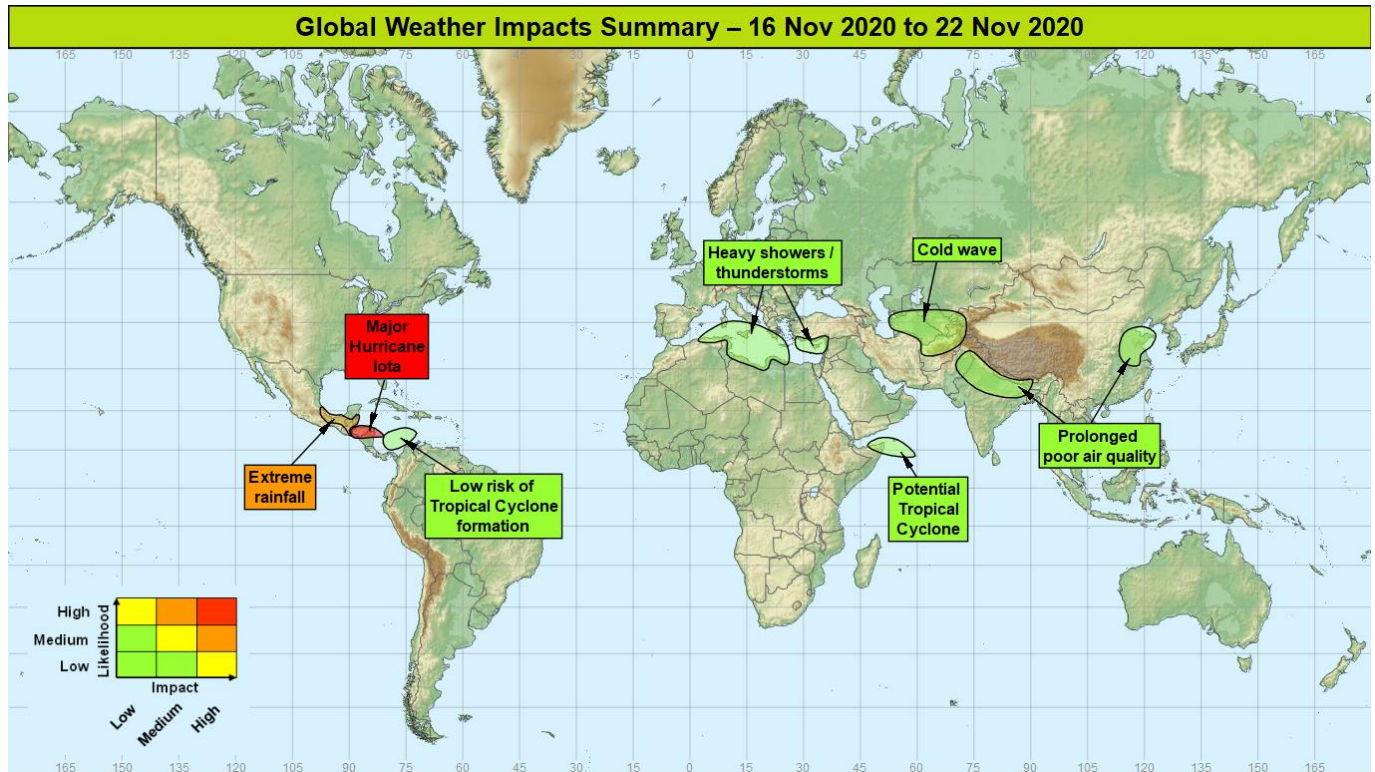


## Global Weather Impacts – Monday 16th to Sunday 22<sup>nd</sup> November 2020

Issued on Monday 16<sup>th</sup> November 2020

### HEADLINES

- Major Hurricane Iota expected to bring catastrophic impacts Honduras and its bordering countries.
- Extreme rainfall well ahead of Iota will impact an area between Belize and southern Mexico.

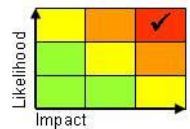


### Tropical Cyclones

#### Major Hurricane Iota - Honduras, Nicaragua, Guatemala and El Salvador

##### Weather

Hurricane Iota (the record 30<sup>th</sup> named storm of the 2020 Atlantic Hurricane season) has continued to strengthen over the last 24 hours and has now become a major hurricane (Category 4) with sustained winds of 145mph. The hurricane will continue to move slowly westwards over the next 24 hours, and is expected to strengthen further perhaps reaching Category 5 for a time before making landfall across northern Nicaragua (just south of the Honduras border) in the early hours of Tuesday morning (GMT), and thereafter gradually weakening into a tropical depression as it crosses Central America over the following couple of days. Catastrophic impacts are expected from wind and storm surge along the Nicaraguan and Honduran coastlines, and from extreme rainfall and associated hazards across a wide area stretching well inland. The area affected is similar to the area impacted by Hurricane Eta less than 2 weeks ago. Across an area which has seen 2-4 times the normal rainfall in the past 30 days (much of this in the past 14), a further 200-400mm is expected to fall widely within a day or two, with isolated totals of the order of 800mm expected across some of the regions higher ground.



This forecast may be amended at any time

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319

VPN: n6225 4319 Email: [GGU@metoffice.gov.uk](mailto:GGU@metoffice.gov.uk)

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## Discussion

Under near ideal environmental conditions Iota has continued to strengthen over the past 24 hours into a major hurricane. Conditions remains favourable until hours before landfall (when topographic friction will begin to impinge the system), with extremely high environmental relative humidity, underlying ocean with deep warm water, minimal vertical wind shear and excellent upper level outflow channels both equatorward and poleward. The hurricane is expected to remain major at landfall with even a well-timed Eyewall Replacement Cycle (ERC) unlikely to significantly weaken the system. We have high confidence in the track of Iota as the circulation is being steered westwards by the easterly flow on the south side of an upper ridge that extends across the Gulf of Mexico and Florida, which will result on a gradual westward motion into Central America with decay into a tropical depression likely within 48 hours of landfall.

## Expected Impacts

Catastrophic damage from winds and storm surge likely close to the eye across coastal Nicaragua and Honduras. Equally catastrophic flash and riverine flooding expected across wide inland areas, with landslides and perhaps some mobilisation of volcanic debris (especially far west of the highlighted area) likely too.

*The following tropical cyclone that will remain over open ocean:*

**Southwest Indian Ocean** – Tropical Cyclone Alicia is gradually moving southwest across the open southwest Indian Ocean. The system will gradually weaken over the next couple of days and will not impact land.

*The following area is being monitored for tropical cyclone development that may impact land:*

## **Northeast Indian Ocean – Somalia and Socotra Island (Yemen)**

### Weather

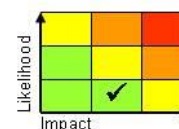
A cluster of showers and thunderstorms moving northwestwards across the northwest Indian Ocean has a small chance of developing into a tropical cyclone this weekend as the areas approaches the Horn of Africa. If this cyclone forms this could bring heavy rainfall across the usually dry northeast of the Somalia and Socotra Island, with 100-200mm possible.

### Discussion

An Equatorial Rossby Wave in the northwest Indian Ocean will likely continue to progress slowly northwestwards. As it does so it will move through a marginally favourable environment for the development of a tropical cyclone with reasonable warm underlying SSTs (26-28°C), and fairly good other environmental factors. Regardless of the degree of development some enhanced rainfall is expected across the region this coming weekend.

### Expected Impacts

Increased risk of minor riverine and potentially more significant flash flooding in the region.



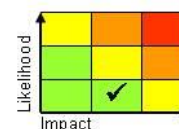
## **Southwestern Caribbean**

### Weather

There is a small risk for the development of a further tropical cyclone across the central or western Caribbean from midweek. Again the environment in this region looks relatively favourable, however not as favourable as it was for Iota in part due to slightly cooler SSTs in the wake of Iota crossing the region.

### Discussion

On the eastern edge of a fairly broad gyre (within which Hurricane Iota is embedded) there is signalled to be a zone of enhanced low level vorticity where the southwesterly flow circulating around the gyre meets the easterly trade winds of the Caribbean. This is likely to lead to enhanced shower and thunderstorm activity, with the potential that this could consolidate into a tropical cyclone later in the week in fairly favourable atmospheric conditions. As this system has yet to form confidence in its evolution is low, however anything which did form would be steered westwards towards the coast of Central America once again.



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## Expected Impacts

A risk of further most likely rainfall related impacts with flash and riverine flooding across parts of Central America.

*The following area is being monitored for tropical cyclone development that will remain over open ocean:*

**Eastern Pacific** – An area of showers and thunderstorms is being watched for likely development into a tropical storm in the coming days. Any development is expected to remain well away from any land.

## Europe

### Central and Eastern Mediterranean and adjacent coasts

#### Weather

An unsettled week ahead across the central and eastern Mediterranean with enhanced shower and thunderstorm activity across much of the basin, and some periods of strong winds too. Although there are always marked localised variations with showers, 25-50mm is signalled to fall fairly widely, with peaks over 100mm in some spots. The greatest impacts from this are more likely across the usually drier areas of North Africa, for example northern Libya typically only sees 15-30mm of rainfall in November.

#### Discussion

A markedly amplified pattern Europe will see at least two troughs (and associated upper cold pools) extend and disrupt across the Central Mediterranean, with these features then relaxing eastwards across the eastern Med. As such a couple a cyclogenesis events are expected across the Med, bringing precipitation from both dynamic and convective means and some strong winds. The impact from this rainfall most likely across the usually drier parts of North Africa, especially if enhanced rainfall affects an urban area.

#### Expected Impacts

Enhanced risk of flash flooding, especially across urban areas. Strong winds will lead to some rough seas, which will be hazardous small craft.

## North America

Nil.

## Central America and Caribbean

**Honduras, Nicaragua, Guatemala and El Salvador** - See Tropical Cyclones section

### Belize, much of Guatemala and southern Mexico

#### Weather

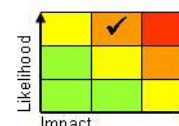
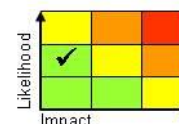
Within the enhanced northeasterly winds which extends well northwest of Hurricane Iota, much more frequent than usual showers and thunderstorms will be advected across the area. These are expected to bring 200-400mm of rainfall to the Caribbean coastlines of Belize and the Yucatan Peninsula of Mexico, and similar amounts driven inland from the Bay of Campeche. This region experienced extremely high rainfall in the past 14 days during a similar event that occurred in association with Hurricane Eta.

#### Discussion

An enhanced northeasterly flow has developed across a wide region between a strong surface high located across the southern USA, and the broad low pressure gyre within which Hurricane Iota is embedded across southern Central America. A slow moving cold front extends from the Florida Strait to the northern Bay of Campeche, which a moist tropical airmass to the south of this. As such frequent showers and thunderstorms within the tropical airmasses will push onto the coastlines, and be further enhanced by orographic ascent in the northeasterly flow.

#### Expected Impacts

A much increased risk of flash and riverine flooding, and landslides in areas where terrain is steep.



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## South America

Nil.

## Africa

Somalia - See Tropical Cyclones section

Mediterranean Coastline from Algeria to Libya - See Europe section

## Middle East

Mediterranean Coastline of Syria and Lebanon - See Europe section

Socotra Island, Yemen - See Tropical Cyclones section

## Asia

### Northern India, Pakistan, Bangladesh, Nepal and parts of eastern China

#### **Weather**

After a brief respite at the weekend thanks to some precipitation (particularly in the northern parts of these areas), very poor air quality is likely to return readily as light winds, increased particulate emissions, and seasonal crop burning combine to bring hazardous conditions, particularly by night.

#### **Discussion**

Particulate emissions remain elevated due to an increase in fires/heating/lighting and ongoing seasonal crop burning. As the post-monsoon dry season progresses light winds and overnight inversions will trap particulates near to the ground fairly widely in this area. Only minimal improvements in air quality are now occurring by day. As temperatures fall through this week, it is expected that emissions will increase further.

#### **Expected Impacts**

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



### Northeast Iran, Afghanistan, Turkmenistan, Uzbekistan and Kazakhstan

#### **Weather**

A marked cold wave is expected from mid-week bringing temperatures 10-15°C below average. This represents maximum temperatures failing to exceed 0°C particularly in the north of the region highlighted and very low overnight minimums. These temperatures are more typical of those experienced in the colder spells in December and January.

#### **Discussion**

A marked pattern amplification sees cold air of originating from central/northern Russia being drawn southwards across this region. The peak in the cold is likely to be on Thursday and Friday with a gradual recovery in temperatures beginning as the cold airmass begins to warm out over the weekend.

#### **Expected Impacts**

Some cold weather health related impacts likely for vulnerable or exposed people.



## Australasia

Nil.

## Additional Information

### Cox's Bazar, southeast Bangladesh

It is now the dry season in this region and further impacts from rainfall are not expected until March, therefore this is the final routine update for this area.

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**Yemen**

It is now predominantly the dry season in this region, therefore this is the final routine update for this area.

**Sudan/South Sudan**

It is now the dry season in this region and further impacts from rainfall are not expected until next April-May, therefore this is the final routine update for this area.

**Issued at:** 160935 UTC

**Meteorologists:** Chris Almond / Nick Silkstone

**Global Guidance Unit**

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