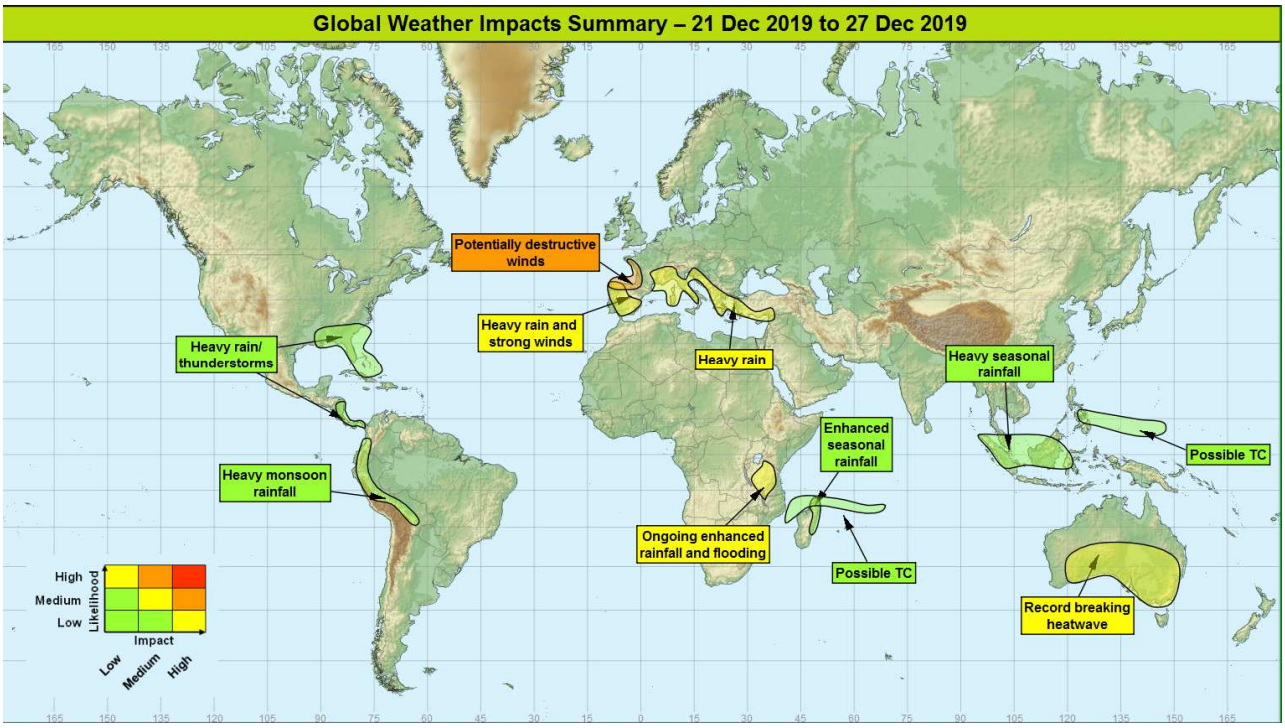
Met Office Daily Global Weather Impacts Assessment

Global Weather Impacts – Saturday 21st to Friday 27th December 2019

Issued on Saturday 21st December 2019

HEADLINES

- Very unsettled with heavy rain and strong, possibly destructive winds continuing across western/southern Europe.
- Above average rainfall and flooding across parts of eastern Africa.
- Historic heatwave continues for parts of Australia.

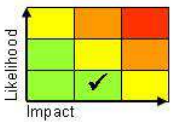


DISCUSSION

Tropical Cyclones

There are currently no active tropical cyclones. The following areas are being monitored for potential development.

South-West Indian Ocean



Weather

An area of organised convection over the southern Indian Ocean has the potential to develop, perhaps becoming a tropical cyclone in the next day or so. Models suggest any development is likely to track west, and may threaten northern Madagascar early next week, before then moving across the Mozambique Channel towards the end of the week. Current signals suggest this looks a fairly weak system, if at all when close to Madagascar. However there is the potential for some strengthening once across the Mozambique Channel, but confidence in this evolution is currently low.

Discussion

Although sitting over very warm sea surface temperatures, this area of organised convection is surrounded by a hostile shear environment, so it's dubious as to whether this is able to develop further. The majority of model output suggests a weak system may approach northern Madagascar toward the middle of next week. ECMWF and some ensemble output suggest the potential for some strengthening across the Mozambique Channel, but confidence in this is low at this time.

This forecast may be amended at any time

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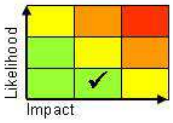
Expected Impacts
Potential for heavy rainfall, flash flooding and perhaps some damaging winds to potions of northern, especially north-eastern Madagascar and for coasts adjacent to the Mozambique Channel.

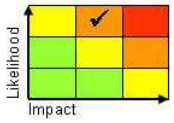
North-Western Pacific



Weather
A region of enhanced convection extending east from The Philippines could be the spawning ground for tropical cyclone over the coming days. Models signal a potential system running west toward the central Philippines toward the middle of next week, although at this stage the track and intensity of any development, should it occur, is uncertain. Whether this system develops or not, heavy rain (100-200mm) is likely to affect parts of the Philippines around mid-week.
Discussion
A series of Rossby Waves has been identified running west through the western Pacific. It is possible that one of these may be enough to trigger TC development within the broad region of enhanced convection there. Any development looks likely to track west toward the Philippines around the middle of next week, most likely as a relatively weak feature.
Expected Impacts
Potential for torrential rainfall, flash flooding and damaging winds. Vulnerability in this region may be increased following a magnitude 6.8 earthquake last weekend.

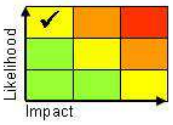
Europe

Western Europe



Weather
Further spells of heavy rain are likely across Iberia today (Saturday), ahead of Storm Fabien which is expected to bring very strong, and potentially destructive winds to parts of northern Iberia and western France on Saturday evening. The heaviest rainfall is likely across northern Portugal and central/southern Spain where a further 50-100 mm could fall. This follows recent heavy rain across a similar area in the last few days. As well as the heavy rain, very strong, damaging winds are also likely, these peaking later on Saturday. At this time, gusts of 80-90mph are possible along the coast of northern Spain and southwestern France, with gusts 55-65mph inland. Conditions should ease through Sunday and into next week.
Discussion
A frontal waves will move across Iberia on Saturday by the very strong PFJ. At the same time this will drive a surface low ENE into NW France/English Channel through Saturday. To the S of the low centre, very tight gradients may bring damaging winds to parts of northern Spain and western France in particular.
Expected Impacts
Flash flooding is possible, especially across parts of Iberia. Strong winds are likely to cause disruption to travel and some property/infrastructure damage – destructive winds are possible, particularly for N Spain and W France, later Saturday. Large waves bring the potential for dangerous conditions for Atlantic coasts.

Parts of southern France, including Corsica, Italy, including Sardinia, as well as parts of the Balkans, Greece and western Turkey, Cyprus and western Levant.



Weather
The disturbed weather across western parts of Europe (see above) is expected to transfer east across parts of southern and south-eastern Europe today and tomorrow. Then from Monday onwards across southern Turkey, eastern Mediterranean and western Levant by Wednesday. By the end of the period some 50-150 mm of rain is likely to have fallen widely across this area, with western upslopes of Albania and northern Greece, plus the higher ground of southern Italy and southern Turkey seeing as much as 200 mm – this is just over the average total for all of for December in these areas.
Discussion

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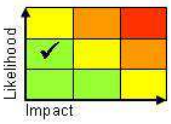
The strong jet and intense push of warm air is likely to push active frontal systems from Iberia across much of the Mediterranean in the coming 4 or 5 days, with a strong orographic component to the rainfall. With warm, tropical air entrained into these systems, ppn efficiency will be high. WBFLs are also high meaning rainfall will not be locked up as snow over mountains, exacerbating likely impacts.

Expected Impacts

Flash-flooding, landslides and impacts to some transport and utilities is possible.

North America

Southeast United States, Bahamas and Cuba



Weather

Heavy rain and thunderstorms are expected to affect the area through the next 3 or 4 days, bringing 40-80mm of rainfall fairly widely, and perhaps as much as 150mm for parts of Louisiana, Alabama and into Florida over the weekend and into Monday. The storms will also affect the Bahamas and perhaps Cuba on Monday and Tuesday. As much of the rainfall will be in the form of heavy showers and thunderstorm, perhaps large amounts of precipitation likely to fall in a short duration.

Discussion

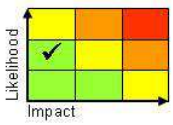
Ongoing heavy showers and thunderstorms will become more active into the weekend as a mid-latitude trough is signalled to disrupt to the NE of the area through the weekend, leading to the development of a surface tropical low close to northwest Florida on Sunday, that the gradually transfers east across the Atlantic by Tuesday.

Expected Impacts

Flash flooding is likely, especially in urban areas. Some disruption to utilities and infrastructure is possible and an increased risk of landslides in areas of steep terrain in Cuba.

Central America

Southern parts of Central America



Weather

Heavy rain and thunderstorms are likely to affect from Honduras to Panama over the coming 3 to 5 days, bringing widely 50-100mm of rain by the end of the period. Some areas could see 150-300mm of rain during this period, with much of this falling in a relatively short space of time. This is approaching the total rainfall for December in this area.

Discussion

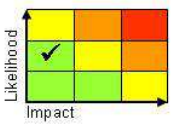
The remnants of a mid-latitude cold front, as well as above normal SSTs are likely to generate some active thunderstorms over the next few days.

Expected Impacts

Flash and river-flooding. Disruption to utilities and infrastructure.

South America

Ecuador, western Colombia, Peru and Bolivia



Weather

Frequent heavy showers and thunderstorms will affect these regions through the next 7 days, with the showers each day bringing 50-75 mm in just a few hours, with some locations receiving over 200 mm (around the December average rainfall). As is the nature of showers, spatial coverage on any one day will be highly variable.

Discussion

With the South American Monsoon now extending well southward, daily rounds of showers and thunderstorms are expected to form to the west of the Andes of Colombia and Ecuador, and to the east of the Andes further south. The region highlighted has seen above average rainfall during the past weeks, and is also forecast to receive the highest rainfall totals.

Expected Impacts

Flash flooding likely, with increased likelihood of landslides.

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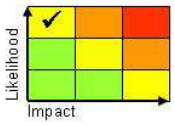
Africa

Parts of eastern/central Africa



Weather

Continued heavy showers and thunderstorms associated with the seasonal rains are expected to be heavier than normal in the coming 3 to 5 days, with a further 100-150 mm of rain falling in places. This is close to the average rainfall in this region for the whole of December, with this area having already seen 200-400% of the usual rainfall over the past few weeks. Whilst the area affected and severity of showers and thunderstorms is beginning to ease, further heavy showers and antecedent conditions mean further impacts are likely.

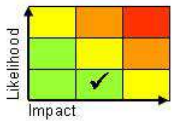
Discussion

Enhanced seasonal rainfall in association with the strong positive Indian Ocean Dipole event which, although declining, is still influencing the large scale shower distribution. Large tracts of eastern Africa have seen well above average rainfall over the past few months. The combination of all these factors dramatically increases the likelihood of further flash and river flooding along with further deadly landslides. There are signs that the area of enhanced rainfall is slowly waning, with totals offered by extended models also slowly reducing.

Expected Impacts

Increased threat of flash flooding and landslides in the region, with further river flooding likely.

Madagascar



Weather

Across the far north and east of the island daily shower and thunderstorm activity will continue at above average frequency. Over a couple of hours 25-50 mm of rainfall is possible, whist some locations may receive 100-200 mm in total overall; this representing around a month's rainfall during the wet season, following an already wet spell across this region. It is possible that this rainfall may be further enhanced by a tropical cyclone toward the middle of next week. (See *Tropical Storms* section above.)

Discussion

Enhanced low-level moisture will act to promote shower and thunderstorm activity, albeit of gradually reducing intensity. December is a very wet month in Madagascar, at the start of the annual rainy season. With that in mind, these rainfall accumulations although high, are unlikely to be overly problematic.

Expected Impacts

Localised flash flooding possible. An elevated risk of landslides in areas where terrain is steep.

Mozambique Channel

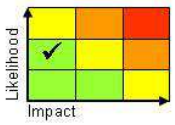
Weather See *Tropical Storms* section above.

Middle East

Western Levant See *Europe* section.

Asia

Malaysia, Indonesia and Brunei



Weather

Heavy rainfall is expected to continue through the next week with some places seeing up to 300mm (equivalent of 50-75% of the average monthly rainfall at this time of year) event totals. There has already been extensive flooding parts of Malaysia (Johor in particular), and whilst rainfall should ease as compared to recent days, further disruption is likely at times.

Discussion

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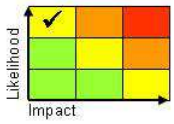
Above average SSTs in the Java Sea and surrounding waters, combined with increased convergence as a result of a stronger northeasterly flow through the South China Sea and passage of several tropical Equatorial Rossby Waves (ERW) are likely to contribute to enhance convection through the next week. These rains have already caused significant impacts in parts of this region, with further impacts likely

Expected Impacts

Increased threat of flash flooding and landslides.

Australasia

Parts of central/southern Australia



Weather

Temperatures across many central and southern parts of Australia are well above normal, with records having already been broken. Australia experienced its hottest day on record on Wednesday (following Tuesday record temperatures) with the national average temperature reaching a high of 41.9˚C). On Thursday Nullarbor, South Australia reported a maximum temperature of 50.0 C, the all time Australian record is 50.7C. Maximum temperatures are likely to remain some 10-15˚C above normal through this period for many areas. Values are not expected to be as hot as earlier this week, but mid to high 40s˚C still likely.

Discussion

An area of high pressure to the S of Australia is drifting east, with N'ly flow on its western flank. This continues to tap into hot desert air, leading to some exceptional temperatures.

Expected Impacts

A state of emergency has been declared in New South Wales, Australia, fearing that the record-breaking heatwave will exacerbate the state's bushfire crisis. Impacts on infrastructure, including road and rail, as well as utilities, can be expected. Impacts on vulnerable populations (without access to air-con) are also likely. This event is expected to be fairly long in duration, exacerbating the impacts further.

Additional Information

Eastern Australia

Numerous bush fires continue across parts of eastern New South Wales, Queensland and Australian Capital Territory with widely dry conditions persisting across all but coastal Queensland over the next week. Whilst fire weather conditions have improved relative to recent days, the sheer size of many ongoing fires will continue to produce large amounts of small particulates that will contribute to very poor air quality for several weeks to come.

Issued at: 210330 UTC **Meteorologists:** Tony Wardle **Global Guidance Unit**

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