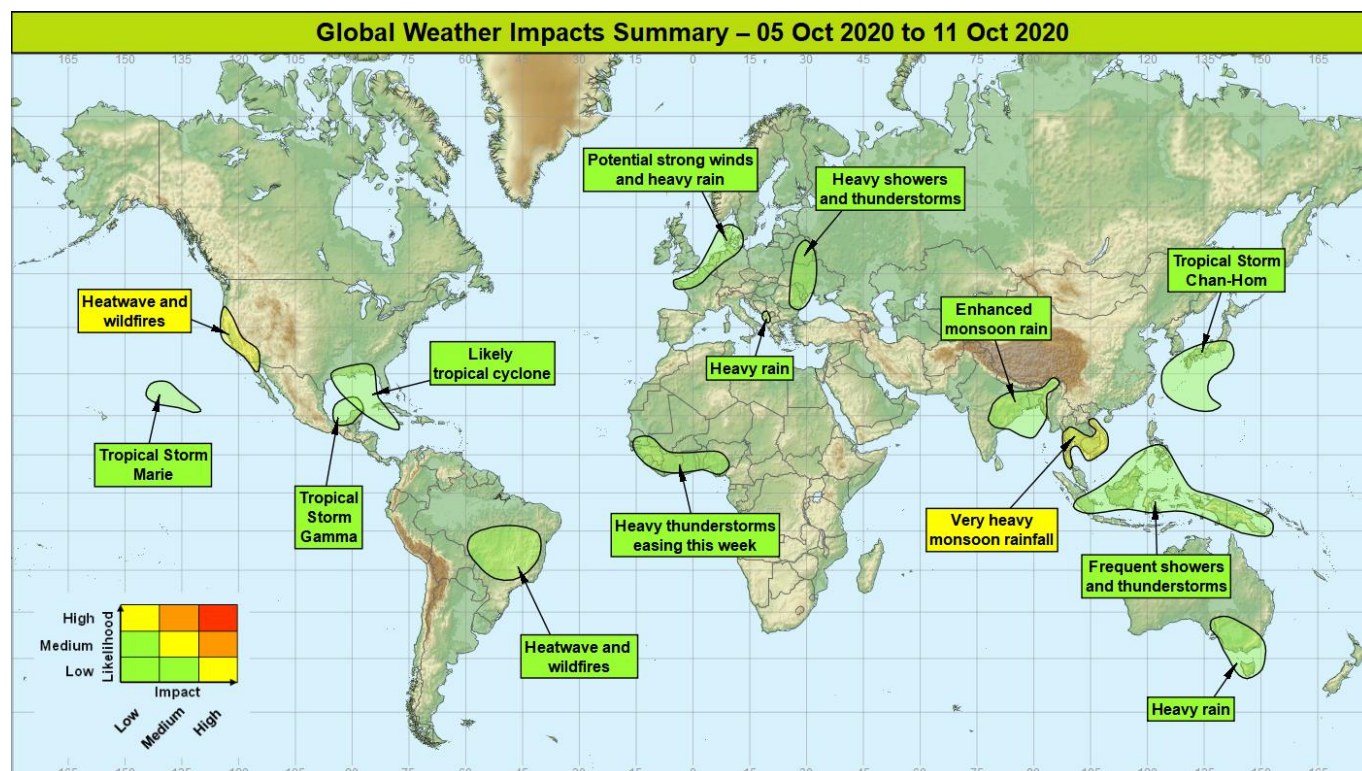


## Global Weather Impacts – Monday 5<sup>th</sup> to Sunday 11<sup>th</sup> October 2020

Issued on Monday 5<sup>th</sup> October 2020

### HEADLINES

- Heavy rainfall across large parts of Southeast Asia.
- Heatwave and wildfire conditions continuing across California and parts of South America.
- Likely tropical cyclone development in the western Caribbean Sea.
- Tropical Storm Chan-Hom likely to strengthen and may reach Japan later this week.



### Tropical Cyclones

#### Tropical Storm Gamma (Yucatan Peninsula, Mexico)

##### Weather

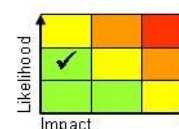
Tropical Storm Gamma will move very slowly southwest across the southern Gulf of Mexico this week with little change in intensity before weakening later this week. Whilst the centre of the storm will remain out at sea, heavy rain will affect parts of southeast Mexico. Around 75 to 150 mm of rain remains possible, with 250 to 300 mm across northern parts of Yucatan Peninsula, though to midweek. Mérida, state capital of Yucatan, typically receives around 130 mm of rainfall in October. Strong winds will also impact some coastal areas.

##### 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. Minor damage from strong winds possible for coastal areas.



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## **Tropical Storm Chan-Hom (Western Pacific)**

### **Weather**

An area of enhanced convection over the western Pacific has become more organised over the last 24 hours and has been named tropical storm Chan-Hom. This system is expected to track northwest but remain over open waters whilst strengthening over the next couple of days. There remains some uncertainty in its track but Chan-Hom looks most likely to approach southern Japan later this week bringing torrential rain and potentially damaging winds.

### **Discussion**

Favourable environmental conditions have allowed a tropical system to form. Models suggest this will be steered slowly west and then northwest with any landfall most likely over southern Japan although still brings a risk to Taiwan and eastern China. Based on the latest NWP and guidance from JMA there appears to be a good chance of Chan-Hom reaching typhoon strength.

### **Expected Impacts**

Increased risk of damaging winds as well as flooding and landslides should the system make landfall later this week.



## **Tropical Storm Marie (Eastern Pacific Ocean)**

### **Weather**

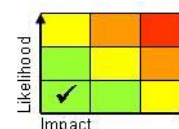
Marie is now rapidly weakening over cooler seas. It will continue to track west-northwest in the coming days while continuing to weaken and is expected to decay to a depression by the middle of next week. This system will not impact land.

### **Discussion**

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:*

## **Western Caribbean and Gulf of Mexico.**

### **Weather**

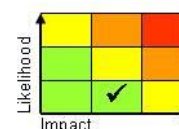
A broad cluster of showers and thunderstorms southwest of Jamaica (now named tropical depression 26 by NOAA NHC) is moving west across the Caribbean has the highest chance of development into a tropical storm in the coming days. Irrespective of development, locally heavy rain and gusty winds are expected across Hispaniola, Jamaica, Cuba and the Cayman Islands with 75-100 mm of rainfall possible. There is now an increasing signal that this system will reach hurricane strength over the next couple of days, either near to the west of Cuba or once it reaches the Gulf of Mexico. The system will then probably reach the south of the USA later this week (most likely Friday) potentially bringing hurricane force winds and torrential rain.

### **Discussion**

A tropical wave over the central Caribbean Sea is producing a large area of 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 in the next few days. The signal for this system to develop into a hurricane has increased over the last 24 hours.

### **Expected Impacts**

Regardless of development flash flooding and an enhanced risk of landslides. Increased risk of damaging or even destructive winds should the system strengthen into a hurricane.



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**Europe****France, Benelux, Germany and Denmark****Weather**

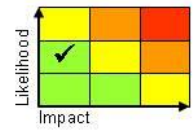
A spell of wet and very windy weather is possible during Thursday and Friday. Around 30 to 50 mm of rain, perhaps up to 75 mm in a few locations is likely to fall. Potential for winds to gusts 50-60 mph inland and 70 to 80 mph in coastal locations; however, the location and strength of the winds in this event is very uncertain with parts of the Low Countries and Denmark probably having the highest impacts.

**Discussion**

A significant frontal wave seems likely to form along a well-defined baroclinic zone stretching out into the North Atlantic around midweek, as the system finds itself within the right entrance of a powerful jet. How much development this undergoes is very uncertain at this stage, with models varying from next to nothing to a full on rapid cyclogenesis Shapiro-Kiso event. Confidence will probably remain low until the early stages of the development of the wave begin in the western Atlantic during Tuesday.

**Expected Impacts**

Flash flooding is possible in places. Disruption to travel is possible due to strong winds, with marine transport in particular at risk of being disrupted.

**Albania and Montenegro****Weather**

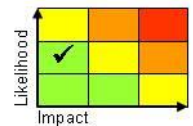
Frequent heavy showers and severe thunderstorms are expected over parts of Albania and Montenegro today and tomorrow. Torrential downpours are likely with the potential for some places to see 50-100 mm of rain falling in a short period (2 or 3 hours). Strong, gusty winds, frequent lightning and hail are also possible.

**Discussion**

A high WBPT plume ahead of a quasi-stationary front will remain over these areas over the next couple of days whilst being destabilised by a marked, confluent upper trough. This set up brings abundant PWAT, CAPE and vertical wind shear meaning severe thunderstorms look likely.

**Expected Impacts**

Increased risk of flash flooding and landslides.

**Eastern Europe****Weather**

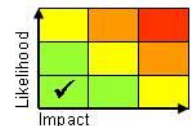
Heavy showers and thunderstorms are expected to affect the region at times through this week. Some of the thunderstorms will be intense and potentially long-lived with 30-50 mm of rain falling in less than 6 hours. Over the course of a week, in a few locations, around 100-150 mm of rain could fall.

**Discussion**

A cold front will remain slow-moving across eastern Europe through this week. Thunderstorms are likely to break out in the warm sector, perhaps upscaling into more organised features at times with decent amounts of vertical windshear evident on forecast profiles. PWAT is high ~30-40 mm, suggesting some intense downpours in places.

**Expected Impacts**

Flash flooding events are possible through the week, although not expected to be widespread.



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**North America****Mexico and southern USA** – See *Tropical Cyclones* section.**Western USA (especially California) and northwest Mexico****Weather**

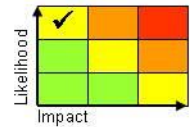
Heatwave conditions are expected to continue for a good part of the coming week, in conjunction with strong, gusty winds and dry air. Numerous wildfires continue across the west of the US, the most significant of these across California – with conditions remaining conducive to spread and further generation 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****Central and western Caribbean** – See *Tropical Cyclones* section.**South America****Brazil****Weather**

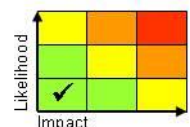
Heatwave conditions, coupled with strong winds continue this week. Temperatures widely mid to high 30s Celsius, locally into the low 40s Celsius, which is 7-12 °C above average. Conditions will become increasingly conducive to the spread of wildfires, of which there are numerous within this region.

**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.

**Africa****Parts of central Africa****Weather**

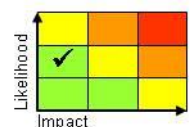
Further periods of heavy showers and thunderstorms will affect the region at times over the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 150 mm build up. The gradual decline in activity looks likely to continue this week, with rainfall less heavy and widespread than a few weeks ago.

**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 later this 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.



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## Middle East

Nil.

## Asia

Japan – See *Tropical Cyclones* section.

### Eastern India, southern Bangladesh and western Myanmar

#### **Weather**

Heavy rain and thunderstorms will continue to affect the region over the next couple of days. Around 75 to 125 mm of rain is likely to fall. Average October rainfall in the region is approximately 150 mm. From midweek, rain will begin to ease.

#### **Discussion**

A monsoon depression will move slowly west into eastern India, enhancing the rainfall across the region. From midweek, this feature is expected to decay and rain should ease accordingly.

#### **Expected Impacts**

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



### Cambodia, Laos, Thailand and Vietnam

#### **Weather**

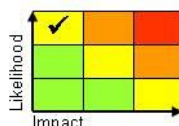
Showers and thunderstorms will continue to be more frequent, intense and widespread than usual. Thunderstorms are likely to become organised and long-lived at times leading to some torrential downpours and very high rainfall accumulations, especially from midweek. The wettest conditions seem likely to be across eastern Vietnam where 400 to 600 mm of rain is probable by the end of the week, equivalent to a month's worth. Elsewhere, accumulations of around 100 to 250 mm will be more typical.

#### **Discussion**

Background La Niña state is leading to generally enhanced convection across this part of southeast Asia. A depression is signalled to develop in the South China Sea and then track across the area from around midweek, further enhancing convection. Moreover, strong eastern flow on the northern flank of the system will feed abundant moisture into eastern Vietnam leading to particularly heavy rainfall here.

#### **Expected Impacts**

Increasing risk of flash and riverine flooding along with landslides.



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

#### **Weather**

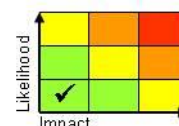
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal in the next few days. Within the broad area highlighted some spots in most of these countries will be at risk of seeing 100-150 mm of rainfall.

#### **Discussion**

Higher than normal SSTs in the region and enhanced easterly trade winds, due to the ongoing La Niña event, is providing good conditions to fuel deep and organised convection. This pattern is likely to persist for the foreseeable future.

#### **Expected Impacts**

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



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## Australasia

### Southern Australia

#### **Weather**

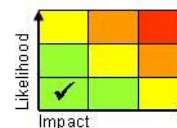
Spells of rain, heavy and prolonged at times, are expected to affect parts of South Australia and Victoria during this week. 40-60 mm of rain will fall fairly widely with up to 100 mm possible across inland parts of Victoria. This amount of rain is equivalent to over a month's worth at this time of year. Major urban areas such as Adelaide and Melbourne are likely to be affected.

#### **Discussion**

A slow moving cold front will bring pulses of heavy rainfall to central and southern parts of Australia this week. Several minor waves will enhance the rainfall with the potential, later in the week, or one of these to develop into a more significant depression, bringing a risk of strong winds. Temperatures will also be around 5-8°C below average.

#### **Expected Impacts**

Flash flooding will be the main impact and some disruption to travel around the region is possible.



## Additional Information

### Cox's Bazar, southeast Bangladesh

Heavy showers will affect the area over the next couple of days. 10-15 mm of rain is possible daily and by midweek overall accumulations could reach around 30 to 40 mm. Later in the week conditions are expected to become much drier.

### 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:** 050805 UTC

**Meteorologists:** Brent Walker / Chris Bulmer

**Global Guidance Unit**

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

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