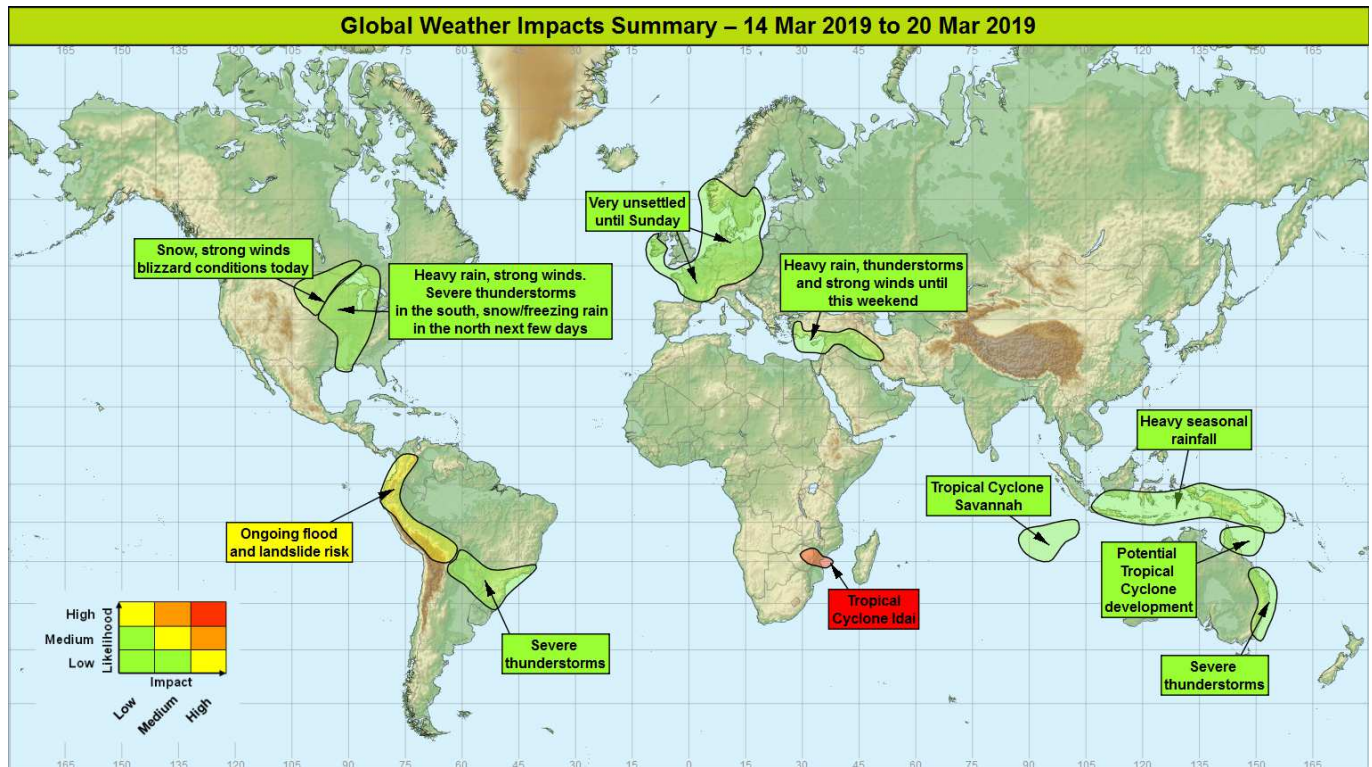


Global Weather Impacts – Thursday 14th to Wednesday 20th March 2019

Issued on Thursday 14th March 2019

HEADLINES

- Tropical Cyclone Idai is expected to significantly impact Mozambique through the coming days.
- Another week of enhanced rainfall for the northern Andes, with further impacts likely.



DISCUSSION

Tropical Cyclones

Tropical Cyclone Idai (Mozambique Channel, Mozambique, Malawi and Zimbabwe)

Weather

Idai strengthened over the past 24 hours as it began to track west-southwestwards through the Central Mozambique Channel (19.8 degrees south 37.1 degrees east), with sustained 10-minute mean winds of around 110 mph at 14/0600 UTC.

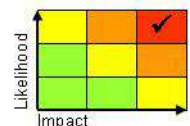
Idai will track westwards through Thursday, perhaps weakening slightly although still remaining an extremely dangerous cyclone, before making landfall near to the port of Beira (Mozambique) later on Thursday.

A swathe of exceptionally heavy rainfall will be associated with this tropical system, extending inland across central parts of Mozambique and eventually into southern Malawi and eastern Zimbabwe through the next 5 or 6 days. Some locations could receive in excess of 1000 mm of rain over the course of the event (generally this part of the world sees 150-300 mm of rainfall in a typical March).

Sustained winds in excess of up to 110 mph are likely to affect coastal areas in the immediate vicinity of the cyclones core through Thursday night, with less strong but still damaging winds occurring more widely.

The extremely strong winds and low pressure associated with the storm will also bring a significant storm surge (possibly up to 4 metres) just south of where the system makes landfall.

Discussion



This forecast may be amended at any time

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Cyclone Idai experienced favourable conditions for strengthening, helping a large eye to form through Wednesday. Conditions are now more marginal for the cyclones development, with increased shear and an incursion of drier air perhaps weakening the system a little prior to landfall.

There is consistent model track guidance to suggest that landfall of an intense cyclone will be close to (probably just north of) the port of Beira (population around 500,000) with winds in excess of 100 mph.

Once Idai makes landfall it will rapidly weaken, but become slow moving, continuing to produce very heavy rainfall across central parts of Mozambique, and possibly southern Malawi and eastern Zimbabwe.

This region has already seen very heavy seasonal rainfall in recent weeks with severe and deadly flood impacts. So further very heavy rainfall will just exacerbate the situation.

Expected Impacts

Flash and fluvial flooding, with major river systems such as the Zambezi, Pungwe, Revue and Save likely to be affected.

Destructive winds near the storms centre will pose a danger to life, and significantly damage or destroy structures.

Extremely large waves and a storm surge are likely to cause significant coastal flooding.

Tropical Cyclone Savannah (Cocos Island and Southeast Indian Ocean)

Weather

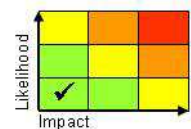
The tropical low and enhanced convection that formed to the west of Christmas Island in recent days has strengthened to a category 1 Cyclone and will track south, close to Cocos Island through Thursday. Thunderstorms and gale force winds (39-54 mph) will be associated with this system as it continues to track southwestwards over the open waters of the Southeastern Indian Ocean through the weekend.

Discussion

An area of enhanced convection, associated with Savannah, is evident on imagery just west of Cocos Island. There is reasonably good model agreement for this system to track southwest or west across the Southeast Indian Ocean through the next 4 or 5 days.

Expected Impacts

Very low probability of flooding and wind impacts affecting the sparsely populated island of Cocos.



The following area is being monitored for Tropical Cyclone development:

Coral Sea and far northeast of Australia

Weather

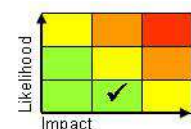
There is the potential for a tropical cyclone development later this weekend or early next week across the Coral Sea. If a system develops it could affect the northeast of Queensland, Australia, bringing very strong winds, intense rainfall and a storm surge.

Discussion

The MJO, that will be moving into the Western Pacific by the weekend, is likely to produce a strong Equatorial Rossby Wave in the next few days that could help develop a tropical cyclone. The EC and GFS produce a strong signal for a tropical cyclone development in this region by early next week, with the GM producing a weaker signal. So there remains some uncertainty in the timing and intensity of development.

Expected Impacts

Threat of flash and coastal flooding as well as destructive winds.



Europe

Northwestern Europe

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Weather

A mobile and generally unsettled spell of weather is expected to continue across this region through until the end of the weekend, although nothing particularly unusual for March.

A succession of Atlantic frontal systems will sweep east across northern Europe during the next 3 or 4 days, with the potential for strong winds or gales, perhaps severe gales at times.

Heavy rainfall will also be a factor in places, especially on lower elevation of the northern Alps, with higher elevations seeing heavy snowfall at times, with up to 1.5 metres of fresh snowfall possibly above 1000 metres above sea level.

Discussion

There remains some 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, especially on Saturday, 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. Snowfall may bring some disruption to parts of the northern Alps, with large rainfall totals building up through this event may begin to impact lower elevations of the northern Alps.

South and west Turkey, Cyprus, Lebanon, northern Syria, northern Iraq and western Iran

Weather

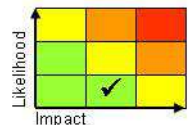
Spells of heavy rain and thunderstorms will affect this region at times through the next few days, producing up to 50 mm in a 6-12 hour period, and in places up to 100 mm during the period (which is double the average March rainfall in the region). Strong winds or gales are possible at times, producing rough seas, as well as lifting dense dust plumes.

Discussion

A succession of marked upper troughs will sweep east across this region until the weekend, pushing active frontal systems and deeply unstable airmasses across the region.

Expected Impacts

Some flash flooding is possible, especially in mountainous regions. The strong winds will be hazardous to shipping in the area, and may cause local land disruption, lifting dense dust plumes across Syria and Iraq.



North America

Central USA

Weather

An exceptionally deep area of low pressure formed over the Central Plains of the USA on Wednesday, producing severe gales in Texas and storm force winds in parts of the Central Plains, along with blizzard conditions in places.

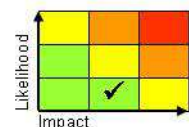
This system will track northeastwards over the following couple of days. Multiple hazards are expected in association with this system. A large swathe of heavy rain, accompanied by strong winds, looks likely to develop, bringing 25-50 mm across many parts of central and southern USA, with as much as 75-100 mm in a few places.

There is the potential for severe thunderstorms to develop, which could bring large hail, localised damaging winds, and the risk of tornadoes to south-central parts through to the weekend. On the northern edge of this system, snow, transitioning to freezing rain may affect transport and aviation in and around the Great Lakes.

Discussion

A potent upper trough/cut-off vortex has engaged a high WBPT plume returning northwards on the backing low-level flow, spinning up a very deep depression (sub 980hPa) on Wednesday. All models agree very well with the fast northeastwards track of this system as it slowly fills.

Expected Impacts



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Heavy rain may result in some urban flooding, frequent lightning may disrupt power supplies, large hail damage to crops and property, with a threat of greater disruption (albeit on a very localised scale) if any significant tornadoes form. Freezing rain and snow likely to affect transport, mainly on a localised scale.

Northern Planes / western Great Lakes area, USA

Weather

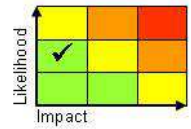
In association with the system described in the previous section, an area of heavy snow and very strong winds developed as colder air from the northwest engaged the developing precipitation area. Some areas could see 20-40 cm of snow through Thursday, accompanied by gale to storm force winds bringing blizzard conditions at times. However, conditions will improve from the southwest as the depression quickly tracks northeastwards.

Discussion

Colder air arriving from the northwest behind a Pacific frontal zone undercut the developing system allowing pbn to turn to snow along quite a wide swathe. There is relatively high confidence for the improvement from the southwest through Thursday.

Expected Impacts

Snowfall and strong winds 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. Heavy snowfall will also exacerbate the already elevated avalanche risk in parts of the Rockies.



Central America and Caribbean

Nil significant.

South America

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

Weather

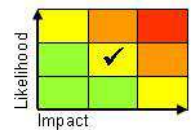
Heavy showers and thunderstorms are expected to continue to affect the northern Andes region for the next week. Rainfall accumulations will vary by location due to the showery nature of the rainfall, but some places are likely to see a further 200-300 mm of rain over the next week.

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.



Paraguay and southern Brazil

Weather

Frequent showers and thunderstorms are expected to affect the region over the next 5-6 days. Thunderstorms will produce strong winds, large hail and a risk of tornadoes. Rainfall totals of up to 150 mm is possible in a few hours, with rainfall accumulations of up to 250 mm possible in Paraguay through the next 5 or 6 days, this being double the average March rainfall.

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



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Further flash flooding and increased risk of landslides and fluvial flooding are likely. Severe thunderstorms will also cause some highly localised but potentially significant property and infrastructure impacts due to strong winds, hail and lightning damage.

Africa

Central Mozambique, southern Malawi and eastern Zimbabwe - See *Tropical Cyclones* section

Middle East

Lebanon, northern Syria, northern Iraq and western Iran – See *Europe* section

Asia

Central and eastern Indonesia and Papua New Guinea

Weather

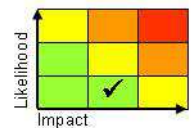
Above average rainfall is expected across many islands in this region through the next week. Whilst downpours are expected to be rather localised, they are likely to develop in a similar place each day with 100-150 mm of rain possible falling in 24 hours with some places likely to receive around 300 mm over the next week. In a typical 7-day period at this time of year, this region normally receives around 50-100 mm.

Discussion

The MJO will be moving through the Maritime Continent into the West Pacific through the next week, helping to organise and enhance convection across the region.

Expected Impacts

An increased likelihood of flash flooding and landslides leading to localised damage to infrastructure and property.



Australasia

Papua New Guinea – See *Asia* section.

Far northeast of Australia / Cocos Island – See *Tropical Cyclones* section.

Eastern fringes of Australia

Weather

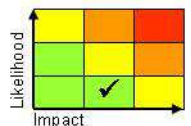
Severe thunderstorms are expected to affect the far eastern part of Australia through the next 4 or 5 days. These storms could produce 75 mm of rain in a few hours, along with frequent lightning, very strong winds and large hail. Cities such as Sydney and Brisbane could be affected, with as much as 300 mm of rain possible in places through the next 5 days, which would be twice the average March rainfall.

Discussion

The combination of a moist onshore flow, warm low level plume and disrupting upper trough will produce conditions for high CAPE storms that will contain 40-50 mm of precipitable water.

Expected Impacts

Flash flooding and large hail damage look like the main impacts, although surface and air transport are also likely to be impacted.



Additional information

Nil.

Issued at: 140800 UTC **Meteorologist:** Paul Hutcheon

Global Guidance Unit

This forecast may be amended at any time

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