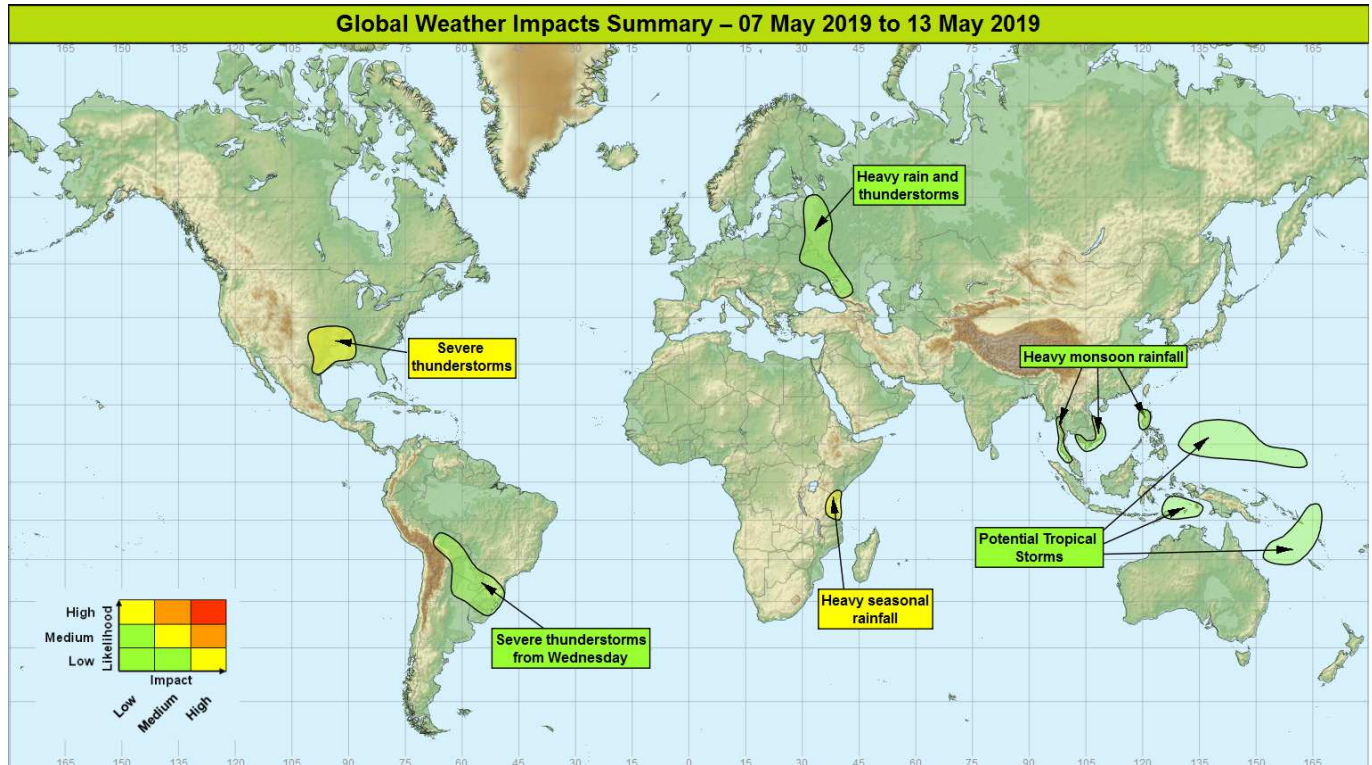


## Global Weather Impacts – Tuesday 7<sup>th</sup> to Monday 13<sup>th</sup> May 2019

Issued on Tuesday 7<sup>th</sup> May 2019

### HEADLINES

- Heavy seasonal rainfall continues across parts of eastern Africa.
- Severe thunderstorms and risk of flash flooding across southern USA.
- Potential for tropical cyclone development in the western Pacific.



### DISCUSSION

#### Tropical Cyclones

There are currently no named tropical storms.

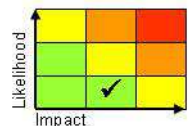
The following regions are also being monitored for potential tropical cyclone formation:

#### Micronesia

##### Weather

There is a low probability that either one of two current areas of enhanced, deep convection over the Micronesian Islands could develop into a tropical storm over the coming days. Regardless of potential development an area of enhanced rainfall is expected over Palau over the coming days (up to 150-200 mm which more than half the average May rainfall). Towards the weekend this system is expected to weaken. However, there is a higher likelihood of a developing cyclone further east in southern Micronesia during the next few days. This system is then likely to track northwest, possibly affecting Guam by the end of the weekend.

##### Discussion



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](mailto:ggu@metoffice.gov.uk)

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The northern portion of an Equatorial Rossby Wave (ERW) probably emanating from the MJO has been associated with an area of showers and thunderstorms. Convection around this wave has aided the formation of a shallow low level circulation and there is a low risk this could develop into a tropical storm during the next few days. An upstream cyclonic development is likely to result in subsidence across this system by the weekend, resulting in a weakening phase. The second development is also the result of an ERW from the central Pacific MJO. There is stronger model evidence for a tropical cyclone development from this system, with a preferred track being northwest towards Guam.

## Expected Impacts

The most likely impact will be flash flooding across the islands of Palau, the Federated States of Micronesia and the Northern Mariana Islands, with a lower threat of damaging winds and storm surge.

## Southeastern Indonesia

### Weather

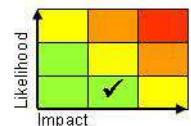
There is a low probability that an area of showers and thunderstorms in the Banda Sea will develop into a tropical cyclone through the next 3 or 4 days. However, even if a cyclone does not develop, large rainfall amounts are expected (up to 400 mm, which is around 30% above the average May rainfall in this region).

### Discussion

The southern portion of an Equatorial Rossby Wave (ERW) spawned from an active MJO moving through the region, is still associated with an area of showers and thunderstorms. This is signalled to become more organised in the next few days, with a low level circulation developing. Although there are still differences in model solutions, a number show a tropical cyclone developing in this region.

## Expected Impacts

The most likely impact will be flash flooding and landslides across some of the islands. However, there is a small threat of damaging winds and a modest storm surge if a cyclone develops.



## Melanesia

### Weather

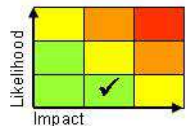
There is the potential for a tropical cyclone development this week close to the southern islands of the Solomon Islands, with this system likely to track southwest into the Coral Sea by the weekend. Up to 500 mm of rain could be produced from this system, but much of the rain will likely fall over the sea, rather than across the islands.

### Discussion

This development is the result of the southern portion of the ERW from the central Pacific MJO. All models track the system southwest into the Coral Sea.

## Expected Impacts

Flash flooding and landslides are possible, along with damaging winds and a storm surge if a cyclone does develop.



## Europe

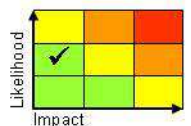
### Belarus, Ukraine and western Russia

### Weather

An area of organised heavy showers and thunderstorms will persist over the next few days over eastern parts of Ukraine and Belarus as well as the far west of Russia. 25-50 mm of rain will fall within a few hours in places with perhaps up to 75 mm very locally. This will see some places receiving their average May rainfall in a few days. Hail and frequent lightning strikes will be additional hazards.

### Discussion

A complex frontal zone and plume to the east will edge northeastwards through the week, with upper trough forcing engaging the front and plume to produce areas of deep convection. Abundant levels of CAPE and moderate levels of vertical wind shear are likely to produce some organised thunderstorms.



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

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

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## Expected Impacts

Heavy rain and thunderstorms will be associated with an increased likelihood of flash flooding and localised property/infrastructure damage. Aviation activities in the area are likely to be disrupted.

## North America

### Central and Southern USA Plains

#### **Weather**

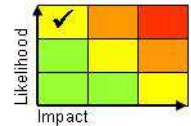
Further thunderstorms are expected across large parts of the USA through the coming week, but the most severe of these are likely to be across the Central and Southern Plains on Tuesday, Wednesday and Thursday. These storms are capable of producing very intense rainfall (75-150 mm) over short time period (less than 6 hours). Additional hazards are large hail, strong winds and tornadoes.

#### **Discussion**

A rather complex upper vortex will move slowly across the Rockies from Tuesday drawing a warm, moist airmass up from the Gulf of Mexico. This warm plume will be the focus for severe convection. A combination of high CAPE, strong directional wind shear and a low-level jet will aid the development of severe thunderstorms and the potential for tornadoes.

#### **Expected Impacts**

As well as flash flooding and the tornado damage threat, hail and wind damage are possible to property and crops.



## Central America and Caribbean

Nil significant.

## South America

### Paraguay, Uruguay, northeast Argentina, southern Brazil and Bolivia

#### **Weather**

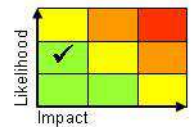
A prolonged spell of heavy showers and thunderstorms, potentially severe, will develop across this region, slowly transferring northwards out of northeast Argentina and Uruguay and into Bolivia and southern Brazil. Locally high rainfall accumulations of up to 150 mm in a few hours are likely, with some places perhaps seeing up to 300 mm during several days. The average rainfall in this region for May is 150-200 mm.

#### **Discussion**

Pulses of activity along the South Atlantic Convergence Zone are expected over the coming week. The most intense convection is likely to be on Friday and Saturday as an upper trough sweeps eastwards across the region to engage the low level tropical moisture plume.

#### **Expected Impacts**

Localised flash flooding increased chance of landslides in mountainous areas. Large hail, strong winds and frequent lightning are additional hazards which may cause damage to property and disruption to transport and utilities. This region has seen a very wet rainy season, and so further rainfall could result in river flooding.



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

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## Africa

### Eastern parts of Tanzania and Kenya

#### **Weather**

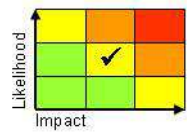
Above average shower and thunderstorm activity is expected to continue across eastern parts of Tanzania and Kenya over the next week. Up to 75-100 mm of rainfall is possible per day, but some locations could receive as much as 300-400 mm of rain by the start of next week. Whilst May represents climatologically the wettest month of the year, this would represent more than the entire monthly average rainfall (around 250 mm).

#### **Discussion**

Whilst the remnants of Tropical Cyclone Kenneth have dissipated, the inter-tropical convergence zone will maintain the focus for frequent heavy showers and thunderstorms through the next week across eastern Tanzania and the extreme southeast of Kenya, perhaps enhanced by an Equatorial Rossby Wave.

#### **Expected Impacts**

Flash flooding and damage to property and infrastructure in large cities like Dar es Salaam and Mombasa, plus the popular tourist destinations of Zanzibar.



## Middle East

Nil significant.

## Asia

### Southern parts of Myanmar, Thailand, Cambodia and Vietnam along with the west of Luzon (Philippines)

#### **Weather**

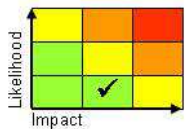
Heavy rainfall is expected across this part of Southeast Asia over the next week with daily rainfall accumulations of 75-100mm possible, and cumulative rainfall of 300-400mm in some places. This is the start of the Southwest Monsoon season in this part of Asia, but the rainfall falling this week is likely to be equivalent of the average for the whole of May.

#### **Discussion**

A deep layer strong southwesterly flow has developed across this region, perhaps as a consequence of Cyclone Fani. This is a sign that the Summer Southwest monsoon season has commenced in this part of Southeast Asia.

#### **Expected Impacts**

Although May marks the start of the wet season for this part of southeast Asia, this pre-monsoon rainfall may lead to some areas seeing more than a month's worth of rainfall in 5-6 days. This is probably the first spell of heavy rainfall this year and will likely to lead to some localised flash flooding – particularly in urban areas.



**Southeastern Indonesia and Micronesia** – see *Tropical Cyclones* section.

## Australasia

**Melanesia** – see *Tropical Cyclones* section.

## Additional information

Nil.

**Issued at:** 070740 UTC **Meteorologists:** Paul Hutcheon / Chris Bulmer

**Global Guidance Unit**

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Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter  
Tel: +44(0)1392 884319 VPN: n6225 4319 Email: [ggu@metoffice.gov.uk](mailto:ggu@metoffice.gov.uk)

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