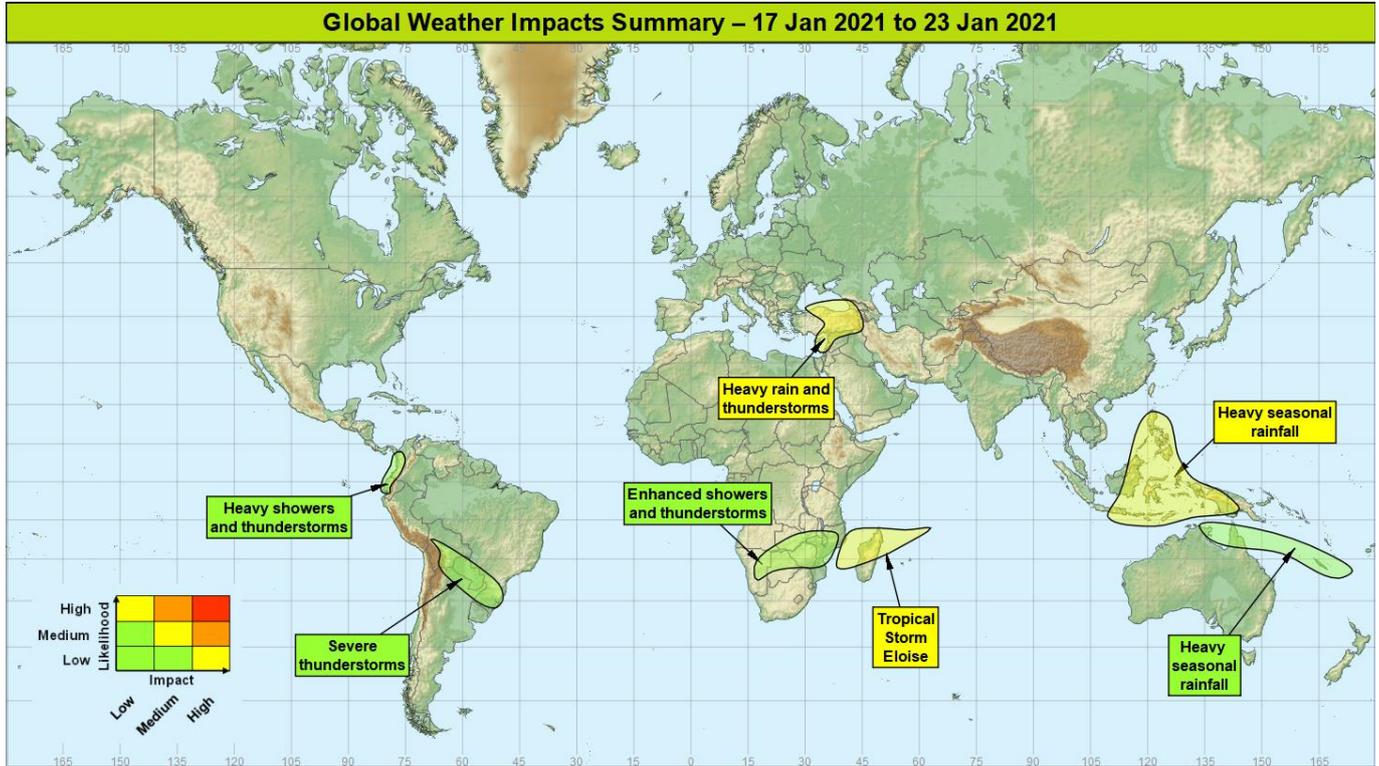


## Global Weather Impacts – Saturday 16 January 2021 to Friday 22 January 2021

Issued on Saturday 16 January 2021

### HEADLINES

- 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

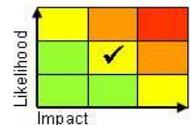
#### Tropical Cyclones

#### Tropical Storm Eloise – Madagascar and parts of east Africa

##### Weather

Tropical Storm Eloise has recently been named by Météo-France and is forecast to 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 rung below tropical cyclone). 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



**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)

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The nascent system has 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.

### Expected Impacts

Flash and riverine flooding. Landslides. Damaging winds especially near to the coast.

*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 by Wednesday.

### Europe

**Southeast Europe** – see Middle East section

### North America

Nil

### Central America and Caribbean

Nil

### South America

#### Ecuador and southwest Colombia

##### Weather

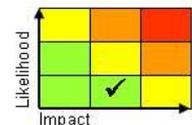
Frequent heavy showers and thunderstorms will affect this region through the next 5-7 days. The heaviest rainfall is expected across the western foothills, where daily totals of 75-150mm are possible. Overall totals this week may exceed 300mm, well in excess of the average rainfall for the month of January.

##### 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

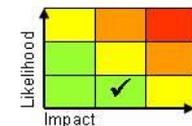
Severe thunderstorms and heavy rain will affect this region over the coming days before easing by the end of the week. Daily rainfall totals of 50-100mm are likely with some places seeing as much as 300-400mm by Friday, this well in excess of typical January rainfall (100-150mm). In addition to heavy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



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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)

## Africa

**Madagascar** – See *Tropical Cyclones* section

### **Southern Africa**

#### **Weather**

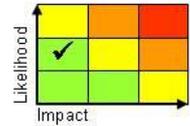
Heavy showers and thunderstorms will be more frequent than normal across areas of southern Africa. Some thunderstorms are likely to be severe and accompanied by large hail, frequent lightning and strong winds. Daily rainfall totals of 50-100mm are possible with many areas likely to receive a month's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

**Georgia, Turkey, Cyprus and parts of The Levant**

#### **Weather**

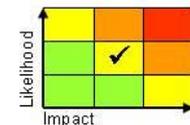
Periods of heavy rain and thunderstorms will affect this region until Wednesday. The heaviest rainfall is likely to be across the eastern Mediterranean, eastern Turkey and the northern border regions of Syria and Iraq. Daily rainfall totals of 50-100mm are possible with overall accumulations of 200-250mm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

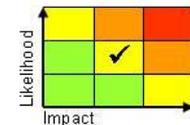
Heavy showers and thunderstorms will be more frequent than normal during this period. Daily rainfall totals may exceed 100mm in places, this potentially falling in just a few hours. By Friday 200-300mm is expected to have accumulated widely, with some places seeing as much as 500-600mm. Typical rainfall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



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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)

**Australia**

**Northeast Australia and New Caledonia**

**Weather**

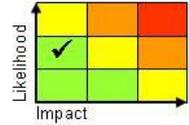
Shower and thunderstorm activity will be more organised than average across this region during this period. Daily rainfall totals of 100-200mm are possible with the potential for over 500mm by Friday in some locations. Whilst much of the region constitutes open water, these totals are in excess of the 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 4-5 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 15<sup>th</sup> 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:** 170630UTC

**Meteorologist:** David Oliver/Brent Walker

**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

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