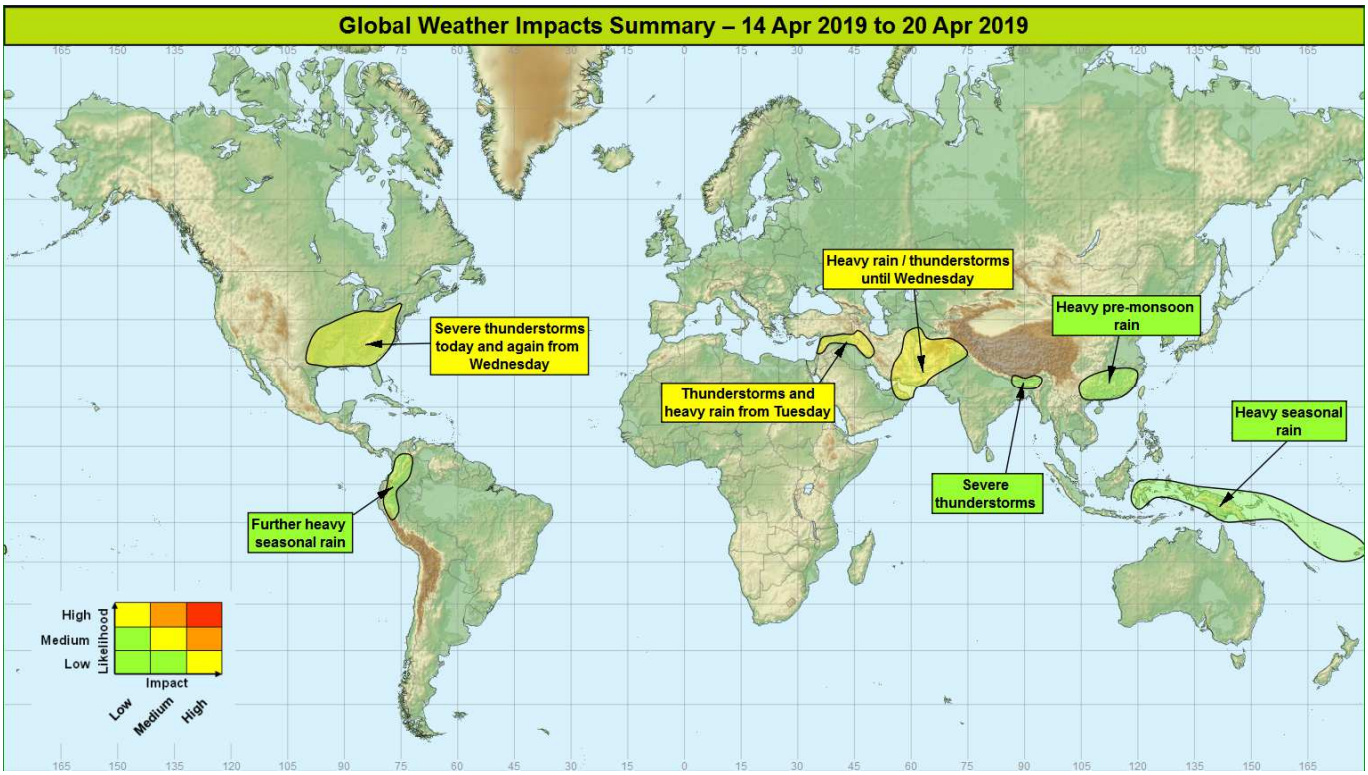
Daily Global Weather Impacts Assessment

Global Weather Impacts – Sunday 14th April to Saturday 20th April 2019

Issued on Sunday 14th April 2019

HEADLINES

- Heavy rain across parts of the Middle East and Afghanistan.
- Severe thunderstorms across southern and eastern USA today and again from midweek.



DISCUSSION

Tropical Cyclones

There are currently no tropical cyclones, and no expectation of any imminent tropical storm developments.

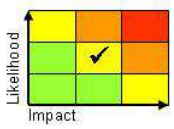
Europe

Nil significant.

North America

Southern and eastern USA

Weather



Two spells of severe thunderstorms are expected to affect this part of the USA through the next week.

This first spell will transfer east and northeast from Texas and Louisiana across much of the eastern states through Sunday before clearing east into the Atlantic on Monday.

The second spell of severe storms will develop across Texas on Wednesday, before becoming more intense as it extends east and northeast through the rest of the week.

Up to 100-150 mm of rain could fall in a 6-12 hour period in both events. Large hail, strong wind gusts and scattered tornadoes will be the greatest hazards.

This forecast may be amended at any time
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Discussion

Conditions are expected to be conducive to the development of numerous severe thunderstorms through Sunday, with the SPC showing an enhanced or moderate risk of severe weather (the 2nd and 3rd highest risk levels). Dynamics present are likely to lead to tornadic storms as a potent jet streak rounds the base of an advancing synoptic-scale trough. The most severe storms are likely to be on and ahead of the cold front (i.e. in the warm sector), where theta-W in excess of 22˚C, strong directional and speed shear, plus PVA, are likely to combine to generate super cells and rotating storms. The final round of the US Masters golf tournament in eastern Georgia is at risk of being impacted on Sunday.

A similar type of event is likely from midweek, with similar ingredients likely to be present.

Expected Impacts

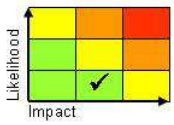
The severe weather has already led to fatalities in the areas affected. Potential exists for further flash flooding. Large hail could cause damage to structures and vehicles. Tornadic activity is also a significant threat with this event.

Central America and Caribbean

Nil significant.

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. Several tropical waves (Westward Inertio-gravity waves) may well help enhance the deep convection as it passes through the region at times through the next week.

Expected Impacts

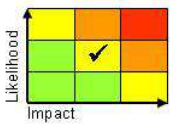
Flash flooding as well as river flooding and landslides are the likely impacts.

Africa

Nil significant.

Middle East

UAE, northern Oman, much of Pakistan, eastern Iran and Afghanistan



Weather

Through today (Sunday) the thunderstorms will move east of the UAE and eastern Oman, with much more settled conditions following for much of the rest of the week.

However, eastern Iran will continue to see thunderstorms and heavy rain through Sunday and Monday, with Pakistan and Afghanistan seeing thunderstorms and heavy rain from Sunday to Wednesday.

Across eastern Iran, Afghanistan and parts of Pakistan up to 150 mm of rain could accumulate. These totals are equivalent to several times the average April rainfall.

Strong winds are also likely to be associated with these storms, perhaps producing dense Haboob dust storms.

Discussion

Satellite imagery continues to show a major upper trough destabilising the weather across much of this region, conducive to spells of heavy rain and severe thunderstorms. The trough should finally relax/weaken by mid-week, by which point severe disruption may have occurred across parts of the region.

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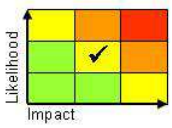
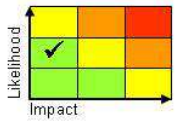
Expected Impacts
Severe flash flooding is possible, with totals potentially overwhelming flood channels in the Al Hajar mountains on Sunday.
Eastern Iran is less populated and is east of the recent severe flood areas, and so the impact here may be less. Afghanistan is likely to see increased flood and landslide impacts due to the combination of heavy rain and continued snow melt.

Lebanon, western and northern Syria and northern Iraq and western Iran



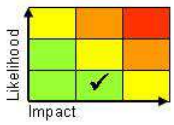
Weather
An increase in shower and thunderstorm activity is expected in this region through Tuesday and Wednesday, with up to 100 mm of rain falling in some places. This is 2 or 3 times the average rainfall for the whole of April. There is the threat of further heavy showers and thunderstorms in this region later in the week, that could transfer east into western Iran
Discussion
A marked upper trough will sweep east across the region through Tuesday and Wednesday, engaging a warm plume to produce deep convection that could result in intense rainfall. Another trough could follow later in the week that may extend further east than the first feature, into Iran.
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
Northern Bangladesh, northeast India, and eastern Nepal



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, strong winds, large hail and a few tornadoes.
Discussion
We are in the peak tornado season across this part of the world, and 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/isolated tornadoes likely.

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 week. Thunderstorms are likely at times which could produce intense rain (100 mm in 6 hours), with the most severe of these storms likely to affect the region from Thursday.
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 plume will retreat south for a time early this coming week, before an even warmer plume (PS24C 850hPa WBPT) pushes north from midweek to be engaged by further sub-tropical jet short wave upper troughs.
At the end of last week flash flooding in Shenzhen (close to Hong Kong) led to the loss of at least 7 lives

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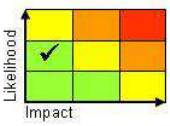
Expected Impacts
Flash flooding is the most likely impact, with an increasing threat of river flooding and landslides. Hong Kong should avoid the most intense rain and storms, but there will always be a risk of a disruptive storm here.

Eastern Indonesia, Papua New Guinea, Solomon Islands, Vanuatu 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: 140600 UTC **Meteorologists:** Paul Hutcheon / Jason Kelly **Global Guidance Unit**

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