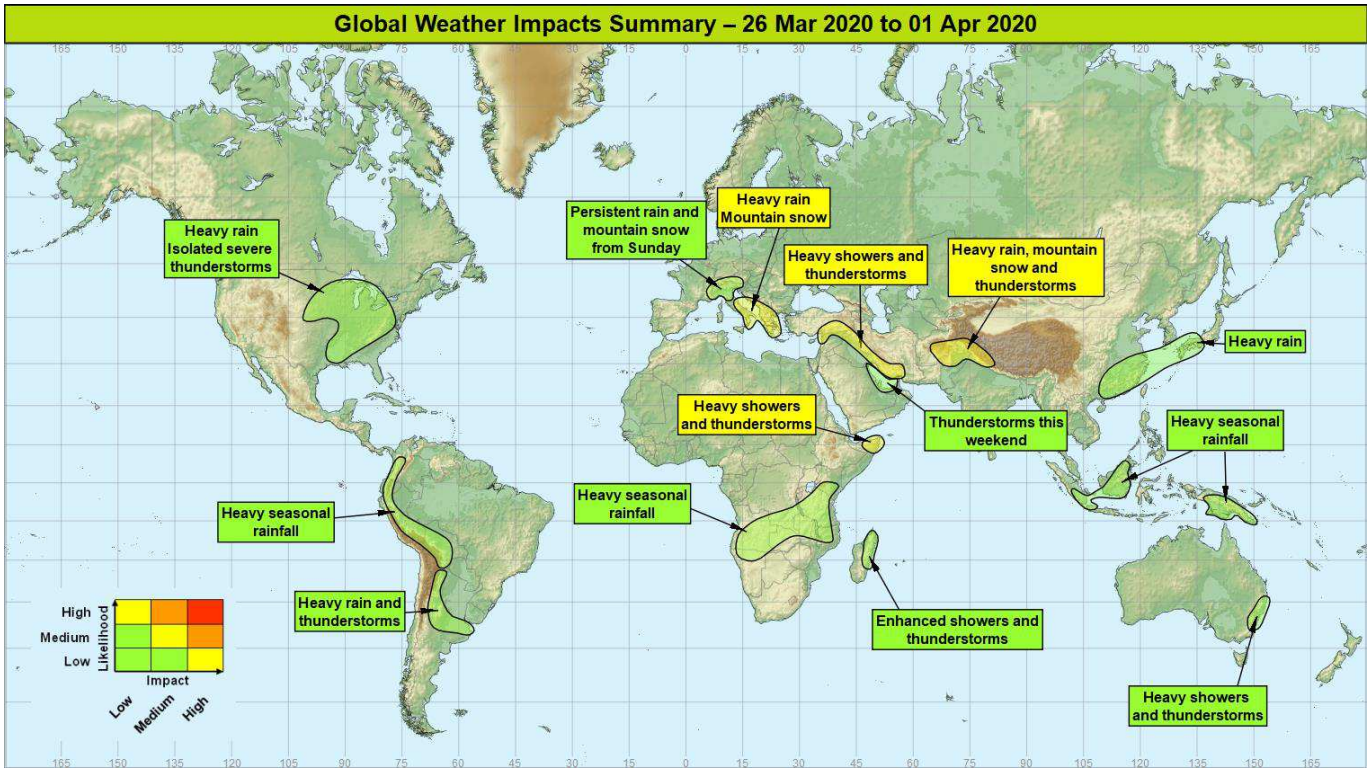
Daily Global Weather Impacts Assessment

Global Weather Impacts –Thursday 26th March to Wednesday 1st April 2020

Issued on Thursday 26th March 2020

HEADLINES

- A series of active depressions affecting areas from Italy, across the Middle East and to south-west Asia, bringing heavy rain, thunderstorms, and mountain snow.
- Further heavy showers for Somalia today (Thursday) before conditions improve.



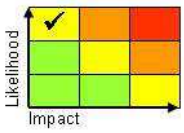
DISCUSSION

Tropical Cyclones

There are no active tropical cyclones and tropical cyclone development is unlikely during the next 7 days.

Europe

Italy, Balkans and Greece



Weather

The Mediterranean remains under a predominantly unsettled regime, the focus for which has been gradually transferring eastwards through the course of this week. A slow moving band of heavy rain with embedded thunderstorms is expected to gradually move up from the south over the next couple of days; the heaviest rain likely to be on east facing mountains of eastern Italy where over 150mm of rain could fall. In addition, strong winds will bring large waves to some coastal regions in the south, and a spell of snow above 700-1000m is likely before warmer air arrives – the additional snowmelt on top of the heavy rain likely exacerbating any potential flooding impacts. Thundery rain spreading eastwards into Greece could bring 30-50mm in a few hours later Thursday/early Friday, along with isolated lightning impacts.

This forecast may be amended at any time
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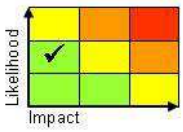
Discussion
A strong sub-tropical jet is signalled to engage and elevated plume of high theta-W, this then resulting in the intensification of the area of low pressure to the north of Libya. As the low drifts N, it will maintain multiple hazards across the highlighted areas, though milder air being drawn N should preclude further sig snow from tomorrow onwards.
Expected Impacts
Flash and some isolated fluvial flooding both likely (particularly for parts of eastern Italy), along with an enhanced risk of landslides in areas where terrain is steep.

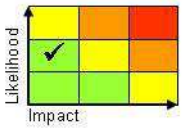
Northern Italy, Switzerland, Austria, Slovenia



Weather
An area of rain and mountain snow arriving from the north this weekend will become slow moving, delivering as much as 50-75mm of rain to lower ground areas, whilst 20-50cm of fresh snow is possible at elevations about 800M. Strengthening easterly winds will generate significant enhancement to precipitation on the eastern sides of mountain slopes.
Discussion
A strong anticyclone building into cold air will lead to a cold N'ly plunge developing, strengthening baroclinicity over southern Europe over this coming weekend. Associated with the cold plunge, a marked upper trough extension will be taking place, with some models indicating Gulf of Genoa cyclogenesis which would act to further strengthen baroclinicity, flow and increase precipitation. Regardless, frontogenesis and orographic enhancement looks likely to combine to produce a spell of slow moving, and at times heavy ppn, which will produce large snowfall amounts of the Italian Alps, and potentially large rainfall accumulations for the lower ground to the south of the Alps.
Expected Impacts
Heavy rain will likely lead to increased risk of river flooding, it coming quite quickly after previous significant rainfall earlier in the week. Heavy snowfall may lead to some transport disruption.

North America

Parts of Central and Eastern USA



Weather
A broad area of heavy rainfall, accompanied by widespread strong winds/gales, is expected to develop over the central parts of the USA later on Friday. 40-70mm is likely quite widely over 48 hours, with some places seeing as much as 100mm. Within the warmest part of this system, focussed around Oklahoma, Missouri, Kansas and Illinois, there will be potential for severe storms to develop, bringing a threat of large hail, heavy rain over a short duration, damaging wind gusts and perhaps a tornado or two. Conditions will improve markedly through Sunday as the system clears away eastwards.
Discussion
A major upper trough/ridge couplet propagating eastwards over the US will first generate strong warmth and moisture advection from the Gulf of Mexico towards Central parts of the US, before initiating major cyclogenesis. High precipitable water and strong forcing will ensure widespread heavy rainfall, whilst deep instability, steep mid-level lapse rates and strong vertical wind shear in the warm sector will lead to the likelihood of supercell development with attendant risks of severe weather.
Expected Impacts
Flash flooding and fluvial flooding is expected. Large hail, frequent lightning, strong winds and tornadoes may damage property, infrastructure and some crops.

Central America

Nil significant.

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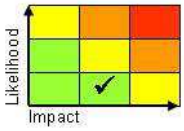
South America

Colombia, Ecuador, Peru and Bolivia



Weather

Enhanced shower and thunderstorm activity is signalled to continue across much of the Northern Andes through this period. A further 150-250mm of rainfall is signalled to fall across the area. This represents locally more than double the average rainfall for parts of this region which have been very wet over recent weeks.

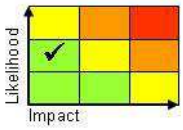
Discussion

Convective activity is forecast to remain well above average across the Northern Andes over the next week. For Colombia and Ecuador, above average SSTs are likely contributing to the increased activity, with onshore winds triggering convection up against the western slopes. For Peru, and particularly Bolivia, strong surface convergence dictated by topography and larger scale (monsoonal) systems will generate repetitive convective outbreaks, east of the Andes.

Expected Impacts

Continued threat of landslides and flash flooding in the steep terrain of the Northern Andes.

Argentina



Weather

Thunderstorms will move slowly north across this region through the next couple of days. These will bring heavy rain to the region, with locally 50-100mm of rainfall expected, often in a short duration.

Discussion

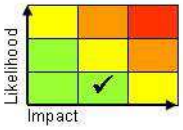
A shortwave upper trough will engage a high WBPT plume across the region and result the formation of some fairly active thunderstorms. These will form in a low CAPE but high Precipitable Water (PWAT) environment meaning heavy rainfall will likely be the primary hazard; however vertical shear and a low Lifting Condensation Level (LCL) may allow the odd weak tornado to form.

Expected Impacts

Some flash flooding and fluvial flooding, with a low risk of some highly localised damage from the odd weak tornado.

Africa

Namibia, southeast Angola, Zambia, DRC, Malawi, northwest Mozambique, Tanzania, and Kenya



Weather

Scattered heavy showers and thunderstorms will continue to affect a broad region of central southern Africa today, but activity is likely to steadily tail off thereafter. These could locally produce 50-75 mm of rainfall in a few hours, and through this period some places could see a total of 100-150mm. The heaviest rainfall is expected to be along a line from southwest Angola to the Tanzania/Kenya border.

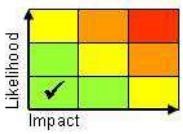
Discussion

Enhanced convection resulting from the emergence of the MJO over Africa last week is now tailing off, as the MJO propagates towards the Maritime Continent. Whilst shower activity is expected to continue, after today frequency and precipitation totals are likely to trend towards much more normal values for these locations at this time of year.

Expected Impacts

Increased risk of surface water and riverine flooding from heavy rainfall, particularly in southern Tanzania where impacts from flooding have already been reported, but also in some catchments in Angola

Eastern Madagascar



Weather

Shower and thunderstorm activity will remain enhanced across eastern, and particularly north-eastern Madagascar through the coming week. Locally 75-150mm of precipitation could fall across the mountains in this region; although this is heavier than normal it is not exceptional in this area.

This forecast may be amended at any time

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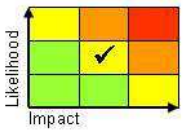
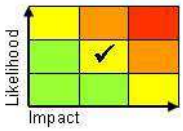
Discussion
Anomalously high pressure in the southern Indian Ocean will continue to promote a stronger than average easterly flow across much of the southwest Indian Ocean. This enhanced flow will cross a large area of above average SSTs, gaining moisture which will then be frequently released via convection as the flow impinges upon the high topography of Madagascar.
Expected Impacts
Slightly enhanced risk flash flooding and landslides.

Somalia



Weather
Following a very active period for showers and thunderstorms over Yemen and the Horn of Africa, improved conditions are rapidly developing from the north as drier air sinks southwards. This will restrict enhanced thunderstorm activity to Somalia today, where a further locally 50-75mm is possible, before conditions dry up across this region too through Friday and into the coming weekend.
Discussion
A weak mid-latitude cold front progressed south to reach the Gulf of Aden, leaving a plume of moisture which is enhancing shower and thunderstorm activity across the region. In addition to the low level cold front, a cyclonic upper flow will also promote convection through until the weekend when an anticyclonic upper flow will become established, although today is likely to be the last day of significantly enhanced convective activity.
Expected Impacts
Increased likelihood of flash flooding and an enhanced risk of landslides where terrain is steep.

Middle East
South-east Turkey, Syria, Iraq and Iran



Weather
Conditions are likely to remain unsettled across the region, with further spells of at times heavy rain as well as strong winds. Some severe thunderstorms are also likely, mainly concentrated on mountainous areas. The heaviest rainfall seems likely to be concentrated over parts of northern Iran, where up to 150mm could fall over the next 5-7 days, much of this over this coming weekend. 60-80mm looks possible for parts of southern Iran. For context, the average rainfall for all of March in this area is between 40-80mm.
Discussion
A disturbed and slightly south-shifted STJ is likely to continue to bring further spells of very unsettled weather to the region. One such system is expected to cross the region over this coming weekend. Each spell of heavy rain/showers will progress from W-E, and as warm air is drawn N on the forward side of short-wave UTs, there is scope for some severe convection at times.
Expected Impacts
Increased likelihood of flash flooding and an enhanced risk of landslides where terrain is steep. Parts of southern Iran which have already recently experiences flooding and fatalities will be especially vulnerable, as will be northern Iraq where the largest rainfall totals are expected. Strong winds, large hail and an isolated tornado are additional hazards, as is lifted and blowing dust/sand where surfaces remain dry, this in turn affecting air quality.

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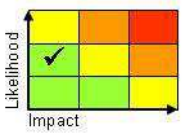
Arabian Gulf

Weather



The disturbed weather described above will extend to the Gulf during this coming weekend, bringing some thunderstorms, strong winds and areas of lifted and blowing dust. Rainfall should be mostly focused over sea areas.

Discussion

Elevated convection is signalled to fire across the region over this weekend, as a plume of high WBPT sourced from Saudi Arabia overspreads the area, engaged by troughing in the STJ. Whilst bases are likely to be sufficient to preclude widespread heavy precipitation, some isolated downpours are possible. Some strong and downdraughts from these storms are likely, which in turn will lead to areas of lifted/blowing dust.

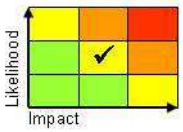
Expected Impacts

Impacts on local infrastructure from lightning strikes. Impacts on what limited aviation is ongoing in the area, as well as reduction in air quality from lifted/blowing dust.

Asia

Afghanistan, northern Pakistan, southwest Nepal and northern India

Weather



A further area of heavy rain and thunderstorms is expected to affect this region later Thursday and especially through Friday. Heavy rainfall and mountain snow with precipitation totalling 50-75 mm, locally 150 mm, is possible, equivalent to the typical monthly rainfall for March. In the south of this region frequent lightning, large hail and strong winds with dense dust storms are also likely.

Discussion

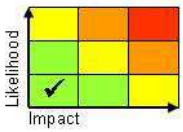
Following the passage of a major cut-off vortex, another sharp trough in the STJ will engage marked baroclinicity over the region, initiating cyclogenesis and generating an active frontal system, with precipitation significantly enhanced orographically by pushing up against the foothills of the Himalayas, and very active convectively in the hot, unstable air drawn into the SE quadrant of the disturbance. As this clears later Friday, conditions will improve from the west, but further disturbances are likely over the coming week.

Expected Impacts

Surface water and riverine flooding (with a contribution from snow melt) and landslides are likely. Lightning and wind damage is also likely, with dense dust storms possibly impacting on human health.

Eastern China, southern Japan.

Weather



Further heavy rain and thunderstorms are expected to affect this region over the coming week, with activity modulating day to day. During this period, 50-100mm of rainfall is signalled to fall quite widely with peaks of 200-250mm possible. In many locations half of the total precipitation will likely fall in under 24 hours on one of the more active days, this would be equivalent to around the average March rainfall for eastern China.

Discussion

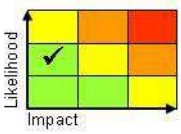
After heavy showers affect this area through the next few days, a strong baroclinic zone becomes established across this region and remains fairly slow-moving until the weekend. Various shortwave features in a modest sub-tropical jet will engage this zone, generating areas of heavy rainfall and thunderstorms which will run eastwards, affecting Japan as well. However as this is near the start of the wet season in this area, impacts are expected to be minimal.

Expected Impacts

Localised flash flooding causing damage to property and infrastructure.

Malaysia, Indonesia, and Papua New Guinea

Weather



Shower and thunderstorm activity is expected to remain more widespread than normal over this week with many places receiving 50-100 mm during this time, with 250 mm in a few places. The heaviest rain is expected to occur over New Guinea during this period.

This forecast may be amended at any time

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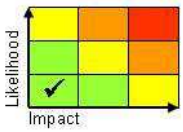
Discussion
Multiple tropical waves are already active in this region, and in addition the MJO is expected to propagate into the Maritime Continent over the next few days. This will continue to promote above average rainfall across the region in general.
Expected Impacts
Increased risk of flash flooding and landslides, particularly in areas that have been affected by recent heavy rainfall.

Australasia

Southeastern Australia



Weather
Frequent showers are expected to affect this region over the next few days, bringing 30-50mm to some places each day, and as much as 150mm over the course of the next 3-4 days.
Discussion
Strong anticyclone to the SE of Australia provides enhanced easterly flow, with a number of shortwave features running across in the upper air. Today, a more active frontal plume with potential for MCS developments will slowly spread across the region before being overrun by its upper trough, thereafter more scattered activity but still heavy showers are expected to affect particularly coastal regions of this part of the country.
Expected Impacts
Localised flash flooding causing damage to property and infrastructure.

Additional Information

Nil.

Issued at: 260900UTC **Meteorologists:** D J Harris / Chris Bulmer **Global Guidance Unit**

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