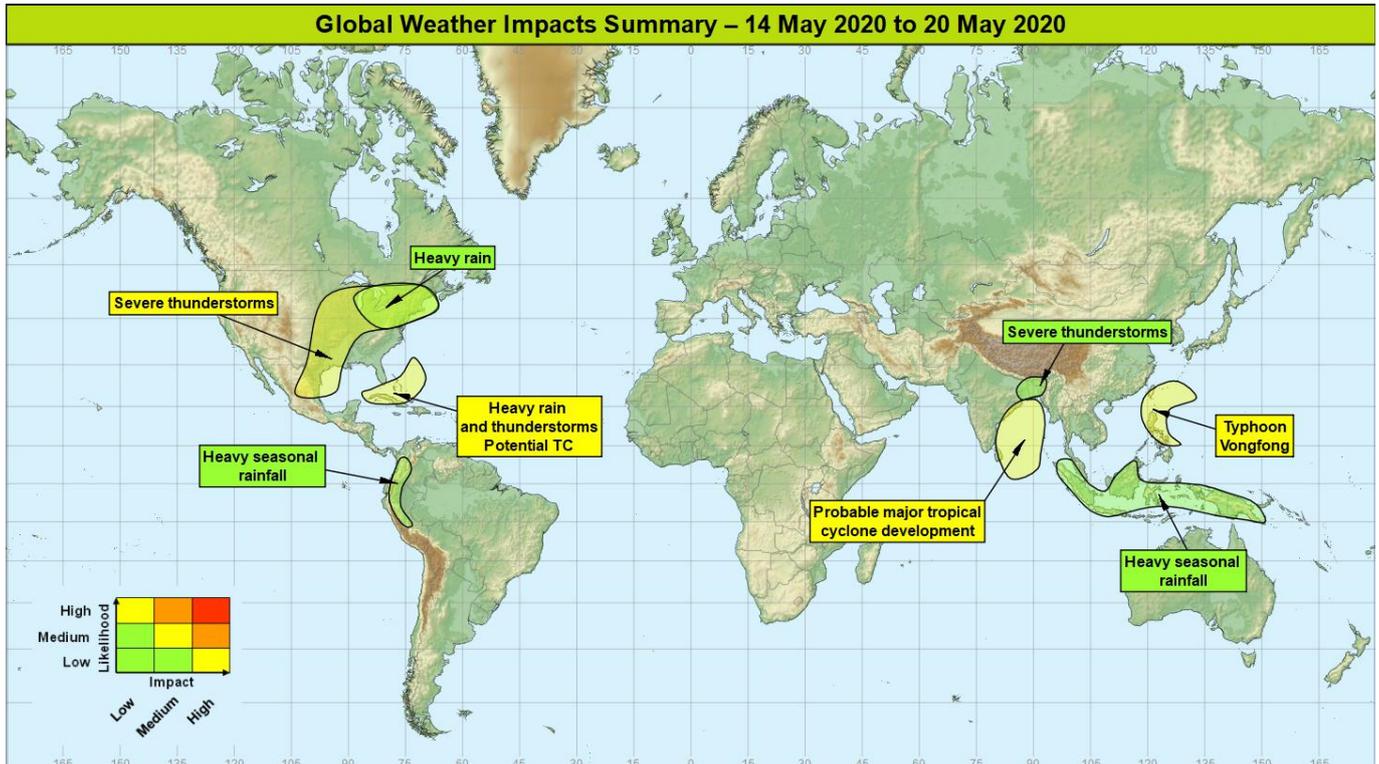


## Global Weather Impacts – Thursday 14<sup>th</sup> to Wednesday 20<sup>th</sup> May 2020

Issued on Thursday 14<sup>th</sup> May 2020

### HEADLINES

- Typhoon Vongfong tracks across Central/Northern Philippines today after recent landfall on Samar.
- Heavy rain and thunderstorms across Cuba, the Bahamas, Florida Keys and surrounding areas.
- A significant tropical cyclone is likely to develop in the Bay of Bengal from this weekend.



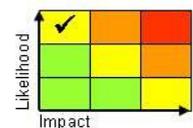
### DISCUSSION

#### Tropical Cyclones

##### Weather

Typhoon Vongfong (locally named Ambo) made landfall on Samar, Philippines at approximately 0600Z this morning, with 10-minute maximum sustained winds of approximately 90 mph, and gusts to 130 mph (equivalent to a Category 2 Atlantic hurricane). Vongfong will make slow progress north-westwards across the Central Philippines today, before recurving north then north-east across parts of Luzon (centre likely just north-east of Manila), whilst slowly weakening. As well as damaging winds, heavy rain (200-300 mm, locally as much as 500 mm) will affect western parts of the Visayas and Luzon over the next 48-60 hours).

##### Discussion



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

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There is now good overall model agreement in the future track of Vongfong, which after making landfall as a Typhoon, will meander slowly around the sub-tropical ridge whilst overall tending to weaken as it interacts with rough terrain. That said, this will be a slow process with dynamical conditions remaining favourable for maintenance of intensity and areas of warm sea remaining along its track. The GM remains slightly further W than other models, which will have some bearing on local wind strengths on the western edge of the storm envelope, and also track of heaviest rainfall (to which a track slightly further N and E than 00Z GM is preferred), but as stated overall agreement is now good. The remnants of the system are expected to undergo extra-tropical transition close to southern Japan early next week, where heavy rain is possible but nothing out of the ordinary for this part of the world.

**Expected Impacts**

Localised flash flooding for parts of the Philippines. Rainfall totals of 200-300mm are not out of the question in the track of this storm - with risk that Manilla could also see a period of very heavy rainfall. Winds will likely be strong enough to cause some damage, with dangerous seas for marine transport likely.

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

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

**Weather**

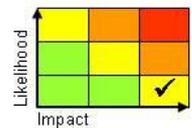
There is growing confidence in the development of a tropical cyclone over the Bay of Bengal in the next couple of days, which is then expected to head towards north-east India or southern Bangladesh as a major cyclonic storm with destructive winds, heavy rain and significant storm surge. The track of the system (which hasn't developed yet) is still subject to very low confidence, but this development will require close monitoring over the coming days.

**Discussion**

A disturbance gradually moving west in this region is causing some loose organisation of thunderstorms in the area. As this area moves out into the central-southern Bay of Bengal it will experience very high SSTs (30-31°C). From the weekend there is a strengthening model signal for the development of a significant tropical cyclone in the Bay of Bengal, producing a threat of significant impacts to land around the Bay, including particularly vulnerable areas of Bangladesh. EC and GM are currently well agreed upon the forecast track, but both fall on the western edge of their ensemble envelopes, whilst GFS is much further east and takes the system straight towards Bangladesh. The 14/00Z EC is currently the preferred outcome but confidence in the track remains low at this time.

**Expected Impacts**

Until the start of the weekend the main impact will be to marine transport. However, there will be an increasing threat of flash flooding and wind damage eastern India from later in the weekend, and then further north in north-eastern India and southern Bangladesh early next week. Rainfall amounts for places in the track of the cyclone will be also very significant with perhaps over 300-400mm in some parts.



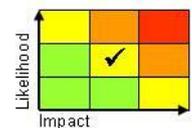
**Florida Keys, northern Cuba and Bahamas**

**Weather**

Areas of heavy rain and thunderstorms across this region are likely to remain frequent and slow moving through the rest of the week. As much as 150 mm could fall this week, with 50-100mm falling across a wide area. Although we are now coming towards the wet season, average rainfall in this region for the whole of May is 75 to 125 mm.

As this area of thunderstorms begins to track northeast across and north of the Bahamas there is the potential for the development of a subtropical storm. If/when a subtropical system does form it would be steered northeast into the open Atlantic.

**Discussion**



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A cold front progressed south into this region last weekend, and the baroclinic zone has now become slow moving (and will remain so through the rest the coming week) – with the warm plume ahead acting as the focus for the heaviest rainfall. Multiple subtle shortwave upper troughs in the sub-tropical jet will engage the moist frontal zone, leading to the generation of heavy rain, showers and thunderstorms on several days (today and tomorrow (Thu/Fri) at the moment look like the peak days). Forecast profiles show long and relatively skinny CAPE and deep warm cloud layer suggesting cells could be efficient precipitation producers. Reasonable vertical wind shear will allow for the development of organised long lasting MCS.

Conditions may become favourable for a subtropical storm to form in the far east of this region later in the week in associated with the arrival of a disrupting upper trough that is likely to steer any development out into the Atlantic. The NHC Miami have increased the likelihood of a subtropical storm development to 70% in the next 5 days.

### **Expected Impacts**

Some flash (and for Cuba perhaps riverine) flooding looks possible. Some very localised impacts from lightning possible too. Miami itself has a low risk of these large totals, but a small change in model position to the north would include Miami, and with such a large population in a low-lying area – flooding would be a concern.

### **Europe**

Nil.

### **North America**

**Florida Keys** – see *Tropical Cyclones* section

### **Some Southern, Central and Eastern parts of the USA**

#### **Weather**

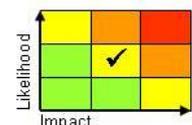
There is the potential for outbreak of severe thunderstorms across parts of central and southern parts of the US and northern Mexico in the next few days with the activity gradually moving northeast over the weekend. While the worst of the thunderstorms may ease as it heads northeast – some very heavy rain is still expected hence the green warning area here. 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 will induce a lee low across Colorado, which coupled with the strong anticyclone across the eastern USA, will induce a strong southerly return flow from the western Gulf of Mexico across the Great Plains. This will draw warm moist flow north with a strong low level jet developing. This air mass being capped by warm air and steep mid-level lapse rates advected in from the high terrain to the west. “Minor” short-wave upper troughs will be key to developing the deepest convection but, where it is released profile are conducive to all hazards that are associated with severe convection in this region.

#### **Expected Impacts**

Flash flooding likely in some location, 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**

**Northern Cuba and the Bahamas** – see *Tropical Cyclones* section

### **Central America and the Caribbean**

**Northeast Mexico** – see *North America* section

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## South America

### Western Colombia, Ecuador, and Peru

#### **Weather**

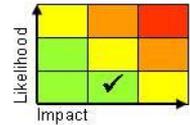
Further heavy rainfall from widespread showers and thunderstorms will affect parts of this region at times through the next few days. Widespread rainfall of 50-100 mm is expected across much of this region, with up to 250 mm in a few places.

#### **Discussion**

It appears that a strong subtropical high in the southeast Pacific (generating SW'ly winds in to the western Andes), and a unusually strong subtropical high in the north Atlantic (generating strong E'ly winds across the tropical Atlantic and then Amazon basin), will lead to great than average low level moisture convergence across the equatorial and northern Andes. This will result in more widespread and intense shower and thunderstorm activity than usual.

#### **Expected Impacts**

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



## Africa

Nil.

## Middle East

Nil, but see additional information.

## Asia

### Philippines, Sri Lanka, India and Bangladesh – see Tropical Cyclones section

#### Western Bangladesh and northeast India

#### **Weather**

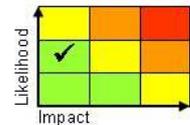
Severe thunderstorms look likely to affect this region for the rest of this week producing up to 50-75 mm of rain in a short duration, with the threat of large hail, frequent lightning, strong winds and even an isolated tornadoes.

#### **Discussion**

A series of shortwave upper troughs in the subtropical jet will transfer east across the region next week, 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.

#### **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.



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**Parts of Indonesia, Papua New Guinea and the Solomon Islands****Weather**

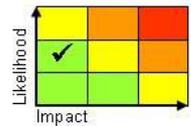
Heavier than average rainfall looks likely through the coming week in parts of this region due to more widespread and intense thunderstorms than usual. Up to 150-250 mm of rain could fall in places, with some parts of this region seeing the average May rainfall within a week.

**Discussion**

Precipitation anomalies across a fairly wide area 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 addition the northeast monsoon flow still continues across the South China Sea initially (although this is forecast to cease later this week), likely bring aided by the tropical storm (Vongfong) crossing the Philippines. This monsoon flow will over the next few days will continue to reduce convection across the Indochina Peninsula and enhance low level convergence and convection across the west of this highlighted region.

**Expected Impacts**

High than usual likelihood of flash flooding and landslides.

**Australasia****Papua New Guinea and the Solomon Islands – see Asia section****Additional Information:**

- **A heatwave is expected to continue across parts of North Africa, the Levant and southern Europe** (from Italy eastwards) through the next few days, with temperatures rising to more than 10°C above average. It is possible that this heatwave could last until early next week and result in some early season heat stress impacts.
- **Shower activity across western Yemen looks light** and isolated through much of the next week, with Saturday the most likely to catch a sharp shower.
- **Cox's Bazar in the southeast of Bangladesh looks like remaining mostly dry**, certainly drier than the west of the country for the rest of the week. In to next week there is a greater risk of heavy rainfall due to a tropical cyclone which is expected to have developed by then in the Bay of Bengal.

**Issued at:** 140740UTC    **Meteorologists:** Chris Almond / Paul Hutcheon / D J Harris    **Global Guidance Unit**

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