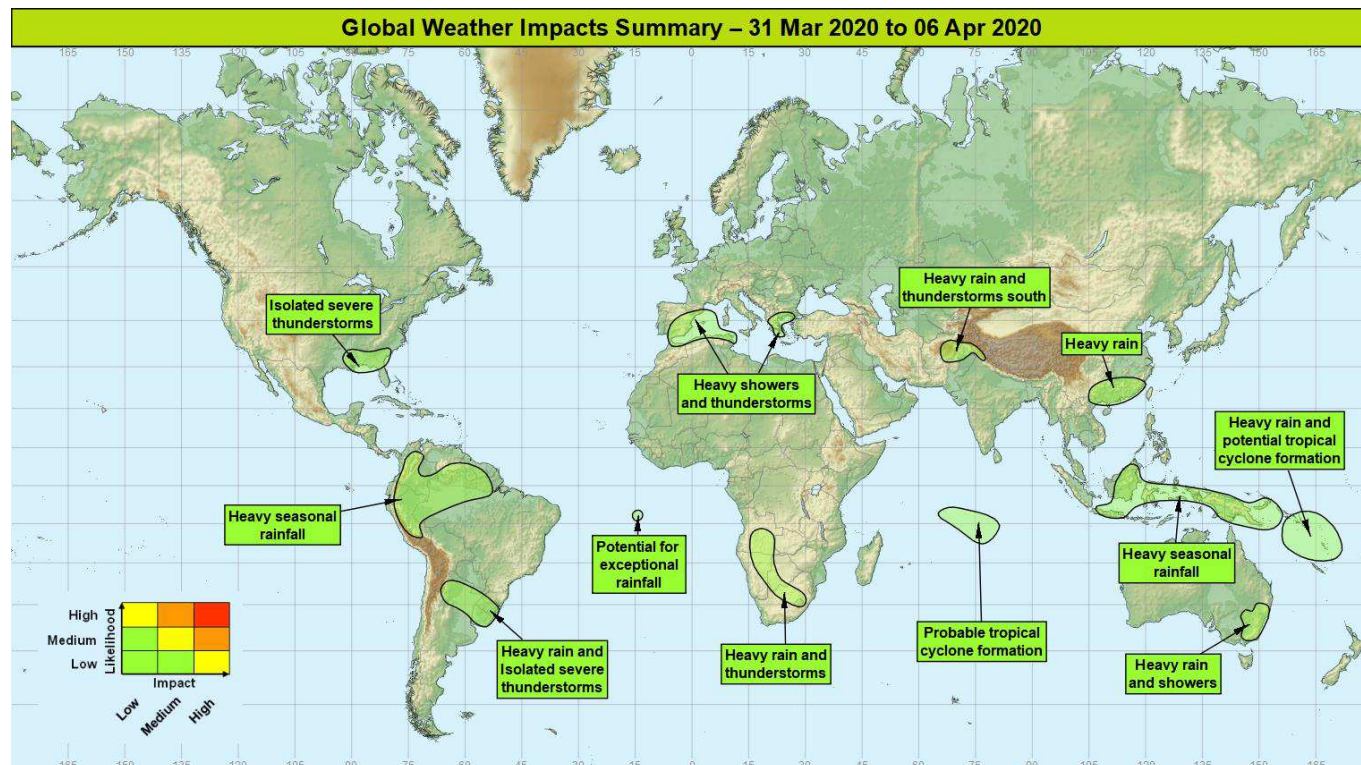


Global Weather Impacts – Tuesday 31st March to Monday 6th April 2020

Issued on Tuesday 31st March 2020

HEADLINES

- Potential for exceptional rainfall over Ascension Island today.
- Probable tropical cyclone formation just southwest of Diego Garcia during the next few days.
- Heavy seasonal rainfall continues for parts of South America and Southeast Asia.



DISCUSSION

Tropical Cyclones

There are no active tropical cyclones, the follow areas are being monitored for development over the next 7 days.

Southwest Pacific, Solomon Islands, New Caledonia and Vanuatu

Weather

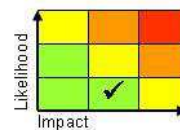
Within an area of enhanced shower and thunderstorm activity a tropical cyclone may form later this week, and subsequently be steered south-eastwards. During this time frame any tropical cyclone is expected to remain over open ocean, but may later go on to threaten New Caledonia or Vanuatu. Regardless of development 100-200 mm of rainfall is expected across this region, with peaks of over 400mm on some of the regions more mountainous islands. This would represent more than one months' worth of precipitation for many places in this area.

Discussion

With the movement of the MJO into the Western Pacific over the coming week the Southwest Pacific Convergence Zone (SPCZ) is expected to be very active. Within this zone there are signals that a tropical low will develop by midweek and, in favourable environmental conditions consolidate into a tropical cyclone late in the week.

Expected Impacts

Rainfall will bring an enhanced risk of flash flooding and landslides, especially in areas where terrain is steep. Dangerous sea conditions may develop late in the week.



This forecast may be amended at any time

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Southern Indian Ocean, Diego Garcia**Weather**

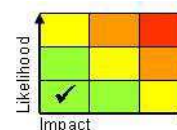
An areas of enhanced showers and thunderstorm activity is expected to consolidate into a tropical cyclone just to the southwest of Diego Garcia around midweek. This system is then expected to be steered southeastwards over open ocean, but not before it drops between 100-200mm of precipitation across Diego Garcia (roughly the average April rainfall).

Discussion

A Kelvin Wave (KW) running east along the equator has enhanced convection in the south shifted ITCZ in the central Indian Ocean. The ITCZ is expected to break down via shear instability (as often seen in the NW Pacific) and shed a circulation (containing showers and thunderstorms) which will likely consolidate into a tropical cyclone in the next couple of days.

Expected Impacts

Slightly rougher than normal seas, particularly to the south of Diego Garcia.

**Europe****Southern Europe****Weather**

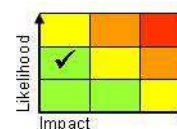
Heavy rain, mountain snow and thunderstorms will affect large parts of the central and western Mediterranean early this week. The heaviest rain will be across much of Spain and southern Portugal during Tuesday, before parts of southern Balkans and Greece turn increasingly wet from midweek. Around 50-75 mm of rain could fall in a day in places, with up to 150 mm building over a few days in a few locations. Snowfall will fall to relatively low elevations across the southern Balkans during midweek.

Discussion

Two upper troughs decay into cut-off vortices during the coming few days, one is initially slow moving over Iberia, and the second slowly moving over the Adriatic sea. These features engage a baroclinic zone that stretches east to west across the region and develop areas of heavy rainfall and some thunderstorm activity. Where the precipitation overlays cold air (such as the southern Balkans) snow will fall down only 100-200 M above sea level at times.

Expected Impacts

Flash and some isolated fluvial flooding both likely (particularly for Mediterranean coastal regions of Spain and Algeria), along with an enhanced risk of landslides in areas where terrain is steep. Snowfall across the southern Balkans will disrupt travel in the region.

**North America****Southeast USA****Weather**

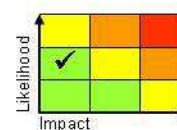
Isolated severe thunderstorms are likely to form across the southeast USA on Tuesday. These will bring heavy rainfall, strong winds and potentially the odd tornado. Accumulated rainfall of 25-50mm is possible, locally even more than this. Conditions become fine across this region into Wednesday.

Discussion

An upper trough will move east, and force a surface low pressure to take a similar path. Ahead of this surface low increased WBPT and dewpoint air is drawn north from the Gulf of Mexico in an increasingly strong low level jet. As this airmass destabilises profiles support organised thunderstorms capable of generating strong wind gusts and a few tornadoes.

Expected Impacts

Localised property and infrastructure damage from a combination of flash flooding, damaging strong winds, and even an isolated tornado



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Central America

Nil.

South America**Colombia, Peru, Ecuador, northern Brazil, Suriname, Guyana and Venezuela****Weather**

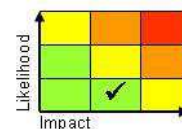
Enhanced shower and thunderstorm activity is signalled to continue across much of the northern Andes and Amazon through this period. A further 150-300mm of rainfall is likely to fall across the area. This represents locally more than double the average rainfall for parts of this region which have been very wet over recent weeks and months.

Discussion

Convective activity is forecast to remain well above average across the northern Andes over the next week. For Colombia and Ecuador, above average SST's are likely contributing to the increased activity, with onshore winds triggering convection up against the western upslopes.

Expected Impacts

Continued threat of landslides and flash flooding, particularly in the steep terrain of the northern Andes.

**Northern Argentina, Uruguay and southeast Brazil****Weather**

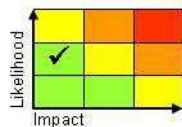
After a lull in activity, further heavy rain and the odd severe thunderstorms are likely to once again affect the region from Wednesday. Activity will begin in the southwest, and transfer northeast with time. In addition to torrential rain (50-75 mm within 6 hours), a few storms forward of the main precipitation envelope may bring large hail, strong winds, and perhaps an isolated tornado.

Discussion

Warm tropical air is drawn southwards ahead of a mid-latitude cold front which will be driven N/NE across South America by a mid-latitude upper trough. Ahead of this front, conditions will become conducive to severe thunderstorm development with large CAPE (evidence of an Elevated Mixed Layer EML) and a conducive highly sheared environment.

Expected Impacts

Flash flooding and localised fluvial flooding, with a low risk of some highly localised damage from strong winds, large hail or even an isolated tornado.

**Africa****Ascension Island****Weather**

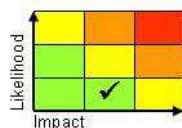
There is a risk of exceptional showers and thunderstorm activity crossing the island during today. The storms could easily drop 50-75mm of precipitation within an hour, with the potential for over 100mm of precipitation in total. Ascension is a very small island though, and may miss the heaviest precipitation. From Wednesday onwards conditions return to near normal.

Discussion

An upper tropospheric trough has crossed the equator and modest jet on the forward side of this is leading to marked upper level divergence, promoting vertical motion and low level convection (almost a southern branch of the ITCZ). With perceptible water (PWAT) in this region 55-60mm showers have the potential to drop this much precipitation within a very short duration.

Expected Impacts

A risk that flash flooding and localised mud/landslides are possible. These could damage roads and other infrastructure on the island.



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Southern Angola, northeastern Namibia, Botswana, South Africa and Lesotho

Weather

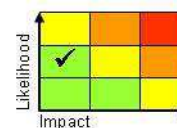
Scattered heavy showers and thunderstorms, locally severe, will develop across the region during Tuesday. Some of these thunderstorms will be capable of producing large hail, frequent lightning and strong winds. Beyond Tuesday activity will reduce for a time, before a further uptick of activity in the same region this coming weekend. The showers will be capable of bringing 50mm of rainfall in a short duration.

Discussion

An upper trough is now engaging a plume of warm, tropical air being drawn southward from Angola. Forecast instability and deep layer shear support upscale development into organised multicells and some persistence overnight. The northern portion of this trough will relax away on Wednesday allowing shower activity to reduce, before the approach of a further shortwave trough will increase activity once more from Friday.

Expected Impacts

Flash flooding and further exacerbation of ongoing flood impacts across southern Angola following recent heavy rain. Localised damage to property, infrastructure and crops from a combination of lightning, large hail and strong winds.



Middle East

Nil.

Asia

Eastern Afghanistan, northern Pakistan and northwestern India

Weather

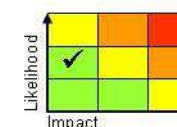
A further area of rain and high mountain snow is moving east across this region, with a few heavy showers and thunderstorms forming each day across the far south of the highlighted area. This event will cease as the precipitation clears during Wednesday. The heaviest precipitation will fall across the high mountains where 50-100 mm may fall (snow >2800 M).

Discussion

A further western disturbance is moving east across the region bringing enhanced precipitation. As is often the case precipitation will be heavily modulated by orography, however in addition across the southern part of this region a few showers and thunderstorms will form each day.

Expected Impacts

Surface water and riverine flooding (with a contribution from snow melt) and landslides (avalanche) are likely in the mountains. In the southern part of the region some localised lightning and wind damage is also possible.



Southern China

Weather

Following a couple of quieter days, a further period of heavy rain is expected to begin in this region on Thursday and continue into early next week. During this period, 50-100mm of rainfall is likely to fall quite widely with peaks of 200-250mm possible. In many locations half of the total precipitation will likely fall in less than 24 hours, this would be equivalent to around the average March rainfall for eastern China.

Discussion

A strong baroclinic zone has become established across this region and this will remain fairly slow-moving. Various shortwave features in a modest sub-tropical jet will engage this zone, generating areas of heavy rainfall and thunderstorms which will run eastwards. 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.

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Malaysia, Indonesia and Papua New Guinea**Weather**

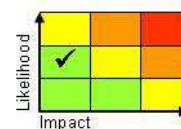
Shower and thunderstorm activity is expected to remain more widespread than normal over this week with many places receiving 50-100 mm during this time, with 300 mm for a few spots. The heaviest rain is expected to occur over New Guinea, including Port Moresby, during this period.

Discussion

The MJO will track across this region over the coming week, and in addition to this multiple tropical waves will remain active in the region. All combined these will continue to promote above average rainfall.

Expected Impacts

Increased risk of flash flooding and landslides, particularly in areas that have been affected by recent heavy rainfall.

**Australasia****Eastern Australia****Weather**

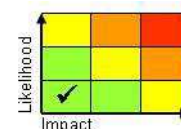
An areas of heavy rain and showers will move northeast across the region on Wednesday and Thursday in particular. Locally more than 50mm of rainfall could be seen, falling in a short duration. Drier and cooler conditions become established across this region by the weekend.

Discussion

A shortwave upper trough will draw a warm and moist tropical airmass southwards and engage this leading to shower and thunderstorm development. A cold front will be driven north-eastwards by this trough and bring drier and cooler conditions to this region by the weekend with the showers becoming displaced to the north (where these are more typical).

Expected Impacts

Localised flash flooding.

**Additional Information**

Nil.

Issued at: 310800 UTC

Meteorologists: Nick Silkstone / Tony Wardle

Global Guidance Unit

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