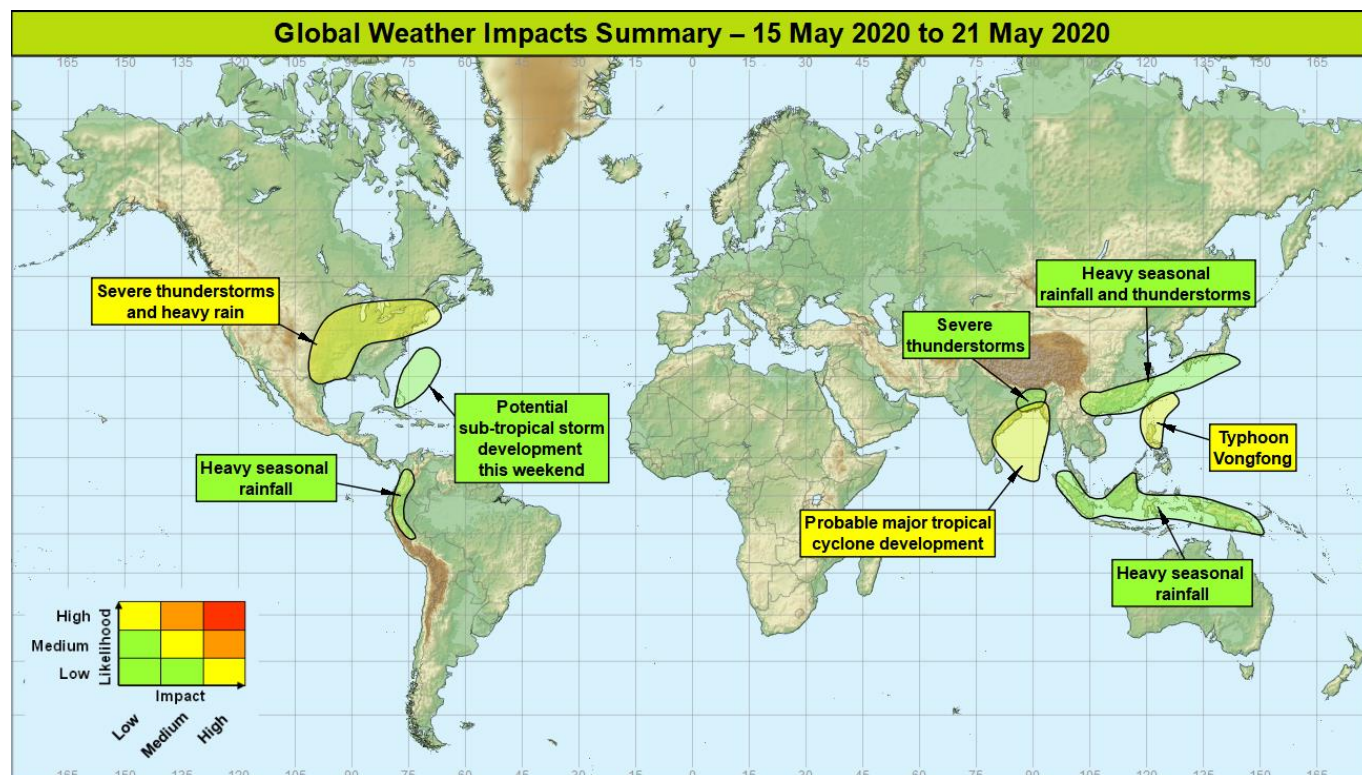


Global Weather Impacts – Friday 15th to Thursday 21st May 2020

Issued on Friday 15th May 2020

HEADLINES

- Typhoon Vongfong tracks across Central/Northern Philippines next few days.
- Severe thunderstorms and heavy rain for parts of the USA until Monday.
- A significant tropical cyclone is very likely to develop in the Bay of Bengal from this weekend.



DISCUSSION

Tropical Cyclones

Typhoon Vongfong (Northwest Pacific, including the Philippines)

Typhoon Vongfong (locally named Ambo) made landfall on Samar, Philippines on Thursday morning, 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 into southern Luzon, just east of Manila whilst weakening to around 75 mph.

Vongfong will move north of the Philippines during the day or two, generally as a weakening system falling below typhoon strength by Saturday, but perhaps still bringing some heavy rain for a time to Taiwan before becoming part of a higher latitude rain band early next week.

As well as damaging winds, heavy rainfall (up to 300 mm in 24 hours) will affect parts of the central and northern Philippines through the next few days. This is around or slightly more than the average rainfall for the whole of May. A 1 to 2 metre storm surge is also possible.

It looks like Manila should avoid the worst of the conditions from Vongfong, but could still see strong winds and heavy rain for a time during the next few days.

Discussion



This forecast may be amended at any time

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The global models have been struggling with the forecasting of this system, possibly due to the small size compared to typical typhoons. However, a general weakening trend for Vongfong looks reasonable given increased interaction with the mountainous island of Luzon on Friday, followed by a transit over cooler waters and ingestion into the sub-tropical jet through the weekend.

Expected Impacts

Flash flooding and landslides seem likely. Some structural damage also seems likely, with dangerous seas for marine transport expected and possible minor coastal flooding from a storm surge.

The following areas are being monitored for possible development:

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

Weather

There is now high confidence for the development of a significant tropical cyclone over the Bay of Bengal in the next day or two. Confidence remains low with respect to the track this developing cyclone will take as it approaches land, which leads to low confidence in impacts at this time. The first impacts will come from the strengthening wind field offshore, with the very heavy rainfall (up to 500 mm in 24 hours), very strong winds (potential for sustained winds of up to 90 mph) and storm surge unlikely to be seen until Monday at the earliest.

The area at risk from Cyclone (which will be named Amphan) impacts will be from Andhra Pradesh right round to the Bangladesh / Myanmar border.

Discussion

A disturbance (91B) has gradually moved west into the southern Bay of Bengal 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 Kelvin Wave along the Equator is likely to help intensify this system into a Cyclone this weekend, with all models showing this signal. There continues to be a significant 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, with the GM showing a stronger ridge that pushes the system northwest, whilst the weaker GFS upper ridge allows the system to track north. 14/00Z EC has moved towards the GFS idea – GM also lies outside the main ensemble spread so on balance the track looks most likely to be further east than 14/00Z indicates. Therefore, confidence in details remains low, but there is a possibility of a high impact event if this becomes a very strong Cyclone and / or impacts Cox's Bazar where there is a large humanitarian camp.

Expected Impacts

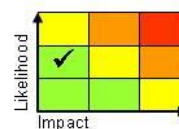
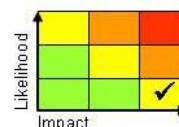
Until the start of the weekend the main impact will be to marine transport. However, there will be an increasing threat of flash flooding and wind damage to eastern India from Monday, and then further north in north-eastern India and southern Bangladesh through the following days. Storm surge coastal flooding 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 week will transfer north-eastwards through the next few days across and then to the northeast of the Bahamas. 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, perhaps strengthening to a sub-tropical storm between the Eastern Seaboard and Bermuda. This system would be named 'Arthur' as the first Atlantic tropical storm of 2020.

Discussion



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Conditions look like becoming favourable for a subtropical storm to form across or just north of the Bahamas this weekend 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 maintained the likelihood of a sub-tropical storm development to 70% in the next 48 hours.

Expected Impacts

There is still a threat of flash flooding, but this looks like a much lower likelihood than earlier in the week. Therefore the impact level has been decreased.

Europe

Nil.

North America

Some Southern, Central and Eastern parts of the USA

Weather

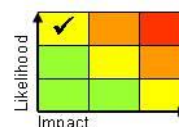
Further heavy showers and thunderstorms will affect this part of the USA through until Monday. There is the potential for outbreaks of severe thunderstorms across parts of central and southern parts with the activity gradually moving northeast over the weekend. While the worst of the thunderstorms may ease as it heads northeast – very heavy rainfall is still likely. 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, which coupled with the strong anticyclone across the eastern USA, will induce a marked southerly return flow from the western Gulf of Mexico across the Great Plains. This will draw warm moist flow north with a low level jet developing. 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

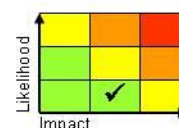
Further heavy rainfall from widespread showers and thunderstorms will affect parts of this region at times through the next week, especially from Saturday. Widespread rainfall of 50-100 mm is expected across much of this region, with up to 250 mm in a few places.

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.



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Africa

Nil.

Middle East

Nil, but see additional information.

Asia**Philippines, Taiwan, India and Bangladesh – see Tropical Cyclones section****Western Bangladesh and northeast India****Weather**

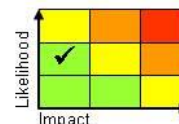
Severe thunderstorms look likely to affect this region for much of the next week producing up to 50-75 mm of rain in a short duration, with the threat of large hail, frequent lightning, strong winds and even an isolated tornadoes.

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.

**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 250-300 mm (around the average May rainfall in this region). There will be some intense thunderstorms associated with this event, producing 50 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, Papua New Guinea and the Solomon Islands****Weather**

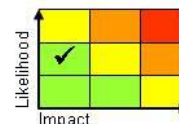
Heavier than average rainfall looks likely through the coming week in parts of this region due to more widespread and intense thunderstorms than usual. Up to 150-250 mm of rain could fall in places, with some parts of this region seeing the average May rainfall within a week.

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 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.



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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 much of the next week, with temperatures rising to more than 10°C above average, resulting in some early season heat stress impacts. North Africa will likely see the end of this heat wave early next week.
- **Showers 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. So the forecast will have to be closely watched for the details of this event next week which is tied to the track and intensity of this cyclone development.

Issued at: 150655UTC **Meteorologists:** Paul Hutcheon / D J Harris**Global Guidance Unit**

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