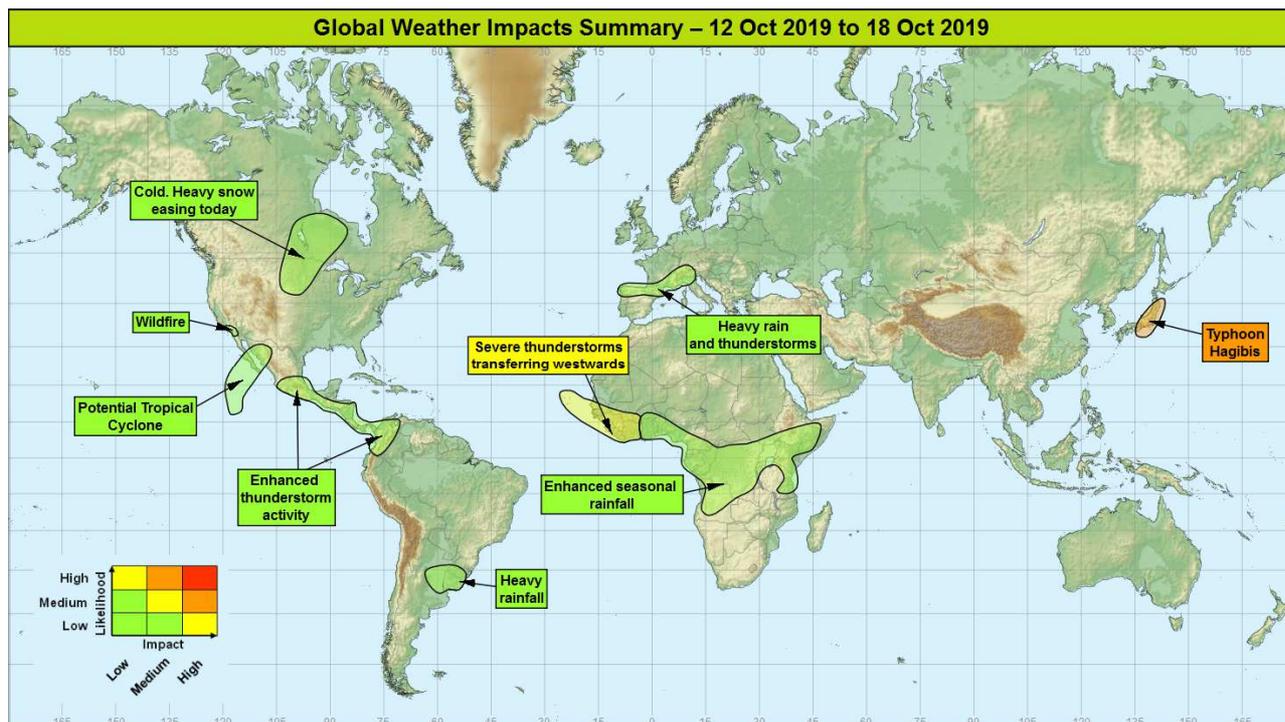


**Global Weather Impacts – Saturday 12<sup>th</sup> to Friday 18<sup>th</sup> October 2019**

Issued on Saturday 12<sup>th</sup> October 2019

**HEADLINES**

- Typhoon Hagibis impacting Japan today.
- Heavy monsoon rainfall continues across portions of west equatorial Africa.



**DISCUSSION**

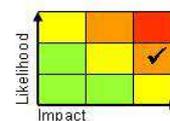
**Tropical Cyclones**

**Typhoon Hagibis (Western North Pacific)**

**Weather**

Hagibis will make landfall today on the south coast of Honshu (Saturday evening local time), running close to the cities of Shizuoka, Yokohama, and Tokyo before exiting into the Pacific 9-12 hours later. Despite some weakening on approach, Hagibis will remain a potent typhoon, bringing sustained winds of around 100mph and gusts in excess of 130mph, only slowly decreasing as it heads inland. Additionally, Hagibis will bring heavy rain to a wide area, with over 200mm, and locally as much as 500-700 mm expected to have fallen by the end of today. This represents more than twice the average October rainfall for the region, with this falling within a 24-36 hour period.

**Discussion**



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

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There is high confidence in the track, and a consistent signal for large amounts of rain to affect a wide area of Honshu through today, in addition to that having fallen yesterday. Some fluctuations in intensity occurred on Friday, with a pinhole eye redeveloping indicative of violent winds. An overall weakening trend is still expected before landfall, with gradually weakening SST's and a small increase in shear responsible. Baroclinicity to the north may help to increase rainfall, the majority of rainfall however will be directly associated with the system as it heads towards and makes landfall over Honshu. Interaction with land will weaken Hagibis, but this weakening may be slower than normal given a contrary developing tendency associated with the extra-tropical transition and engagement by a broad upper trough to the NW. 200mm fell on the island of Oshima in the 12 hours to 0000Z Saturday.

**Expected Impacts**

There is a high likelihood of flash flooding, with the potential for large scale river flooding lasting for a considerable time. Landslides are also highly likely where terrain is steep. Damaging winds and coastal flooding (from a significant storm surge) are also expected, but will affect a smaller area than the flooding, with many of these impacts expected in and around the Tokyo area. Impacts will probably be greater than normal with a large number of tourists in this area due to the ongoing Rugby World Cup and the Formula One Japanese Grand Prix.

*Other potential impactful tropical cyclones:*

**Eastern North Pacific Weather**

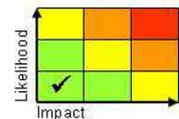
There is a high likelihood of imminent tropical cyclone development to the southwest of the Baja California peninsula, with any developing system then likely to track northeast across the peninsula and into northern Mexico early next week. There is the chance of 100-200mm of rain locally from this system.

**Discussion**

There is a reasonable model signal for the development of a tropical storm this weekend from an African Easterly Wave. However, there is no signal for a significant system developing, with any impact on land likely to be limited to that from heavy rain.

**Expected Impacts**

Increased risk of flash flooding and mudslides, particularly over the rugged Mexican terrain.



**Europe**

**Northern Portugal, Northern Spain, Southern France and North-western Italy Weather**

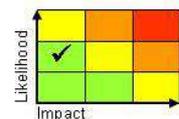
Heavy, persistent rainfall is expected to become established across north-west Iberia on Sunday, before the whole system moves eastwards and breaks out into heavy, locally violent thunderstorms with torrential downpours and gusty winds. Some locations will see 150-250mm of rain through the early part of next week, often coming in very heavy downpours bringing 50-75mm in the space of a few hours.

**Discussion**

An upper trough will invigorate the baroclinic zone across NW Iberia on Sunday while further east elevated instability could be released within the warm plume. As the system moves east it is likely to disrupt and form a cut off upper vortex, which will bring MCS developments to S France in particular. It could also then allow for some more prolonged rainfall and thunderstorms across the broader region should it become slow moving, although there remains a large model spread for the behaviour of the cut-off once it forms.

**Expected Impacts**

There is the potential for flash flooding across the region, although this likely fairly localised. Disruption to transport is probable. Disruption to power/other utilities likely, particularly given frequent lightning in places.



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**North America**

**Central Canada, Central northern USA**

**Weather**

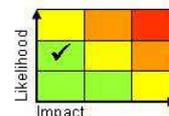
A major “winter storm” has developed on the leading edge of a very cold airmass sourced from Arctic Canada, bringing heavy snowfall to parts of Central Canada and Central northern USA. A further 20-30 cm snow is likely through today, on top of that which fell on Friday. Strong and gusty winds, with blizzard conditions will continue today, before the system weakens and peters out through Sunday.

**Discussion**

A continuation of the trough-ridge pattern across the USA will maintain a strong contrast in temperatures with a renewed plunge of Arctic air affecting central Canada into portions of northern USA. Along the strong baroclinic zone, a mixture of precipitation types is expected, with snow falling in the cold air on the western flank. Over this weekend the system will occlude and mature, with precipitation easing but leaving a foot print of very cold air anomalously far south in its wake.

**Expected Impacts**

Similar to that seen last week, some transport and utilities disruption is likely in the region.



**California**

**Weather**

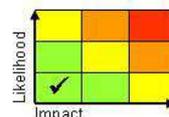
A critical wildfire threat remains for Ventura and Los Angeles counties in southern California, with continued dry air and brisk winds today. The threat is expected to diminish from west to east by the end of today

**Discussion**

Low humidity air and brisk offshore flow continues, but the ingress of the moist sea breeze through this afternoon (local time) should see the threat markedly reduce.

**Expected Impacts**

Reducing threat of wildfire damage.



**Central America and Caribbean**

**Southern and central parts of Central America, northwest Columbia and Ecuador**

**Weather**

Shower and thunderstorm activity is expected across the tropical Pacific Ocean coastline, maintaining the possibility of locally heavy downpours producing 50-75 mm of rainfall in a few hours, and weekly accumulation of up to 250 mm (around the average for the month of October). By the middle of next week the focus for the heaviest rainfall could be seen across southern Mexico.

**Discussion**

A series of tropical waves will be supportive of enhanced convection across parts of Central America and the northwest of South America. There is the potential for weak tropical cyclonic circulation to develop across / around southern Mexico (most likely a Central American Gyre) that could produce intense rainfall.

**Expected Impacts**

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



**Baja California, Mexico** – See *Tropical Cyclones* section.

**South America**

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

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**Parts of Uruguay, northeast Argentina and far south of Brazil**

**Weather**

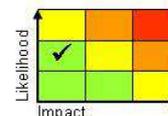
Outbreaks of rain with the potential for thunderstorm activity is expected to continue until the early part of next week before easing. Locally heavy downpours could bring 50-100 mm in one day, with the wettest areas perhaps seeing 150-200 mm in a couple of days.

**Discussion**

A frontal zone is expected to be active over the region from Saturday, before lifting northwards and weakening towards the middle of next week. There is the additional potential for the moist subtropical plume to its north to destabilise and allow development of severe thunderstorms with a risk of hail.

**Expected Impacts**

Localised flash flooding, isolated hail/lightning damage, some disruption to transport and utilities possible.



**Africa**

**Parts of West Africa**

**Weather**

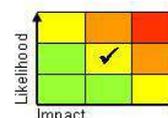
Shower and thunderstorm activity is expected to be more frequent than normal over the next 3-4 days. Severe thunderstorms will tend to bring 30-50 mm of rain within a few hours in places and where they become more organised could produce up to 100-150 mm in a 24 hour period.

**Discussion**

The West African Monsoon has been slower to withdraw than climatology would suggest. A very active African Easterly Wave (possibly inertio-gravity wave) will bring an area of enhanced thunderstorms activity westwards through this region of West Africa through the next 2 to 3 days. This comes at a time when river levels are at an annual maximum and is therefore when 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. Antecedent conditions contributing to increased sensitivity.



**Parts of East and Central Africa**

**Weather**

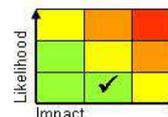
Whilst heavy showers and thunderstorms are typical in these areas, activity is likely to be heavier than usual in parts of this region over the coming week. Severe thunderstorms will tend to bring 30-50 mm of rain within a few hours in places and where they become more organised could produce up to 80-120 mm in a day. Through the week the wettest areas could see 200-250 mm of rain, which would be the equivalent of a month's rainfall at this time of year.

**Discussion**

A strong positive Indian Ocean Dipole event is now underway. This is likely responsible for the above average rainfall signal in these areas over the coming week. Based on the strength of the positive IOD event this could lead to above average rainfall in these areas for the next 2 to 3 months which may gradually make impacts more likely.

**Expected Impacts**

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



**Middle East**

Nil.

**Asia**

**Japan** – See *Tropical Cyclones* section.

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**Australasia**

Nil.

**Additional Information**

**Indian Subcontinent**

The Indian Meteorological Department on Wednesday announced the commencement of the withdrawal of the Southwest Monsoon from parts of Punjab, Haryana and north Rajasthan, the latest ever commencement. With conditions becoming more favourable, a rapid withdrawal towards the nearer climatology is expected to take place over the next few days. The 2019 Summer Monsoon (June to September) has been the third wettest on record (back to 1901), and the wettest since 1994. September was the wettest September across India in 102 years.

Subtropical Storm Melissa formed on Friday over the western Atlantic, but is not expected to directly affect land.

**Issued at:** 120300 UTC    **Meteorologists:** D J Harris / Paul Hutcheon

**Global Guidance Unit**

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