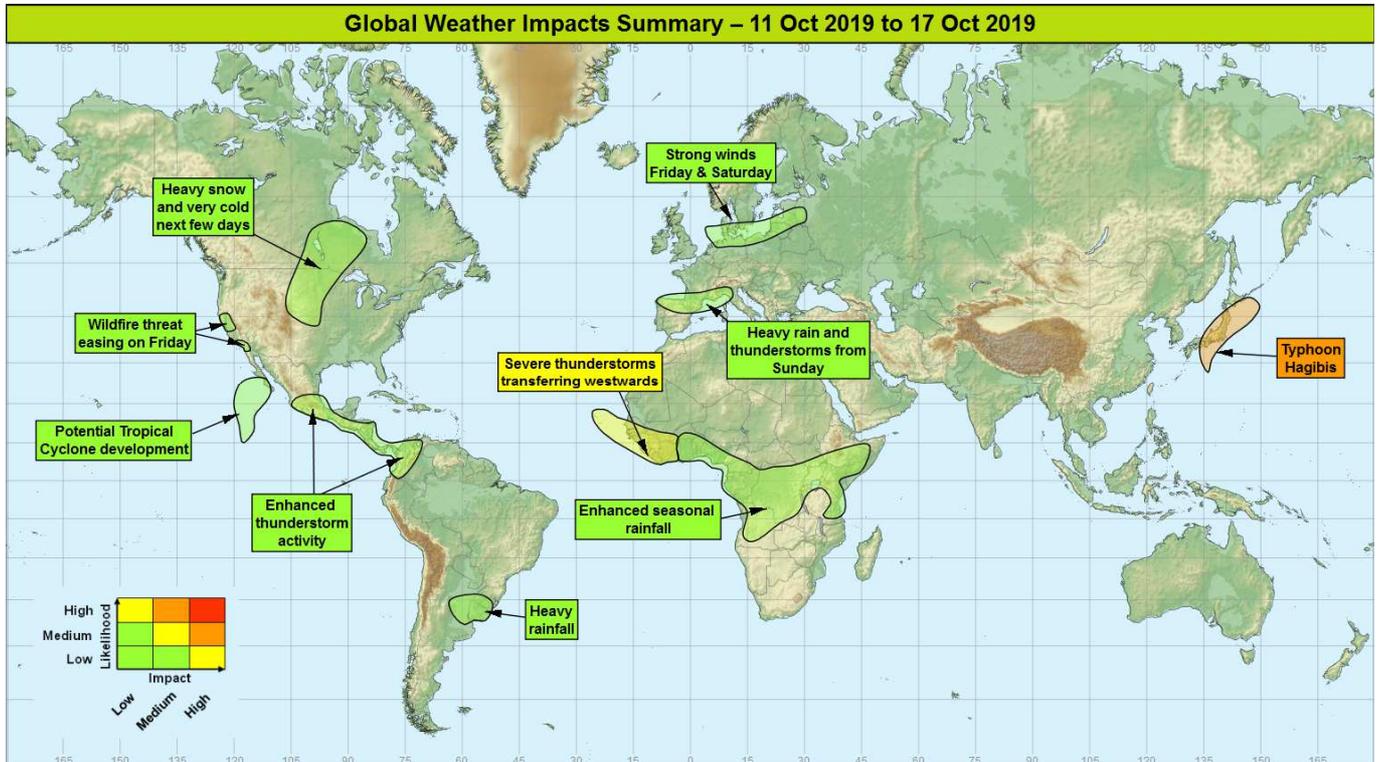


Global Weather Impacts – Friday 11th to Thursday 17th October 2019

Issued on Friday 11th October 2019

HEADLINES

- Typhoon Hagibis will bring significant impacts across Japan this weekend.
- Heavy monsoon rainfall continues across portions of equatorial Africa.



DISCUSSION

Tropical Cyclones

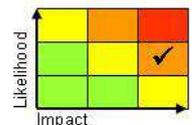
Typhoon Hagibis (Western North Pacific)

Weather

Hagibis was located around 500 miles south of Tokyo on Friday morning with estimated 10 minute maximum sustained winds of 110 mph with gusts of 160 mph. Hagibis is expected move northwards towards mainland Japan on Friday, with an increasing likelihood of landfall along the southeast Honshu coast, close to Tokyo on Saturday evening local time. Whilst some weakening is expected before landfall, it is still expected to be a potent typhoon with sustained winds of around 80 mph with gusts of 115 mph at landfall. Additionally, Hagibis is expected to bring very heavy rain along its path with a wide area of 150-300 mm locally up to 500 mm. This represents more than twice the average October rainfall for the region, with this falling within a 24-36hr period. By Sunday Hagibis will be moving away quickly from Japan as it weakens further.

Discussion

Despite remaining over favourable sea surface temperatures, a combination of increased shear and the entrainment of dry air is starting to weaken Hagibis. This weakening trend is expected to continue as Hagibis is steers around the sub tropical ridge axis, which will cause the system to turn north-east and accelerate, with models supporting a likely landfall to the south of Tokyo on Saturday evening Japanese time. However the same shear (indicative of baroclinic processes) will mean exceptional rainfall will be produced across a wide area on the northwest flank of the system.



This forecast may be amended at any time

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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 could be exacerbated with a large number of tourists in this area due to the ongoing Rugby World Cup and the Formula One Japanese Grand Prix.

The following area has the potential for tropical cyclone development in the next week:

Eastern North Pacific

Weather

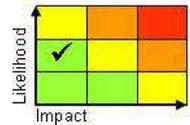
Through the next 2 or 3 days there is a high likelihood of a tropical cyclone development to the southwest of the Baja California peninsula, with any developing system then likely to track northeast into the peninsula as a weakening feature early next week.

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 some heavy rain and strong winds.

Expected Impacts

Little impact likely, with only a low probability of localised flash flooding.



Europe

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

Weather

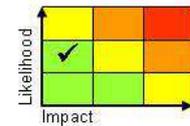
Heavy rain, showers and thunderstorms are expected to develop across northern Iberia from Sunday, and then spread east early next week. 50-75 mm of rainfall per day is possible across northern Iberia. As the system moves into the western Mediterranean and becomes slow moving locally in excess of 100 mm of rainfall per day is possible.

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, although there is some uncertainty on this aspect. This could allow for some more prolonged rainfall and thunderstorms across the broader region.

Expected Impacts

There is the potential for flash flooding across the region, although this likely fairly localised. Disruption to transport is possible.



Northern Germany, northern Poland, Denmark, southern Sweden and the Baltic Sea

Weather

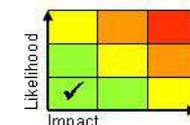
A swathe of strong winds will run across Denmark, Northern Germany and southern Sweden on Friday, and then states bordering the Baltic Sea on Saturday. This will bring gales across marine areas with wind gusts reaching 50-60 mph in places. A short spell of heavy rain will accompany the winds, but this unlikely to be disruptive.

Discussion

A frontal wave will be engaged by a shortwave upper trough as it crosses the North Sea on Friday and will begin to develop into a potent area of low pressure. Gradient wind speeds to the south of the circulation will increase up to 60mph, bringing strong mean winds speeds, and the potential for very strong gusts.

Expected Impacts

Strong winds may disrupt transport across the region (air, sea, road and rail). In addition it will likely lead to disruption of some utilities.



North America

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Northern Rocky Mountains and Plains

Weather

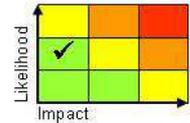
A strong cold front has moved southeast across the central Rockies bringing temperatures 15-20°C below average across the region. Some record minimum temperatures are possible. Heavy snow is expected to accompany this change, with historic amounts (for the time of year) in excess of 30-60 cm possible by the weekend, including for the city of Winnipeg in Manitoba, Canada. Strong and gusty winds could add to the difficult conditions.

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.

Expected Impacts

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



Parts of California

Weather

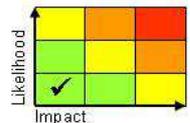
A critical, locally extreme, wildfire threat is expected ease through Friday, across parts of California as strong Santa Ana winds ease.

Discussion

Gradients are expected to ease through Friday in the wake of the cold frontal passage that occurred on Thursday.

Expected Impacts

Reducing threat of wildfire damage.



Central America and Caribbean

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

Weather

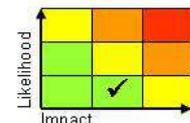
Shower and thunderstorm activity is expected across the tropical Pacific Ocean coastline, maintaining the possibility of locally heavy downpours producing 50-75 mm of rainfall in a few hours, and weekly accumulation of up to 250 mm (around the average for the month of October). By the middle of next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

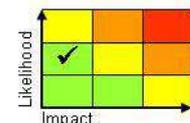
Colombia and Ecuador – See *Central America and Caribbean* section.

Parts of Uruguay, northeast Argentina and far south of Brazil

Weather

Outbreaks of rain with the potential for thunderstorm activity is expected from Friday into 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



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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

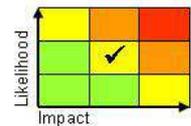
Shower and thunderstorm activity is expected to be more frequent than normal over the next 4 or 5 days. Severe thunderstorms will tend to bring 30-50 mm of rain within a few hours in places and where they become more organised could produce up to 100-150 mm in a 24 hour period.

Discussion

The West African Monsoon has been slower to withdraw than climatology would suggest. A very active African Easterly Wave will bring an area of enhanced thunderstorms activity westwards through this region of West Africa through the next 4 or 5 days. This comes at a time when river levels are approaching 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

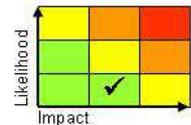
Whilst heavy showers and thunderstorms are typical in these areas, activity is likely to be heavier than usual in parts of this region over the coming week. Severe thunderstorms will tend to bring 30-50 mm of rain within a few hours in places and where they become more organised could produce up to 80-120 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.

Australasia

Nil.

Additional Information

Indian Subcontinent

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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.

Issued at: 110740 UTC **Meteorologists:** Paul Hutcheon / Mark Sidaway **Global Guidance Unit**

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