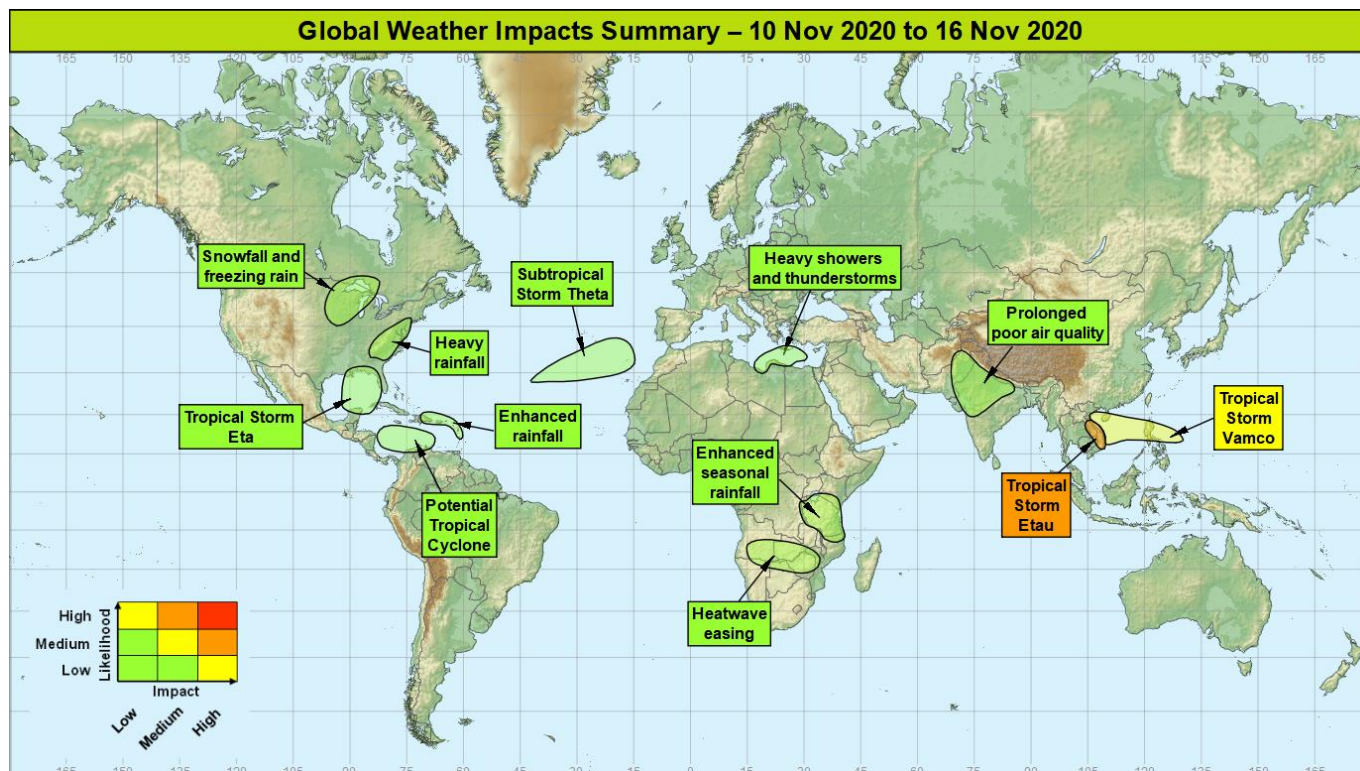


Global Weather Impacts – Tuesday 10th November to Monday 16th November 2020

Issued on Tuesday 10th November 2020

HEADLINES

- Tropical Storm Eta bringing very heavy rainfall to central Vietnam over the next couple of days.
- Tropical Storm Vamco is expected to intensify into a typhoon before crossing the Philippines on Wednesday and then continuing westwards across the South China Sea.
- Subtropical Storm Theta named over the Atlantic making it the record breaking 29th storm of the season.



Tropical Cyclones

Tropical Storm Eta – Vietnam

Weather

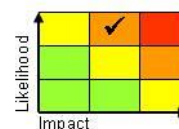
Tropical Storm Eta has just made landfall across southern Vietnam, near Nha Trang (this further south than the track of recent tropical storms). Eta will now quickly decay into a tropical depression. It will however bring excessive rainfall across central Vietnam extending well to the north of where Eta made landfall (including the areas around Hue and Da Nang). Over the next couple of days 100-200mm of rainfall is expected to fall widely, with 400-600mm across areas of high ground. Given the exceptional wet weather here of late, there is a high likelihood of further significant impacts, however tentatively river flows are signalled to not be as high as they were during recent storms.

Discussion

An Equatorial Rossby Wave (ERW) tracked across the Philippines over the weekend and caused the organisation of deep convection. Once over the South China Sea this allowed Eta to form, although moderate vertical wind shear perpendicular to the storm and marginal SSTs of only ~26°C prevented significant strengthening. However, this wind shear helped displace deep convection to the north of the storm, meaning that although it tracked south of many of the recent tropical cyclones to cross the region, the heavy rainfall will impact a similar area.

Expected Impacts

A much enhanced threat of flash/riverine flooding and landslides across central Vietnam.



This forecast may be amended at any time

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Tropical Storm Vamco – Philippine Sea

Weather

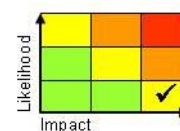
Tropical Storm Vamco continues to move northwest across the Philippine Sea and is likely to become a typhoon through today. By the time it reaches Luzon on Wednesday, there is a chance it could become a very strong typhoon with conditions very favourable for strengthening ahead of landfall. High confidence that the system will bring impactful rainfall with 100-200mm widely along the systems path and 400-600mm over the regions mountains. Given the potential for a very strong typhoon to develop there is also a risk of destructive winds and a storm surge across the east of Luzon Island near the centre of the system. The track looks likely to be a little further north than Molave and Goni but nevertheless sensitivity is likely much higher than normal. After continuing west later this week, Vamco is then likely to reach Vietnam this weekend. Wind strength uncertain at this stage but another spell of heavy rain looks very likely with the greatest chance of this across central and northern Vietnam.

Discussion

In the last 24 hours the satellite presentation of Vamco has markedly improved, with the surface low become located beneath the centre of the region of deep convection. The system only has one further day before approaching the Philippines, but even in this short space of time environmental conditions are extremely favourable to allow the system to develop into a strong typhoon. The high terrain of Philippines will significantly disrupt the circulation likely weakening it into a tropical storm before it emerges into the South China Sea on Thursday. It will have an opportunity to re-strengthen in the South China Sea, although limited 26-27°C SSTs will mean this is gradual. In addition, on approach to Vietnam the ingestion of dry air and increased vertical wind shear may mean the storm is on a weakening trend by this time.

Expected Impacts

An enhanced threat of flash/riverine flooding and landslides as well as infrastructure damage from typhoon strength winds across the Philippines, and potential for further flood and landslide related impacts across Vietnam this weekend. In addition if a strong typhoon were to develop, there would be a risk of a storm surge inundating low lying areas across eastern Luzon.



Tropical Storm Eta – Gulf of Mexico

Weather

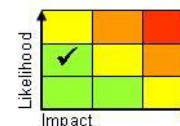
Eta now sits in the southeastern Gulf of Mexico and is currently slow moving. Associated shower and thunderstorm activity continues to extend well to the east and northeast of the system over Cuba and Florida although there are signs that activity is also becoming more consolidated again near the centre of the system. Eta looks likely to strengthen over open waters over the next couple of days with a chance of reaching hurricane strength again. The track of this system over the coming days is much more uncertain than is normal. The latest guidance from NOAA NHC suggest Eta could reach the Florida Panhandle as a tropical depression over the coming weekend. However, there is still a chance that Eta could track much further west or even southwest into Mexico.

Discussion

Having shed much of its outer banding Eta is now more compact in size with deep convection developing around the low level centre. Small storms such as Eta can spin up very quickly, with a chance this to reach hurricane strength while sitting over the warm waters of the southeastern Gulf of Mexico, however small storms are also more likely to be impacted by dry air entrainment, of which there is plenty in the vicinity. After a couple of days of weak steering current the circulation is likely to be drawn north into a region of high vertical wind shear. This increased shear is likely to strip the deep convection away and push very dry mid-level air across Eta, leaving just the low level circulation to gradually spin down over the Gulf of Mexico (this feature none threatening continues to be tracked by NWP such of MOGREPS-G).

Expected Impacts

Small risk in some minor flash flooding across parts of Cuba and Florida.



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Subtropical Storm Theta - North Atlantic

Weather

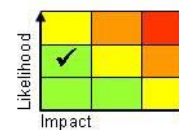
A new subtropical system has formed over the open Atlantic which has been named Theta, the 29th named storm of the season. This means 2020 now holds the record for the most storms in an Atlantic hurricane season. Theta is expected to track east-northeast over the coming days most likely staying over open water this week. Over the weekend, there is an increased likelihood of Theta reaching some of the islands in the east Atlantic with Madeira currently looking most probable to see heavy rainfall and strong winds associated with Theta.

Discussion

Deep convection has begun to become more prevalent around an old mid-latitude low which has become detached from its frontal zones and sits beneath an upper cold pool. This has led to the development of a symmetric warm cored low, which will potentially become better defined as a tropical system over the next couple of days.

Expected Impacts

Rainfall may bring some minor flooding issues to Madeira.



The following area is being monitored for tropical cyclone development that has the potential to impact land.

Caribbean Sea

Weather

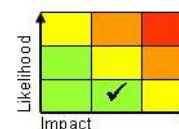
An area of enhanced shower and thunderstorm activity moved west across the Lesser Antilles on Monday and will now continue west across the central and western Caribbean. Within conditions marginally favourable, there is a chance that this feature could develop into a tropical storm over the coming days. This area is yet to form so confidence is low, however some heavy rainfall is expected to graze parts of northern Venezuela and Colombia.

Discussion

A tropical wave continues west across the Caribbean, in this area underlying SSTs remain high (28-29°C), the wave initially sits within a broad pocket of moisture, and low vertical wind shear. However if a circulation forms it will probably draw dry air south on its forward flank with a significant chance of this being ingested into the circulation impeding deep convection. As such we remain unsure about the potential for development of this feature at the current time.

Expected Impacts

Increased risk of some minor flash flooding across northern Venezuela and Colombia.



The following areas are being monitored for tropical cyclone development that will remain over open ocean.

Southwest Indian Ocean

Weather

There are two clusters of showers and thunderstorm in the area which have the potential to develop into tropical cyclones in the region, both would likely be steered south and then southeastwards remaining well away from land.

Discussion

Two ERW or two vorticity maxima around a single Equatorial Rossby Wave (ERW) may well develop at least one tropical cyclone in this region in the coming week, conditions are marginally favourable for gradual development. The official season for Southwest Indian Ocean cyclones begins on the 15th November.

Expected Impacts

Nil.

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**Europe**

Crete and southeast Greek Islands – See *Africa* section.

North America

Florida and Georgia– See *Tropical Storms* section

Northern Plains and western Great Lakes region of the USA and Canada**Weather**

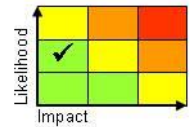
A further day of snowfall and some freezing rain across this region with up to of 40cm of snowfall possible in some today and a significant risk of freezing rain across a wide area.

Discussion

A major upper trough has a strongly baroclinic region on its forwards side, along this zone a lee low forms just to the east of the Rockies and will runs quickly northeast reaching central Canada by mid-Wednesday. This will produce rainfall across a wide area, but on its northwestern edge precipitation will fall as both snowfall and freezing rain.

Expected Impacts

Disruption to transport and infrastructure. Ice accretion will likely lead to severe travel disruption and potentially damage over ground wired infrastructure such as electricity cables.

**Eastern USA****Weather**

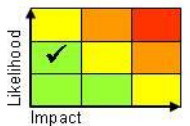
Heavy rain will fall widely across this region through Wednesday and Thursday with wide areas likely seeing between 25-75mm of rain across the two days, and peaks likely in the order of 200mm. Average rainfall in this region in the whole of November is typically 70-90mm.

Discussion

A cold front trailing from a major cyclone moving across the Great Lakes midweek will have drawn moist Caribbean air into its warm conveyer. This feature will become aligned to the upper level flow for a time, making the feature slow moving and prone to flat northeast running frontal waves over a couple of days. This will likely bring very heavy rainfall to a broad region before a more zonal upper pattern becomes established and pushes the frontal zone away to the east into Friday.

Expected Impacts

Increased risk of both flash and some minor riverine flooding.

**Central America and Caribbean**

Caribbean Sea – See *Tropical Cyclones* section.

Areas across the Lesser Antilles to Hispaniola**Weather**

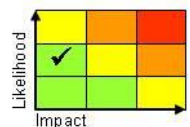
Enhanced tropical rainfall is expected in this region in the coming week. Heavy showers and intense thunderstorms are likely to develop with daily rainfall totals potentially reaching 50-100mm in places, perhaps locally 150-200mm. Monthly rainfall totals for the month of November are typically 150-250mm in this region.

Discussion

A major trough extension from the Atlantic mid-latitudes may well eventually lead to a trough disruption with a cut-off upper vortex across the northern Caribbean by this weekend. The trough will lead to upper level divergence and marked wind shear in the region early in the week, before the arrival of the cold pool assisted with cut-off that will lead to unusually steep lapse rates for the Caribbean with profiles even being marginally supportive of hail.

Expected Impacts

Increased chance of flash and riverine flooding, particularly over more mountainous islands and an enhanced threat of landslides.



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South America

Northern Venezuela and Colombia – See *Tropical Cyclones* section.

Africa

Northern Egypt, Libya, Crete and southeast Greek islands

Weather

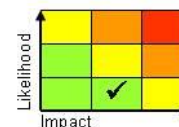
An area of active showers and thunderstorms is rotating around a shallow low pressure area that is moving slowly west into the central Mediterranean. The heaviest rainfall is forecast to be over sea areas, Crete and perhaps northern coastal strip of Africa, where locally more than 25-50mm may accumulate, with much of this likely in a very short duration. The typical monthly rainfall along the north African coastline is just 20-40mm.

Discussion

Beneath a broad cyclonic upper pattern and over warm underlying SSTs, persistent organised convection has developed and organised around a shallow warm cored low. This low looks likely to remain in the eastern Mediterranean for some time and the flow around it may feed an unusually high abundance of showers and thunderstorms into Crete and more unusually into parts of the north Africa coastline.

Expected Impacts

Impacts largely confined to populated urban areas where this unusual and short duration rainfall could will cause some significant flash flooding.



Tanzania, Kenya, Burundi, northern Mozambique, and Malawi

Weather

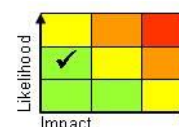
The East Africa short rains season is well underway and above average rainfall looks likely through the coming week. Rainfall accumulations will be very variable with the majority of the highlighted region seeing 25-50mm during this time, and some location such as coastal Tanzania (including Dar es Salaam) have the potential of seeing 200-250 mm of rainfall during this time. Typical November rainfall totals in this region are 50-100 mm.

Discussion

The passage of the MJO across the western hemisphere is leading to increased shower and thunderstorm activity across much of Africa through the coming week. The extension and subsequent disruption of a mid-latitude upper trough across the south of this region during the weekend, will further enhanced shower activity into next week.

Expected Impacts

Some flash flooding is likely, especially in some of the regions larger and more poorly planned urban centres. There will be an increased risk of landslides in regions where terrain is steep.



Parts of southern Africa

Weather

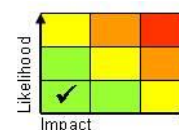
During the peak of the heatwave temperatures peaked at 44°C in both South Africa and Mozambique on Monday. Temperatures are now falling back to nearer average as eastern parts of the region see cooler air arriving from the southwest Indian Ocean, with increasing cloud cover and shower activity also reducing temperatures across all parts.

Discussion

A combination of warm advection and subsidence led to well above average temperatures developing across this wide region in what is usually the hottest part of the year. A strong surface high to the south of South Africa is now developing a strong southeasterly breeze which will cool eastern parts of the region, with passing mid-latitude upper troughs reduce static stability and increase deep convection across the region too.

Expected Impacts

Decreasing risk of heat health impacts likely for vulnerable humans and livestock.



Middle East

Nil.

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Asia

Philippines, Vietnam and southern China - See *Tropical Cyclones* section

Northern India, Pakistan, Nepal and eastern Afghanistan

Weather

Very poor air quality is being reported and is expected to continue over this week, as light winds and increased particulate emissions, and seasonal crop burning combine to bring hazardous conditions, particularly by night.

Discussion

Particulate emissions are increasing now due to an increase in fires/heating/lighting and ongoing seasonal crop burning, and as the post-monsoon dry season progresses, light winds and overnight inversions will trap particulates near to the ground fairly widely in this area. Minimal improvement in air quality are now occurring by day.

Expected Impacts

Human health issues (both short and long term) are likely to not only be limited to those more susceptible to poor air quality.



Australasia

Nil.

Additional Information

Cox's Bazar, southeast Bangladesh

Conditions largely dry and fine with temperatures slightly above average.

Yemen

Predominantly dry conditions are expected with isolated showers affecting the far south and western coasts at times as is normal at this time of year.

Sudan/South Sudan

The dry season has developed across much of Sudan and the north of South Sudan with showers only likely to continue close to the Red Sea coast. Across the south of South Sudan showers continue much reduced in frequency compared to recent times, with a good deal of dry weather even here.

Issued at: 090845 UTC

Meteorologists: Nick Silkstone / Chris Bulmer

Global Guidance Unit

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