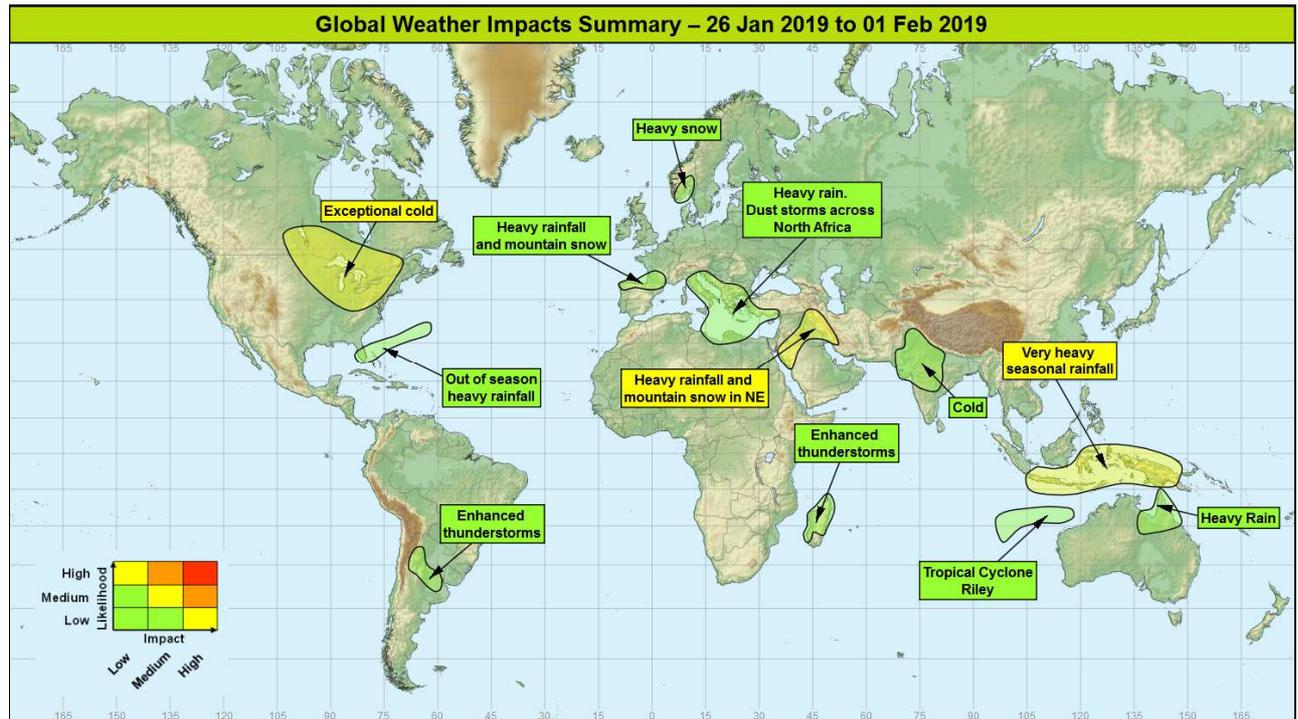


Global Weather Impacts – Saturday 26th January to Friday 1st February 2019

Issued on Saturday 26th January 2019

HEADLINES

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



DISCUSSION

Tropical Cyclones

Tropical Cyclone Riley, Indian Ocean

Weather

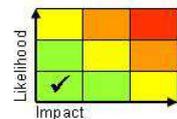
Tropical Cyclone Riley, off the northern coast of Western Australia, will continue to move west away from Australia and out into the Indian Ocean. This system poses no threat to land areas.

Discussion

Further intensification is possible in the next 24h as environmental influences such as low-mid level moisture, upper divergence and SST around 29C remain reasonably favourable. There is a low likelihood of Riley intensifying to a Category 3 storm, but in the longer term the ongoing wind shear, potentially some dry air and cooler SSTs should weaken the system as it continues to the west. The forecast track remains generally west southwest, although a few ensemble members take a slightly more southerly track, which could result in gales for parts of Pilbara coast.

Expected Impacts

No significant impacts expected.



This forecast may be amended at any time

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Europe

Central Mediterranean and adjacent countries

Weather

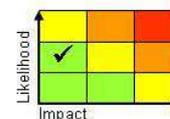
Further spells of heavy rain and thunderstorms are expected over the next week. The heaviest rain will be across Turkey and Crete today (Saturday). Many areas will have a drier spell of weather on Sunday, before more heavy rain develops across the region, particularly around the Adriatic from Monday. Around 30-50 mm of rain is expected to fall quite widely daily and some locations could receive up to 300 mm by the end of next week. Additional hazards will be strong winds, which will generate dust storms across parts of North Africa – mainly 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.



Norway

Weather

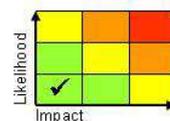
Heavy snow will affect southern parts of Norway through the weekend, with the heaviest falls expected on Sunday. Around 20-50 cm may accumulate in places.

Discussion

Several occlusions will run up against the block of cold air across Scandinavia to generate heavy snow. The snow is likely to be fairly widespread across the region, although the heaviest falls are probable in southeastern parts of Norway.

Expected Impacts

Whilst not unusual, the persistent and heavy nature of the snowfall, affecting major cities such as Oslo will cause some disruption to travel. Short-lived power outages are also possible.



Southern France & northern Spain

Weather

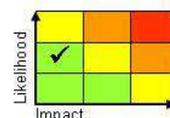
Conditions are expected to turn increasingly unsettled next week, with spells of heavy rain becoming more widespread and intense. The heaviest rain is likely to be in coastal region and here up to 100 mm is possible by the end of the week. In addition snow is expected over high ground, with some large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

Discussion

The main polar frost jet is expected to sink further south steering, allowing a series of active frontal systems to move 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 avalanche 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.



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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 very cold through this weekend and next week, 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 wave length 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

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*

Central America and Caribbean

Florida, Bahamas & Bermuda

Weather

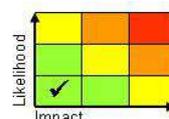
Heavy rain and thunderstorms will affect the region through Sunday and Monday. Some locations in this region could see up to 5 times the normal rain for this time of year (currently the drier season). However catchments in this region are more used to these totals in the wetter summer months, reducing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



South America

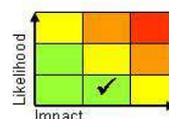
Argentina

Weather

Further bouts of severe thunderstorms will affect this region over the coming days, with the potential for very heavy rainfall (locally in excess of 150mm) to accumulate in a few hours. These will be particularly active today (Saturday), before a more settled interlude develops. Enhanced thunderstorm activity may resume again early next week in a similar area.

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 formation likely.



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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 the province of Buenos Aires, which has already seen a wetter than normal start to the year. Severe thunderstorms will add further threats from very large hail, frequent lightning, strong gusty winds and isolated tornadoes.

Africa

Madagascar

Weather

Heavy rain and thunderstorm activity could bring between 150 and 300mm of rainfall in some locations through the next few days, representing up to double the normal rainfall for this period (which is in the rainy season). A significant portion of this rainfall across the north-east of the country can be attributed to the enhanced flow in the wake of Ex-Eketsang. Rainfall activity should fall back to normal levels early next week.

Discussion

Although Tropical Cyclone Eketsang has been and gone since the previous issue of this assessment, the enhanced flow and moisture plume left in its wake is forecast to lead to enhanced showers and thunderstorms across the east and 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 Sunday and Monday very heavy rainfall and thunderstorms will 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 M). Around 50-100mm of rainfall could fall in some lower lying areas of Iraq, and more than a metre of snow could fall over the high mountains through the two days.

Discussion

A sharp upper trough moving east from the Mediterranean will draw a plume of warm moisture laden air northeastwards from the Red Sea, and then increasingly engage this plume through Sunday and Monday generating heavy precipitation first across Saudi Arabia and then Iraq, and the Zagros Mountains in particular. Despite the high precipitation rates indicated, profiles in the region only indicate isolated embedded thunderstorms.

Expected Impacts

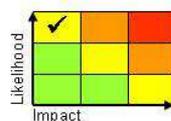
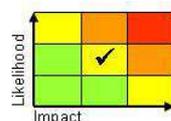
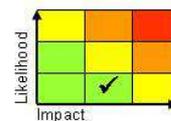
Heavy rainfall will increase the risk of flash and fluvial flooding, in addition enhancing the risk of landslides in areas where the terrain is steep. Snowfall over the high mountains may cause some disruption to transport over passes, and increase the risk of avalanches.

Asia

Much of Indonesia and Papua New Guinea

Weather

Seasonal rainfall is expected to be more intense and widespread than is usual over the coming 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 whole of the average January rainfall in this region.



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Discussion

With the Madden Julian Oscillation (MJO) running through the region, the usual convection will be more intense and widespread than usual. The MJO has also triggered several over tropical waves, and these will enhance and focus convection even further. Finally a cold surge running down the South China Sea is expected to cross the equator and reach Java, further enhancing the intensity of precipitation in this sub-region.

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.

Northwest India & eastern Pakistan**Weather**

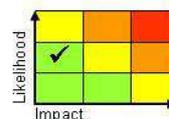
A prolonged spell of much colder than normal conditions is forecast over the next 5-7 days, with overnight minimum temperatures close to freezing. This is around 6-8°C below the seasonal average.

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**

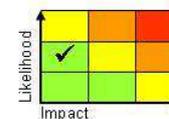
Heavy rainfall and thunderstorms will affect northern parts of Queensland over the next 5-7 days, although the heaviest rain is likely across the region through this weekend. Areas from Cape York down to Townsville could receive up to 750 mm of rain by the end of next week, much of this falling in the new few days. Average rainfall for the region in January is between 200 and 500 mm.

Discussion

A tropical low will drift from the Gulf of Carpentaria and 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 Cape York Peninsula and Gulf of Carpentaria coastlines.

**Additional information**

Nil.

Issued at: 260845 UTC **Meteorologist:** Brent Walker

Global Guidance Unit

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