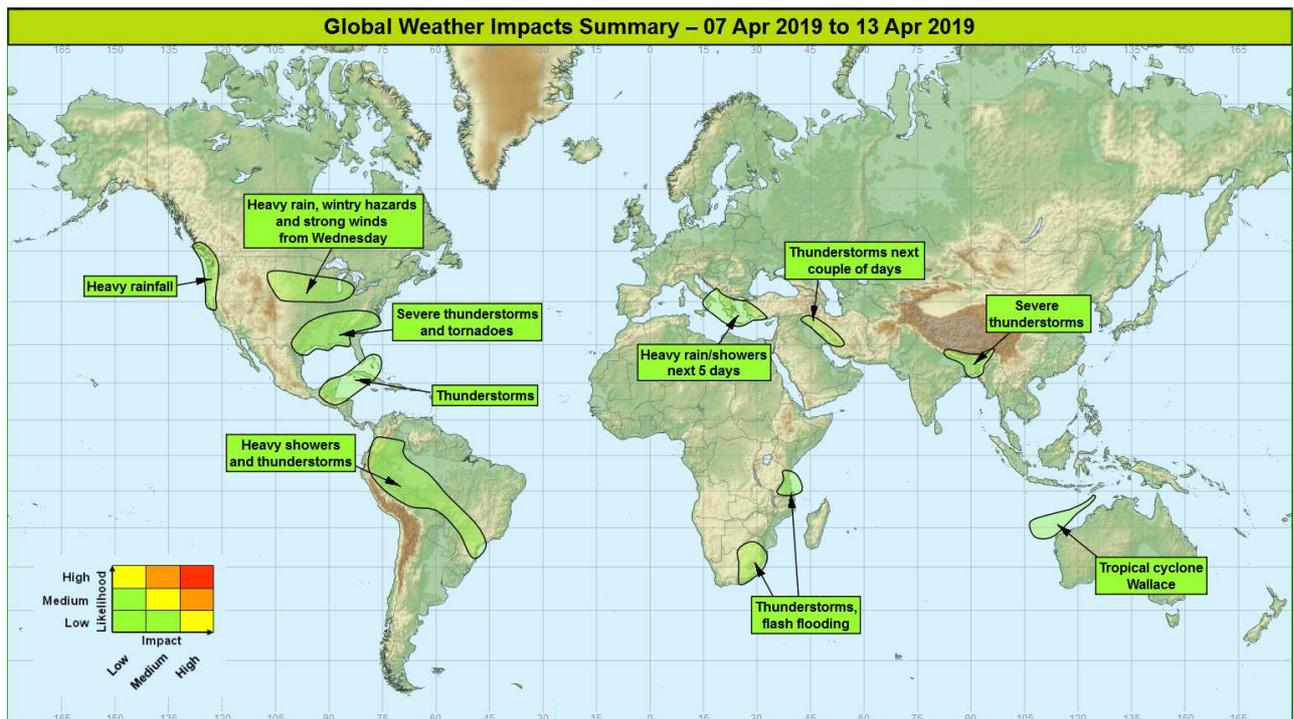


Global Weather Impacts – Sunday 7th April to Saturday 13th April 2019

Issued on Sunday 7th April 2019

HEADLINES

- Tropical cyclone Wallace lies well to the north of the Australian coast.
- Further thunderstorms affecting flood hit areas of Iran.
- Risk of severe storms across Bangladesh.
- Very disturbed across parts of North America through the week ahead.



DISCUSSION

Tropical Cyclones

Northern Australia (Timor Sea)

Weather

Tropical cyclone Wallace has continued to track west-southwest well to the north of the Kimberley coast of NW Australia and was located near 13.0S 121.0E at 07/00Z. The system is expected to maintain this track for the next few days, gaining a little strength as it does so. The system had maximum sustained winds of 60mph, with gusts to 80 mph making it a category 2 cyclone. There is some uncertainty in the longer term track of Wallace, though the majority of track guidance keeps it well offshore.

Discussion

NWP, as well as official track guidance, keeps Wallace out to sea for the next 4 to 5 days. Beyond that a spread develops in the system's track, but latest EPS data suggests only a very small probability of Wallace making landfall, and even if it did, it would be in a sparsely populated part of Australia.

Expected Impacts

As Wallace is forecast to stay over open waters in the medium term, main impacts will be on shipping in the area.

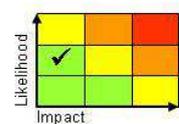
No other areas are being monitored for potential tropical cyclone formation

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Europe

Italy, Greece, Crete, the Balkans and southwest Turkey

Weather

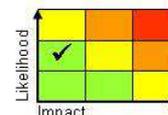
An area of very heavy rain and some thunderstorms will spread east across the southern half of this region over the next few days, with showers then continuing to affect the whole region during next week. The rain could bring spot accumulations in excess of 100 mm in some locations, with showers next week able to locally bring a further 20-40 mm each day.

Discussion

A complex upper vortex and associated cold front will progress east across this region over the next few days. A strong south-easterly wind in the warm conveyor ahead of the cold front, will lead to some marked orographic enhancement of rainfall across southeast facing hills, particularly across south-western Turkey and southern Greece. Following this repeated trough disruptions will engage the resident warm plume bringing further heavy showers.

Expected Impacts

Small chance of flash flooding causing disruption to travel and damage to property. Landslides could potentially be triggered in the mountainous terrain. Thunderstorms/lightning may trigger some localised disruption. Strong winds may impact marine transport through the central Mediterranean.



North America

Southern and eastern USA

Weather

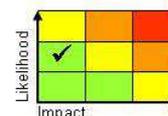
Further severe thunderstorm events are signalled into the early part of next week. Intense downpours of rain could bring as much as 50-100 mm in places in a few hours. Large hail, strong wind gusts and tornadic outbreaks will be additional localised hazards.

Discussion

Various short and longwave upper troughs transferring east across southern parts of the USA look likely to engage plumes of high WBPT air drawn north from the Gulf of Mexico. This combination is likely to trigger outbreaks of severe convection, although the locations at risk are still the subject of some uncertainty.

Expected Impacts

Increased potential for flash flooding. Large hail and/or strong winds could cause damage to structures and vehicles. Tornadic activity has occurred through Saturday, and further outbreaks are likely bringing a danger to life. Some disruption to transport, particularly aviation (including transiting flights) is likely.



Western USA and south-western Canada

Weather

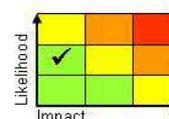
A series of weather systems will affect this region over the next week, bringing heavy rainfall and mountain snow. The most potent system looks likely to arrive on today, lasting into Monday. More than 100-150 mm in 24 hours to a large swathe of the region is possible. Some locations could see more than 200-300 mm of rain through the period.

Discussion

A strong jet stream across the Pacific will be the main driver for this event, with various shortwave features engaging the baroclinic zone, and driving frontal waves into the region.

Expected Impacts

Although the Pacific North West region is used to rainfall like this, it's likely that it will again affect areas of the western USA, mainly central and northern California, where flooding has already caused significant impacts earlier this year. These areas in particular may be vulnerable to further flood impacts.



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Central USA

Weather

A developing deep low pressure will run east across the central USA through the middle of next week bringing heavy rain and strong winds. Conditions will turn wintry on the back edge of the low centre as it transfers further east, with snow and freezing rain likely to be the main hazards.

Discussion

The same upper trough responsible for the wet weather affecting the western USA will engage warm air drawn in from the Pacific, causing a rapidly deepening low to form by midweek and track quickly eastwards. As it transfers east it will draw in cold air from the north on its western flank causing a cold plunge behind.

Expected Impacts

Surface water flooding as well as travel impacts from poor driving conditions in snow and freezing rain, some flight delays also possible. Gales likely on the northern flank of the low cloud cause damage to power supplies.



Central America and Caribbean

The Bahamas, Cuba, Mexico, Belize, Guatemala and Honduras.

Weather

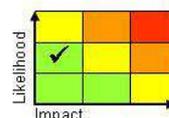
The cold front associated with the severe storms over the southern and eastern USA will remain an active feature as it sinks south into the Caribbean and Central America. Thunderstorm activity along it could produce locally 50 to 75 mm in a few hours, along with some strong gusts of wind and hail.

Discussion

The driving upper trough will maintain contact with the surface cold front until midweek, before it relaxes away to the east. This will maintain activity along the front as it sinks into this region, although less severe than across the USA earlier in the period.

Expected Impacts

Rainfall could be heavy enough to cause some localised flash flood impacts. Thunderstorms could impact travel into and through the region.



South America

Colombia, Ecuador, Peru, Bolivia and Brazil

Weather

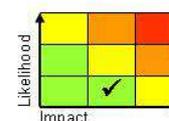
Heavy showers and thunderstorms are expected to initially be more numerous than normal along the northern Andes through until the end of Sunday. Rainfall accumulations will vary by location due to the showery nature of the rainfall but locally a further 100-150 mm of rain is possible in a few locations, perhaps the heaviest falls affecting parts of Peru and Ecuador. From the start of next week shower activity is forecast to become much reduced in the south, with much of Peru and Bolivia expected to see drier than average conditions, with the heaviest rainfall transferring north and east to Brazil.

Discussion

Abundant tropical moisture exists across the northern Andes to generate further heavy showers and thunderstorms. A cold front pushing north across Bolivia and Paraguay will displace the tropical air northwards by the start of next week, with the result being much reduced shower activity across much of Peru and Bolivia.

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 rain will produce some additional impacts.



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Africa

Eastern South Africa, Lesotho and Swaziland

Weather

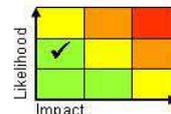
Through the next 4 or 5 days enhanced heavy showers and severe thunderstorms are expected to form in this region, with these showers generally tied to a diurnal cycle with activity peaking in the late afternoon and early evening, although some storms could continue through the night. These storms have the potential to locally bring 50-75 mm of rain in a short space of time, with the additional hazards of strong gusty winds, large hail and frequent lightning.

Discussion

A southward extrusion of the African monsoon plume looks likely to be engaged by a frequently re-enforced upper level cyclonic pattern, 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 precipitable water will allow high rainfall rates and locally large totals.

Expected Impacts

Flash flooding is the most likely hazard, with many large urban areas within this region (e.g. Johannesburg, Bloemfontein and Durban) particularly vulnerable. Many regions will miss the storms altogether however. Additional hazards are the likelihood of strong winds, and large hail, and frequent lightning all of which could bring some localised damage to people property, and infrastructure (such as utilities).



Tanzania

Weather

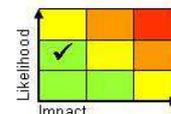
Heavy showers and thunderstorms are expected to affect coastal and southern parts through the next 5 days, with up to 50-80mm falling in a short period of time. It is the peak of the wet season this month but over 150 mm rain could accumulate in places over a few days which represents over half of the average monthly rainfall.

Discussion

An active spell of the ITCZ is expected to bring particularly heavy spells of thunderstorms to this region. The southern portion of an equatorial Rossby wave may enhance this rainfall later in the period.

Expected Impacts

Surface water flooding, especially in urban areas, is likely to cause travel delays and damage to poor infrastructure. Additional hazards are likely to include strong winds and lightning.



Middle East

Northeast Iraq and western Iran

Weather

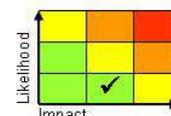
Thunderstorm activity will continue to affect this region Sunday into Monday, which may bring a further 30 mm in places in a short period of time. This amount of rainfall is around half of the average monthly rainfall for much of this area. Further showers are possible later this week, although likely lighter than in recent days.

Discussion

An upper trough will engage a warm plume drawn up from the Persian Gulf through the next couple of days before clearing to the east.

Expected Impacts

Localised surface water flooding is the most likely impact, with these regions still recovering from the severe flooding events which began in mid March.



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

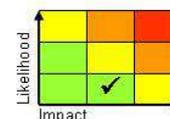
There is an increased likelihood of severe thunderstorms developing across this region during the next week, which as well as producing large amounts of rainfall (50-100 mm) in a short space of time, will bring frequent lightning and a risk of, strong winds, large hail and a few tornadoes.

Discussion

We are approaching peak tornado season across this part of the world, and with very warm moist air in place at low levels, an elevated mixed layer at medium levels 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. Last Sunday a severe storm in this region injured hundreds of people and caused multiple fatalities as it moved through Nepal, with poorly constructed buildings an aggravating factor.

Expected Impacts

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

**Australasia**

North-western Australia – See *Tropical Cyclones* section.

Additional information

Nil.

Issued at: 070600UTC **Meteorologist:** Mark Sidaway / Jason Kelly

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