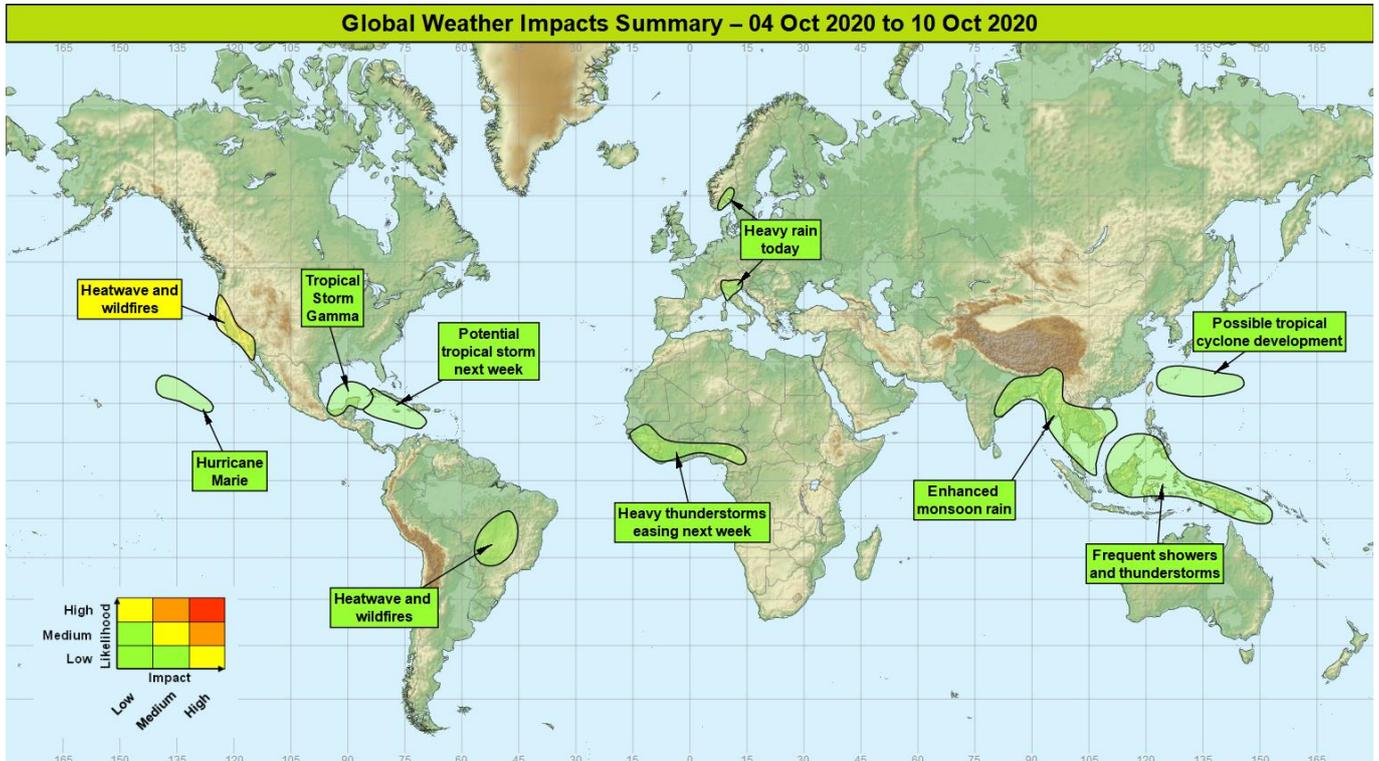


## Global Weather Impacts – Sunday 4<sup>th</sup> to Saturday 10<sup>th</sup> October 2020

Issued on Sunday 4<sup>th</sup> October 2020

### HEADLINES

- Tropical Storm Gamma currently affecting the Yucatan Peninsula, Mexico.
- Potential tropical cyclone development in the western Caribbean Sea next week.
- Heatwave and wildfire conditions continuing across California and parts of South America.



### Tropical Cyclones

#### Tropical Storm Gamma (Yucatan Peninsula, Mexico and far western Cuba)

##### Weather

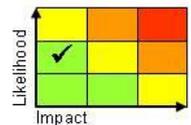
Tropical Storm Gamma made landfall near Tulum, Mexico on Saturday evening with winds close to hurricane strength. The centre of Gamma has now moved inland but is expected to re-emerge over the southern Gulf of Mexico later in today (Sunday). Whilst limited re-intensification is expected, heavy rainfall is expected to most significant hazard with 250-375 mm of rain possible across parts of northeastern Quintana Roo and northern Yucatan. Mérida, state capital of Yucatan, typically receives around 130 mm of rainfall in October.

##### Discussion

Gamma is likely to remain a slow-moving system right through to the middle of the week. Intensification of this system will be limited by its close proximity to the coast, despite favourable sea surface temperatures.

##### Expected Impacts

Flash flooding and an enhanced risk of land and mudslides.

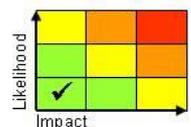


#### Hurricane Marie (Eastern Pacific Ocean)

##### Weather

Marie is now rapidly weakening over cooler seas. It will continue to track northwest in the coming days while continuing to weaken and is expected to decay to a depression by the middle of next week. This system will not impact land.

##### Discussion



This forecast may be amended at any time

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Marie is now being steered to the northwest which will see the system move into increasingly hostile environmental conditions with increased vertical wind shear and track into an area of cooler SSTs.

**Expected Impacts**

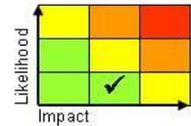
Nil.

*The following areas are being monitored for tropical cyclone development:*

**Central Atlantic to the Central Caribbean**

**Weather**

Multiple areas are presently being monitored for potential development. Of these a broad cluster of showers and thunderstorms moving west across the Caribbean has the highest chance of development into a tropical storm through next week. Irrespective of development, locally heavy rain and gusty winds are expected across Hispaniola, Jamaica, Cuba and the Cayman Islands with 75-100 mm of rainfall possible. The other regions in the mid-Atlantic are not thought to undergo significant development.



**Discussion**

A tropical wave over the central Caribbean Sea is producing a large area of disorganised showers and thunderstorms, accompanied by locally heavy rainfall and gusty winds.

Environmental conditions could become a little more conducive for development when the system is over the central or western Caribbean Sea early next week

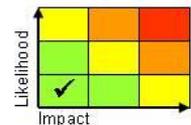
**Expected Impacts**

Regardless of development flash flooding and an enhanced risk of landslides. A low risk of impacts from strong winds is a tropical storm develops in the middle part of next week.

**Western Pacific**

**Weather**

An area of enhanced convection over the western Pacific is being monitored for potential development. Should anything form it should remain over the ocean in the short term. However models suggest this system could be close to eastern China or southern Japan by next weekend.



**Discussion**

Favourable environmental conditions may allow a tropical system to form early next week. Models suggest this will be steered slowly west, and could threaten eastern China, possibly southern Japan in a week or so. However the development of a major mid-latitude system may disrupt the system before it reaches any land.

**Expected Impacts**

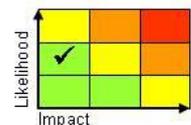
Nil.

**Europe**

**Southern Norway**

**Weather**

A spell of heavy rain with 50-75 mm falling in 12 hours fairly widely is expected across southern Norway today, including Oslo. Rain will ease from the south later on Sunday.



**Discussion**

A plume of high WBPT will be drawn north across the steep topography over southern Norway on Sunday resulting in widespread heavy rainfall before clearing north later in the day. This will be further enhanced by a shortwave upper trough on the eastern limb of the mature vortex now centred over the UK.

**Expected Impacts**

Groundwater levels and saturated soil mean there is an increased likelihood of flash flooding and landslides.

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## Northern Italy and far south Switzerland

### **Weather**

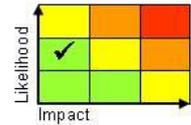
A further spell of heavy rain is expected to transfer east across the region on Sunday into Sunday night. The heaviest rainfall is expected to fall across Ticino (southern Switzerland), the Julian Alps (northeast Italy) and Northern Apennines (northwest Italy) where a further 60-80 mm is likely.

### **Discussion**

Whilst the warm conveyor that brought exceptional rainfall to northern Italy and southern Switzerland in recent days has cleared east, a secondary plume of PS12-14 WBPT will be drawn across the region through Sunday and Sunday night.

### **Expected Impacts**

Given antecedent conditions from previous significant rainfall events, this additional rainfall may cause further surface water and riverine flooding in the region.



## North America

**Mexico** – See *Tropical Cyclones* section.

## Western USA (especially California), northwest Mexico

### **Weather**

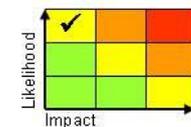
Heatwave conditions are expected to continue for a good part of the coming week, in conjunction with strong, gusty winds and dry air. Numerous wildfires continue across the west of the US, the most significant of these across California – with conditions remaining conducive to spread and further generation of fire in the coming days. Models are signalling a change to cooler conditions next weekend, perhaps with some welcome rainfall.

### **Discussion**

Little change to the weather pattern for much of the coming week with a strong upper ridge and strongly subsided, warm and very dry air mass across the region. Temperatures are likely to continue around 8-10°C above the seasonal norm, and encouraging the redevelopment and/or spread of fires in the region. An upper trough across the eastern Pacific could drive a cold front east into the area next weekend.

### **Expected Impacts**

Continued poor air quality is likely, especially for California, and continuing critical fire weather conditions. Heat health impacts likely in conjunction with the prolonged period of heat in the Central California Valley.



## Central America and Caribbean

**Western Caribbean** – See *Tropical Cyclones* section.

## South America

### Brazil

### **Weather**

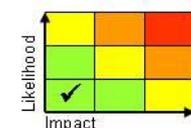
Heatwave conditions, coupled with strong winds continue this week. Temperatures widely mid to high 30s Celsius, locally into the low 40s Celsius, which is 7-12 °C above average. Conditions will become increasingly conducive to the spread of wildfires, of which there are numerous within this region.

### **Discussion**

A persistent sub-tropical high will persist across the region acting to suppress rainfall through the next several days. This will maintain high partial thicknesses across the region although some easing of conditions is expected next weekend.

### **Expected Impacts**

Heat health impacts on vulnerable demographics, particularly in the south of the region, where all-time temperature records could be challenged. Increased likelihood of wildfire generation, bringing increasingly poor air quality and threat to communities.



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

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## Africa

### Much of West Africa as well as parts of central Africa

#### **Weather**

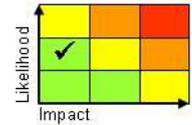
Further periods of heavy showers and thunderstorms will affect the region at times over the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 100 mm build up. If anything activity looks to be rather less than we have seen in recent weeks, and should continue to ease a little next week.

#### **Discussion**

Many parts of this area have experienced floods and flooding impacts in what has been an active period for African Easterly Waves. Further AEWs are expected in the coming days, though there remains some model differences as to detail of the convection associated with these features. There are signs that activity could ease further in to next week.

#### **Expected Impacts**

The potential for further flash and riverine flooding across much of the region, although not as widespread and severe as in the recent past.



## Middle East

Nil.

## Asia

### Eastern India, parts of Bangladesh, Myanmar, Thailand, Laos, Cambodia and Vietnam

#### **Weather**

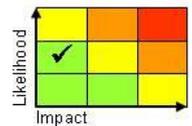
Enhanced shower and thunderstorms activity is likely in this area over the next week, with many parts seeing 100-150mm of rain. The wettest parts of the region are likely to be northeast India and northern Bangladesh as well as western Thailand. Here, some 200-400mm is possible, this almost twice the October average for the area (though well short of record values for the region).

#### **Discussion**

A broad monsoon trough now exists across the Bay of Bengal, with strong southwesterly flow on its southern periphery feeding abundant moisture-laden air northeastwards bringing enhanced rainfall across parts this region in the next few days. There will be an orographic component to the rain, with mountainous parts likely to see some heavy rainfall.

#### **Expected Impacts**

Flash flooding, and landslides will be the primary hazard, although impacts are likely to be lower than recent weeks.



### Parts of Indonesia, Malaysia, Philippines, Brunei and Papua New Guinea

#### **Weather**

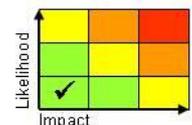
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal in the next few days. Within the broad area highlighted some spots in most of these countries will be at risk of seeing 100-150 mm of rainfall.

#### **Discussion**

Higher than normal SSTs in the region and enhanced easterly trade winds, in part due to the ongoing La Niña event, is fuelling deep convection with showers and thunderstorms in the next few days. A weak but slow moving MJO may be an additional contributing factor.

#### **Expected Impacts**

Increase in the risk of flash flooding, and landslides in mountainous areas.



## Australasia

Nil.

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**Additional Information****Cox's Bazar, southeast Bangladesh**

Although monsoon activity in the wider region is expected to be enhanced, Cox's Bazar should avoid the heaviest rain for most of the time. That said – some showers and thunderstorms are still likely to be driven onshore by southwesterly winds from the Bay of Bengal, interspersed with periods of dry weather. Some 10-15mm of rain are likely with these showers, with a lower risk of seeing double this in any more prolonged, or heavier showers. This is around normal, or even a little below normal for the time of year.

**Yemen**

The development of very isolated, heavy showers is possible over the Western Highlands. Activity is expected to be around average for this time of year meaning many places will remain dry.

**Sudan/South Sudan**

The bulk of the shower activity will be seen in South Sudan through the next 7 days. 25-50mm of rain per day possible from daily showers and thunderstorms, and perhaps as much as 75-100mm at any one location over the course of the coming week. This is fairly typical for the season. Much of central and northern Sudan will be mainly dry, although the South Sudan border region will see heavy showers most days, but with rainfall totals less than further south.

**Issued at:** 040355 UTC**Meteorologists:** Mark Sidaway / Matthew Lehnert**Global Guidance Unit**

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

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