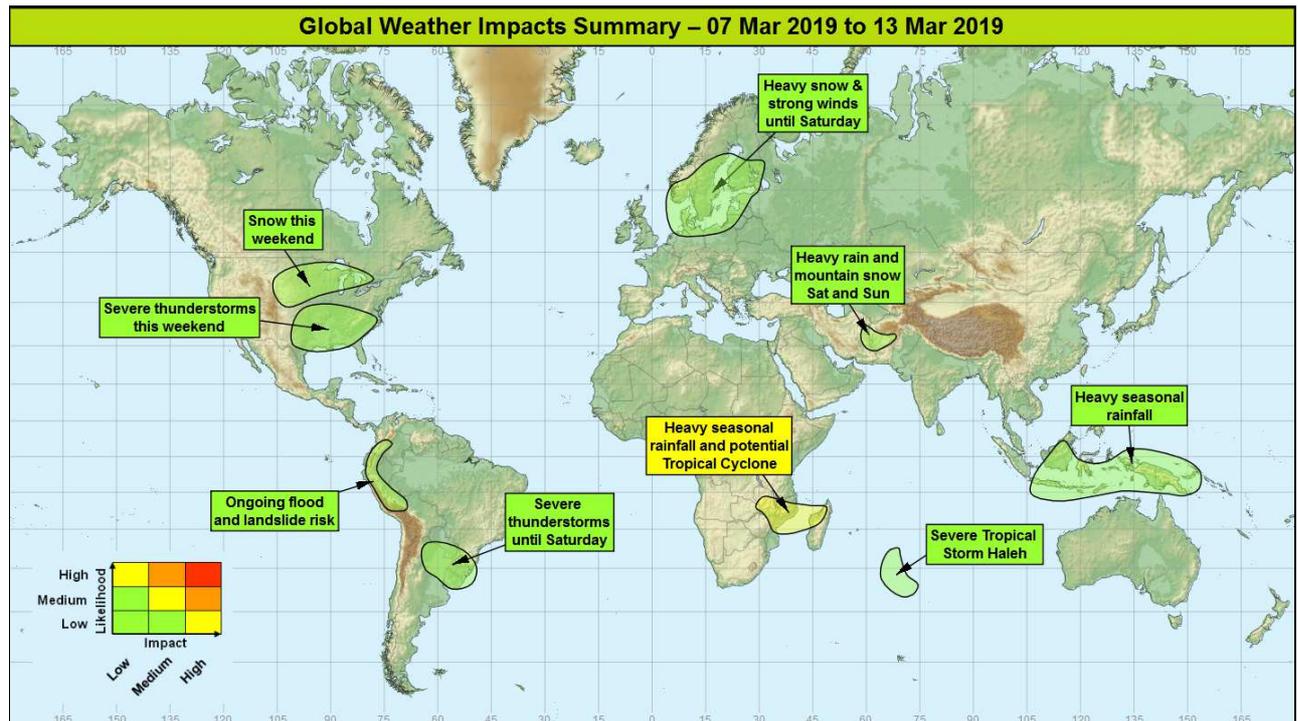


Global Weather Impacts – Thursday 7th to Wednesday 13th March 2019

Issued on Thursday 7th March 2019

HEADLINES

- Heavy rainfall will continue to affect parts of southeast Africa.
- Severe thunderstorms likely across the southern USA this weekend.



DISCUSSION

Tropical Cyclones

Severe Tropical Storm Haleh (Southwest Indian Ocean)

Weather

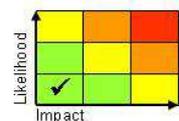
Severe Tropical Storm Haleh was located almost 850 miles southeast of Mauritius on Thursday morning with maximum sustained winds of around 60 mph. Haleh will continue to slowly weaken as it moves south over open ocean through the rest of this week.

Discussion

As Haleh continues south the system will become increasingly weakened by a combination of increased vertical wind shear and ever decreasing sea surface temperatures. Through the weekend Haleh is likely to undergo an extra-tropical transition, and then be steered eastwards by the polar front jet stream across the open Southern Ocean.

Expected Impacts

None.



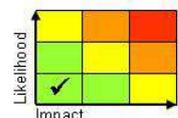
These additional areas are being monitored for Tropical Cyclone development

Mozambique Channel – See *Africa* section.

Europe

Baltic Sea region

Weather



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A spell of heavy snow is likely to affect southern Scandinavia until Friday. For many locations snow will only be transitory, but for parts of southern Norway (including Oslo) and central Sweden in excess of 30cm of snow could fall. In addition severe gales, with gusts potentially approaching 70 mph could affect countries bordering the Baltic Sea for a time on Friday, especially Denmark, northern Germany, northern Poland.

Discussion

An area of low pressure that crossed the UK on Thursday, will undergo a second phase of deepening as it pushes east across southern Scandinavia on Friday. The degree of deepening is heavily dependent on the phasing of the low with an upper trough moving northeast from Central Europe. The exact track and depth of this system remains somewhat uncertain, this leads to uncertainty in the location of the heaviest snowfall and strongest winds.

Expected Impacts

Some travel disruption is likely as a result of heavy snow across southern parts of Norway and central Sweden for a time. Where strong winds develop, damage to buildings and trees is possible with some power cuts likely. The winds are also likely to disrupt ferry services, bridge crossings and air travel in and around the Baltic Sea.

North America

Southern Canada, central and eastern USA

Weather

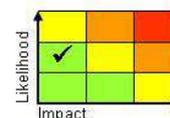
There is the potential for severe thunderstorms to break out in this region over the weekend. These will bring the usual hazards of torrential rain (up to 50mm falling in a short space of time), large hail, frequent lightning and a risk of tornadoes.

Discussion

This weekend an upper trough will move in off the Pacific, sharpening as it crosses the Rockies and drawing north a plume of warm, moist air from the Gulf of Mexico. This interaction leads to cyclogenesis with the system then moving northeast across much of central and northern parts of the USA. In the warm sector to the southeast of the low there is the potential for severe thunderstorms to break out in the Deep South, with indices suggestive of the potential for some tornadoes to form.

Expected Impacts

Heavy rain may result in some urban and river flooding, frequent lightning may disrupt power supplies, large hail damage crops and property, with a risk of greater disruption (albeit on a very localised scale) if any significant tornadoes form.



Northern plains and Great Lakes, USA and Canada.

Weather

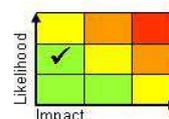
An area of snow and freezing rain will push northeast through this region over the weekend, with largely dry conditions prevailing by Monday. Some areas in this zone may see an additional 20-30cm of snow falling

Discussion

On the northern flank of the low formed by the cyclogenesis event described in the previous section precipitation bearing clouds will overrun cold low level air that has been in place across this region for much of the past week. This will result as precipitation falling as snow and freezing rain over a fairly broad region.

Expected Impacts

Snowfall and freezing rain will likely disrupt road, rail and air travel in the region. There is a small risk that accretion of snow and ice on power lines may lead to some short term outages.



Central America and Caribbean

Nil significant.

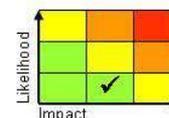
South America

Northern Andes region (Southern Colombia, Ecuador, Peru and Bolivia)

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Weather

Although rainfall is not expected to be as heavy nor widespread as recent weeks, further showers and thunderstorms are expected to affect the northern Andes region for the rest of this week. The heaviest rainfall expected to be across Ecuador and northern Peru. Here, rainfall accumulations will vary by location due to the showery nature of the rainfall, but some places could a further 200-300 mm of rain over the next week.

Discussion

Along the Pacific coastline north of NE Peru there are positive SST anomalies, and these indicate a weakening of trade winds and the Humboldt Current in this region. This setup allows sea breezes to draw moist oceanic air to the usually dry western Andes, with an unusually high frequency of heavy showers and thunderstorms occurring here.

Expected Impacts

Flash flooding and landslides remain an ongoing threat in the mountainous areas, as well as downstream river flooding. With much of this region now preconditioned by previous rainfall, further modest heavy rain will produce some additional impacts.

Northern Argentina, Uruguay, Paraguay and southern Brazil

Weather

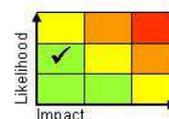
Frequent showers and thunderstorms, at times organised and severe, are expected to affect the region until Saturday, with activity then easing. Thunderstorms will produce strong winds, large hail and a small risk of a tornado. During this period, some locations are likely to receive 200-300 mm of rainfall, often falling in short periods. This would represent around double the normal monthly rainfall for some locations.

Discussion

A number of disturbances embedded within the subtropical jet are expected to lead to several episodes of severe convection along the South Atlantic Convergence Zone (SACZ). This round of severe convection will ease from the south as a marked cold front moves north and brings more benign conditions by the end of the week. Ahead of the cold front the environment will often be characterised by high CAPE and shear, supporting mesoscale convective systems and supercells.

Expected Impacts

Severe thunderstorms are not unusual in this part of the world at this time of year but rainfall anomalies since the end of December have exceeded 200% in the far northeast of Argentina, across Uruguay and in the far south of Brazil. Further heavy rainfall is likely to lead to flash flooding and increased risk of landslides. Severe thunderstorms will also cause some highly localised but potentially significant property and infrastructure impacts due to strong winds, hail and lightning damage.

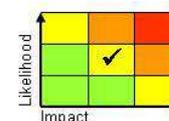


Africa

Mozambique, Malawi, southern Tanzania and Zambia

Weather

Showers and thunderstorms are expected to remain frequent, heavy and widespread across the region, with these being focussed by a shallow depression. The heaviest rainfall is expected to affect central Mozambique and southern Malawi. It is possible that some locations may receive in excess of 500 mm of rainfall during this period which is equivalent to around what normally falls over 4-6 weeks. Over the weekend the depression is signalled to move out into the Mozambique Channel and potentially develop into a tropical cyclone.



Discussion

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Progression of the MJO through Phase 3 into Phase 4 favours enhanced rainfall in this region, this rainfall has also been aided by an Equatorial Rossby Wave (ERW) that has recently crossed Madagascar and is now interacting with the monsoon low. Across much of the area highlighted rainfall has been below average over recent months, so this rainfall could be welcome to the agricultural sector. In the area around Lake Malawi rainfall has been above average over the past month, so here these additional falls may lead to greater impacts here. As noted in the previous section the monsoon low may emerge across the Mozambique Channel this weekend, here the low will experience high SSTs (~30°C) and low wind shear that may allow this feature to develop into a tropical cyclone.

Expected Impacts

Risk of flash flooding which is a particular hazard in urban areas. Although large parts of the region are sparsely populated, some fairly heavily populated centres sit on the floodplains of central Mozambique. These events may disrupt travel, power interruptions and damage to buildings/infrastructure. If significant flooding were to occur in the major river some crops could be lost along the farmed flood plains. There is a low risk of significant wind impacts, mainly in coastal areas, should a tropical cyclone form.

Middle East

Eastern Iran, southwest Afghanistan and northwest Pakistan.

Weather

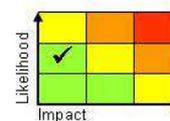
An area of rain and some mountain snow will move across the region this weekend. Widely 5-10mm of precipitation may fall, with totals locally exceeding 30mm. Over the mountains to the north of Kandahar over 50cm of additional snow may fall.

Discussion

A trough in the sub-tropical jet will engage a WBPT plume drawn north from the Gulf of Oman across this region this weekend. This will result in the formation of a surface depression, large areas of dense medium/high cloud and areas of precipitation. Following the passage of the upper trough benign conditions will become once more re-established early next week.

Expected Impacts

Following recent floods in this region, the ground and rivers will be pre-conditioned for a quick response to additional precipitation. Further flash and river flooding is possible even in response to the relatively modest precipitation totals of this event.



Asia

Indonesia, Malaysia and Papua New Guinea

Weather

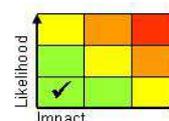
Above average rainfall is expected across many Maritime Continent islands through the next week. Whilst downpours are expected to be rather localised, they are likely to develop in a similar place each day with 100-150 mm of rain possible falling in 24 hours with some places likely to receive around 400 mm over the next week. In a typical 7-day period, this region normally receives around 50-100 mm.

Discussion

Over the past couple of weeks, the MJO phase has not been supportive of widespread convection but has instead allowed diurnal convection driven by the land-sea breeze cycle to become dominant. Since this is a cyclical process, convection has developed over similar locations each day, particularly along the central spine of narrow islands such as Java and East Britain. Increasingly through this week, the as the MJO transfers from Phase 3 into 4 convection is expected to widespread.

Expected Impacts

An increased likelihood of flash flooding and landslides leading to localised damage to infrastructure and property, including major cities such as Jakarta.



Afghanistan and northwest Pakistan – See *Middle East* section.

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Australasia

Papua New Guinea – See *Asia* section.

Additional information

Nil.

Issued at: 070820 UTC **Meteorologist:** Nick Silkstone

Global Guidance Unit

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