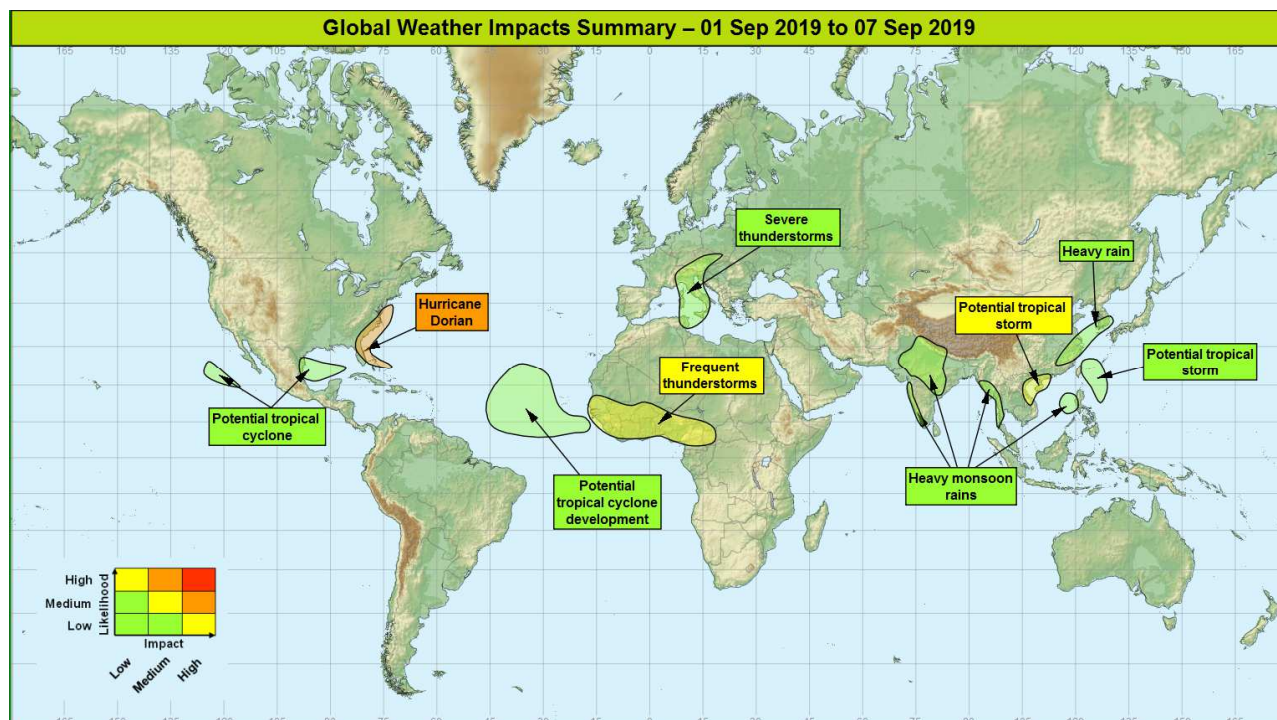


## **Global Weather Impacts – Sunday 1<sup>st</sup> to Saturday 7<sup>th</sup> September 2019**

Issued on Sunday 1<sup>st</sup> September 2019

### HEADLINES

- Hurricane Dorian will severely impacts the Bahamas during Sunday and Monday, before moving onto to affect Florida and the Carolinas.
- Intense thunderstorms continuing across tropical western Africa.



### DISCUSSION

#### Tropical Cyclones

##### Hurricane Dorian (northern Caribbean Sea and eventually SE USA)

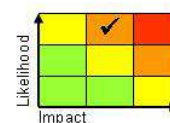
###### **Weather**

At 0300 UTC, Dorian was located 125 miles east of the Great Abaco, Bahamas moving west at 8 mph, with maximum sustained winds of 150 mph. As this powerful major hurricane (category 4) moves across the northern Bahamas over the next few days, it is expected to gradually slow down, leading to a prolonged period of destructive winds, torrential rainfall and significant storm surge. Here, around 700 to 1000 mm of rain is possible.

After clearing the Bahamas, the track of Dorian becomes more uncertain. Currently the hurricane is expected to turn northwards before reaching Florida, sparing the state the very worst impacts. However, there does remain a risk, albeit small, of Dorian making landfall across Florida's Gold Coast before then moving back into the Atlantic. If this were to occur impacts would be more severe than currently anticipated. Regardless of the track, torrential rain will affect eastern parts of the state with around 300 to 450 mm of rain expected.

By midweek Dorian is expected to track slowly north close to the Eastern Seaboard, and will potentially still remain as a hurricane as it reaches North Carolina during Friday, albeit probably as a weaker feature.

###### **Discussion**



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)

© Crown copyright 2019. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

Environmental conditions will remain favourable for further intensification and Dorian should remain a major hurricane until midweek. The only possible way of retarding Dorian's development, in the short term, will either be eye-wall replacement cycles, which tend to lead to some loss of intensity, or Dorian generating upwelling of cooler waters as it slows down during Monday. Should neither of these factors occur, then there is every chance Dorian could attain category 5 strength (>136kn 1-minute sustained winds).

Once clear of the Bahamas, the general model consensus is for the hurricane to turn north, prior to making landfall along the Atlantic coastline of Florida, giving the state a glancing blow rather than a direct hit. However, ensembles continue to suggest a non-negligible chance that Dorian will progress sufficiently far west to make landfall over Florida before turning north, and even reaching the Gulf coast. These large differences in model output suggest that confidence in predictions of Dorian from around late Monday onwards remain rather low and there is still a possibility of a more severe spell of weather across Florida than suggested by the current guidance. The most probable outcome would likely mean storm surge and flash flooding would be the biggest hazard from Dorian, with wind damage less of a threat. Dorian could make still make a US landfall later in the week as it passes close to the coastline of the Carolinas.

### Expected Impacts

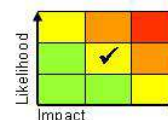
Extremely damaging winds, particularly across the northern Bahamas are expected, with near-total destruction of well-built structures possible in the islands Great Abaco and Grand Bahama. Prolonged power outages are likely. Flash flooding and widespread coastal flooding, due to significant storm surge are also expected. Impacts across Florida are currently expected to be less severe.

*The following areas are being monitored for possible tropical storm development*

### Northern Vietnam, Hainan and southern China

#### Weather

There are increasing signals for a tropical depression to develop in the South China Sea on Sunday night or on Monday. This could then potentially strengthen into a tropical storm then track towards southern China later in the week. Storm force winds are possible, with 300-600mm of heavy rain and thunderstorms associated with this feature. The main focus of the rain will be along the coast of northern Vietnam, Hainan and southern China.



The depression will enhance the monsoon winds and associated rainfall across the South China Sea and western Luzon, Philippines for the next day or so. This could lead to 75 to 125 mm of heavy rainfall fringing the Manila area.

#### Discussion

There have been strengthening signals from the models for development of a tropical depression across the south China Sea in the coming days. This may be linked to the passage of a Rossby wave moving west from the western Pacific. There remain some model differences for the evolution, mainly the position for formation, but there is reasonable consistency for the likely track, once formed, with all the models taking a storm across Hainan and towards southern China later this week.

### Expected Impacts

Flash flooding and landslides, plus damaging winds, storm surge and rough seas.

### Eastern Pacific

#### Weather

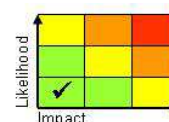
There is a high chance that a tropical storm or hurricane will develop in the eastern Pacific during the next five days. Any system that develops should remain over open water.

#### Discussion

An area of thunderstorms, well to the south-west of Baja California, has a 100% chance of developing into a tropical storm in the next 48 hours. Any system that does develop will pose no threat to land.

### Expected Impacts

Nil.



**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)

© Crown copyright 2019. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

## Western Pacific

### **Weather**

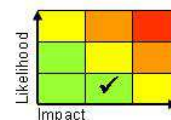
There is the potential for a tropical storm to develop across the open waters of the western Pacific to the northeast of the Philippines in the next few days. This could then move towards Taiwan and the southeast China by the end of the week.

### **Discussion**

There are increasing model signals for the development of a tropical storm across the western Pacific and to the northeast of the Philippines in the next few days. This is not expected to impact Luzon, Philippines, but if this does form, instead track towards Taiwan and possibly southeast China by the end of the week. Potentially storm force winds, with 300-500mm of heavy rain and thunderstorms may be associated with this feature.

### **Expected Impacts**

Flash flooding and landslides, plus damaging winds, storm surge and rough seas.



## Tropical Atlantic

### **Weather**

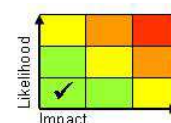
There is potential for tropical depressions or cyclones to develop off the coast of West Africa through this coming week. Currently, there are no indications that if a storm was to form, that it would affect land areas.

### **Discussion**

Further AEW are expected to develop and move out into the tropical Atlantic. Compared to earlier in the month, conditions are much more favourable for tropical cyclogenesis and there is potential for a couple of systems to form this week. It is too early to determine whether, once formed, these will ultimately end up in the Caribbean.

### **Expected Impacts**

Nil, as any storm that does form will remain over open ocean.



## Gulf of Mexico

### **Weather**

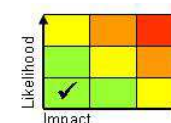
There is the potential for a tropical depression, low probability tropical storm, to develop to the west of Cuba in the next 5 days. This is not expected to be a major feature, if it forms and then soon decay as it transfers towards southern and southwestern Mexico by midweek. This is not expected to produce strong winds, but heavy rain (100-200mm per day) is likely to be associated with this feature.

### **Discussion**

A broad area of low pressure located over the southeastern Gulf of Mexico is producing disorganised showers and thunderstorms. Some gradual development of this system is possible during the next several days while it moves slowly westward across the southern and southwestern Gulf of Mexico. The NHC give a low probability (30%) for this to develop into a tropical cyclone.

### **Expected Impacts**

Flash flooding and landslides.



**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)

© Crown copyright 2019. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

## Europe

### Central Mediterranean, Tunisia, parts of central and eastern Europe

#### **Weather**

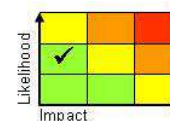
Occasional severe thunderstorms are possible through until mid-week, bringing the threat of 30-50 mm of rain in a few hours, along with large hail and strong winds. However, many parts will avoid these thunderstorms. Heavy showers and thunderstorms will become more widespread for a time, over the next day or so, in a region stretching from north-east Italy through Slovenia and into the Czech Republic; here over 100 mm is possible in places.

#### **Discussion**

Although upper forcing for these storms will initially be relatively modest, large CAPE will allow some intense downpours, with large hail, to develop in response to diurnal heating in the next few days. Marked wind shear could allow for some organised and long-lasting storms to develop. A more pronounced upper trough is expected engage a surface cold front lying eastwards from the Alps and lead to some heavy and thundery rain. By mid week gph values increasing from the west will confine the thunderstorms to the central Mediterranean.

#### **Expected Impacts**

Flash flooding, with frequent lightning strikes perhaps leading to an increased risk of power outages. There is a lower likelihood of impacts from strong winds and large hail.



## North America

Florida and the Eastern Seaboard – see *Tropical Cyclones* section.

## Central America and Caribbean

Bahamas and Mexico – see *Tropical Cyclones* section.

## South America

Nil.

## Africa

### West Africa

#### **Weather**

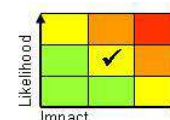
Frequent heavy showers and thunderstorms will continue across this region over the coming week. Thunderstorms are likely to produce locally 50 to 100mm of rain in a short period, with up to 250 mm possible in places during this period. The focus for the largest rainfall totals looks likely to be around coastal areas in the west. This comes on top of wetter than average conditions for many parts over the summer monsoon season so far – around 125-150% of climatology. From midweek there are signs that activity will begin to ease with showers and thunderstorms becoming less intense, with longer dry spells developing.

#### **Discussion**

Enhanced seasonal rainfall continues to be signalled with above normal totals expected in this region. This will likely come in the form of MCS developments, organised at times by African Easterly Waves (AEWs), with impacts especially likely should these affect any of the more urbanised regions within this zone. Models are showing some signs of AEW activity easing from around the middle of next week.

#### **Expected Impacts**

Flash flooding is possible in places together with an increased risk of landslides and river flooding. Risk of some dense lifted dust on the northern periphery of the thunderstorms.



Tunisia – see *Europe* section.

## Middle East

Nil.

**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)

© Crown copyright 2019. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.

### Asia

#### Parts of South and Southeast Asia

##### **Weather**

Frequent intense showers and thunderstorms are expected to continue, producing up to 75-150 mm in a 24-hour period. 200-300 mm could fall through the next five days across parts of west and northwest India, with 300-500 mm in parts of southern Myanmar and neighbouring Thailand. This would result in the average August rainfall falling in a week in places.

##### **Discussion**

Convection associated with a developing monsoon depression will continue to move west across central and northern India then into southern Pakistan in the coming 3 or 4 days. This being the focus for heavy showers/thunderstorms. Meanwhile, a strong monsoonal flow will bring heavy rainfall to southern Myanmar and parts of Thailand and Laos possibly enhanced over the weekend by the remnants of TS Podul. Southwest-facing upslopes will be most threatened by enhanced rainfall due to orographic uplift of the very moist airmass.

##### **Expected Impacts**

Flash flooding events are likely, with an increasing likelihood of river flooding and landslides.



#### Eastern China and South Korea

##### **Weather**

Heavy rainfall and severe thunderstorms are expected across the region over the next week. 100-250mm of rain is likely widely, with 400mm of rain possible in places. After a brief drier interlude at the start of the period, rain is expected to return to South Korea during the coming week, with up to 200 mm possible in places.

##### **Discussion**

An extending upper trough from the mid-latitudes is signalled to extend and engage the in-situ moist, tropical air across these areas leading to particularly heavy rainfall.

##### **Expected Impacts**

Flash and river flooding are possible, along with an increased threat of landslides in mountainous areas.



**Northern Vietnam, Hainan and southern China** – see *Tropical Cyclones* section.

### Australasia

Nil.

### Additional information

Nil.

**Issued at:** 010850UTC

**Meteorologist:** Tony Wardle / Brent Walker

**Global Guidance Unit**

**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)

© Crown copyright 2019. This information is for use by UK government only. It does not replace the advice and guidance provided by the official meteorological service for this region. Where there is a requirement to share this information with non-UK government agencies, please contact the Met Office to discuss.