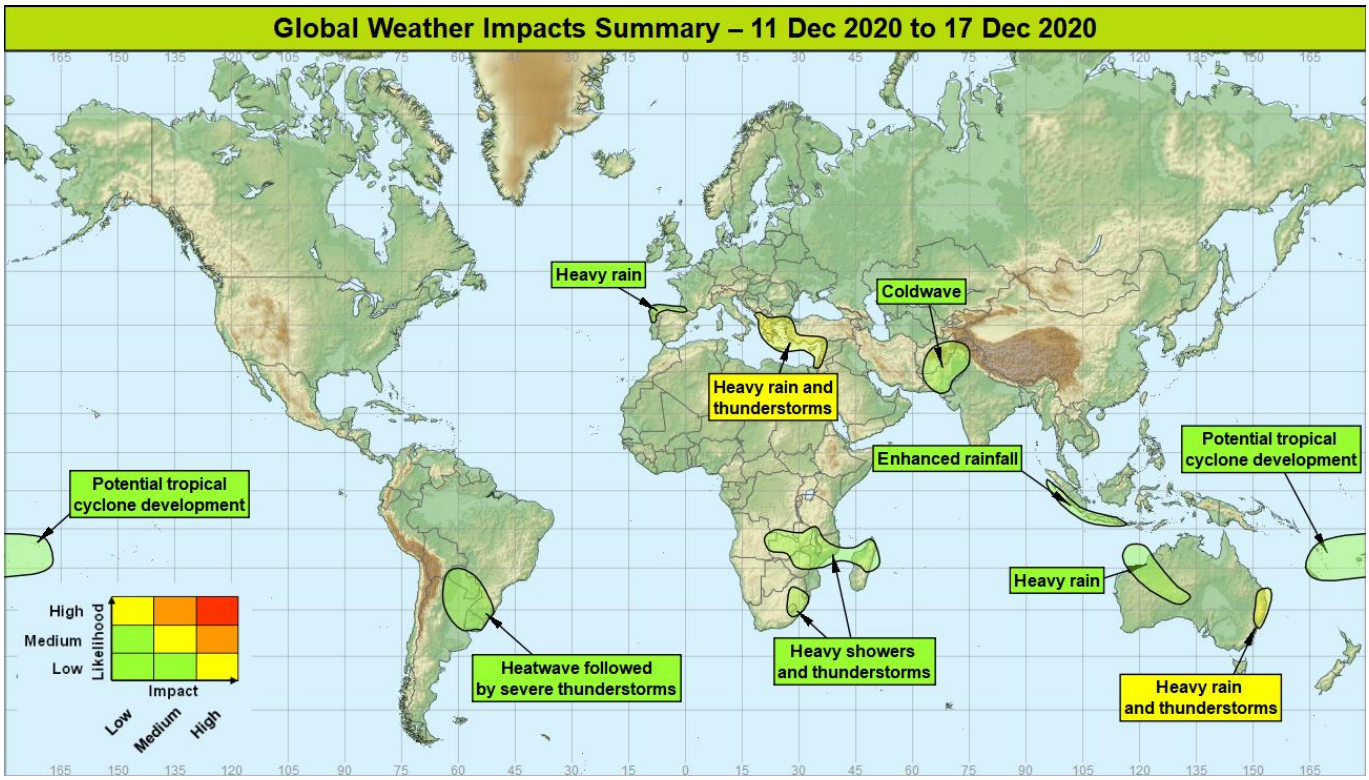
Daily Global Weather Impacts Assessment

Global Weather Impacts – Friday 11th to Thursday 17th December

Issued on Friday 11th December 2020

HEADLINES

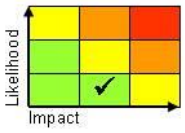
- Severe thunderstorms and heavy rain for eastern Australia.
- Heavy rain and thunderstorms continue to affect southeast Europe.
- Potential tropical cyclone development in the Southwest Pacific.
- Heavy rain and thunderstorms affecting parts of southeast Africa and Madagascar.



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, Fiji, Samoa and Tonga)



Weather

There is a moderate likelihood of one or two tropical cyclones development over the coming days in the southwest Pacific Ocean between New Caledonia and Samoa, with this likelihood becoming high early next week. 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

There is a signal from all models for one or two tropical cyclone developments through the weekend along the South Pacific Convergence Zone, although there are significant model differences in the intensity and track. The majority of solutions suggest a southerly track of a strengthening system between Fiji and Vanuatu early next week, but the GM produces two weaker systems across the region. This is an area to monitor since islands in this region are susceptible to significant tropical cyclone impacts.

Expected Impacts

Potential for flash flooding rainfall, landslides and damaging winds.

This forecast may be amended at any time

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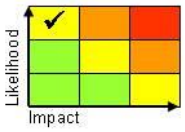
Europe

Southeast Europe and the Levant coastline



Weather

Further heavy rain and coastal thunderstorms are expected slowly transfer eastwards across southeastern Europe, the Eastern Mediterranean and into the Levant coastline through the next 5 or 6 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).

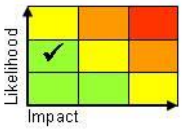
Discussion

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 surface pattern with slow progression leading to a gradual eastward trend in highest rainfall totals.

Expected Impacts

Flash flooding and landslides are likely, with a risk of damage and disruption from frequent lightning and large hail.

Northern Portugal and northwest Spain and far southwest France



Weather

Heavy rain is expected to continue across this region into Friday before conditions generally improve over the weekend. A further 50-75 mm may fall locally, bringing event totals of the order 100-150 mm, roughly the average December rainfall. Further unsettled weather is likely next week.

Discussion

An Azores high displaced to the southeast towards the Canaries has allowed frontal systems to affect Iberia, moving into central and southern Europe to reinforce the slow-moving vortex that has been established here for the past several days. Into the weekend, the storm track begins to migrate north again and this allows for a build of pressure and for drier conditions to return across southwest Europe. However, further potentially disruptive Atlantic systems are possible next week.

Expected Impacts

Increased likelihood of flash flooding and minor transport disruption today.

North America

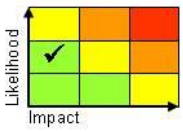
Nil.

Central America and Caribbean

Nil.

South America

Paraguay, Uruguay, Northern Argentina and parts of southern Brazil



Weather

A heatwave has developed across this region and is expected to persist through the weekend. In places temperatures have exceeded 40 C for the past couple of days, and similar values are likely to be seen over the coming days. These temperatures are 7 to 10 C across above average, and it is possible that some local records could be broken before temperatures return closer to average next week. The downturn in temperatures is likely to be accompanied by an outbreak of locally severe thunderstorms. Locally in excess of 100 mm of rainfall per day is possible, along with large hail and frequent lightning.

Discussion

A southward extension of the South America monsoon plume has allowed the heat to build, with this heart peaking over the weekend before a cold front brings a downturn in temperatures, but also some severe thunderstorms. Forecast profiles support locally in excess of 2000 J/Kg CAPE.

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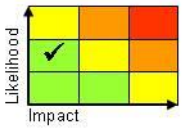
Expected Impacts
Potential health impacts to vulnerable population groups. Thunderstorms bring a risk of flash flooding, crop damage due to hail, and potential disruption to power supplies.

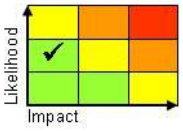
Africa

Eastern Angola, Zambia, southern DRC, Malawi, northern Mozambique, northern Zimbabwe and northern Madagascar



Weather
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 and Lesotho



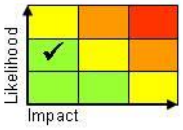
Weather
Daily heavy showers and thunderstorms are expected to continue over the next few days but locally severe thunderstorms become increasingly likely over the weekend before drier conditions return early next week. These thunderstorms are expected to be capable of producing locally torrential rain (75-100 mm in a few hours), large hail, frequent lightning and strong winds.
Discussion
Tropical moisture being drawn south across eastern South Africa is expected to be engaged by a potent upper trough arriving from the west on Saturday before relaxing southeast during Sunday. High instability (~3000 J/kg) combined with moderate wind shear will support locally severe thunderstorm development on Saturday in particular.
Expected Impacts
Severe thunderstorms over the weekend 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

Afghanistan and Pakistan



Weather
A marked cold wave is expected to bring temperatures some 10 to 12C below average to this region early next week. Although any snowfall is likely to be confined to mountainous areas of the north it is possible some parts of central and southern Pakistan could see some overnight frosts.
Discussion
A strong anticyclone over central Asia will maintain a NW flow into this region. This will draw cold, dry air south and lead to markedly below average temperatures.
Expected Impacts
Potential impacts to vulnerable population groups and agricultural crops.

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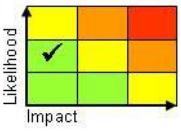
Parts of Sumatra and Java



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.

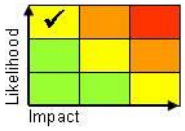
Expected Impacts

Potential for flash flooding, as well as landslides.

Australasia

New Caledonia, Vanuatu, 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 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.

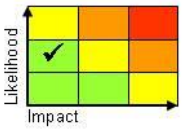
Discussion

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.

Expected Impacts

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

Parts of Western Australia



Weather

A tropical low formed on Thursday and has made landfall on the Pilbara coast of north-western Australia, This system will bring heavy rain to this sparsely populated regions of Kimberley and Pilbara over the next couple of days. Event totals of 150-200 mm are expected quite widely which is more than double the average December rainfall for even coastal locations (e.g. Broome and Port Headland).

Discussion

Tropical Low 02U made landfall earlier this morning along the Pilbara coast, and will not now develop into a tropical cyclone, but is still likely to bring strong winds and more notably heavy rain to a relatively dry, albeit unpopulated region.

Expected Impacts

Increased likelihood of flash flooding, particularly for Pilbara and Kimberley coastal communities. Large waves and rip currents may affect coastal areas of northern Western Australia.

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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

A plunge over very cold air from Siberia is expected to spread south over this area at the weekend 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: 110800 UTC **Meteorologists:** Mark Sidaway / Paul Hutcheon **Global Guidance Unit**

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