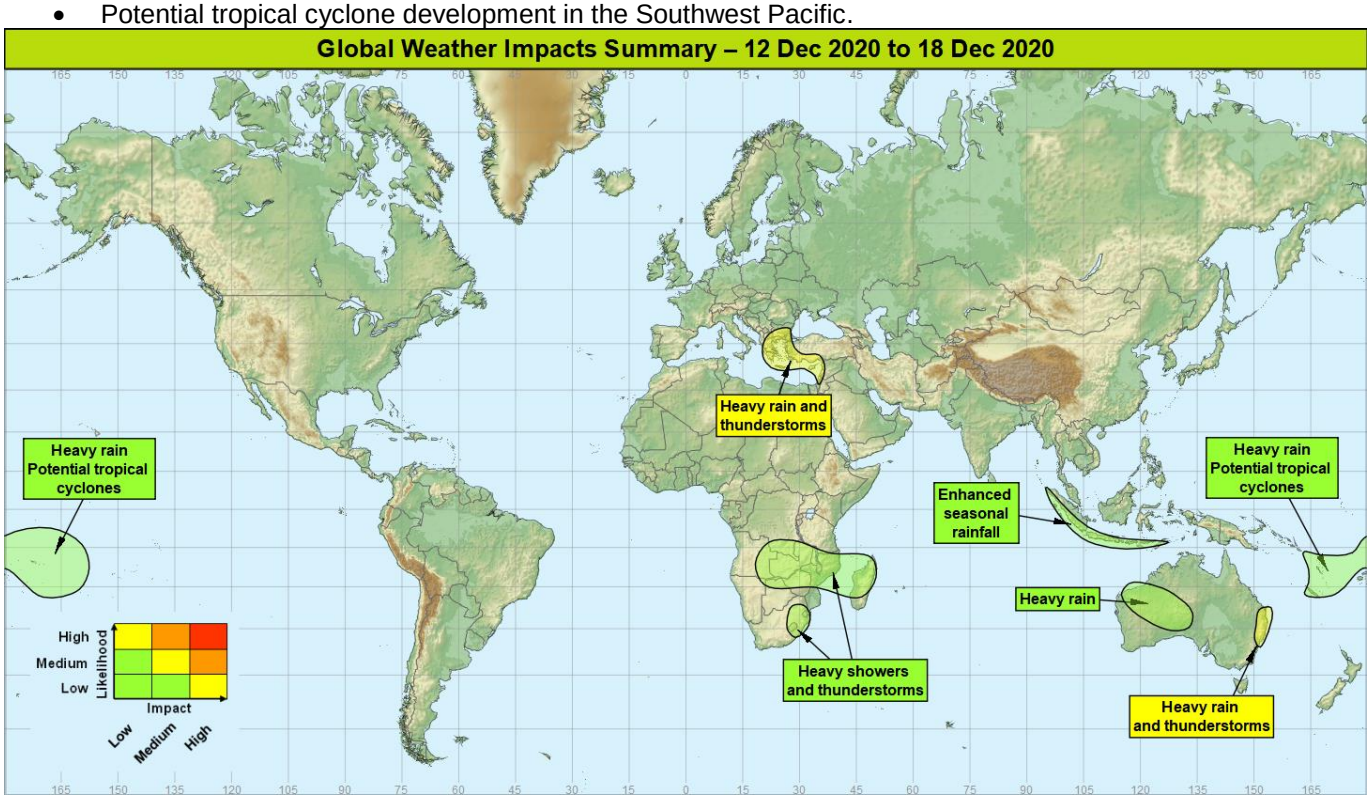
Met Office Daily Global Weather Impacts Assessment

Global Weather Impacts – Saturday 12th to Friday 18th December

Issued on Saturday 12th December 2020

HEADLINES

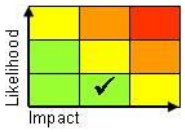
- Severe thunderstorms and heavy rain for eastern Australia.
- Heavy rain and thunderstorms continue to affect southeast Europe.
- Potential tropical cyclone development in the Southwest Pacific.



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, Samoa and Tonga)



Weather

There is a moderate likelihood of two or more tropical cyclones development over the coming days in the southwest Pacific Ocean between New Caledonia and Samoa, with this likelihood becoming higher 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

An active period looks like developing in the southwest Pacific, and there is a signal from all models for two or even three 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 a southwesterly track of two tropical features close to Vanuatu over this weekend, one has recently become a TC – and has been named “04P”, and just to the west of this one is an area of convection which has been designated “91P” by the JTWC in anticipation of further development. Then next week there are reasonable signals for a third tropical disturbance to develop near Samoa. While these will remain largely over the open ocean, this is an area to monitor since islands in this region are susceptible to significant tropical cyclone impacts.

This forecast may be amended at any time

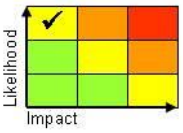
Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319
VPN: n6225 4319 Email: GGU@metoffice.gov.uk

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

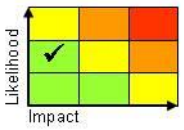
Nil.

South America

Nil.

Africa

Parts of southern-central Africa and Madagascar



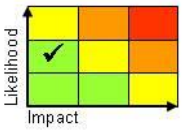
Weather
Enhanced shower and thunderstorm activity will continue to affect this region over the next week. Showers will be capable of locally bringing 50-100 mm of rainfall in a short duration with some locations see as much as 200-400 mm over the course of a week. Despite this being the wettest period 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.

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319
VPN: n6225 4319 Email: GGU@metoffice.gov.uk

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 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. Very high instability with CAPE values approaching 3000 JKg^{-1} at times, combined with moderate wind shear will support locally severe thunderstorm development.

Expected Impacts

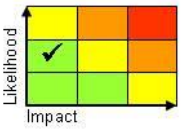
Severe thunderstorms over the weekend present multiple, albeit localised hazards including flash flooding and damage to property and infrastructure from a combination of lightning, large hail and strong winds.

Middle East

Levant coastline – See *Europe* section.

Asia

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.

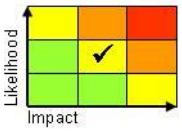
Expected Impacts

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

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

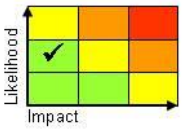
A mid-latitude upper trough is expected to disrupt and form a cut-off low across eastern Australia over the weekend and remain slow-moving across the region into early next week. Meanwhile, tropical moisture is expected to be drawn southwest as a consequence of potential tropical cyclone development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

Expected Impacts

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

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319
VPN: n6225 4319 Email: GGU@metoffice.gov.uk

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 03S will not now develop into a tropical cyclone as it is now over land, but is still likely to bring strong winds and more notably heavy rain to a relatively dry, albeit relatively 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.

***

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 spread south over these areas over 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^{o}C below average in some parts, with some very cold nights in particular.

Issued at: 120600 UTC **Meteorologists:** Chris Almond / Mark Sidaway **Global Guidance Unit**

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319
VPN: n6225 4319 Email: GGU@metoffice.gov.uk