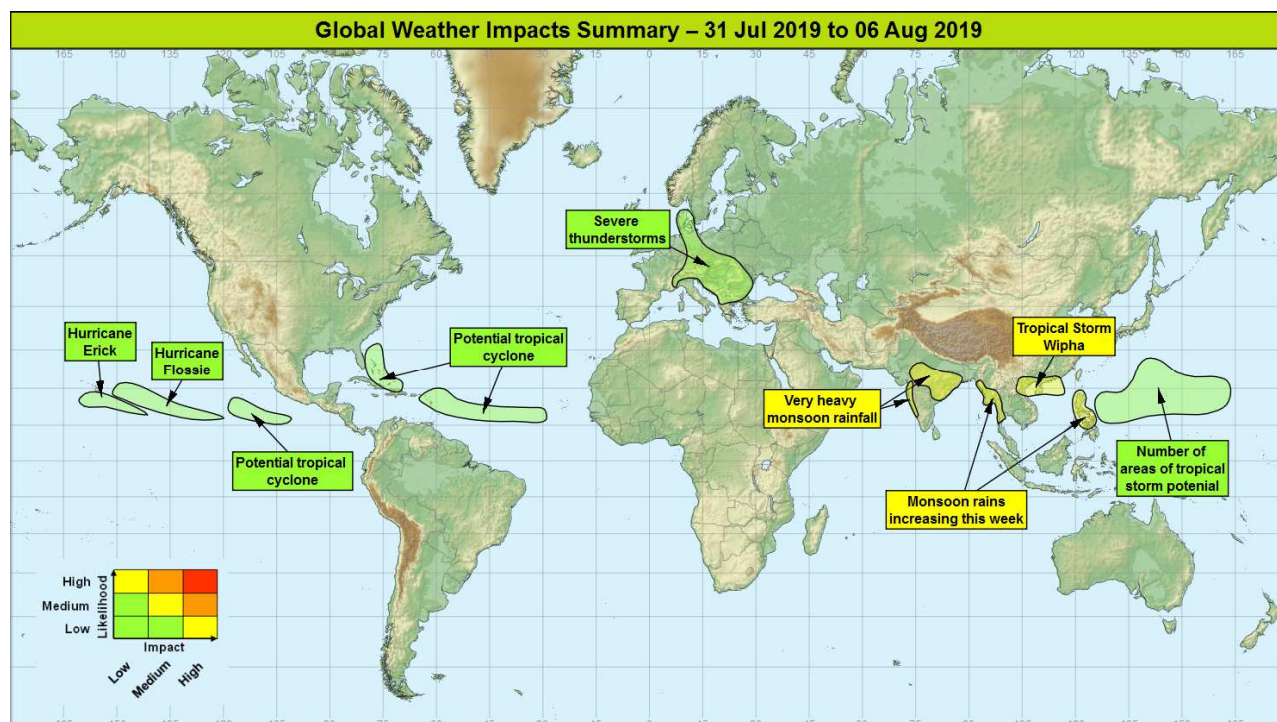


## Global Weather Impacts – Wednesday 31<sup>st</sup> July to Tuesday 6<sup>th</sup> August 2019

Issued on Wednesday 31<sup>st</sup> July 2019

### HEADLINES

- Further intense monsoon rainfall for parts of the Indian subcontinent this week.
- Tropical Storm Wipha impacting Hainan, south China and making landfall in north Vietnam over the next few days.



### DISCUSSION

#### Tropical Cyclones

#### Hurricane Erick (eastern North Pacific, just south of Hawaii)

##### **Weather**

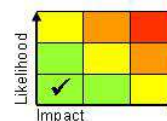
Hurricane Erick is currently 725 miles southeast of Hawaii, carrying sustained winds of 130mph. Erick is expected to pass to the south of Hawaii on Friday as a weakening storm; damaging winds will remain offshore but it brings the threat of heavy rain (100-200mm in 24 hours) to Big Island.

##### **Discussion**

Erick is moving WNW at around 13kn as a Category 4 system, little change is expected today but beyond this Erick is expected to move into an unfavourable wind shear environment leading to weakening of the storm. Confidence in a track to the S of Hawaii is high, but Big Island is still expected to experience a period of tropical storm force winds and potentially heavy rain later this week as it passes by.

##### **Expected Impacts**

Large swells and a minor threat of localised flash flooding on Big Island.



This forecast may be amended at any time

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## Hurricane Flossie (Eastern North Pacific)

### **Weather**

Flossie is currently near 13°N 122°W, carrying sustained winds of 80mph. The hurricane is expected to head in the general direction of Hawaii over the next 5 days and may make landfall, probably as a weakening system, early next week. Confidence in the forecast track/intensity by this time is very low.

### **Discussion**

Good model agreement for the initial track, but confidence decreases markedly next week when Flossie may reach Hawaii or recurve beforehand. The intensity forecast is uncertain due to varying levels of wind shear, and influence from the preceding Hurricane Erick. As Flossie approaches, the shear environment looks more concertedly unfavourable and thus the expectation is that Flossie will weaken in the vicinity of Hawaii whether it makes landfall or not.

### **Expected Impacts**

Nil.



## Tropical Storm Wipha (South China Sea)

### **Weather**

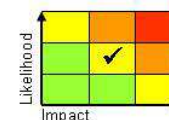
An area of thunderstorms around a broad low pressure area over the South China Sea was upgraded overnight to Tropical Storm Wipha, with sustained winds of 40mph. Wipha is forecast to slowly track across the Leizhou Peninsula close to Hainan, before making landfall over northern Vietnam and heading into northern Laos. Wipha is expected to be a slow moving cyclone, the primary impact coming from heavy rain (widely 150-250mm, locally 300-500mm by this coming weekend). Damaging winds are also a possibility, but the official forecast currently calls for only modest strengthening to around 50mph before weakening over land.

### **Discussion**

Wipha developed overnight from a broad area of storms coalescing around a centre associated with an Equatorial Rossby Wave. Current satellite imagery shows a fairly ragged storm, the strongest winds (35kn sustained) in its NE quadrant. There is pretty good agreement in its overall track, but the speed of motion is less clear – how long Wipha spends in a favourable SST and wind shear environment is closely correlated to its overall intensity which is therefore very uncertain at this stage.

### **Expected Impacts**

Impacts are currently expected to mainly be from rainfall, with flash flooding the primary hazard and landslides possible in steeper terrain. A possibly prolonged event will increase the likelihood of river flooding, with wind damage considered a lower probability. Hong Kong looks likely to see some impacts from rain over the next couple of days.



*The following areas are also being monitored for development:*

## Central Caribbean to Florida and the Bahamas

### **Weather**

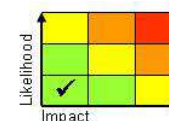
There is a very low likelihood of a currently disorganised area of showers/thunderstorms over the central Caribbean organising sufficiently to be classed as a tropical storm by the time it reaches Florida and north-western Bahamas over the coming weekend.

### **Discussion**

An area of showers associated with a tropical wave is given a 10% chance of cyclone formation over the next 3-5 days, before heading out over the cooler waters of the sub-tropical North Atlantic. Some sharp showers are expected across the Caribbean Islands associated with this system over the next few days.

### **Expected Impacts**

Localised, short lived disruption by flash flooding or power outages is the most likely impact.



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## Tropical North Atlantic

### **Weather**

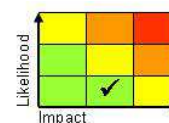
An area of showers and thunderstorms currently south-west of Cabo Verde may develop into a tropical storm as it approaches the Lesser Antilles.

### **Discussion**

An area of thunderstorms associated with an African Easterly Wave is expected to remain non-developmental over the next few days with wind shear remaining strong – however by early next week its track into a more favourable environment sees a reasonable chance of tropical cyclogenesis occurring as the system approaches the Lesser Antilles early next week.

### **Expected Impacts**

Most likely at this stage would be threat of flash flooding for the northern islands of the Lesser Antilles towards the middle of next week.



## Eastern Pacific

### **Weather**

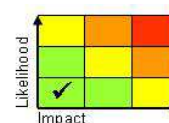
A large, but disorganised area of showers and thunderstorms lies a few hundred miles SE of the coast of Mexico. This is expected to track W, remaining over the Pacific over the next 7 days, with a moderate probability of development into a tropical storm.

### **Discussion**

A tropical wave has enhanced convection across the eastern Pacific, and there is a moderate probability (assessed by the NHC as 40%) for development into a tropical storm in the next 5 days. There is good agreement this will track away from Mexico and remain over open water.

### **Expected Impacts**

Nil.



## Northwest Pacific

### **Weather**

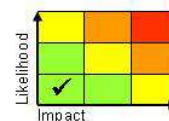
Across a broad region of the northwest Pacific there are several clusters of thunderstorms that have the potential to develop into tropical cyclones later this week, and track generally north or northwest. During this time period the only risk of impacts for land is in the South Mariana Islands (including Guam) from the weekend onwards.

### **Discussion**

A series of tropical waves, that may be sourced from AEW, ERW or breakdown of the ITCZ into eddies from shear instability are currently organising various areas of deep convection in the northwest Pacific. There remains inconsistent signal from models for the development of multiple tropical cyclones in this region over the coming week.

### **Expected Impacts**

During this period the only risk to land would be for small remote islands such as the South Mariana Islands (including Guam). These could potentially see impacts from heavy rainfall, strong winds and rough seas.



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## Europe

### Central / eastern Europe and parts of Denmark

#### Weather

Further intense showers and threat of severe thunderstorms are expected in this part of Europe through the next few days. Rainfall accumulations of up to 50-75 mm in a few hours is possible, along with large hail, very strong winds and frequent lightning. This zone of severe weather will steadily shrink from the north over the next few days, and into the weekend activity should reduce towards near normal levels across this zone.

#### Discussion

The very warm plume across this part of Europe will continue to be engaged by a complex system of upper troughs through the week, producing conditions for deep, complex convection. CAPE in excess of 1500J/Kg along with PWAT of 30-40 mm will produce conditions for significant convective impacts. By the weekend a combination of the plume cooling and shrinking, some weak upper ridging becoming established will lower the likelihood of the most severe convective impacts.

#### Expected Impacts

Severe storms will produce a threat of flash flooding, damaging hail, power outages, transport disruption (especially aviation) and wind damage.



## North America

Hawaii – see *Tropical Cyclones* section.

## Central America and Caribbean

North-eastern Caribbean islands - see *Tropical Cyclones* section.

## South America

Nil.

## Africa

Nil.

## Middle East

Nil.

## Asia

Northern Vietnam, far south of China and Laos – see *Tropical Cyclones* section.

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## Parts of central and northern India

### **Weather**

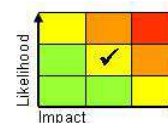
Periods of widespread, intense showers and thunderstorms will transfer from the east to west across this region through the next week, producing up to 300 mm of rain in a 24-hour period, with a threat of up to 400-600 mm through the coming week in places. The higher values are equivalent to several times the average July rainfall falling in just a few days. There are some very large cities in this region that could see intense rainfall events during the next week.

### **Discussion**

The main driver behind the severe monsoon conditions through the next week will be a succession of monsoon low pressure systems. These will result in the most rainfall falling in the spaces lasting a day or two, with longer drier periods in between. Forecast profiles show deep skinny CAPE, with high precipitable water allowing these fairly frequent cells to produce large precipitation accumulations.

### **Expected Impacts**

High likelihood of flash flooding, and an increasing threat of river flooding. An increasing likelihood of landslides in hillier regions. Significant disruption to travel is likely, especially road and rail. Densely populated regions of India (including some large cities) are likely to be impacted this coming week.



## Southern and western Myanmar, and far southeast of Bangladesh

### **Weather**

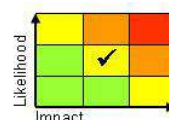
Strengthening of the monsoonal flow is expected to lead to an enhancement of rainfall in this area through the next week. 50-100 mm, locally 150 mm of rain could fall per day, with totals of up to 600 mm possible in places.

### **Discussion**

As one monsoon depression moves across northern India the next few days, another is signalled to form in the Bay of Bengal later in this week. This new development will once more strengthen the south-westerly gradient and increase rainfall across this part of the world.

### **Expected Impacts**

Increased risk of flash flooding and landslides. Cox's Bazar looks to be on the northern edge of this region of intense rainfall, and so the likelihood of impacts is lower here.



## Western India (Arabian Sea coastline)

### **Weather**

Persistent southwesterly monsoon flow into this area has seen a number of days of very heavy rain (daily totals in excess of 100 mm), with further heavy rain expected through the next week.

### **Discussion**

Persistent SW'ly monsoon flow into this region will bring a succession of frequent torrential downpours leading to daily totals widely in excess of 100mm across this region.

### **Expected Impacts**

Continued flash and river flood threat along with a high likelihood of landslides during the next few days, with potential impacts for large cities such as Mumbai.



## Central and northern Philippines

### **Weather**

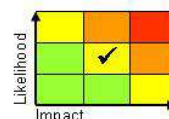
A steady stream of heavy showers/thunderstorms is expected to develop across this region over the next few days. Daily totals of 50-100mm are likely across many places in the area, in excess of 100mm in a few spots.

### **Discussion**

Developing SW'ly monsoon flow over the next few days, in part due to tropical cyclone activity to the north-west, will bring enhanced showers/thunderstorms to this region. Impacts could be felt in Manila should the wind direction line up correctly.

### **Expected Impacts**

Flash flooding and landslides are probable. Manila will probably miss the worst of the impacts but there is a moderate probability of flooding here too.



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## Daily Global Weather Impacts Assessment

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### Australasia

Nil.

### Additional information

Nil.

**Issued at:** 310755 UTC    **Meteorologist:** Tony Wardle / D J Harris

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