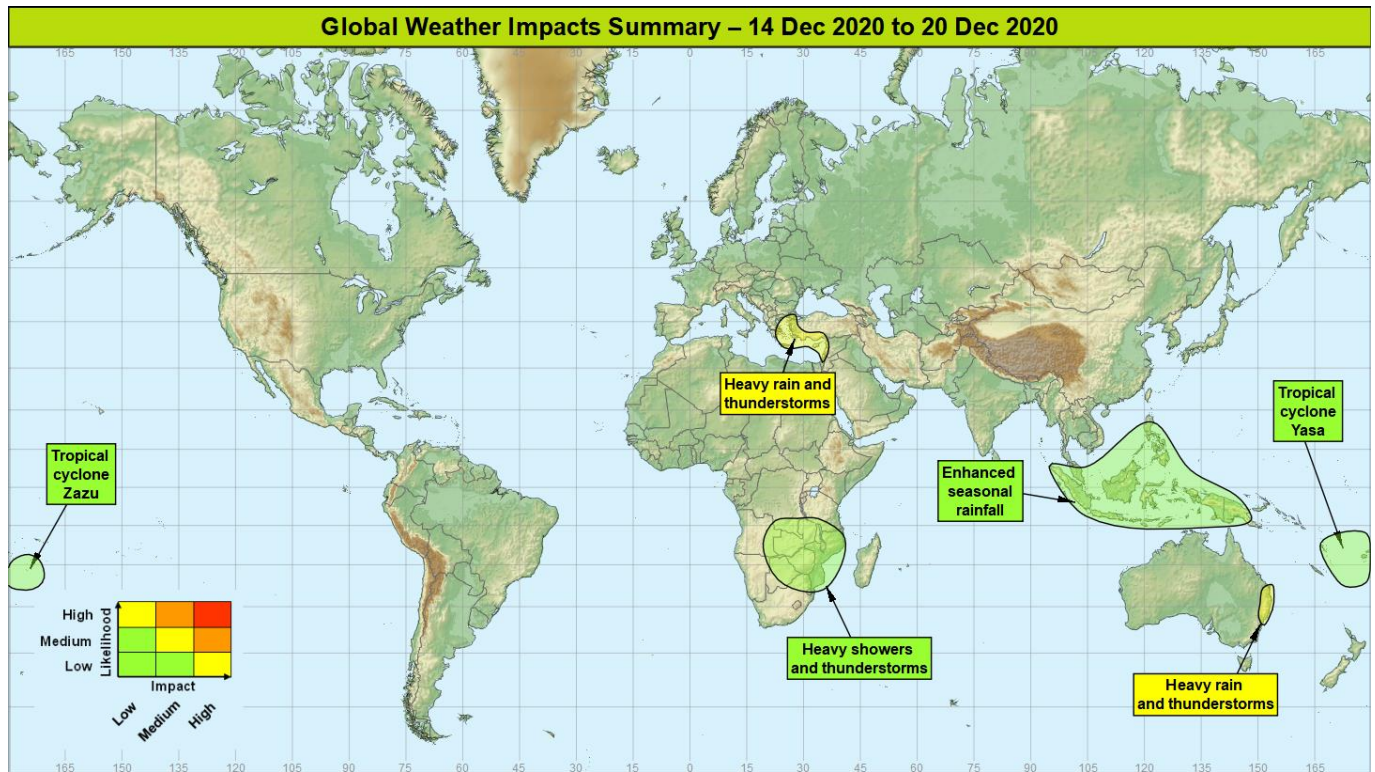


Global Weather Impacts – Monday 14th to Sunday 20th December

Issued on Monday 14th December 2020

HEADLINES

- Heavy rain and thunderstorms continue to affect southeast Europe.
- Severe thunderstorms and heavy rain for eastern Australia.
- Tropical cyclones Yasa and Zazu in the southwest Pacific.



Tropical Cyclones

Tropical Cyclone Yasa

Weather

Tropical cyclone Yasa was named the Fiji Meteorological Service on Sunday and is the first tropical cyclone of the season in the South Pacific. It is currently located just over 100 miles east of Vanuatu and is expected to slowly move toward the islands over the next two days. Whilst the area of strongest winds is expected to remain off-shore, the heavy rain accompanying the system will affect Vanuatu, potentially bringing 100-200mm of rain by midweek. During the second half of the week Yasa is forecast to start to move eastwards and is likely to come close to Fiji by Friday. It is uncertain whether Yasa will directly affect the islands themselves, although very heavy rainfall is likely in any event.

Discussion

Yasa (nee TD02F) lies just east of Vanuatu with current model consensus holding the core of strongest winds off-shore, meaning the main impact for the islands will be heavy rain. All models then take Yasa on an eastward track from midweek, gradually strengthening the system as it moves toward Fiji. Whether it crosses Fiji itself is uncertain with a large spread of solutions by Friday – the GM takes it across the north of the islands on Thursday, EC brings it across the south on Friday and GFS holds it clear of Fiji altogether; the ensembles have a similar spread of solutions. Nonetheless the potential is there for significant weather impacts across Fiji, both from rainfall and the strength of the winds.

Expected Impacts

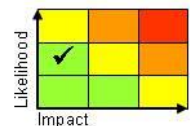
Flash flooding and landslides. Chance of damaging winds, large waves and storm surge depending on development and track of the system.

This forecast may be amended at any time

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**Tropical Cyclone Zazu Southwest Pacific (Tonga, Samoa and Niue)****Weather**

A tropical depression formed close to Samoa over the weekend and has tracked toward Tonga whilst strengthening.

It has now been named Zazu by the Fiji Meteorological Service and currently lies close to the northern districts of Tonga.

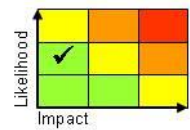
Strong winds will affect areas close to the centre of the system but the main impact is likely to be from heavy rainfall. Depending on the exact track of the system and how long it lingers across the islands, 200-300mm may accumulate at some sites in Tonga by Wednesday, this is more than double the normal December rainfall (140mm). In addition, heavy rainfall associated with this system may affect Samoa and Niue, potentially bringing in excess of 150mm to these Islands over the next two days. The system itself is expected to move southeastwards into open waters on Wednesday.

Discussion

Zazu (previously TD03F) lies close to northern Tonga and is expected to move slowly south or southeastwards today. Even by the end of today there is a significant spread in model solutions for this system's track, with some holding it close to Tonga and others moving it away more quickly. Irrespective of the outcome, substantial rainfall accumulations are likely over the next two days. Farther afield, Samoa and the island of Niue are likely to see some very heavy rainfall from the periphery of this system with a small chance of strong wind impacts across Niue depending on the track.

Expected Impacts

Flash flooding and landslides. Chance of damaging winds, large waves and storm surge depending on development and track of the system.



Europe**Southeast Europe and the Levant coastline****Weather**

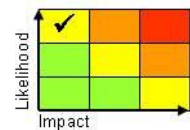
Heavy rain and thunderstorms will affect this region over the next two to three days, with heaviest rainfall gradually moving eastwards in this period. Rainfall is expected to vary from place to place, however 30-50mm may develop quite widely, with the potential for 100-150mm in a few locations and well above the average rainfall for December. Strong winds or gales are also likely across the Mediterranean basin.

Discussion

A disrupting upper trough and cold pool lies across this region with a co-located cyclonic surface pattern. The centre of gravity of both the upper and surface patterns will transfer eastwards over the next couple of days in response to an upstream ridge building to the west. By Thursday the remnants of the upper vortex will lie across the Levant leaving drier conditions in its wake.

Expected Impacts

Flash flooding and landslides. Localised damage and disruption from frequent lightning and large hail. Strong winds or gales are likely to result in sea conditions hazardous for small craft.

**North America**

Nil.

Central America and Caribbean

Nil.

South America

Nil.

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**Africa****Areas of southern-central Africa****Weather**

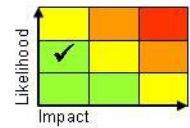
Enhanced shower and thunderstorm activity affect this region over the coming week. Showers will be capable of bringing 50-100 mm of rainfall in a short duration with some locations seeing as much as 200-300 mm over the course of a week. These larger amounts are comparable to the average total rainfall for the whole of December (200-250 mm).

Discussion

Incursions of lower WBPT airmass has acted to increase baroclinicity at relatively low latitudes across southeast Africa. A fairly strong anticyclone within the cooler airmass southeast of Madagascar is contributing to increased convergence against the trade wind flow to the north leading to more frequent heavy showers and thunderstorms than is normal for the time of year.

Expected Impacts

Increased threat of flash and riverine flooding and an enhanced risk of landslides. Lightning will be an additional hazard.

**Middle East**

Levant coastline – See *Europe* section.

Asia**Indonesia, Borneo, Malaysia, Philippines****Weather**

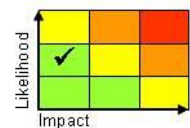
Periods of heavy rain and showers will be frequent and intense in the coming days across this region. Within the highlighted area totals of 50-75mm a day are likely to occur widely. By the end of this week some coastal districts may see as much as 400mm of rainfall, this approaching the normal average for the entirety of December.

Discussion

A succession of equatorial Rossby waves as well as an advancing Kelvin wave (which may well emerge as the MJO in the coming days) will augment shower activity across this area. Higher than average SST's will aid in shower development, with PWAT in excess of 60 mm, and CAPE in excess of 2000J/kg means some particularly active storms are likely.

Expected Impacts

Potential for flash flooding, as well as landslides.

**Australasia**

Vanuatu, Fiji, Samoa and Tonga – See *Tropical Cyclones* section.

Southeast Queensland and northeast New South Wales, Australia**Weather**

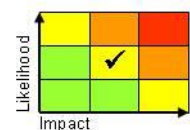
Heavy showers and thunderstorms, and perhaps more prolonged spells of heavy rain, are expected to continue to affect the region during the first half of this week. The heaviest rainfall is likely to affect the region from Brisbane to Newcastle (north of Sydney), including the Gold Coast. It is along the coast where the heaviest rainfall is expected, with 100-200 mm developing quite widely with isolated accumulations of 300-400 mm possible by midweek. These larger totals would be well in excess of average December rainfall (130 mm for Gold Coast, for instance), and if realised, could break the record for the wettest December in some locations. The recent strong winds though, should slowly ease over the next day or two.

Discussion

A mid-latitude upper trough disrupted and formed a cut-off low across eastern Australia over the weekend. This will remain slow-moving across the region until midweek, combined with an injection of tropical moisture from the northeast bringing some intense rainfall rates – PWAT is widely 40-50mm within this airmass.

Expected Impacts

Flash and riverine flooding.



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Additional information

Northern India, Pakistan, Afghanistan and parts of eastern China

Urban pollution, combined with crop burning, will continue to generate high levels of air pollution in this area over the coming months. Very unhealthy air quality has continued to be reported in cities in the area including Delhi, Lahore, Kabul and Huai'an.

Northeastern China, North Korea, South Korea and Japan

Very cold air from Siberia/Russia will affect these areas early this week. Although cold weather is normal at this time of year, temperatures are likely to be more than 10°C below average in some parts, with some very cold nights in particular.

Issued at: 140900UTC

Meteorologists: David Oliver/Chris Almond

Global Guidance Unit

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