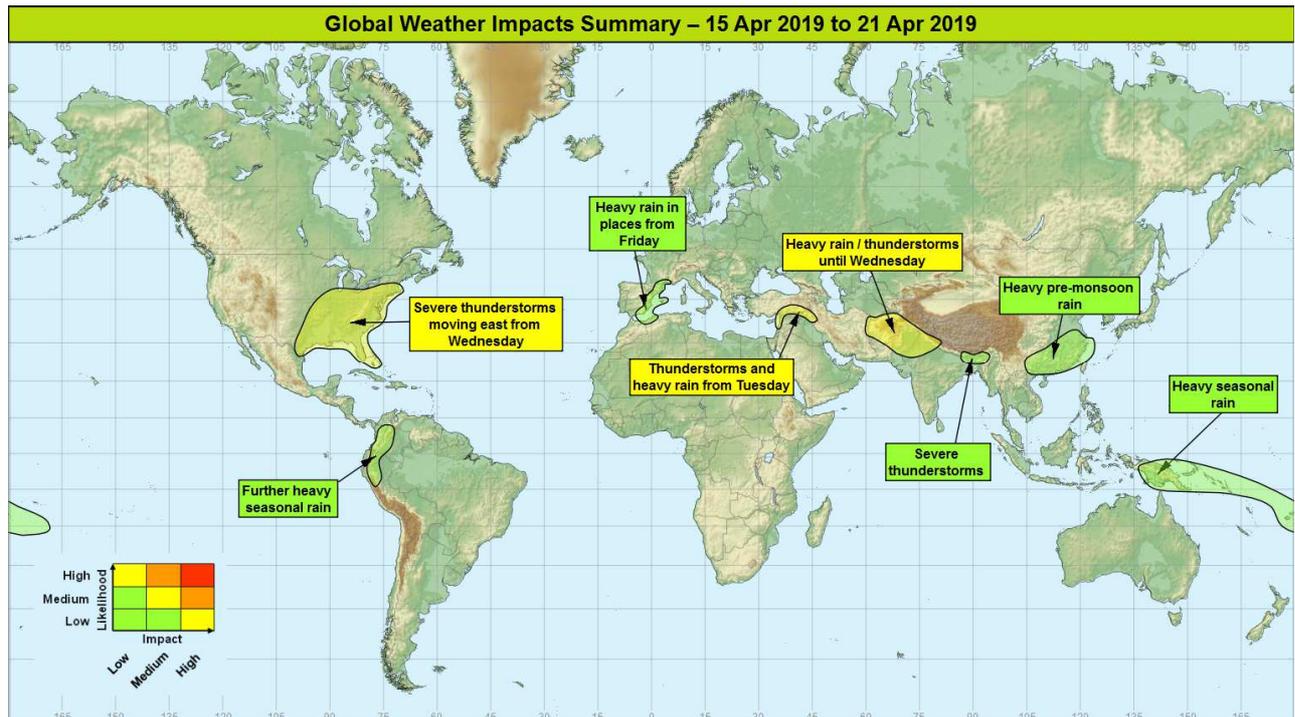


Global Weather Impacts – Monday 15th April to Sunday 21st April 2019

Issued on Monday 15th April 2019

HEADLINES

- Further significant potential for tornado outbreak over the Central/SE US from midweek
- Potential for flooding across Middle East and parts of south-west Asia early this week.
- Heavy rain, strong winds and cold across holiday destinations in W Med over Easter weekend.



DISCUSSION

Tropical Cyclones

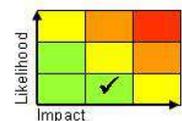
There are no tropical cyclones or areas of interest today.

Europe

Southwest France, eastern Spain, Balearic Islands, Morocco and Algeria

A band of heavy, and in places prolonged rainfall, with isolated embedded thunderstorms is likely to develop on Friday and persist into the weekend – the heaviest rainfall slowly transferring south through this period. Whilst confidence is high in the development of this weather system, the focus for the heaviest rain within the area indicated is much more uncertain, as is the southern extent. There is the potential for 50mm of rain to fall in a 6-12 hour period, accompanied by brisk winds and possible lightning.

Discussion



This forecast may be amended at any time

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A cut-off vortex is expected to become slow moving over Spain by Friday, the accompanying cyclogenesis and backing flow through depth drawing a PS14 WBPT plume from North Africa. Isentropic ascent and some convective destabilisation within this plume will lead to development of heavy rain, which could be orographically enhanced in places given the strengthening E to NE'ly flow. The trough disruption and mesoscale detail is uncertain at this range, with models indicating a variety of solutions with respect to the position of the plume at maximum engagement. Frequent showers/thunderstorms will be present widely beneath the upper vortex but in lower WBPT/lower PWAT air. The whole complex will gradually sink southwards through the period, perhaps reaching parts of Morocco/Algeria by the end of the weekend.

Expected Impacts

A combination of heavy rain and strong winds could lead to some localised flash flooding, possibly affecting areas popular with tourists and ex-pats. Strong winds at the coast could lead to some minor coastal impacts, whilst there is also a low risk of localised damage to buildings and infrastructure due to lightning.

North America

Central/Eastern USA, Bahamas.

Weather

Following recent severe weather across this region which is clearing imminently, a further zone of severe thunderstorms looks likely to develop in the vicinity of Texas on Wednesday evening into Thursday morning, extending east and north-east through the rest of the week. Strong winds, tornadoes, heavy rain and large hail are all expected; 50-100mm could fall in a matter of a few hours.

Discussion

Following the recent tornado outbreak, the progressive synoptic pattern will allow the atmosphere to recharge as a sharply extending and eventually disrupting upper trough generates strong northward advection of warmth and moisture from the south mid-week. This will allow the development of severe storms within the systems warm sector, which will steadily drive eastwards from Wednesday before clearing the Eastern Seaboard over the coming weekend.

Expected Impacts

The recent severe weather has already led to fatalities in these areas. Potential exists for further flash flooding. Large hail could cause damage to structures and vehicles. Tornadoic activity is also a significant threat with this event, with associated localised catastrophic damage.

Central America and Caribbean

Bahamas – see North America

South America

Western Colombia, Ecuador and far northwest of Peru

Weather

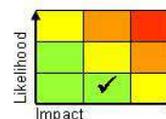
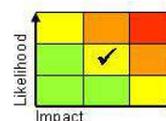
Further heavy seasonal rain is expected this week, following what has been a very wet rainy season. The rains will come in the form of thunderstorm activity that could produce intense rainfall (up to 75 mm in a few hours). Through the next 7 days up to 250 mm of rain could fall in places along the Andes. This equates to over 50% of the average April rainfall falling within a week.

Discussion

There continues to be a strong model signal for enhanced rain through the next week in this region. Weak tropical waves may well help enhance the deep convection as they pass through the region over the coming week. This will come on top of what has already been an impactful start to this current rainy season in Colombia.

Expected Impacts

Potential for further flooding and risk of landslides.



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Africa

Nil significant.

Middle East

The Levant, south-east Turkey, northern Syria.

Weather

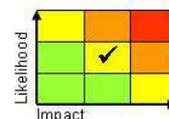
Increased shower and thunderstorm activity is expected across parts of the Levant on Tuesday and Wednesday. Around 50 mm of rain falling per day in some places, most likely southeast Turkey and far north of Iraq where 80-100 mm is probable over the 48 hour period, which is 2 to 3 times the average rainfall for the whole of April. Nearer 50 mm is expected across the mountains of western Syria and Lebanon, with significant totals perhaps falling in a short time.

Discussion

A marked upper trough will transfer east across the region through Tuesday and Wednesday, engaging a warm plume. This will lead to deep convection, especially across south-east Turkey and northern Iraq that could result in intense rainfall.

Expected Impacts

Flash flooding, hail, strong winds and dense lifted dust plumes are all likely in parts of this region. The heavy rainfall is likely to produce a threat of river flooding too, especially into the Tigris catchment in northern Iraq. These impacts are likely to affect some of the regions of northern Iraq and western Iran that have seen severe flooding in the past month.



Asia

Far east of Iran, Afghanistan, Pakistan, and northern India

Weather

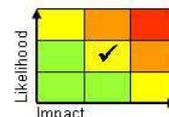
Extensive cloud and rain across this region slowly clearing eastwards over the next few days, with conditions steadily improving from the west to clear completely by Thursday. Within this broad area, two main zones of activity. One across the far east of Iran, and west of Afghanistan, where thunderstorms embedded within the main rain area could see a further 30-60 mm of rain on top of yesterday's rain, before clearing later today. The second a zone of thunderstorms moving slowly east across eastern Afghanistan, Pakistan, and northern India over the next few days, which again could bring 30-50 mm quite widely, locally 80mm in a few hours as the storms pass overhead.

Discussion

A major upper trough remains slow moving across the region in the coming few days. This is producing an area of rain with embedded storms across parts of eastern Iran and western Afghanistan today, before the trough overruns and this areas decays. Further E, a plume of high WBPT (>18°C) will be engaged by this upper trough to generate areas of rain and severe thunderstorms moving north east across Afghanistan, Pakistan and northern India. As the pattern progresses eastwards, the worst of the storms will also clear, but enough residual warmth and instability will likely be present to maintain more isolated thunderstorms in the following air mass.

Expected Impacts

Severe flash flooding is possible. However areas prone to the thunderstorms on Monday across Eastern Iran are less populated and is east of recent severe flood areas, and so the impact here may be less. Afghanistan and Northern Pakistan are likely to see increased flood and landslide impacts due to the combination of heavy rain and continued snow melt.



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Northern Bangladesh and northeast India

Weather

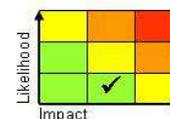
There is a continued threat of severe thunderstorms developing across this region during the next week, which as well as producing large amounts of rain (50-100 mm) in a short space of time, will bring frequent lightning and a risk of damaging winds, large hail and a few tornadoes.

Discussion

We are in the peak tornado season across this part of the world, with a southerly flow bringing very warm moist air north from the Bay of Bengal and various upper troughs in the sub-tropical jet (that remains close to the area). At times forecast profiles exhibit large amounts of CAPE and strong shear, strong outflow aloft and potential for supercells and tornadoes.

Expected Impacts

Localised flash flooding is possible, with lightning/large hail/strong gusty winds likely, with a lower risk of isolated tornadoes.



Southeast China

Weather

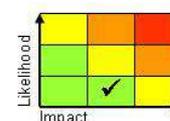
The south-eastern part of China will see further heavy pre-monsoonal rain through the next 7 days, with many places seeing the average April rainfall (150-250 mm) falling in just a few days. Thunderstorms are likely at times which could produce intense rain (100 mm in 6 hours), with the most intense storms likely to affect the region from Thursday onwards.

Discussion

Short wave upper troughs in the sub-tropical jet will engage the warm plume across south-eastern China to produce pulses of very heavy pre-monsoonal rain through the next few days. Forecast profiles show the potential for embedded high based thunderstorms within the plume. The heaviest rain and greatest risk of thunderstorms are likely within the PS24C 850hPa WBPT that gradually pushes north through the week and is then engaged by short wave upper troughs within the jet.

Expected Impacts

Flash flooding is the most likely impact, with an increasing threat of river flooding and landslides. The majority and most intense rain and storms move away south from the coastline near Hong Kong, but are likely to return further north to eventually affect Shanghai by the end of the week.



Eastern Indonesia, Papua New Guinea, Solomon Islands and Fiji

Weather

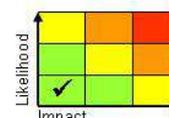
Heavier than usual rain is expected through the next week across this region. Up to 300 mm of rain could fall in places, with some places seeing the average April rainfall falling within a week.

Discussion

An active ITCZ and South Pacific Convergence Zone will produce heavier than usual rain across this region, perhaps enhanced by at least one Equatorial Rossby Wave.

Expected Impacts

Flash flooding will be the most likely impact. Increased threat of river flooding and landslides too.



Australasia

Papua New Guinea, Solomon Islands, Vanuatu and Fiji – see Asia section

Additional information

Nil.

Issued at: 150850 UTC **Meteorologists:** Tony Wardle / D J Harris

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