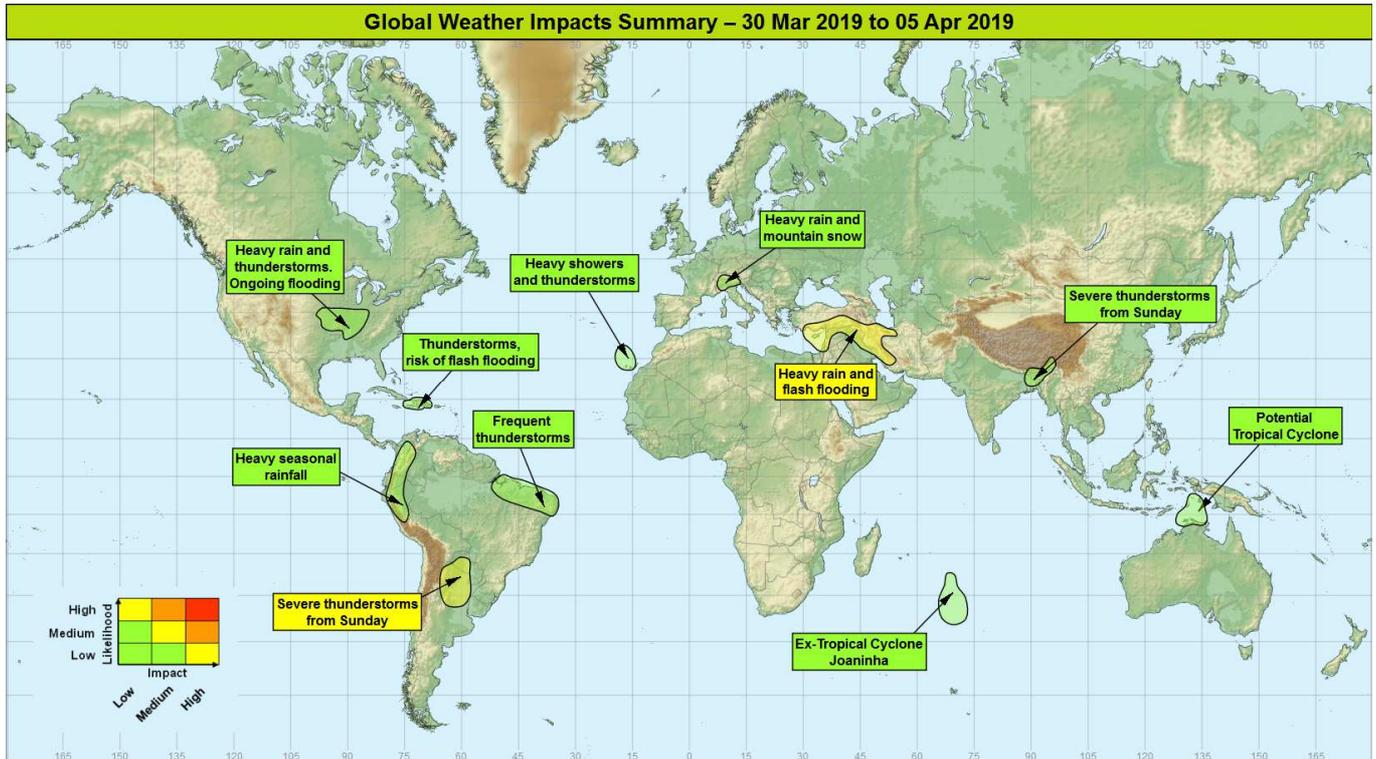


Global Weather Impacts – Saturday 30th March to Friday 5th April 2019

Issued on Saturday 30th March 2019

HEADLINES

- Heavy rain and thunderstorms across the eastern Mediterranean and into the Middle East.
- Severe thunderstorms across northern Argentina and Paraguay from Sunday.
- Heavy rain and mountain snow in the southern Alps next week.



DISCUSSION

Tropical Cyclones

Ex-Tropical Cyclone Joaninha (Southwest Indian Ocean)

Weather

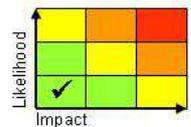
Joaninha continues to track slowly south over the open Indian Ocean. The system continues to weaken and is now classed as a post-tropical depression with sustained winds down to (10-minute average) 70mph. Joaninha is expected to southwards and weaken further over the next couple of days, posing no further threat to land.

Discussion

Joaninha passed Rodrigues on Tuesday, the centre in the event passing well to the north-east of the island. The system is forecast to continue south leading to increased wind shear which should help continue its weakening.

Expected Impacts

No further impacts.



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The following area is being monitored for potential tropical cyclone formation:

Northern Australia (Arafura Sea)

Weather

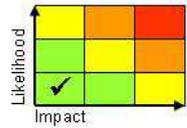
There is growing evidence to suggest the potential for a tropical cyclone to develop in the Arafura Sea and track towards the Northern Territory in Australia later next week. Given that a system is yet to form, there is large uncertainty surrounding this development. However, a spell of very heavy rain and strong winds is possible later next week in the Darwin area.

Discussion

As a southern portion of an EERW moves over an areas of high SSTs and low wind shear, there is potential for a tropical cyclone to spin up later this week. Regardless of development, a period of heavy rain is probable across the Northern Territory, most likely around the Darwin areas.

Expected Impacts

Potential for flash flooding to bring travel disruption and damage to property. In addition, should a strong tropical cyclone develop, wind damage would be expected, with damage to buildings and interruptions to power supplies potential impacts.



Europe

Southern Alps

Weather

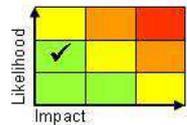
Heavy rain and mountain snow will affect the region from the middle of next week. The heaviest precipitation is expected to be across the Italian Alps during Wednesday. Here, around 50-100 mm of rain could accumulate, with some significant falls of snow (perhaps up to a 1 metre in places) above around 800 metres.

Discussion

A cold front will sink southeast across Europe through midweek and turn increasingly active as an upper trough extends and disrupts, ultimately forming an upper vortex over France. A high WBPT plume will be drawn up ahead of the cold front, this, along with forcing from the upper vortex, will produce very heavy precipitation along the southern facing slopes of the Alps. Snow will initially fall above 1200 metres, but as the cold front clears could fall briefly down to 500 metres, although the most significant falls are likely to be above 800 metres.

Expected Impacts

Surface water flooding seems likely in low-lying areas, with deep fresh snow leading to a risk of avalanche at higher levels. The combination of flooding and heavy snowfall at higher elevations is likely to lead to disruption to travel in the region.



Canary Islands & Madeira

Weather

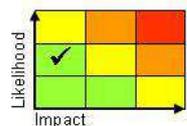
Heavy showers and thunderstorms are expected to affect these islands from Tuesday next week. The most widespread and intense storms will probably be in La Palma, Tenerife and La Gomera; here 50-75 mm of rain could fall in 24 hours. Additional hazards will be hail and frequent lightning. The March average rainfall for the region is between 20 and 50 mm.

Discussion

An upper vortex will drift south towards the region during next week, increasingly destabilising the airmass, allowing diurnal heavy showers and thunderstorms to widely develop. Currently, the heaviest and most widespread convection is expected to be on Tuesday and Wednesday.

Expected Impacts

Flash flooding causing disruption to travel and possibly damage to property. Landslides could potentially be triggered in the mountainous terrain.



Cyprus – See *Middle East* section.

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North America

Midwest and Central Plains USA

Weather

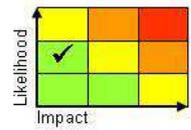
Winter precipitation is more than 200% higher than the long-term average across many parts of the central USA. Seasonal snow melt, ice jams and heavy rain has caused flooding across parts of the Missouri and Mississippi river basins. A further 20-40 mm locally 60 mm of rainfall is expected over the next 24 hours across a broad band from the Central Plains to the Great Lakes which is likely to exacerbate ongoing impacts which are likely to persist through the spring. In addition, thunderstorms may develop across southern and eastern parts of the area. Mainly dry conditions expected from Sunday, although further rain could affect the region again during Wednesday and Thursday next week.

Discussion

A number of river gauges in these two major rivers are exceeding major flood stage and some remain near, or are expected to exceed record levels in the coming days. A strengthening Pacific jet stream is expected to extend eastwards and engage a warm plume emerging from the Gulf of Mexico during the next few days and generate further heavy rainfall across the Midwest and Central Plains. Meanwhile, temperatures will support continued snowmelt upstream across the far north of the country.

Expected Impacts

Further rainfall and snowmelt upstream is likely to exacerbate flooding across this area with additional damage to property and infrastructure. Flash flooding is also possible in urban areas.



Central America and Caribbean

Haiti and Dominican Republic

Weather

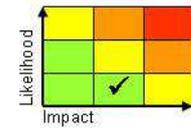
Daily heavy showers and thunderstorms are expected over the coming days over Haiti and the Dominican Republic. There is the potential for 30-50mm to fall in places each day with as much as 150-250mm building up through the period in the wettest spots. Over a month's worth of rainfall could fall within a couple of days in places.

Discussion

A plume of tropical air held in place by the extension of the Azores high will be engaged by a sharpening shortwave upper trough, developing frequent heavy and thundery showers. The tropical air is expected to remain over Haiti/Dominican Republic for the longest – the trough at maximum engagement on Friday before relaxing away NE'ward allowing shower activity to ease off over the weekend.

Expected Impacts

Increased risk of flash flooding (and increased risk of landslides in more mountainous terrain), disrupting transport, flooding homes/businesses, and posing a danger to life. Lightning strikes an additional hazard. Some of the region affected is still recovering from the devastating hurricane season of 2017, increasing vulnerability to further hazardous weather.



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South America

Northern Argentina and Paraguay

Weather

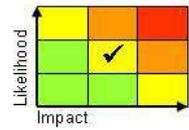
From Sunday and into next week increasingly heavy showers and severe thunderstorms are expected to develop across parts of northern Argentina and Paraguay. Each day in the worst affected areas as much as 100-150mm of rain could fall which is roughly equivalent to a month's worth of rainfall. Depending on the exact location of where the most severe thunderstorms develop, 300-400mm of rain is possible over a few days. Lightning, large hail and strong gusty winds associated with thunderstorms will be additional hazards. Conditions should begin to drier from around Wednesday next week.

Discussion

An extrusion of the tropical air will become engaged by a trough in the STJ extending over central parts of South America from Sunday. This will aid the development of organised severe thunderstorms including the likelihood of MCSs.

Expected Impacts

Very heavy rainfall increases the chances of flash flooding as well as landslides in more mountainous terrain disrupting transport, flooding property and posing a danger to life. Parts of Paraguay could be more sensitive than usual with reports of flooding during mid March. Over the last 30 days a large proportion of Paraguay and parts of northern Argentina have seen more than double of their average rainfall. Lightning strikes, large hail and the potential for tornadoes will pose additional risks to lives and infrastructure.



Colombia, Ecuador and Peru

Weather

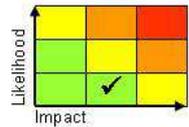
Heavy showers and thunderstorms are expected to be more numerous than normal along the northern Andes through the next week. Rainfall accumulations will vary by location due to the showery nature of the rainfall but locally a further 200-300 mm of rain is possible in a few locations over the next week.

Discussion

Despite the South American monsoon undergoing retreat across Brazil, abundant tropical moisture exists across the northern Andes to generate further heavy showers and thunderstorms. The reason for the prolonged nature of this above average rainfall is less clear since SST anomalies along the Peru to Ecuador coastline are now widely below average.

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 preconditioned by previous rainfall, further heavy rain will produce some additional impacts. Over recent weeks there have been reports of significant damage to infrastructure from flooding, with homes, bridges and roads destroyed.



Northeast Brazil

Weather

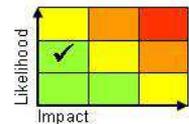
A persistent feed of thunderstorms into this region could see some areas receiving 200-300mm over the course of the next week, equating to around a month's worth of rainfall for the area.

Discussion

Forecast precipitation anomalies over the next week reveal a southward shifted ITCZ, leading to a persistent feed of thunderstorms onto the coast of NE Brazil.

Expected Impacts

Increased risk of flash flooding in this region, with potential damage to property and risk to life.



Africa

Nil significant.

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Middle East

Cyprus, southern Turkey, the Levant, northern Syria, northern Iraq, and western Iran Weather

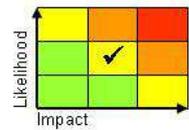
Heavy rainfall will spread from west to east stretching from southern Turkey to northern Iraq on Saturday, before heavy showers and thunderstorms become more widespread across much of Iraq and western Iran, especially affecting the western slopes of the Zagros mountains. Many places are likely to receive at least 50 mm of rain during this period, but locally 150-200 mm is possible and would be roughly equivalent to twice the average March rainfall. From Tuesday conditions will begin to turn somewhat drier across the region.

Discussion

An upper vortex and coincident surface low will remain slow-moving in the eastern Mediterranean over the next few days. Here heavy showers and thunderstorms will organise into bands of more prolonged heavy rainfall, particularly across coastal areas of the Levant. The broadscale upper vortex moving slowly east over the weekend, with the surface low following a similar trajectory. Further east, over the mainland, a high WBPT plume will aid the development of more severe convection. Here, multicell convection and MCS are likely with convection likely to be long lived. By Sunday, higher WBPT plume moving north into Iraq and western Iran increases the potential for severe convection, with forecast profiles supporting organised surface-based convection. Storms could become long-lived (MCS possible) with hail and frequent lightning. By Monday the upper vortex begins to fill and move away east, with conditions gradually becoming quieter across the region.

Expected Impacts

Flash flooding is likely along with the potential for landslides in mountainous areas. Strong gusty winds and possible large hail associated with thunderstorms could cause damage to temporary or poorly built structures and are likely to lead to lifted dust in desert regions. While northern parts of Iran are experiencing significant river flooding, the majority of the new rainfall is expected to fall in the west of the country.



Asia

Bangladesh and northeast India

Weather

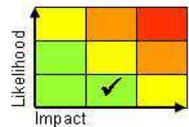
There is an increased likelihood of severe thunderstorms developing across this region from Sunday, which as well as producing large amounts of rainfall in a short space of time, will bring frequent lightning and a risk of large hail and tornadoes.

Discussion

We are approaching peak tornado season across this part of the world, and with very warm moist air in place a broad upper trough with embedded shortwave elements is expected to move across the region leading to increased potential for severe storms to develop. Forecast profiles exhibit large amounts of CAPE and strong shear, strong outflow aloft and potential for supercells and tornadoes.

Expected Impacts

Should these storms develop, flash flooding is a possibility, along with lightning/large hail/strong gusty winds causing a risk to life, plus damage to property and infrastructure.



Australasia

Northern Australia – See *Tropical Cyclones* section.

Additional information

Item of Interest: New Zealand, South Island

Media reports of 1086 mm reported in 48 hours at Cropp Waterfall (975m elevation) in the recent “atmospheric river” event that affected the South Island. If official this would be a new 48 hour rainfall record for New Zealand. There is potential for further heavy rainfall over the weekend and early next week. Whilst less severe this could still impact the ongoing recovery from flooding including rebuilding a bridge on highway 6 near Franz Joseph.

Issued at: 300815 UTC **Meteorologist:** Brent Walker

Global Guidance Unit

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