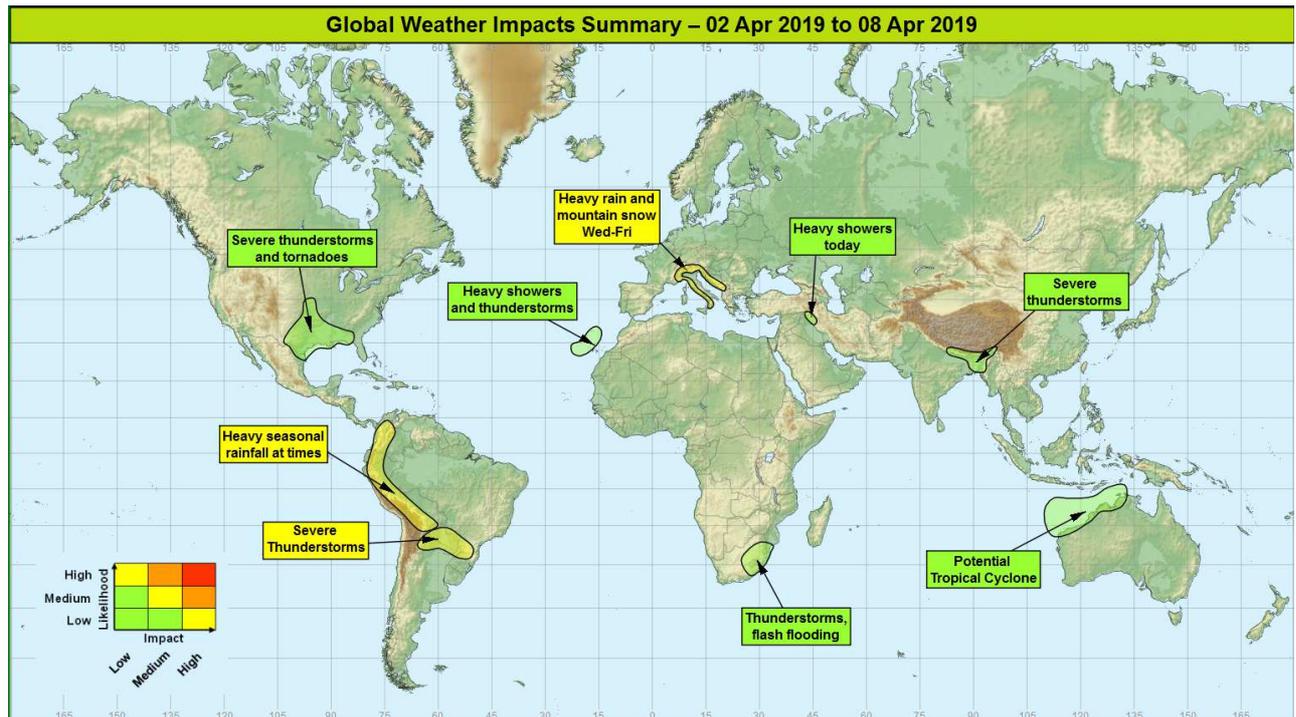


Global Weather Impacts – Tuesday 2nd April to Monday 8th April 2019

Issued on Tuesday 2nd April 2019

HEADLINES

- Heavy rain and mountain snow affecting Italy, the Alps, and the Balkans later this week
- Severe thunderstorms and heavy rain bringing flooding from Colombia to southeast Brazil
- Quietening down across the Middle East for a few days.



DISCUSSION

Tropical Cyclones

There are presently no active tropical cyclones.

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

Northern Australia (Arafura and Timor Sea)

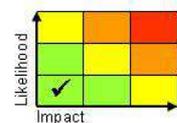
Weather

A tropical low looks likely to form near the coast of the Northern Territory over the coming days and track westwards, potentially becoming a tropical cyclone. Confidence is low both in terms of its formation, and should it form, its subsequent track. Nevertheless, it looks most likely to stay offshore through this period, perhaps bringing some heavy rain and strong winds to coastal districts as it develops.

Discussion

Most deterministic models indicate the formation of a tropical low, and eventual tropical cyclone, towards the end of this week, likely due to organisation of convection along the monsoon trough by the passage of an equatorial Rossby wave. At this range there is naturally a large spread in solutions, with the system possibly ending up taking a similar track to Veronica a week or so ago.

Expected Impacts



This forecast may be amended at any time

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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. This area however is sparsely populated and used to tropical cyclones, with impacts likely to be relatively low.

Europe

Eastern Italy, Alpine regions, Balkans

Weather

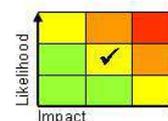
Heavy rain and mountain snow will affect the region from Wednesday through to Friday. The heaviest precipitation is expected to fall on the southern side of the Alps, where around 200 mm of rain could fall at low levels. 100-150mm, much of it falling 24 hours, is expected along the Balkan coast and Dinaric Alps, perhaps temporarily turning to snow before clearing. At higher elevations of the Alps significant falls of snow (perhaps up to 2 metres) above 1000 metres above sea level are possible in the Italian Alps and up to 1 metre possible for parts of the French and Swiss Alps too.

Discussion

A cold front will sink southeast across western Europe by midweek, becoming increasingly active as an upper trough extends and disrupts, ultimately forming an upper vortex across southwestern Europe. A high WBPT plume will be drawn up ahead of the cold front, with this, along with forcing from the upper vortex, producing very heavy precipitation along the southern facing slopes of the Alps. The exact amount of snowfall will be difficult to estimate due to differences in the WBFL within the heavy precipitation plume. Heavy showers blossoming within the plume will bring heavy, thundery showers to the eastern side of Italy, and later the Dinaric Alps as the system progresses E, where higher WBFL will see most ppn realised as rain.

Expected Impacts

Surface water flooding seems likely in low-lying areas (Balkans at particular risk), 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, risk to property and infrastructure, and danger to life particularly in the more vulnerable areas of the Balkans.



Canary Islands and Madeira

Weather

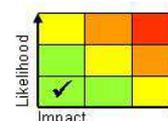
Heavy showers and thunderstorms may affect these islands until Thursday. 40-80 mm of rain could fall in a 24-hour period, although most likely amounts will be less than this. Additional hazards could be hail and lightning. The April average monthly rainfall for the region is between 10 and 30 mm.

Discussion

An upper vortex continues to drift south across the area, increasingly destabilising the airmass, possibly allowing diurnal heavy showers and thunderstorms to widely develop. Convection should ease across the area into Thursday as the upper vortex relaxes and clears. Latest models are less keen on this idea, keeping the vortex further NE, but we retain this as a low risk.

Expected Impacts

Small chance of flash flooding causing disruption to travel and damage to property. Landsides could potentially be triggered in the mountainous terrain. Thunderstorms/lightning may disrupt aviation activities.

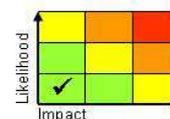


North America

Southern USA

Weather

Heavy showers and potentially severe thunderstorms are possible across southern parts of the USA, with a peak on Thursday across the east of the region, before activity transfers further west and north from Saturday. Intense downpours of rain could bring as much as 50-100 mm in places over the course of a few hours. Large hail, strong wind gusts and tornadic outbreaks will be additional localised hazards.



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Discussion

A short wave upper trough running east across southern parts of the USA looks likely to engage a plume of high WBPT air drawn north from the Gulf of Mexico during Thursday. There are still significant spatial and temporal differences between models but within a >17 °C 850 hPa WBPT plume there is potential for severe organised convection. Following ridging across the area on Friday, a similar set-up is signalled to develop a little further W over the coming weekend.

Expected Impacts

Increased potential for flash flooding. Hail and/or strong winds could cause damage to structures. Some disruption to transport, particularly aviation, is likely.

Central America and Caribbean

Nil significant.

South America

Northern Argentina, Paraguay, far south of Brazil

Weather

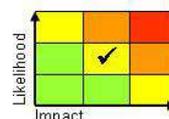
During the coming week heavy showers and severe thunderstorms are expected to develop across parts of northern Argentina and Paraguay. Each day in the worst affected areas as much as 100-150 mm of rain could fall which is roughly equivalent to a month's worth of rainfall. Depending on the exact location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

Discussion

An extrusion of the tropical air will become engaged by a succession of troughs in the subtropical jet extending over central parts of South America through this week. This will aid the development of organised severe thunderstorms including the likelihood of MCSs. Most recently Pozo Colorado, Paraguay, reported 60.2 mm in 6 hours (44 mm in 3 hours) in one of these storms.

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 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, Peru and Bolivia

Weather

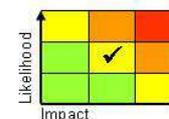
Heavy showers and thunderstorms are expected to be more numerous than normal along the northern Andes at times through the next week, especially from Monday to Wednesday. Rainfall accumulations will vary by location due to the showery nature of the rainfall but locally a further 200-300 mm of rain is possible in a few locations over the next week, mainly west of the Andes for Colombia and Ecuador, and east of the Andes for Peru and Bolivia.

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 peak of activity this week will likely be influenced by an upper trough disruption just to the southwest of Peru.

Expected Impacts

Flash flooding and landslides remain an ongoing threat in the mountainous areas, as well as downstream river flooding, with numerous reports of significant impacts in these countries again surfacing in recent days. With much of this region preconditioned by previous rainfall, further heavy rain will produce some additional impacts.

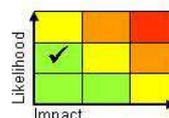


Africa

Eastern South Africa, Lesotho, Swaziland, far south of Mozambique

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Weather

Enhanced heavy showers and thunderstorms are likely to develop across this region on Thursday and Friday, bringing the potential for 75-100mm of rain to some areas in a few hours.

Discussion

A southward extrusion of the African monsoon plume looks likely to be engaged by a mobile shortwave upper trough, leading to significant and organised destabilisation. Forecast profiles highlight large CAPE and strong shear, with the potential for long lived storms to develop, whilst high PWAT will allow high rainfall rates and locally large totals.

Expected Impacts

Flash flooding is the most likely hazard, with many urban areas within this region (eg Johannesburg, Bloemfontein, Durban, Maputo) particularly vulnerable. Many regions will miss the storms altogether however. Additional hazards are the likelihood of strong winds, and large hail in association with the storms as they pass through, which could bring some localised damage to property/businesses.

Middle East**Northern Iraq****Weather**

Conditions over this region are expected to be quieter than for some time over the next few days, however today (Tuesday) there is a signal for a broad area of frequent and in places heavy daytime showers/thunderstorms, bringing 20-30 mm, locally 40 mm in a few hours.

Discussion

The upper pattern remains broadly cyclonic with numerous shortwave features running through the flow, however the high WBPT plume of recent days has now cleared, leaving a cooled boundary layer. This will respond to diabatic input, with diurnal destabilisation taking place quite widely – however models consistently signal this region as seeing enhanced showers today, probably as a result of triggering by the higher terrain.

Expected Impacts

This area has seen greater than normal amounts of rainfall over the past week, and whilst amounts expected today would not normally be expected to cause issues, the antecedent conditions may increase the risk of flash flooding and landslides in this mainly mountainous area.

Asia**Bangladesh, northeast India, and Nepal****Weather**

There is an increased likelihood of severe thunderstorms developing across this region during this week, 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. On Sunday a severe storm injured hundreds of people and caused multiple fatalities as it moved through central southern Nepal, with poorly constructed buildings a mitigating factor.

Expected Impacts

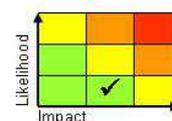
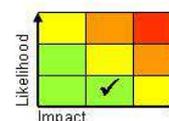
Flash flooding is likely, along with lightning/large hail/strong gusty winds causing a risk to life, plus damage to property and infrastructure.

Australasia

Northern Australia – See *Tropical Cyclones* section.

Additional information

Nil.



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Issued at: 020630UTC **Meteorologist:** D J Harris

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