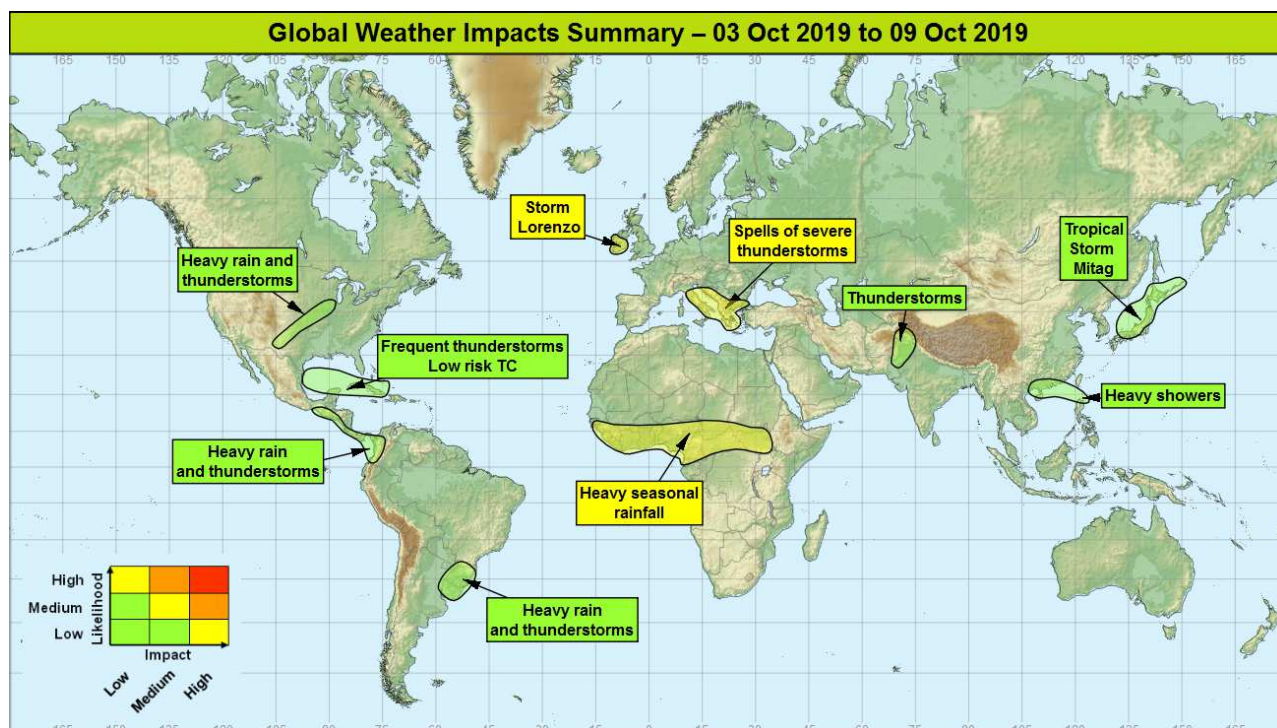


**Global Weather Impacts – Thursday 3<sup>rd</sup> to Wednesday 9<sup>th</sup> October 2019**

Issued on Thursday 3<sup>rd</sup> October 2019

**HEADLINES**

- Storm Lorenzo expected to impact the Irish Republic today.
- Tropical Storm Mitag will bring heavy rainfall to parts of Japan over the next day or two.
- Enhanced rainfall across Tropical Africa in the coming week.



**DISCUSSION**

**Tropical Cyclones**

**Tropical Storm Mitag (Western North Pacific)**

**Weather**

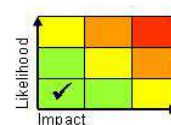
Mitag is now moving away from South Korea, over the Sea of Japan with maximum 10-minute mean winds of around 50 mph. Mitag is expected to move east across central Japan later today (Thursday) and through tomorrow as a weakening feature, bringing locally strong winds and heavy rain (50-100mm in some parts, approaching a month's worth of rain for places such as Sapporo, on Hokkaido, which looks likely to see the most widespread heavy rain).

**Discussion**

Increasing vertical shear associated with the mid-latitude jet and cooler SST's will see Mitag decay and undergo extra-tropical transition today, bringing a spell of wet and windy weather across large parts of Japan as the ex-typhoon moves through.

**Expected Impacts**

Some localised flash flooding is possible, and disruption to transport/utilities. Some minor damage to properties/infrastructure is possible, mainly along the west coast of Honshu.



**This forecast may be amended at any time**

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*The following areas are currently being monitored for potential tropical cyclone development affecting land:*

## **Western Caribbean, Gulf of Mexico and eastern Mexico**

### **Weather**

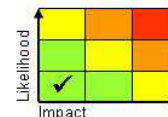
Shower and thunderstorm activity is expected to be more frequent than normal, producing locally torrential downpours across Cuba in particular in the next few days. Isolated rainfall accumulations of 20-40 mm are possible in a few hours, with some locations receiving 100-200 mm during the next 7 days. As this area transfers west towards Mexico, there is a small risk that this may develop into a tropical cyclone.

### **Discussion**

A slow-moving upper trough will maintain a focus for scattered to frequent thunderstorm activity over western portions of the Caribbean through the next couple of days, with a weak surface circulation developing in this zone. As the upper trough is steered westwards, away from the surface circulation, there is a small risk that the remaining convection could become organised and form a tropical depression in the Gulf of Mexico and close to the Yucatan peninsula over the weekend.

### **Expected Impacts**

Slightly increased risk of flash flooding with landslides also more likely in areas of steep terrain.



## **Europe**

### **Republic of Ireland**

### **Weather**

Ex-Hurricane Lorenzo (now designated Storm Lorenzo by Met Eireann) is currently approaching the west of Ireland. It is expected to bring mean winds of 60 to 80kph today (Thursday), with gusts in excess of 100kph, as well as heavy rainfall and large waves upon the Irish west coast. By Friday it looks likely to run across the south of the British Isles as a markedly weakening feature. For guidance on UK impacts see Met Office national forecasts and warnings.

### **Discussion**

Lorenzo has undergone extra-tropical transition, having lost its fuel source (warm SST's) and wound down somewhat, its strength today is being maintained by a sharp shortwave upper trough which over-runs tomorrow allowing a significant weakening to occur through frictional dissipation. The time taken to wind down, combined with the tropical moisture plume associated with the storm, will ensure a spell of strong winds, heavy rain and coastal impacts for the Irish Republic.

### **Expected Impacts**

Coastal flooding and damage due to storm surge/large waves. Some minor damage to properties (mainly coastal), and disruption to utilities (power/mobile phone) and transport. Heavy rain could result in more extensive (but localised) flooding across the Irish Republic later today/overnight.



## **Italy, Balkan region, Greece**

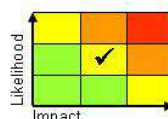
### **Weather**

Further organised and locally severe thunderstorms are likely across southern and central parts of the Adriatic and adjoining land areas, extending into Greece today. Locally 50-100mm of rain is possible with thunderstorms, perhaps in a short period, with potentially up to 200mm in 24 hours. Large hail, frequent lightning, strong winds and one or two tornadoes are additional hazards. Whilst drier conditions are likely to follow from the east over the weekend, further heavy rain and thunderstorms are likely to affect the region from early next week.

### **Discussion**

An extending upper trough has engaged a plume of high WBPT air ahead of cold front moving southeast across the region. The cold front will act to augment thunderstorm activity triggered ahead of it whilst high ground along the eastern Adriatic coast will act to enhance rainfall accumulations here. As the upper trough disrupts through Friday, activity should wane before a repeat evolution is probable early next week.

### **Expected Impacts**



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The primary impact is expected to be from flash flooding causing localised damage to property and infrastructure as well as posing a threat to life. Other hazards including hail, lightning and strong winds could also produce similar impacts.

## **North America**

### **Central USA**

#### **Weather**

A slow-moving weather system is expected to bring further heavy rain and thunderstorms across the central states along a broad corridor from the High Plains to Michigan today. Many locations are likely to receive 20-40 mm of rain but isolated event totals of 100 mm are possible across the Midwest and Great Lakes regions in particular. Behind this system, below normal temperatures will continue across a large portion of the west, whilst above normal temperatures will continue across the east until later in the week.

#### **Discussion**

A high amplitude trough-ridge pattern across North America will continue to extrude subtropical moisture northward ahead of a slow-moving cold front across the central USA. With the upstream pattern encouraging mobility, the trough will gradually relax through midweek leading to a more mobile pattern developing by the weekend and for temperatures either side of the front to return to nearer average.

#### **Expected Impacts**

Main impact is expected to be from flash flooding although localised impacts from hail, strong winds and one or two tornadoes is also possible. Across the northwest, significantly below average temperatures may affect sensitive vegetation.



## **Central America and Caribbean**

**Western Caribbean, Gulf of Mexico and eastern Mexico** – See *Tropical Cyclones* section.

### **Southern Mexico, Guatemala, El Salvador, Nicaragua, Costa Rica and western Colombia**

#### **Weather**

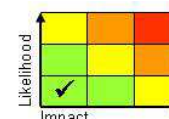
Shower and thunderstorm activity is expected to remain enhanced across the tropical Pacific Ocean coastline through the remainder of this week. This will maintain the possibility of locally heavy downpours producing 50-75 mm of rainfall in a few hours. The largest cumulative rainfall totals are expected to be across portions of western Colombia.

#### **Discussion**

A combination of tropical waves will be enhanced by an MJO background state (phase 1) supportive of enhanced convection across Central America over the next several days. As the MJO progresses into the Indian Ocean, convection should return to nearer normal next week.

#### **Expected Impacts**

Increased risk of flash flooding with landslides also more likely in areas of steeply sided terrain.



## **South America**

**Western Colombia** – See *Central America and Caribbean* section.

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## Uruguay and southern Brazil

### **Weather**

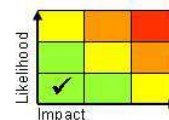
An area of heavy rain and thunderstorms is expected to move very slowly north across this region through the next week. Whilst the potential for very heavy rainfall (localised 24-hour accumulations of around 100 mm) is expected to decrease as the band of rain shifts slowly north from Uruguay into southern Brazil by Thursday, although isolated totals of 50-100 mm remain possible.

### **Discussion**

A warm plume from the tropics will aid frontogenesis along a slow-moving baroclinic zone as the narrowing WBPT plume finds itself beneath a left jet entrance region of the sub-tropical jet. Profiles exhibit significant elevated instability within the warm plume, with heavy, thundery showers developing and a threat of large hail. Rain associated with the developing cold front will be persistent but generally less heavy as the whole system slowly moves north-eastward across the region.

### **Expected Impacts**

Increased risk of flash flooding, particular in the larger urban areas, and localised hail and wind damage.



## Africa

### Equatorial Africa

### **Weather**

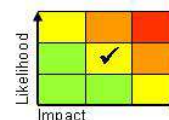
Shower and thunderstorm activity is expected to be more frequent than normal across a large portion of equatorial Africa over the next week. Up to 100 mm of rain could fall in a few hours in a few places, with some localised totals of up to 250 mm are possible through the next week which is close to what is normally seen over an entire month.

### **Discussion**

An active phase of the MJO moving through Phase 1 across Africa, plus Rossby waves and an enhanced Indian Ocean Dipole is expected to result in period of above average rainfall across much of the equatorial region. Whilst the West African Monsoon has begun to retreat across the Sahel, additional late season rainfall in this region comes at a time where river levels are approaching an annual maximum and is where flooding impacts are considered most likely.

### **Expected Impacts**

Increased likelihood of flash and river flooding along with land/mudslides in areas of more steeply-sided terrain. These impacts are most likely in northern parts of the region highlighted due to antecedent conditions over recent weeks contributing to increased sensitivity.



### Middle East

Nil.

## Asia

Japan – See *Tropical Cyclones* section.

## Philippines and Southern China

### **Weather**

Enhanced heavy showers and thunderstorms are expected to move on to the northwest coast of Luzon, Philippines over the weekend. This then transferring towards southern China early next week. Locally 50mm of rain may fall in short time, with potentially 100mm in 24 hours.

### **Discussion**

Enhance convection is expected in association with passage of a Rossby wave across the region.

### **Expected Impacts**

Increased potential for flash flooding along with land/mudslides in areas of more steeply-sided terrain.

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## **Extreme northeast Afghanistan, much of Pakistan and extreme northwest India.**

### **Weather**

Several episodes of heavy showers and thunderstorms are expected to affect the region through to Saturday with the potential for locally severe thunderstorms to produce a combination of heavy rain (locally 30-50 mm in a couple of hours), large hail and strong winds.

### **Discussion**

A succession of shortwave upper troughs are expected to engage the receding seasonal higher WBPT plume across the region leading to the triggering of several rounds of locally severe thunderstorms. The environment is defined by moderate to high instability and directional wind shear which supports upscale development and organisation, as well as the potential for isolated supercells. Forecast CAPE across Pakistan is supportive of large (>5 cm hail).

### **Expected Impacts**

Flash flooding, large hail and strong winds will pose a threat to property and infrastructure and could cause damage to crops. Some plumes of lifted dust are likely across the desert southwest of Pakistan.



## **Australasia**

Nil.

## **Additional Information**

**Northeast India and Bangladesh:** Shower and thunderstorm activity in this region has reduced to near average. However heavy rainfall from previous weeks continues to cause flooding in some of the larger rivers of this region. The peak flow rates and river levels are gradually transferring downstream and are expected to reach parts of Bangladesh leading to some significant flooding over the coming week.

**Issued at:** 030800 UTC **Meteorologists:** Tony Wardle/D J Harris

**Global Guidance Unit**

**This forecast may be amended at any time**

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