensify again before it reaches Mozambique.

Expected Impacts

Flash and riverine flooding. Landslides. Damaging winds especially near to the coast where a storm surge of 2 to 3 meters is also possible.



The following tropical cyclone has been named but is expected to remain over open water:

Tropical Cyclone Joshua

Tropical Cyclone Joshua has formed in the southeast Indian Ocean. It will track westwards over open water and is expected to dissipate on Wednesday.

Europe

Southeast Europe – see Middle East section

North-western Iberia

Weather

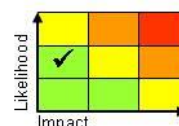
Heavy rain and strong winds are likely to affect north-western Iberia from midweek as a series of Atlantic Systems drive mild, moist air in from the Ocean. Each event could bring 50 to 80 mm of rainfall in places, with one or two locations perhaps seeing in 150-200 mm of rainfall by the weekend, roughly equivalent to the January average for this region. In addition to rainfall it is possible severe gale or even storm force winds may affect the north-west coast of Spain, perhaps Portugal later this week.

Discussion

A south shifted jet will drive development along a plume of higher WBPT air from midweek. As these systems develop they will drive strong winds and moist air into NW Iberia. A strong orographic component is likely as these winds intersect the mountainous terrain.

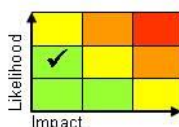
Expected Impacts

Flash and riverine flooding possible. Damaging gusts of winds and large waves.



Parts of Italy and the Adriatic Coast of The Balkans

Weather



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Heavy rainfall is likely to develop across this region toward next weekend. The highest totals are likely to affect the Adriatic coast of The Balkans where some places could see in excess of 200 mm over a period of 2 to 3 days, around the average January rainfall. On ground above 1200 m heavy snowfall is likely.

Discussion

South shifted mobility will driver moisture laden air into these mountainous regions. Frequent heavy shows and thunderstorms will produce very large rainfall totals, especially across the Adriatic Coast of The Balkans.

Expected Impacts

Potential for flash and riverine flooding. Avalanches and landslides may affect mountainous areas.

North America

Nil

Central America and Caribbean

Nil

South America

Ecuador and southwest Colombia

Weather

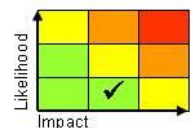
Frequent heavy showers and thunderstorms will affect this region through the next 5-6 days. The heaviest rainfall is expected across the western foothills, where daily totals of 75-150mm are possible. Overall totals this week may exceed 300mm, well in excess of the average rainfall for the month of January.

Discussion

Although the typical La Niña response has been observed through the boreal winter, a slightly anomalous onshore flow has developed across Ecuador and in particular western Colombia which is acting to enhance shower and thunderstorm activity against the western Andes.

Expected Impacts

Flash flooding. Enhanced risk of landslides.



Paraguay, parts of Bolivia, southern Brazil, northeastern Argentina

Weather

Severe thunderstorms and heavy rain will affect this region over the coming days before easing by the end of the week. Daily rainfall totals of 50-100mm are likely with some places seeing as much as 300-400mm by Friday, this well in excess of typical January rainfall (100-150mm). In addition to heavy rain, hazards such as hail, strong winds and lightning are also likely.

Discussion

A reservoir of monsoon moisture has been engaged by a northward-moving upper trough resulting in areas of heavy rain and thunderstorms. This forcing will move away to the east by Monday, with the residual high theta-W air becoming slow moving across southern Brazil and acting as a continued focus for rain and thunderstorms.

Expected Impacts

Flash flooding. Increase threat of landslides. Possible power disruption and damage to crops and infrastructure.

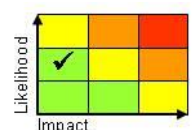


Africa

Madagascar – See *Tropical Cyclones* section

Southern Africa

Weather



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Heavy showers and thunderstorms will be more frequent than normal across parts of southern Africa. Some thunderstorms are likely to be severe and accompanied by large hail, frequent lightning and strong winds. Daily rainfall totals of 50-100mm are possible with many areas likely to receive a month's worth of rainfall over the coming five days.

Discussion

Above average rainfall is a typical La Niña response across this region with a significant reduction in the environmental static stability, increasing the depth and frequency of convection. This is resulting in more frequent shower activity, especially within the moist mild tropical air across the region. In addition mid-latitude systems and upper features approaching from the south will further augment the heavy rainfall.

Expected Impacts

Flash flooding. Possible power disruption and damage to crops and infrastructure.

Middle East

Turkey, Armenia, Cyprus and parts of The Levant

Weather

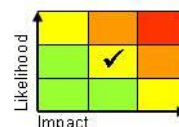
Periods of heavy rain and thunderstorms will affect this region until Wednesday. The heaviest rainfall is likely to be across the eastern Mediterranean coast and the northern border regions of Syria and Iraq. Daily rainfall totals of 50-100mm are possible with overall accumulations of 200-250mm expected in places - the average January rainfall in this region is 100-250mm. Heavy snowfall is likely across the interior of Turkey, Armenia and high ground of the Levant.

Discussion

A plunge of cold air has developed across eastern Europe with multiple upper trough extensions now engaging the resulting baroclinic zone. This is leading to periods of heavy precipitation and embedded deep convection. By Wednesday the main upper forcing will clear away to the east, with a subsequent reduction in activity over the region.

Expected Impacts

Flash and riverine flooding. Increased threat of landslides. Disruption to transport and utilities due to snow in areas mentioned above.



Asia

Georgia – see Middle East section

Philippines, parts of Indonesia and Papua New Guinea, eastern Malaysia

Weather

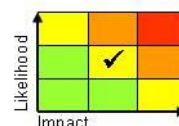
Heavy showers and thunderstorms will be more frequent than normal during this period. Daily rainfall totals may exceed 100mm in places, this potentially falling in just a few hours. By Friday 200-300mm is expected to have accumulated widely, with some places seeing as much as 500-600mm. Typical rainfall for January is in the order of 300mm.

Discussion

A combination of a La Niña background state, active phase of the MJO moving east into the Maritime Continent and strong cold surge pulses increasing convergence through the South China Sea all contribute to a continuation of the above average rainfall seen over recent weeks.

Expected Impacts

Flash and riverine flooding. Enhanced threat of landslides especially across parts of Sulawesi which were recently impacted by a major earthquake.

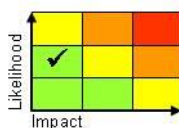


Australia

Parts of eastern Queensland – See Tropical Cyclones section

Northeast Australia and New Caledonia

Weather



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Shower and thunderstorm activity will be more organised than average across this region during this period. Daily rainfall totals of 100-200mm are possible with the potential for over 500mm by Friday in some locations. Whilst much of the region constitutes open water, these totals are in excess of the typical monthly rainfall for the islands in this region.

Discussion

As the MJO progresses into the Maritime Continent activity along the South Pacific Convergence Zone (SPCZ) continues to increase. An anomalously strong E'ly flow will bring more frequent than normal deep convection onto the coast of northern Queensland.

Expected Impacts

Flash flooding. Enhanced threat of landslides.

Additional information

Colder than average conditions will affect much of western Russia and parts of eastern Europe for the next couple of days. Overnight minima of -20 to -30°C are likely, this 10-15°C below the typical January average.

A magnitude 6.2 earthquake struck western Sulawesi, Indonesia at 02:31 UTC on Friday 15th January. This shallow quake caused extensive damage, including the destruction of a hospital, and a significant number of fatalities. Enhanced rainfall over the coming days are likely to hamper recovery efforts.

Issued at: 180630UTC

Meteorologist: David Oliver / Mark Sidaway

Global Guidance Unit

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