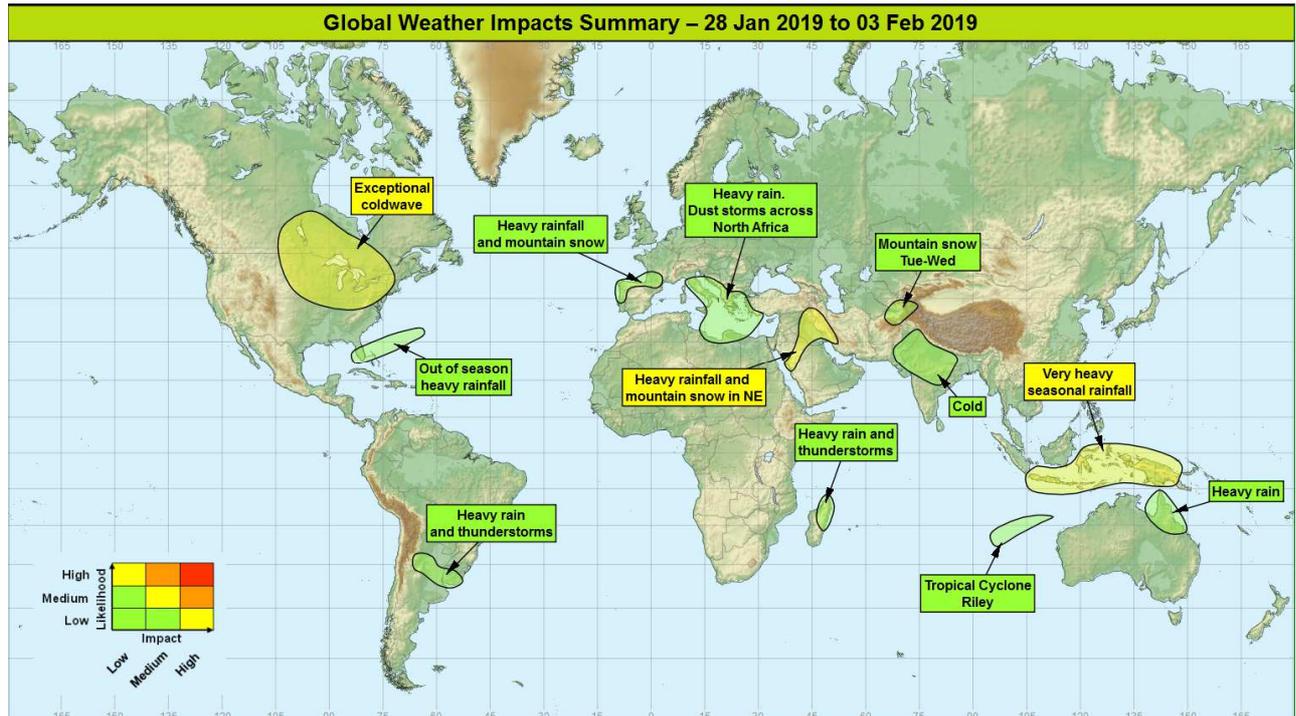


Global Weather Impacts – Monday 28th January to Sunday 3rd February 2019

Issued on Monday 28th January 2019

HEADLINES

- Exceptionally cold spell of weather developing around the Great Lakes of North America.
- Heavy rain, mountain snow and flash flooding across parts of the Middle East.
- Continued heavy seasonal rainfall across the Maritime Continent.



DISCUSSION

Tropical Cyclones

Tropical Cyclone Riley (Indian Ocean)

Weather

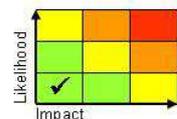
Tropical Cyclone Riley continues to track west-southwest parallel to the Pilbara coast (Western Australia) away from land and into the Indian Ocean. This system poses no threat to land.

Discussion

Moderate to strong vertical wind shear is hampering further development of Riley whilst moving away from land over open water. A further increase in wind shear and cooler SSTs along its forecast track is expected to result in gradual weakening through next week, eventually dissipating by midweek.

Expected Impacts

None.



This forecast may be amended at any time

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Europe

Central Mediterranean and adjacent countries

Weather

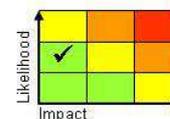
After a brief settled interlude yesterday, further heavy rain and thunderstorms are expected to develop across the region from today (Monday) with the heaviest rainfall building up along the Adriatic coast of Greece and Albania. 30-50 mm of rain is expected to fall quite widely but some locations are likely to receive up to 200 mm by the end of the week. Additional hazards will be strong winds, which will generate dust storms across parts of North Africa, particularly Libya and Egypt.

Discussion

Reminiscent of the pattern so far this winter, various upper troughs will extend south and east across the region, generating areas of heavy rain and thunderstorms along with some strong winds as deep depressions form in the central Mediterranean. This pattern shows little sign of changing in the foreseeable future, with conditions likely to remain very unsettled.

Expected Impacts

Heavy rainfall will increase the risk of flash flooding, in addition enhancing the risk of landslides in areas where the terrain is steep. The strong winds will likely generate a modest storm surge in some regions (risk of coastal flooding). Lifted dust storms may impact on aviation and the health of the local populations.



Southwest France and northern Spain/Portugal

Weather

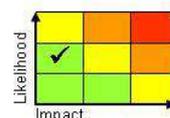
Conditions are expected to turn increasingly unsettled next week, with spells of heavy rain becoming more widespread and intense. The heaviest rain is likely to be in coastal regions and here up to 100 mm is possible by the end of the week. Additionally, snow is expected over high ground, with some large accumulations gradually building up in the Pyrenees. Here, up to 2 metres of snow is possible by the end of the week.

Discussion

The main polar front jet is expected to sink further south steering a series of active frontal systems southeast across the region. Some of these have the potential to develop into intense depressions and bring severe gales to the Bay of Biscay and adjacent coasts.

Expected Impacts

Risk of flash flooding is likely to increase, whilst disruption to travel is expected at higher elevations due to heavy snowfall. By the end of the week, the risk of avalanches also increases in parts of the Pyrenees. Strong winds, particularly across the far southwest of France may lead to disruption to travel, mainly marine transport.



North America

Northeast USA and southeast Canada

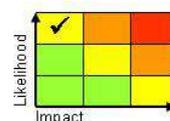
Weather

Exceptionally cold weather is expected to develop across the Great Lakes region of Canada and the USA. Whilst conditions are expected to be cold over the next few days, near-record breaking cold is expected to take hold from around the middle of next week. Major cities, such as Chicago, Toronto and Montreal are likely to be impacted. As well as the bitter cold, a spell of heavy snow may affect the region from Monday through to Wednesday with around 20-50 cm accumulating.

Discussion

An upper vortex will gradually sink south across Canada carrying an exceptionally cold, arctic airmass with it. A shorter wavelength trough will break away from the vortex and interact with a baroclinic zone along the Canadian border to produce a shallow frontal wave depression. This will bring a spell of heavy snow to the Great Lakes region. In the wake of this, temperatures will fall further and close to all-time record lows. Record low at Chicago is -33 °C; Toronto -32.8 °C.

Expected Impacts



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Exposure to this exceptional cold spell, without specialist cold climate clothing is likely to result in a danger to health or life from a variety of cold weather injuries (frostbite, hypothermia etc). Snowfall through the first half of next week may cause some minor disruption to travel and utilities. The severe cold alone may be enough to cause disruption to travel, for example temperatures will fall low enough for diesel fuels to gel.

Florida – see *Central America and Caribbean* section.

Central America and Caribbean

Florida, Bahamas & Bermuda

Weather

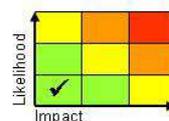
Heavy rain and thunderstorms will continue to affect the region through Monday. Some locations in this region could see up to 5 times the normal rain for this time of year over a couple of days (currently the drier season). However catchments in this region are more used to these totals in the wetter summer months, reducing the likelihood of impacts.

Discussion

An upper trough will interact with a slow-moving cold front to produce a wave, along with widespread areas of heavy rain and thunderstorms. Activity is likely to decline into next week as forcing runs away northeastwards once again.

Expected Impacts

Heavy rainfall will increase the risk of flash flooding, in addition enhancing the risk of landslides in areas where the terrain is steep. Thunderstorms adding further localised threats from hail and frequent lightning. In the longer term, this rainfall may be beneficial for parts of south Florida which is currently experiencing moderate drought conditions.



South America

Northern Argentina and Uruguay

Weather

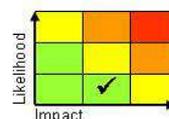
Further bouts of severe thunderstorms will affect this region from Wednesday, with the potential for very heavy rainfall (locally in excess of 150 mm) to accumulate in a few hours.

Discussion

The South American convergence zone will remain active. Areas of severe thunderstorms will form as the South American monsoon plume is engaged by troughs in the sub-tropical jet. Storms could be very severe with CAPE signalled to exceed 5000 J/Kg at times. This along with marked vertical wind shear makes MCS and supercell development likely.

Expected Impacts

Heavy rainfall will bring some flooding related impacts mainly of the flash variety if urban areas are impacted. Impacts are most likely over Uruguay where over the past 30 days, much of the country has received over double the normal rainfall. Severe thunderstorms will add further threats from very large hail, frequent lightning, strong gusty winds and isolated tornadoes.



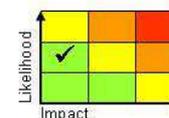
Africa

Northern Madagascar

Weather

Heavy rain and thunderstorm activity could bring up to a further 100 mm of rainfall in some locations through Monday, representing accumulations over a few days of up to double the normal rainfall for this period (which is in the rainy season). A significant portion of this rainfall across the northeast of the country can be attributed to the enhanced flow in the wake of Ex-Eketsang. Rainfall activity should return to nearer normal by Tuesday.

Discussion



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Although Tropical Cyclone Eketsang has long dissipated, the enhanced flow and moisture plume left in its wake is forecast to lead to enhanced showers and thunderstorms across the north of the country over the next few days. Recent reports of landslides and flooding in this region suggest that the area is susceptible to greater than usual impacts from the upcoming rain.

Expected Impacts

Heavy rainfall will increase the risk of flash and river flooding, plus landslides in regions where terrain is steep.

Egypt & Libya – See *Europe* section.

Middle East

Northwest Saudi Arabia, Turkey, Iraq and Iran

Weather

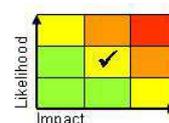
Through Monday very heavy rainfall and thunderstorms will continue to push northeast across this region. Although this rainfall will be heavy across coastal parts of Saudi Arabia and much of Iraq, it will be especially heavy as it reaches the Zagros Mountains (falling as snow above approximately 2000 metres). A further 50 mm of rainfall could fall in some lower lying areas of Iraq, and more than a metre of snow could fall over the mountains during this event.

Discussion

A sharp upper trough has drawn a plume of warm moisture laden air northeastwards from the Red Sea, and will continue to engage this plume through Monday, generating heavy precipitation across parts of Saudi Arabia, Iraq, and the Zagros Mountains. Despite the high precipitation rates indicated, profiles in the region only indicate isolated embedded thunderstorms.

Expected Impacts

Heavy rainfall will increase the risk of flash and fluvial flooding, in addition to enhancing the risk of landslides in areas where the terrain is steep. Snowfall over the high mountains may cause some disruption to transport over passes, and increase the risk of avalanches.



Asia

Much of Indonesia and Papua New Guinea

Weather

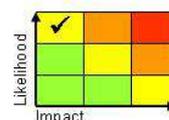
Seasonal rainfall is expected to be more intense and widespread than is normal over the next week. Up to 100 mm of rain could fall in a few hours, combined with locally strong winds. Rainfall totals of up to 350 mm could accumulate in places which is equivalent to around the average January rainfall for this region.

Discussion

With the Madden Julian Oscillation (MJO) now emerging into the western Pacific, convection will remain more intense and widespread than usual over the next 5 days or so. The MJO has also triggered several tropical waves which will enhance and focus convection further.

Expected Impacts

Heavy rainfall will increase the risk of flash and fluvial flooding, plus landslides in regions where terrain is steep. Thunderstorms will produce frequent lightning.



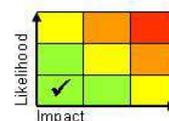
Tajikistan, southeast Uzbekistan and northern Afghanistan

Weather

A further spell of rain and mountain snow is expected to develop across this region during Tuesday and Wednesday leading to accumulations of 20-30 mm of rain quite widely at lower levels and up to 50-75 cm of snow over higher ground.

Discussion

The same upper trough and associated warm plume that will affect parts of the Middle East through the next 48 hours will continue eastward across Iran. With WBPT rising in association with this system, some snow melt is possible with rain at low levels contributing to an increased flood risk.



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Expected Impacts

An increased risk of flash flooding as a consequence of heavy rain and snow melt at lower elevations with a renewed threat of avalanches from fresh snow over higher ground. Colder temperatures may also have an adverse impact on vulnerable people in the region, particularly those without winterised shelter.

Northern India and eastern Pakistan**Weather**

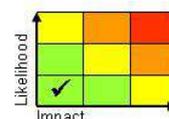
A prolonged spell of colder than normal conditions is expected until the middle of next week with overnight minimum temperatures close to freezing in many places. This around 6-8 °C below the seasonal average.

Discussion

Steady cold advection in the wake of an upper trough and cold front will lead to the gradual ingress of a cold air mass across this region. Whilst not desperately cold, it is significantly cold compared to the climate. IMD currently has cold wave and frost warnings out across this area.

Expected Impacts

With overnight frosts fairly prevalent through this period, or at least temperatures close to freezing, this is likely to be detrimental to a large section of the population in poor housing and without access to heating or appropriate clothing.

**Australasia****Northern Australia****Weather**

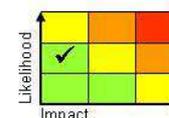
Heavy rainfall and thunderstorms will affect northern Queensland over the next week, with the heaviest rainfall likely to affect the Great Barrier Reef coastline (including Cairns, Townsville and Mackay). From midweek, a larger part of the Cape York Peninsula and parts of the Gulf of Carpentaria coast is also expected to be affected. Some locations could receive up to 750 mm of rain by the end of the week, with average monthly rainfall for this region between 200-500 mm.

Discussion

A tropical low will drift from the Gulf of Carpentaria onto the Cape York Peninsula over the next few days, where it will become slow-moving for much of next week. Forecast profiles are very moist at depth, suggesting some very intense and prolonged rainfall is possible at times, especially around Townsville where a constant feed of low-level moisture off the Coral Sea will aid the formation of intense downpours.

Expected Impacts

Rainfall will be the primary cause of impacts, with severe flash and river flooding potential quite widely across the Coral Sea and Gulf of Carpentaria coastlines.

**Additional information**

Nil.

Issued at: 280830 UTC **Meteorologist:** Ele Hunt

Global Guidance Unit

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