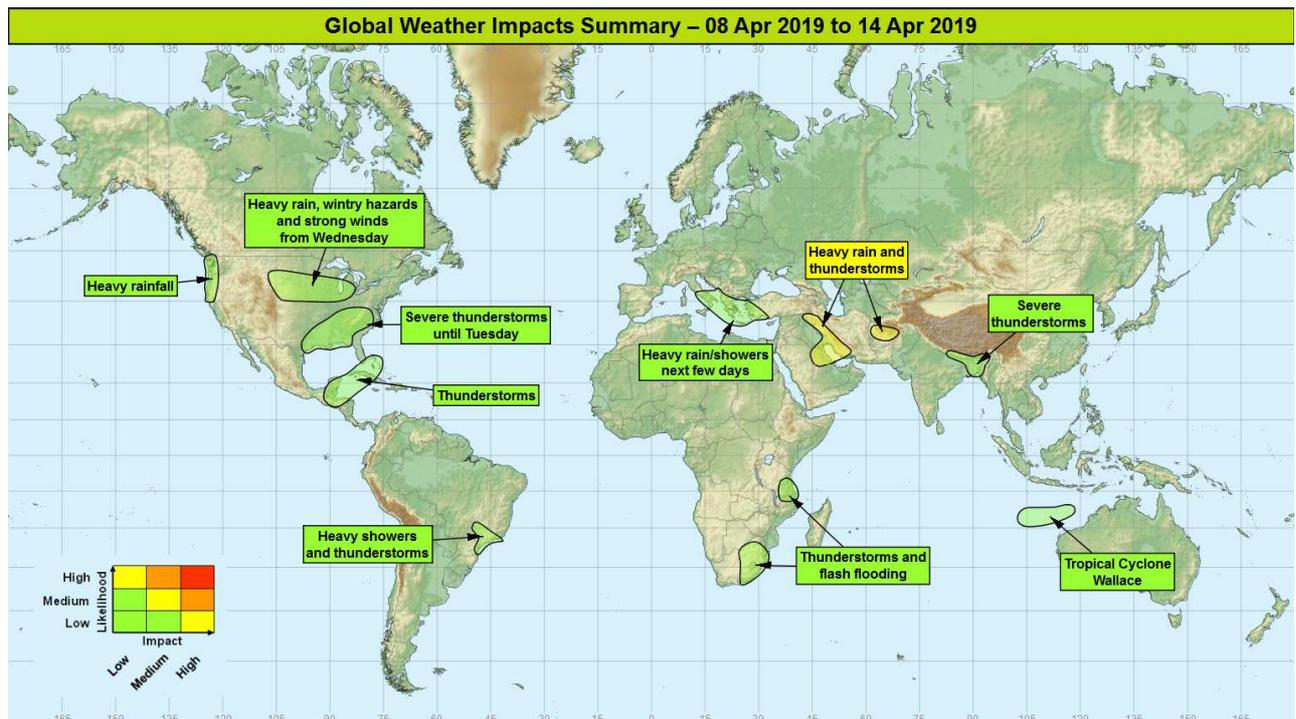


Global Weather Impacts – Monday 8th April to Sunday 14th April 2019

Issued on Monday 8th April 2019

HEADLINES

- Further rain and thunderstorms likely to affect parts of the Middle East and Afghanistan this week.
- Remaining unsettled across southeast Europe with heavy showers and thunderstorms.
- Severe thunderstorm risk easing across the USA but flooding threat remains for central states.



DISCUSSION

Tropical Cyclones

Tropical Cyclone Wallace (Southeast Indian Ocean)

Weather

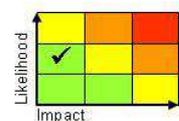
Tropical Cyclone Wallace has continued to track west-southwest well to the north of the Pilbara coast of NW Australia, located around 425 miles NNW of Port Hedland on Monday morning. The system is expected to maintain a similar track and intensity for the next few days. The system had maximum sustained winds of 60mph, with gusts to 85 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 some 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

None.



This forecast may be amended at any time

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Tel: +44(0)1392 884319 VPN: n6225 4319 Email: ggu@metoffice.gov.uk

Europe

Italy, Greece, Crete, the Balkans and southwest Turkey

Weather

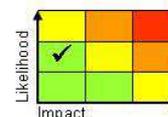
Areas of heavy rain and some thunderstorms will continue to affect this region of southern Europe this week. The rain could bring spot accumulations in excess of 150 mm in some locations, with showers next week able to locally bring a further 50-75 mm each day.

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

Central USA

Weather

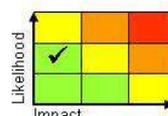
A developing area of low pressure will run east across the central USA through the middle of the week bringing heavy rain and strong winds. Conditions will turn wintry on the back edge of the low centre as it transfers further east, with snow and freezing rain likely to be the main hazards.

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. It is likely to affect parts of the Midwest which are already experiencing flooding from above average winter precipitation.



Western USA

Weather

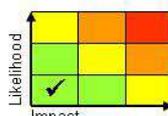
A series of weather systems will affect this region over the next few days, bringing heavy rainfall and mountain snow. One such system is likely through Monday. More than 100 mm in 24 hours across a large swathe of the region from northern California northwards is possible. Some locations could see more 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 northern California, where flooding has already caused significant impacts earlier this year. These areas in particular may be vulnerable to further flood impacts.

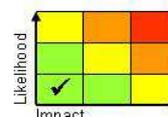


Southeast USA

Weather

Further severe thunderstorm events are signalled to affect this part of the USA over the next 36 hours. Intense downpours of rain could bring as much as 50-100 mm in places in a few hours. Large hail, strong wind gusts and a few tornadoes will be additional localised hazards.

Discussion



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Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter
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An upper trough will edge slowly eastwards and continue to engage a plume 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. Tornadoic activity occurred over the weekend and remain possible on Monday, bringing a danger to life. Some disruption to transport, particularly aviation (including transiting flights) is likely.

Central America and Caribbean

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

Weather

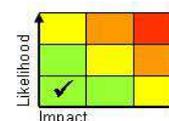
The cold front associated with the severe storms over the southern and eastern USA will remain an active feature as it sinks south into the Caribbean and Central America midweek. Thunderstorm activity along it could produce locally 50 to 75 mm in a few hours, along with some strong gusts of wind and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

Southeast Brazil

Weather

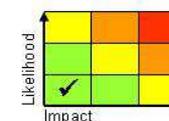
There is a risk of severe thunderstorms affecting southeastern parts of Brazil through Monday and Tuesday. These could produce 75 to 100 mm of rainfall in a few hours, with some locations seeing up to 150 mm in the period.

Discussion

An upper trough will engage the southeastern extension of the monsoon plume and aid the development of heavy showers and thunderstorms. With in excess of 2000 J/kg CAPE available these storms could be locally severe. The driving trough will relax away to the east by Wednesday.

Expected Impacts

Flash flooding is likely to be the main impact, with some major cities at risk including Sao Paulo and Rio de Janeiro. Lightning could cause some disruption to power supplies. Disruption to transport to and through the region is possible.



Africa

Eastern South Africa, Lesotho and Swaziland

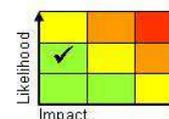
Weather

Enhanced heavy showers and severe thunderstorms are expected to form in this region again on Monday, 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 (retreating) African monsoon plume has been engaged by an upper vortex, 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



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Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter
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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**

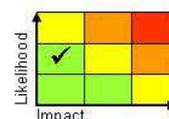
Heavy showers and thunderstorms are expected to affect coastal and southern parts through the next 5 days, with up to 50-80 mm falling in a short period of time. It is the peak of the wet season this month but over 150 mm rain could accumulate in places over a few days which represents over half of the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

Northern Iraq, western Iran, Persian Gulf and central Afghanistan

Weather

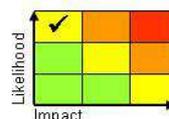
Scattered heavy showers and thunderstorms are expected to affect these areas over the next week, although these will be less widespread and rainfall amounts lower than recent past events. However, a more organised area of rain is likely to transfer across countries fringing the Persian Gulf (eastern Saudi Arabia, Qatar, southwest Iran and Bahrain) into Afghanistan this weekend.

Discussion

A mobile, westerly upper pattern will continue to engage the resident warm plume across the region through the next week resulting in further heavy showers and thunderstorms. A more significant upper trough is likely to move east over the weekend and spawn a more organised area of cloud and rain.

Expected Impacts

The areas highlighted are already sensitive to further rainfall following significant property and infrastructure damage from heavy rainfall events over the past 4-6 weeks. Therefore, localised flash flooding is possible, as well as maintaining high river levels in the region, which may cause some further property/infrastructure damage as well as travel disruption.



Asia

Bangladesh, northeast India, and eastern Nepal

Weather

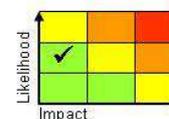
There is an increased likelihood of severe thunderstorms developing across this region during the next week, which as well as producing large amounts of rainfall (50-100 mm) in a short space of time, will bring frequent lightning and a risk of, strong winds, large hail and a few tornadoes.

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.



This forecast may be amended at any time

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter

Tel: +44(0)1392 884319 VPN: n6225 4319 Email: ggu@metoffice.gov.uk

Australasia

Nil significant.

Additional information

Nil.

Issued at: 080715 UTC **Meteorologist:** Mark Sidaway/Chris Bulmer

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