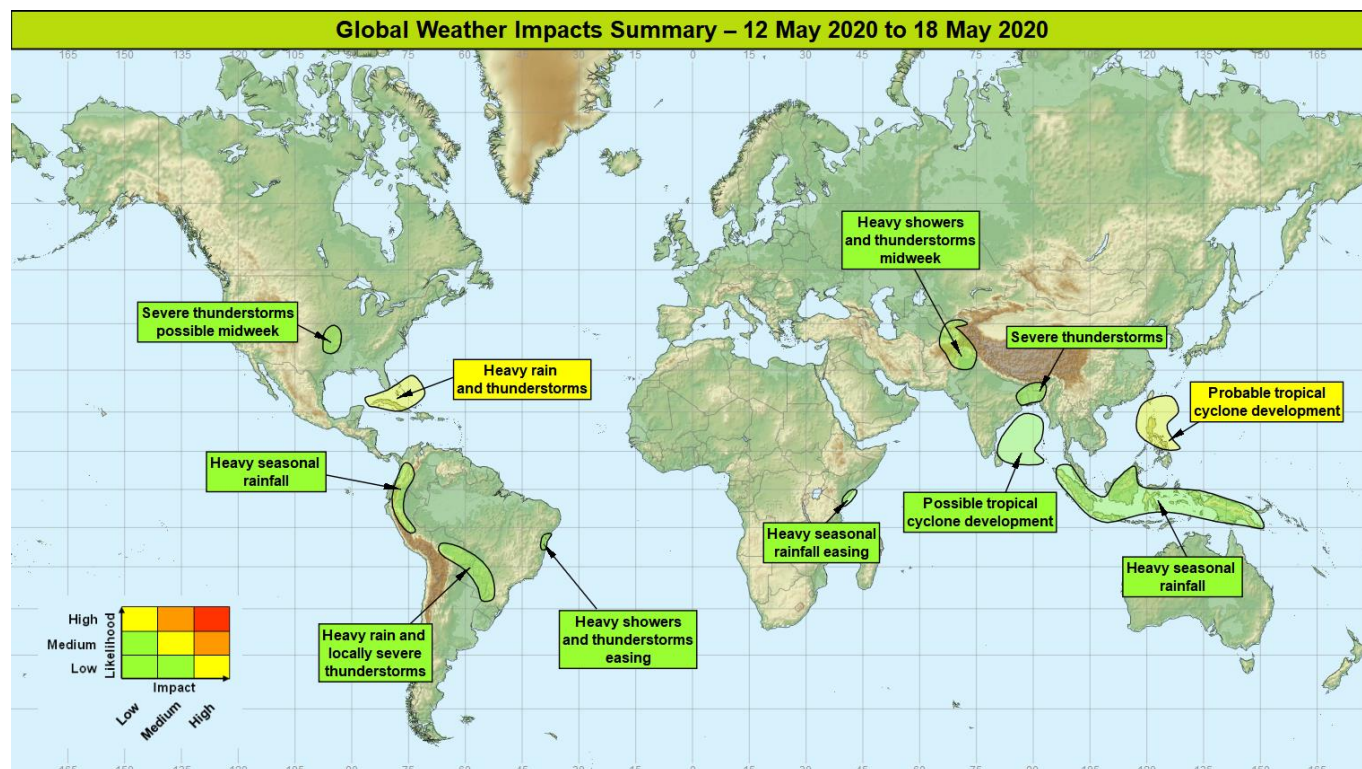


## Global Weather Impacts – Tuesday 12<sup>th</sup> to Monday 18<sup>th</sup> May 2020

Issued on Tuesday 12<sup>th</sup> May 2020

### HEADLINES

- The first tropical cyclone of the northwest Pacific season is likely to form close to the Philippines.
- Further heavy rain and thunderstorms across Florida Straits and surrounding areas.
- Potential for a tropical cyclone to form in the Bay of Bengal later this week.



### DISCUSSION

#### Tropical Cyclones

*There are currently no active tropical cyclones. The following areas are being monitored for possible development:*

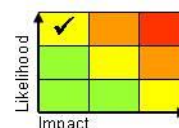
#### Northwest Pacific and the Philippines

##### Weather

An area of organised thunderstorms has become increasingly organised in the Philippines Sea, with a tropical depression now formed here. This cluster will remain in a favourable environment for development into a weak tropical cyclone over the next 12-36 hours, prior to it reaching the coastline of the Philippines. Thereafter this then emerging system will likely slowly cross the Philippines bringing heavy rainfall (locally 100-200mm), before likely emerging into the South China Sea on either Thursday or Friday and beginning to recurve to the northeast. If a storm forms it will be the first of the 2020 northwest Pacific tropical cyclone season.

##### Discussion

An Equatorial Rossby Wave (ERW) has organised deep convection in this region, with this area of organised convection running through a very favourable environment for tropical cyclone development over the next day or so (high SSTs, low vertical wind shear, and good upper level outflow). If a cyclone develops it would be named 'Vongfong' by the official RSMC (Tokyo) and would be known as 'Ambo' in the Philippines, with a track to the northwest across much of the Philippines.



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## Expected Impacts

Localised flash flooding for parts of the Philippines, with a small risk that Manilla could see a period of heavy rainfall.

## Northeastern Indian Ocean (Bay of Bengal)

### Weather

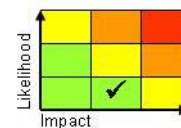
A cluster of thunderstorms moving slowly west across the Andaman and Nicobar Islands, will gradually move west into the southern Bay of Bengal and experience conditions marginally favourable for the development of a tropical cyclone later this week. In the coming 7 days any system that forms will likely remain over open seas, although this strengthened northeasterly flow ahead of the system may increase rainfall across northeast Sri Lanka next week.

### Discussion

A further Equatorial Rossby Wave (ERW) gradually moving west in this region is causing some loose organisation of thunderstorms in the region. As this area moves out into the central-southern Bay of Bengal it will experience very high SSTs (30-31°C), but only marginal favourable vertical windshear and upper level outflow. Hence confidence remains low as to whether a tropical cyclone will develop or not

### Expected Impacts

During the next 7 days, if a cyclone forms impacts will likely be restricted to maritime traffic.



## Europe

Nil.

## North America

### Extreme south of Florida, northern Cuba and Bahamas

### Weather

An area of heavy rain and thunderstorms across this region is likely to remain slow moving much of coming week, although it is likely to become less widespread too. As much as 250 mm could fall this week, with 50-100mm falling across a wide area. The average rainfall in this region for the whole of May is 100-150 mm. Although currently considered unlikely it is not impossible that a subtropical storm could develop in the eastern part of this zone later this week, if a subtropical system did form it would be steered northeast into the open Atlantic.

### Discussion

A cold front progressed south into this region over the weekend and has now become slow moving (and will remain so through much of the coming week). 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 multiple days. Forecast profiles show PWAT of around 60mm, with 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.

### Expected Impacts

Some flash and for Cuba perhaps riverine flooding looks likely, with a risk of impacts for large cities such as Havana. Some very localised impacts from lightning and hail possible too.

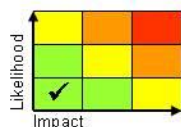


## Central and southern USA

### Weather

There is the potential for outbreak of severe thunderstorms across parts of Texas, Oklahoma and Kansas from midweek, with Wednesday currently looking potentially the highest risk day. Storms will be capable of producing the full range of severe hazards from heavy rainfall, through to tornadoes.

### Discussion



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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 airmass being capped by warm air and steep mid-level lapse rates advected in from the high terrain to the west. Despite the lack of any upper trough, if convection 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 *North America* section.

## South America

### Western Colombia, Ecuador, and Peru

#### Weather

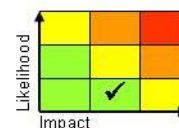
Further heavy rainfall from widespread showers and thunderstorms will affect parts of this region at times through the next 7 days. Widespread rainfall of 50-100 mm is expected across much of this region, with up to 250 mm in a few places.

#### 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), 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.



### Eastern Brazil

#### Weather

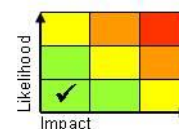
Persistent heavy showers and thunderstorms will affect the same part of eastern Brazil (mostly Bahia state, including the city Salvador) through the next couple of days, producing up to 100 mm of rainfall. This equates to almost 30% of the average May rainfall in this region.

#### Discussion

The South Atlantic Convergence Zone will remain slow moving in this part of Brazil through the next couple of days, with minor short wave upper troughs enhancing the rainfall at times.

#### Expected Impacts

Flash flooding is the main threat, with an enhanced likelihood of landslides in hilly terrain.



### Northern Argentina, parts of southern Brazil, Paraguay and Bolivia

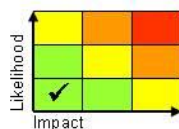
#### Weather

An area of heavy rainfall, showers and a few severe thunderstorms will develop across parts of northern Argentina and Paraguay late Monday and will become more widespread and intense as they slowly transfer northwest into Bolivia and southern Brazil over the following couple of days. This event could bring up to 100-125 mm of rain in a short period.

#### Discussion

Zonal flow across the high Andes will induce a lee low which will draw a plume of tropical air southwards across this region. This will be engaged by an upper trough in the subtropical jet producing an active frontal zone bringing heavy rainfall with embedded thunderstorms. In the warm sector ahead of the cold front profiles suggest severe storms could form, bringing a range of very localised additional hazards

#### Expected Impacts



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A risk of some localised flash flooding is the most probable impact, with the risk of damage to utilities, property and disruption to transport from frequent lightning, large hail, strong winds and the odd tornado.

## **Africa**

### **Coastal Kenya, Somalia and Tanzania**

#### **Weather**

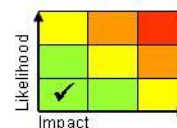
After a long period of above average rainfall across much of area, finally activity will fall back below average than coming week. However a couple of further days of above average activity is possible along the coastal parts of this region where a further 50-100mm of rain could fall.

#### **Discussion**

Enhanced convergence along the Southwest Indian Ocean Convergence Zone will continue to keep shower activity slightly above average in the coastal parts of this region through the next couple of days. There after convergence will weaken and showers and thunderstorm activity will drop back to below average across the region.

#### **Expected Impacts**

A slightly enhanced risk of flash flooding in urban areas in this region over the next couple of days.



## **Middle East**

Nil, but see additional information.

## **Asia**

### **Eastern Afghanistan, northern Pakistan, Tajikistan, Kyrgyzstan and southern Uzbekistan**

#### **Weather**

Heavy showers and thunderstorms are expected to affect this region with today (Tuesday) and Wednesday likely to be the wettest days. Locally 50-100 mm of precipitation could fall, with this being roughly twice the average May rainfall. Across Pakistan there is also the potential for strong winds related to these storms lifting dense dust plumes.

#### **Discussion**

An increasingly cyclonic upper pattern will produce forcing that will engage the warming plume across this region to produce a range of storm modes. Large CAPE storms are possible, which would produce a large hail threat, but skinny CAPE storms are also possible which would produce flash flooding rainfall. The further southeast you go the higher the cloud bases will likely be, producing a higher likelihood of very strong wind gusts that could lift dense dust storms across dry ground.

#### **Expected Impacts**

Flash flooding and landslides in mountainous regions are most likely impacts. Across Pakistan storms may bring locally very strong wind gusts are able to damage utilities and property, and disrupt travel with poor air quality where lifted dust.



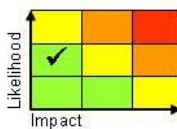
### **Bangladesh and northeast India**

#### **Weather**

Severe thunderstorms look likely to affect this region 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 (approaching 5000 J/Kg), strong 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.



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**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.

**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**

Despite no active MJO in the region, 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 probable weak tropical cyclone 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**

Nil

**Additional Information:**

- **A late-season polar-continental outbreak** continues for much of central and eastern North America, bringing issues for agriculture which is sensitive to late season frosts. Temperatures are will gradually return to near normal values this week.
- **A late-season cold outbreak** continues for much of northern Europe. Some locally low overnight temperatures and frost could cause damage and losses to crops and fruit.
- **A heatwave is expected to continue across southern China, Viet Nam, Laos, Cambodia, Thailand and Myanmar**. Temperatures will be 8 to 12°C above-average. Maximum temperatures will widely reach the mid-30s°C and could exceed 40°C in places. Pre-monsoon heatwaves are not uncommon at this time of year, but this could potentially be more intense and widespread than usual.
- **A heatwave is expected to develop across parts of North Africa, the Levant and southern Europe** (from Italy eastwards) next week, 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 the 7 day period, resulting in a mostly dry picture.
- **Cox's Bazar in the southeast of Bangladesh looks like remaining mostly dry** through the next 7 days, with only isolated showers likely. Beyond 7 days there is a greater risk of precipitation due to a chance of a tropical cyclone in the Bay of Bengal.

**Issued at:** 120730UTC

**Meteorologists:** Nick Silkstone / Tony Wardle

**Global Guidance Unit**

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