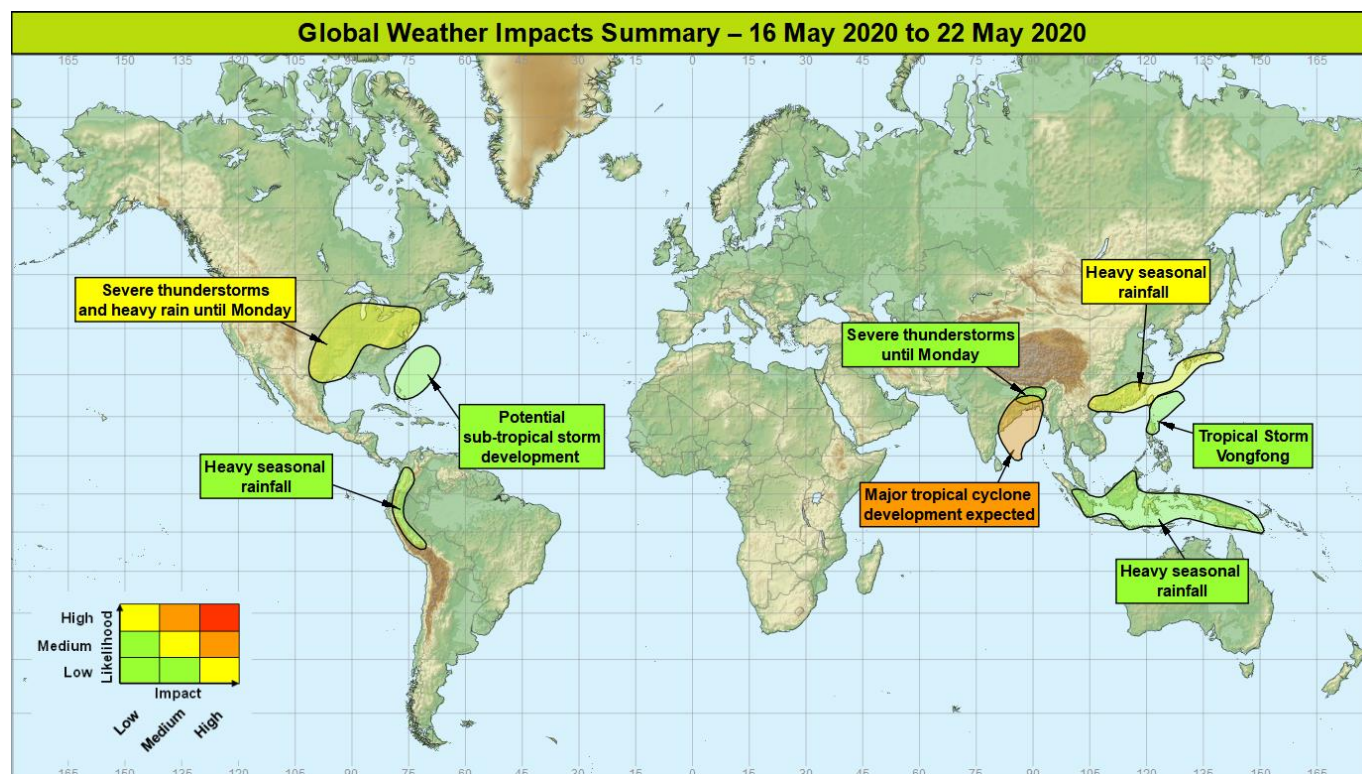


## Global Weather Impacts – Saturday 16<sup>th</sup> to Friday 22<sup>nd</sup> May 2020

Issued on Saturday 16<sup>th</sup> May 2020

### HEADLINES

- Significant impacts likely next week from a strong tropical cyclone in the Bay of Bengal.
- Severe thunderstorms and heavy rain for parts of the USA until Monday.
- Very heavy seasonal rainfall for southern China, Taiwan and southern Japan at times.
- Tropical Storm Vongfong weakening as it moves north of the Philippines today.



### DISCUSSION

#### Tropical Cyclones

#### Typhoon Vongfong (Northwest Pacific, including the Philippines)

##### Weather

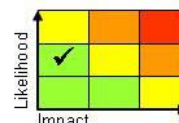
Vongfong (locally named Ambo) made landfall on Samar, Philippines on Thursday morning as a typhoon, with 10-minute maximum sustained winds of approximately 90 mph, and gusts to 130 mph (equivalent to a Category 2 Atlantic hurricane). Since then Vongfong has slowly tracked north across Luzon, just east of Manila, and has weakened below typhoon strength, with sustained winds of just 40 mph at 0400 UTC today. Vongfong will continue to track north of the Philippines today (Saturday) and east of Taiwan as a weakening tropical system.

##### Discussion

There is good model agreement for a continue weakening intensity trend for Vongfong on a northerly track through the next few days due to a transit over cooler waters and ingestion into the sub-tropical jet.

##### Expected Impacts

Low likelihood of some flash flooding and landslide.



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The following areas are being monitored for possible development:

## **Northeastern Indian Ocean (Bay of Bengal), Eastern India and Bangladesh**

### **Weather**

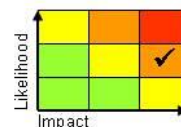
There is very high confidence for the development of a very strong tropical cyclone (which is expected to be named Amphan) over the Bay of Bengal this weekend. Confidence is increasing with respect to the track this developing cyclone will take as it approaches land, with northeast India and Bangladesh looking most likely to see the associated very heavy rainfall (up to 500 mm in 24 hours), very strong winds (potential for sustained winds of 100 to 110 mph) and storm surge (potentially around 3 metres above the tide height). The timing of landfall and these severe weather conditions look like being between Monday and Thursday (most likely timing of landfall is currently late on Tuesday 19<sup>th</sup> or early on Wednesday 20<sup>th</sup>).

### **Discussion**

A disturbance (91B) has gradually moved west into the southern Bay of Bengal in recent days and is showing increasing organisation of deep convection atop very high SSTs (30-31°C). This system has been influenced by an Equatorial Rossby Wave, and a marked MJO and Kelvin Wave along the equator will help intensify this system into a cyclone this weekend. There continues to be some range of tracks and landfall timings from models and ensemble output, which lowers confidence in the level of impact from this system, which will come from a combination of intensity, location, and phasing with the astronomical tides. The uncertainty seems to be tied into the strength of the low latitude upper ridge. However, the ensemble output from all centres is starting to focus on a northwards track and landfall just south of Kolkata. Therefore, confidence in details is slightly higher than in recent days, with a possibility of a high impact event along the vulnerable Ganges Delta region due to storm surge impacts.

### **Expected Impacts**

Flash flooding and significant structural wind damage is likely in parts of northeast India and Bangladesh. Storm surge coastal flooding to the east of the landfall location could also be a high level impact depending on track and tide phasing.



## **North Atlantic (including the Bahamas)**

### **Weather**

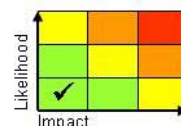
An area of heavy rain and thunderstorms (up to 50-100 mm in 24 hours) that has been slow moving through much of the past week will transfer north-eastwards to the north of the Bahamas this weekend. During this time a weak sub-tropical low pressure area is expected to develop, with this system then likely tracking northwards into the early part of next week between the Eastern Seaboard and Bermuda, perhaps strengthening to a sub-tropical storm. If it intensifies sufficiently, this system would be named 'Arthur' as the first Atlantic tropical storm of 2020.

### **Discussion**

Conditions look like becoming favourable for a subtropical storm to form across or just north of the Bahamas this weekend in association with the arrival of a disrupting upper trough that is likely to steer any development out into the Atlantic. The NHC Miami have maintained the likelihood of a sub-tropical storm development to 80% in the next 48 hours.

### **Expected Impacts**

There is still a low likelihood of flash flooding on Saturday for the northern Bahamas.



## **Europe**

Nil, but see additional information.

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## North America

### Parts of southern, central and eastern USA

#### **Weather**

Further heavy showers and thunderstorms will affect this part of the USA through until Monday. There is the potential for outbreaks of severe thunderstorms across parts of central and southern parts with the activity gradually moving northeast over the weekend. While the worst of the thunderstorms may ease as it heads northeast – very heavy rainfall is still likely in places. Storms will be capable of producing the full range of severe hazards from heavy rainfall, through to tornadoes.

#### **Discussion**

A zonal upper flow across the Rockies has induced a lee low, which has produced a southerly flow from the western Gulf of Mexico across the Great Plains. This will draw warm moist flow north into the region. Short-wave upper troughs will be key to developing the deepest convection but, where it is released profiles are conducive to all hazards that are associated with severe convection in this region. These short wave features will then transfer deep convective storms east to the Eastern Seaboard, although forecast profiles by this time suggest very heavy rainfall rather than other severe storm impacts.

#### **Expected Impacts**

Flash flooding likely in some locations, with the risk of damage to utilities, property and disruption to transport from frequent lightning, large hail, strong winds and the odd tornado.



## Central America and the Caribbean

### The Bahamas – see *Tropical Cyclones* section

## South America

### Western Colombia, Ecuador, and Peru

#### **Weather**

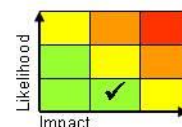
Further heavy rainfall from widespread showers and thunderstorms will affect parts of this region at times through the next week. Widespread rainfall of 50-100 mm is expected across much of this region, with up to 250 mm in a few places.

#### **Discussion**

The ITCZ across the north of South America will likely be activated by several tropical waves (African Easterly Waves) from Saturday which will result in more widespread and intense shower and thunderstorm activity than usual. The heavier rainfall will also be seen to the east of this region, but the impacts in the rainforest are not likely to be as significant as along the Andes Mountain chain.

#### **Expected Impacts**

Further flash flood and landslides are likely within the mountainous terrain of the region.



## Africa

Nil, but see additional information.

## Middle East

Nil, but see additional information.

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**Asia**

**Northern Philippines, Taiwan, northeast India and Bangladesh – see Tropical Cyclones section**

**Bangladesh and northeast India****Weather**

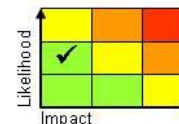
Severe thunderstorms look likely to affect this region through the weekend producing up to 50-75 mm of rain in a short duration, with the threat of large hail, frequent lightning, strong winds and even an isolated tornadoes. From Monday the threat of severe storms will weaken due to the approach of a Tropical Cyclone from the south.

**Discussion**

A series of shortwave upper troughs in the subtropical jet will transfer east across the region this weekend, engaging the warm plume low level plume drawn north from the Bay of Bengal. Forecast profiles across Bangladesh show large CAPE, strong vertical wind shear, and low Lifting Condensation Levels (LCL) supporting supercell storms capable of producing tornadoes. Across northeast India, a higher LCL will reduce the risk of heavy precipitation (and tornadoes close to nil) but increase the risk of strong wind gusts here. A building upper ridge ahead of a Bay of Bengal tropical cyclone will pretty much cease the threat of any severe convection early next week.

**Expected Impacts**

Flash flooding is the most likely impact, but with a threat of hail and lightning damage to utilities and infrastructure and a lower likelihood localised strong wind or tornado damage.

**Southern China, Taiwan and southern Japan****Weather**

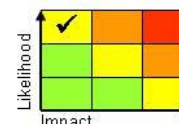
Active pulses of the seasonal Mei-yu rains are expected through the next week. As much as 100-150 mm of rain could fall in just 24 hour, with weekly accumulations as high as 250-350 mm (around the average May rainfall in this region). There will be some intense thunderstorms associated with this event, producing 50-100 mm in just an hour or two in places.

**Discussion**

This seasonal monsoonal/baroclinic hybrid frontal zone will be active through much of the coming week. This is mainly due to increased upper forcing from a southward extension of a major East Asian upper trough engaging the northern side of the tropical plume. There is also likely to be an input from the remains of Typhoon Vongfong across Taiwan and the southern Japanese islands.

**Expected Impacts**

Flash flooding and an enhanced threat of landslides.

**Parts of Indonesia and Papua New Guinea****Weather**

Heavier than average rainfall looks likely through the coming week in parts of this region due to more widespread and intense thunderstorms than usual. Up to 150-250 mm of rain could fall in places, with some parts of this region seeing the average May rainfall within a week.

**Discussion**

Precipitation anomalies across parts of this region are signalled to be above average this week. This is felt likely to be tied to the above average SSTs surrounding the region in the eastern Indian Ocean, South China Sea, and western tropical Pacific, in association with a developing MJO in the Indian Ocean that has shed a Kelvin Wave that will transfer east through the region during the next week, enhancing deep convective rainfall through the region.

**Expected Impacts**

Higher than usual likelihood of flash flooding and landslides.

**Australasia**

**Papua New Guinea – see Asia section**

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**Additional Information:**

- **A heatwave is expected to continue across parts of Northeast Africa, the Levant and southeast Europe** through much of the next week, with temperatures rising to more than 10°C above average, resulting in some early season heat stress impacts.
- **A few showers and thunderstorms across western Yemen** will occur each day across the Highlands in the west of the country each day through the next week, but they do not look heavy enough to result in severe impacts.
- **Cox's Bazar in the southeast of Bangladesh** looks like remaining mostly dry through until the end of the weekend. However, there is a significant likelihood of heavy showers and thunderstorms, at least for a time, next week, with a low likelihood of severe impacts from a strong tropical cyclone. The worst impacts from this cyclone are expected to be further west but this will need to be closely monitored.

**Issued at:** 160700UTC**Meteorologists:** Paul Hutcheon / Chris Bulmer**Global Guidance Unit**

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