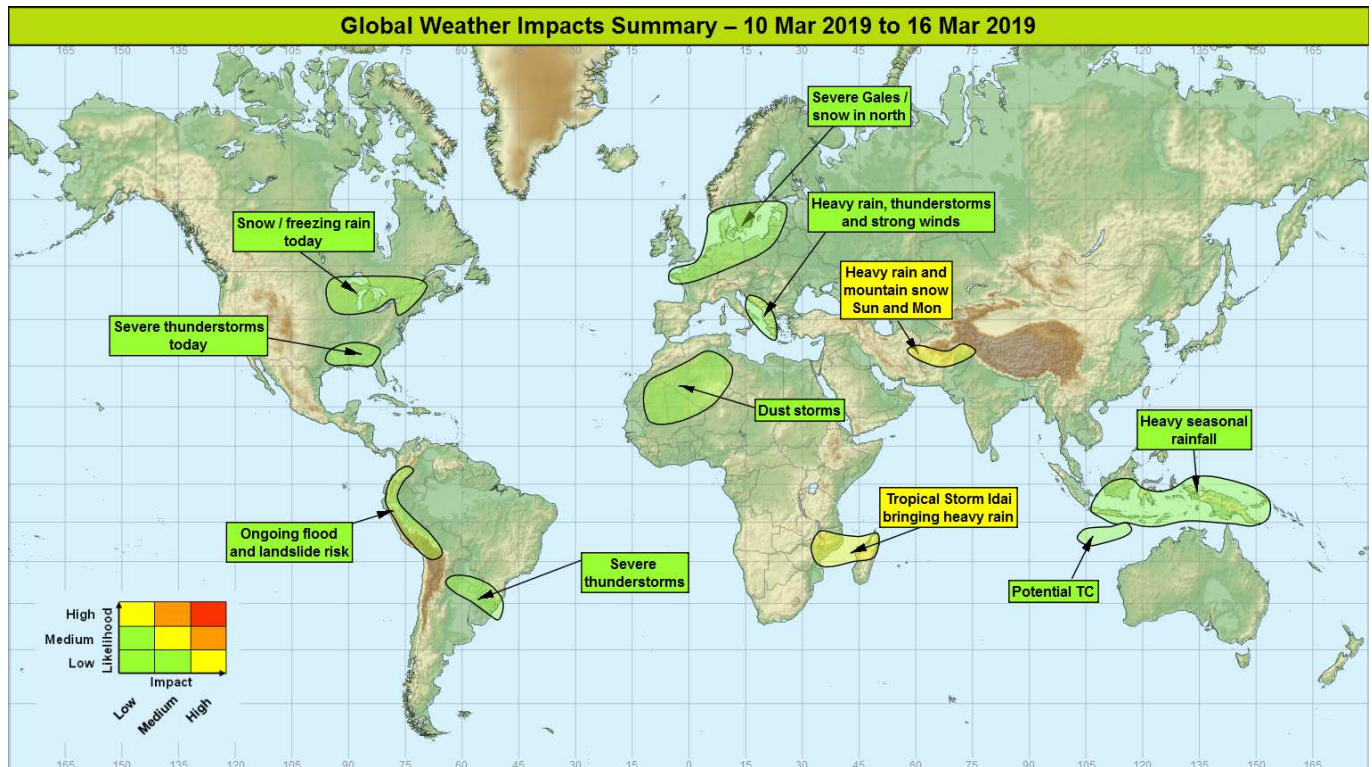


Global Weather Impacts – Sunday 10th to Saturday 16th March 2019

Issued on Sunday 10th March 2019

HEADLINES

- Tropical Storm Idai expected to intensify and bring torrential rain to parts of south-eastern Africa.
- Further heavy rain and snow across parts of Iran, Afghanistan and Pakistan.
- Severe gales likely to affect parts of northwest Europe at times.



DISCUSSION

Tropical Cyclones

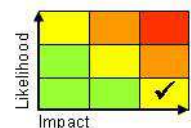
Tropical Storm Idai – SW Indian Ocean

Weather

Tropical Storm Idai formed in the Mozambique Channel early on Saturday and has been slow-moving over the weekend. Idai is expected to intensify over the next few days to a tropical cyclone and curve towards the southwest, perhaps making landfall over southeast Mozambique on Thursday or Friday. There is the potential for Idai to be an intense tropical cyclone when it makes landfall with wind gusts near 100mph. In addition, this could bring heavy rain over a large swathe of Mozambique, northwest Madagascar and Malawi over the next several days. 200-400mm is likely, with some places potentially seeing significantly more.

Discussion

Idai is an area of high SST and low vertical wind shear which makes further strengthening likely. There is a consistent signal from ensemble models and the Reunion RMSC for it to be steered southwest by the sub-tropical high over the next few days. Despite this there is relatively large uncertainty over its track. GM and some of its ensemble members allow Idai to eventually turn to the NW and remain over open water. This leads to uncertainty over rainfall totals with GM having significantly less over land than EC and GFS based on its differing track. Tropical cyclones are notoriously difficult to forecast in this region and the spread in forecast tracks is not surprising.



This forecast may be amended at any time

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Expected Impacts

Risk of flash and river flooding which is a particular hazard in urban areas with the potential for significant flooding along major rivers such as the Zambezi. 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; produce power interruptions and damage to buildings/infrastructure. If significant flooding were to occur in the major river systems of the region some crops could be lost along the farmed flood plains. Disruption is also likely in coastal areas due to strong winds, large waves and a potential storm surge for Mozambique.

The following area is being monitored for Tropical Cyclone development

Timor Sea

Weather

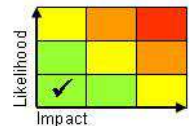
There remains a signal for potential tropical cyclone development over the Timor Sea, most likely early next week. At this stage any development is likely to remain well away from any land through this period.

Discussion

An area of enhanced convection is evident on imagery to the south of Java. As the MJO moves into the Maritime Continent (phase 4) and spawns equatorial Rossby waves in its wake, there will be an increased likelihood of TC development in this region, most likely early next week. Models differ as to where this is most likely to occur however, perhaps disappointingly there is more spread than there was 24 hours ago.

Expected Impacts

None as any development looks likely to remain over open water.



Europe

North-western Europe

Weather

Unsettled weather is likely to affect much of north-western Europe through the coming week as developing areas of low pressure track eastwards. These are likely to produce gales or severe gales on their southern flanks, while to the north where they encounter cold air some snow is likely, mainly across southern Scandinavia.

Discussion

There remains a degree of uncertainty in the development of individual systems, but there is a good signal for a period of unsettled and potentially very windy weather across much of the near continent. The uncertainty relates to frontal waves which may cross to the cold side of the powerful jet and undergo cyclogenesis, with the potential for some very potent lows to form. Differences from model to model and run to run are unlikely to resolve themselves until relatively short lead times.

Expected Impacts

The main impacts are likely to be wind related, so disruption to travel, especially aviation and marine seems likely. There is a lesser risk of disruption to power supplies from fallen trees. Some further snowfall may bring some disruption to parts of southern Scandinavia.



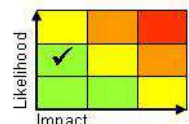
Albania, Greece, Croatia, Bosnia Herzegovina and Montenegro

Weather

The remnants of one of the low pressure systems discussed above will redevelop across the Adriatic Sea bringing a spell of heavy rain and thunderstorms to the region on Monday, Tuesday and Wednesday as it sweeps southeast.

Discussion

The remnants of one of the systems that crosses NW Europe will undergo rapid lee low cyclogenesis as it crosses the Alps and progresses down the Adriatic Sea. Strong pressure gradients to the north of the system will lead to very strong Bora winds along the Adriatic coast; while heavy rain and thunderstorms will develop along the eastern flank as warm, moist is drawn northwards.



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Expected Impacts

Some flash flooding is likely, with heavy snow over mountains and strong Bora winds in its wake. The strong winds will be hazardous to shipping in the area.

North America

South-eastern USA

Weather

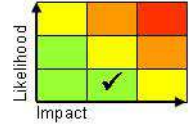
Severe thunderstorms are likely again across the far south again today. These could produce 50 to 75 mm of rainfall in a short period, large hail, frequent lightning and a risk of tornadoes. After a quieter interlude at the start of next week, further storms could form toward the middle of next week.

Discussion

An upper trough crossing the Rockies is drawing warm air north from the Gulf of Mexico into the SE USA. This interaction is leading to cyclogenesis with the system then moving northeast across the Great Lakes and into SE Canada by Sunday. It's within the warm sector to the southeast of the low that there is the potential for severe thunderstorms to break out in some southern states ahead of the cold front.

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, NE USA and SE Canada.

Weather

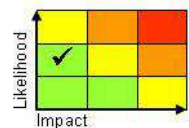
A deep low pressure system over the Midwest will move northeast into southeast Canada during Sunday and Monday with an area of snow and freezing rain on its northern flank. Some areas may see an additional 25 cm of snow fall, this most likely across Minnesota, Iowa, Illinois and Wisconsin.

Discussion

On the northern flank of the low precipitation bearing clouds will overrun cold low level air that has been in place across this region for much of the past week. As a result precipitation will fall as snow and freezing rain over a fairly broad region which includes many major population centres. There is the potential for another low to form toward the middle of next week, although this likely to impact areas further west.

Expected Impacts

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



Central America and Caribbean

Nil significant.

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South America

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

Weather

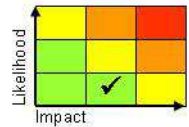
Heavy showers and thunderstorms are expected to affect the northern Andes region for the next week. The heaviest rainfall expected to be across Ecuador and Peru, perhaps central Bolivia. Here, rainfall accumulations will vary by location due to the showery nature of the rainfall, but some places could 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 heavy rain will produce some additional impacts. There has already been significant damage to infrastructure from flooding, with homes, bridges and roads destroyed.



Northern Argentina, Paraguay and southern Brazil

Weather

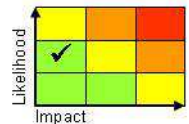
Frequent showers and thunderstorms, at times organised and severe, are expected to affect the region on Tuesday and Wednesday. Thunderstorms will produce strong winds, large hail and a risk of tornadoes. Locally in excess of 100 mm of rainfall is possible in a few hours.

Discussion

A number of disturbances embedded within the subtropical jet are expected to lead to further episodes of severe convection along the South Atlantic Convergence Zone (SACZ). 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, southern Malawi, northern Madagascar

See *Tropical Cyclones* section.

Northwest Africa

Weather

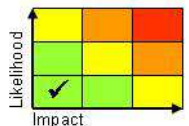
A large slow moving area of low pressure across Algeria has generated widespread lifted dust. This is expected to move spread south and east over the next 3-4 days affecting a large area of northwest Africa.

Discussion

A deep depression with 30KT on its southern and eastern flanks has been slow moving over Algeria for the last two days. The low is expected to move NE over the next two day and gradually weak and this will lead to a general eastward shift in dust. At the same time dust raised on the southern and western flanks will begin to be advected south and west to affect large parts of Saharan Africa.

Expected Impacts

Although dust storms will affect large tracts of Saharan Africa this region is sparsely populated and the overall impacts to human health and air travel is likely to be low.



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Middle East

Eastern Iran, southwest Afghanistan and northwest Pakistan.

Weather

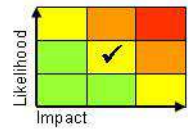
An area of rain and some mountain snow will move eastwards across the region on Sunday and Monday. Widely 10-20mm of precipitation may fall, with totals locally exceeding 50mm. Over the mountains to the north of Kandahar over 50cm of additional snow may fall.

Discussion

A trough in the sub-tropical jet will engage a WBPT plume drawn north from the Gulf of Oman across this region over the next two days. This will result in 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, this region is more vulnerable to poor weather than normal. 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. The heavy rainfall and floods of last week have left may thousands displaced in the Kandahar province of Afghanistan alone. A period of significantly below average temperatures in the wake of the low will further impact these vulnerable populations. Furthermore, there will be an increased risk of avalanche and landslides.



Asia

Eastern Indonesia and Papua New Guinea

Weather

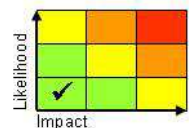
Above average rainfall is expected across many Maritime Continent islands through the next week. Whilst downpours are expected to be rather localised, they are likely to develop in a similar place each day with 100-150 mm of rain possible falling in 24 hours with some places likely to receive around 300 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, as the MJO moves through phase 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.

Australasia

Papua New Guinea – See *Asia* section.

Additional information

Nil.

Issued at: 100820 UTC **Meteorologist:** Neil Armstrong

Global Guidance Unit

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