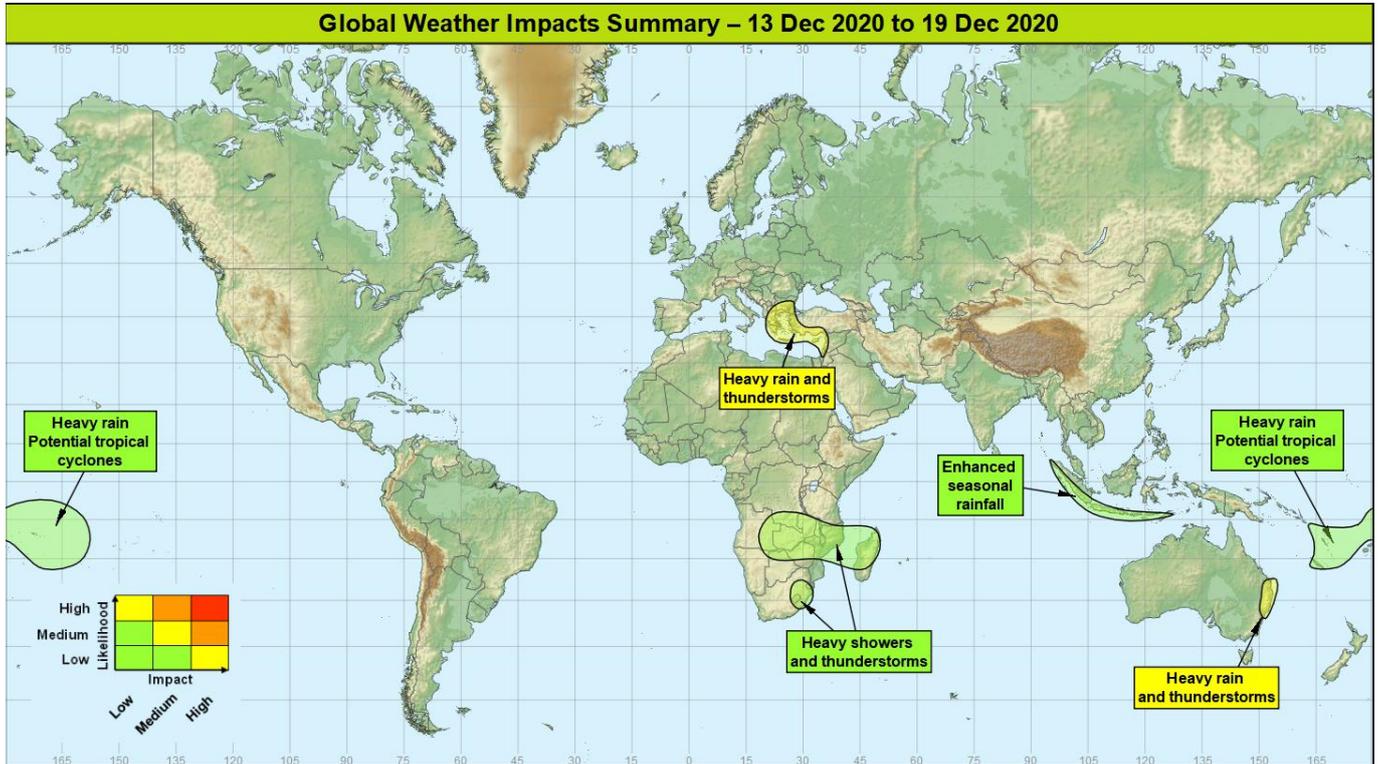


Global Weather Impacts – Sunday 13th to Saturday 19th December

Issued on Sunday 13th December 2020

HEADLINES

- Severe thunderstorms and heavy rain for eastern Australia.
- Heavy rain and thunderstorms continue to affect southeast Europe.
- Likely tropical cyclone development in the Southwest Pacific.



Tropical Cyclones

There are currently no named tropical cyclones globally. The following areas are being monitored for development that may impact land:

Southwest Pacific (including New Caledonia, Vanuatu and Fiji)

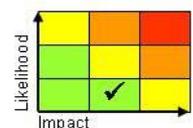
Weather

A tropical low to the east of Vanuatu is expected to become a tropical cyclone today, and then slowly intensify whilst moving southwest over the next few days. This cyclone will be called Yasa, and will be the first tropical cyclone of the season across the South Pacific. There remains considerable uncertainty around this development. Irrespective of development, frequent heavy showers and thunderstorms will affect this region over the next week with event totals likely 75-100 mm quite widely with locally 250-400 mm possible. These larger totals would be equivalent to average wet season (January to May) monthly rainfall.

Discussion

An active period looks like developing in the southwest Pacific, and there is a signal from all models for two tropical cyclone developments through the coming days along the South Pacific Convergence Zone. High SSTs in the area, partly thanks to La Niña will help fuel intensification of pre-existing MRG wave disturbances, aided by low vertical wind shear in the area. The majority of solutions suggest merging of two tropical features close to Vanuatu over this weekend, this has been designated TD02F by Fiji RSMC. While this is likely to remain largely over the open ocean, this is an area to monitor since islands in this region are susceptible to significant tropical cyclone impacts.

Expected Impacts



This forecast may be amended at any time

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Potential for flash flooding rainfall, landslides, and depending on development, - damaging winds, large waves and storm surge.

Southwest Pacific (including Samoa and Tonga)

Weather

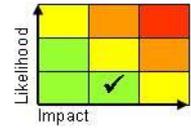
A tropical depression formed over Samoa through Saturday and may intensify further over the coming days to come a named tropical cyclone. There is considerable uncertainty surrounding the development of this feature and regardless of development frequent heavy showers are expected in the region (see previous section)

Discussion

The development of this feature is closely linked to interactions with TD02F further west and there is a large spread in solutions currently although most track the feature south towards Niue or Tonga early next week – with strength uncertain.

Expected Impacts

Potential for flash flooding rainfall, landslides, and depending on development, - damaging winds, large waves and storm surge.



Europe

Southeast Europe and the Levant coastline

Weather

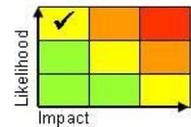
Further spells of heavy rain and coastal thunderstorms are expected slowly transfer eastwards across southeastern Europe, the Eastern Mediterranean and into the Levant coastline through the next few days. Up to 75-150 mm, locally 250 mm, of rain is expected in places (close to or above the average December rainfall in the region, with gales or severe gales for eastern parts of the Mediterranean basin also expected.

Discussion

A southward displacement of the main polar front jet will maintain the very unsettled conditions across the Mediterranean and surrounding areas. Marked trough extensions will lead to a persistently cyclonic regime, particularly later this weekend when a trough extension eventually becomes a discrete cut off upper low over the eastern Mediterranean basin with a co-located surface low leading to slow progression, but a gradual eastward trend in highest rainfall totals. Conditions should ease from the middle of next week.

Expected Impacts

Flash flooding and landslides are likely, with a risk of damage and disruption from frequent lightning and large hail. Gales or severe gales could produce hazardous sea conditions for a time.



North America

Nil.

Central America and Caribbean

Nil.

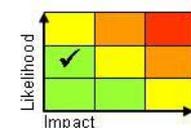
South America

Nil.

Africa

Parts of southern-central Africa and Madagascar

Weather



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Enhanced shower and thunderstorm activity will continue to affect this region over the next week. Showers will be capable of locally bringing 50-100 mm of rainfall in a short duration with some locations see as much as 200-400 mm over the course of a week. Despite this being the wettest period of the year for this region, these totals are above the average rainfall for the whole of December (200-250mm).

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 south 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, an enhanced risk of landslides and lightning will be an additional hazard.

Eastern South Africa, Swaziland and Lesotho

Weather

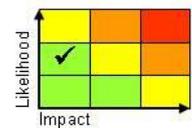
Diurnal heavy showers and thunderstorms are expected to continue over the next few days but locally severe thunderstorms become increasingly frequent again through Tuesday night into Wednesday. These thunderstorms are expected to continue to be capable of producing locally torrential rain (75-100 mm in a few hours), large hail, frequent lightning and strong winds.

Discussion

Tropical moisture being drawn south across eastern South Africa will once again be engaged by a potent upper trough from the west on Tuesday. High instability with CAPE values approaching 2000 JKg⁻¹ at times, combined with moderate wind shear is expected to support locally severe thunderstorm development, this easing gradually through Wednesday.

Expected Impacts

Severe thunderstorms once again present multiple, albeit localised hazards including flash flooding and damage to property and infrastructure from a combination of lightning, large hail and strong winds.



Middle East

Levant coastline – See *Europe* section.

Asia

Parts of Indonesia - Sumatra and Java particularly

Weather

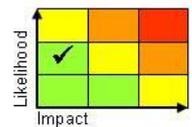
Spells of heavy rain and showers will become more frequent and intense in the coming days, with the highlighted areas seeing 50-75 mm a day quite widely. By the middle of next week, some coastal districts of both Sumatra and Java may see as much as 400 mm of rainfall, this approaching the December average for the area.

Discussion

A succession of ERWs as well as an advancing KW (which may well emerge as the MJO in the coming days) will act to increase shower activity and intensity across this area. Higher than average SSTs will aid in shower development, with PWAT in excess of 60mm, 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

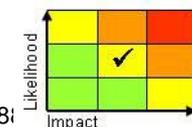
New Caledonia, Vanuatu, Samoa and Tonga – See *Tropical Cyclones* section.

Southeast Queensland and northeast New South Wales, Australia

Weather

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Heavy showers and thunderstorms, and perhaps more prolonged spells of heavy rain, are expected to continue to affect the region this weekend and early next week. The heaviest rainfall is likely to affect the region from Brisbane south to Newcastle (north of Sydney), including Gold Coast. It is along the coast where the heaviest rainfall is expected where 100-200 mm is expected quite widely with isolated accumulations of 400 mm possible by Tuesday. 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 wettest December in some locations.

Discussion

A mid-latitude upper trough is expected to disrupt and form a cut-off low across eastern Australia over the weekend and remain slow-moving across the region into early next week. Meanwhile, tropical moisture is expected to be drawn southwest as a consequence of potential tropical cyclone development along the South Pacific Convergence Zone to the north.

Expected Impacts

Increased likelihood of flash and riverine flooding over the weekend and early next week.

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, Japan & parts of Turkmenistan, Afghanistan and Pakistan

Plunges of very cold air from Siberia/Russia are expected to continue to spread south over these areas today and in to next 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: 120600 UTC **Meteorologists:** Ele Hands

Global Guidance Unit

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