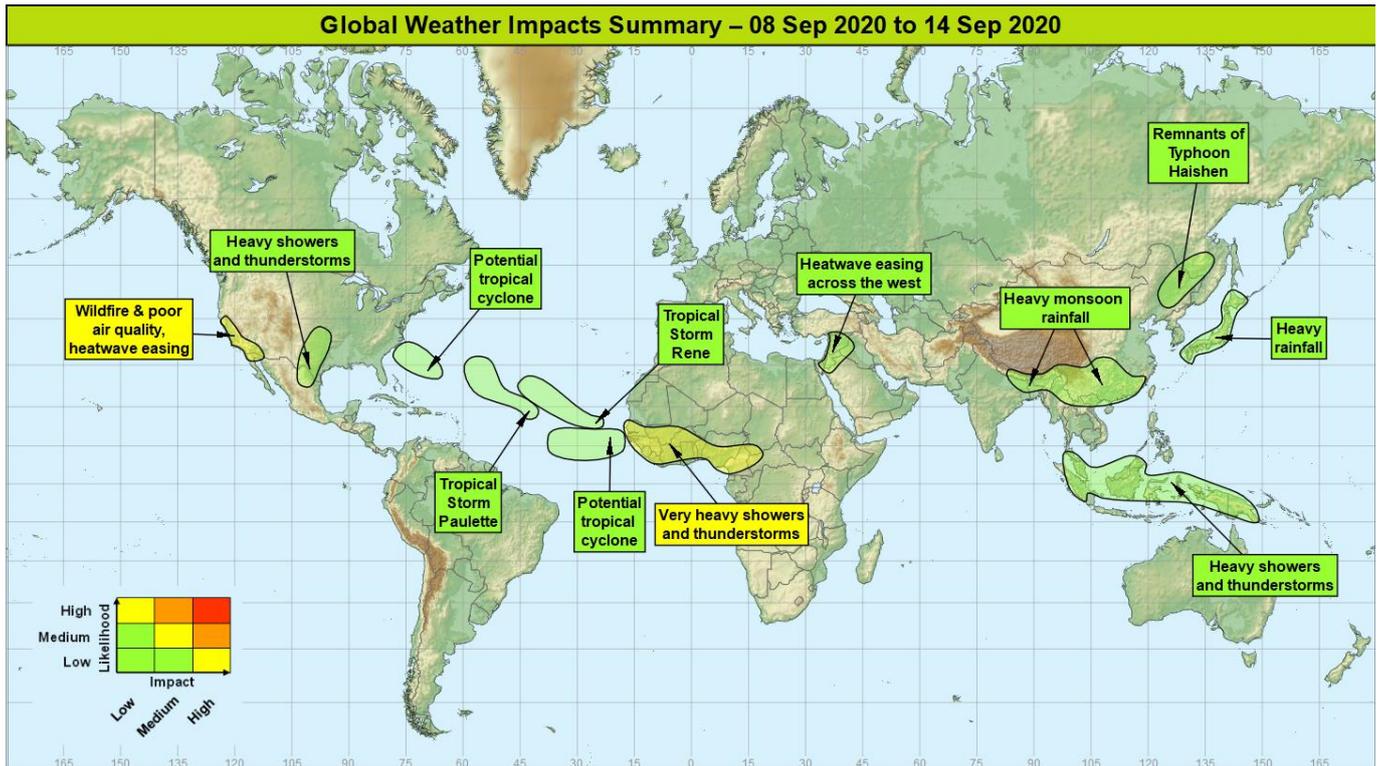


## Global Weather Impacts – Tuesday 8<sup>th</sup> to Monday 14<sup>th</sup> September 2020

Issued on Tuesday 8<sup>th</sup> September 2020

### HEADLINES

- The remnants of Typhoon Haishen bringing further heavy rainfall to parts of northeast China and southeast Russia.
- Tropical Storms Paulette and Rene in the tropical Atlantic, no significant impacts expected within the coming days.
- Continued heavy showers and thunderstorms across the Sahel region of West Africa.
- Heightened wildfire risk continuing in US state of California.



### Tropical Cyclones

#### Remnants of Typhoon Haishen – northeast China and far southeast Russia

##### Weather

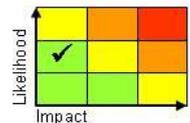
Haishen made landfall Sunday night in South Korea close to Busan as a strong typhoon. Only slight weakening occurred during its short time over land before it moved out into the Sea of Japan ahead of its second landfall in North Korea's South Hamgyong province on Monday afternoon. Thereafter the cyclone weakened quickly into a remnant low, but further heavy rainfall is likely for the next day or so over parts of northeast China and southeast Russia as the remnants track northeastwards. A further 100-150mm is possible here.

##### Discussion

Haishen weakened quickly inland over North Korea aided by land interaction and increased shear, though heavy rain will continue today (Tuesday) before easing Wednesday.

##### Expected Impacts

Flash and riverine flooding and the enhanced risk of landslides is now likely to be the primary hazard.



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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)

## Tropical Storm Paulette – central tropical North Atlantic

### Weather

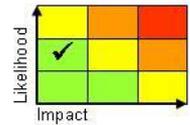
Paulette strengthened into a tropical storm Monday afternoon as it moved slowly northwestward in the central tropical Atlantic. It is currently around 1,200 miles east-northeast of Barbados, with sustained winds around 45 mph and gusts over 55 mph. Some modest strengthening is expected as it continues slowly in a similar direction, though it is not currently expected to reach hurricane strength in the next five days, nor affect land.

### Discussion

Paulette is the 16<sup>th</sup> named storm of the 2020 Atlantic hurricane season, the earliest 16<sup>th</sup> named storm of any Atlantic season by 10 days. It formed from an African Easterly Wave (AEW). Weak steering flow will lead to only slow progress northwestward, with the track perhaps turning more westward with time as a mid-level ridge builds over the western and central North Atlantic. Most output keeps the system at TS strength given moderate shear and some dry air entrainment, though a minority of output supports its development into a hurricane in a couple of days or so.

### Expected Impacts

Nil.



## Tropical Storm Rene – eastern tropical North Atlantic

### Weather

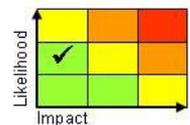
Rene strengthened into a tropical storm Monday night as it moved west-northwestward towards the Cabo Verde islands. It is now crossing the islands with sustained winds around 45 mph. Strengthening is expected as it continues in a similar direction, and given favourable conditions Rene could reach hurricane strength in the next few days, though by this time it will be well away to the west of Cabo Verde over the open waters of the tropical Atlantic.

### Discussion

Rene is the 17<sup>th</sup> named storm of the 2020 Atlantic hurricane season, the earliest 17<sup>th</sup> named storm of any Atlantic season by 11 days. It formed from an African Easterly Wave (AEW). Rene has a good chance of reaching hurricane strength given low shear and plenty of atmospheric moisture. As it turns more northwestward and shear increases later this week some weakening could start to occur.

### Expected Impacts

Gusty tropical storm-force winds and heavy rainfall over Cabo Verde will ease today as Rene moves away westward. Risk of localised flash flooding as a result of the rainfall. Rough seas also a likely hazard.



*The following areas are being monitored for potential tropical cyclone development:*

## Tropical North Atlantic – southwest of Bermuda

### Weather

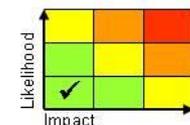
An area of low pressure to the southwest of Bermuda has a small chance of developing into a tropical cyclone in the next five days as it tracks west-northwest towards the Eastern Seaboard of the USA.

### Discussion

A tropical wave located just to the southeast of Bermuda is producing a disorganised area of showers. There is a low probability (NHC suggest 40%) for some slow development of this system during the next five days.

### Expected Impacts

Nil.



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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)

## Far eastern tropical North Atlantic

### **Weather**

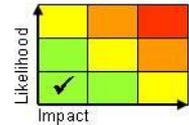
There is a moderate chance that another tropical depression could form later this week or over the weekend in the eastern tropical North Atlantic just to the south of the Cabo Verde islands.

### **Discussion**

An African Easterly Wave (AEW) is expected to move off the coast of West Africa later this week, which could subsequently develop into a tropical depression over the warm waters of the tropical Atlantic. NHC suggests a 60% chance for this to occur during the next five days.

### **Expected Impacts**

Regardless of development, gusty winds and locally heavy rainfall perhaps causing flash flooding is possible over Cabo Verde later this week or this weekend, and rough seas may be an additional hazard.



## Europe

Nil.

## North America

### Southwest USA and far northwest Mexico

#### **Weather**

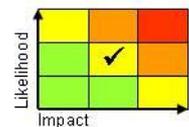
Temperatures across the region are starting to fall closer to average from their recent record highs. However, Tuesday will remain very hot in places, and wildfire conditions may continue for the next few days with the potential for an early-season Santa Ana wind event to exacerbate the fire risk in southern California, with a corresponding reduction in Air Quality.

#### **Discussion**

The broadscale pattern has begun to re-orientate to allow cooler air to push southwards across the region, though this will in turn allow offshore winds to strengthen Tuesday into Wednesday with this early-season Santa Ana event maintaining an elevated to critical fire risk.

#### **Expected Impacts**

Wildfires will continue to burn in the region, even with temperatures easing, leading to reduced air quality. Strengthening winds in southern California will make fire containment more difficult, though may also help clear some of the smoky air trapped in valleys.



Southern Plains of the USA – see *Central America and Caribbean* section

## Central America and Caribbean

Far northwest Mexico – See *North America* section

### Northeastern Mexico and Southern Plains, USA

#### **Weather**

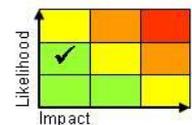
Heavy shower and thunderstorm will be much more frequent than usual across this region this week. Showers may bring 50mm of rainfall in an hour or less, with many locations seeing 50-100mm of precipitation during this time, and some perhaps as much as 200-300mm. This would represent around a month's rainfall across the space of a few days.

#### **Discussion**

To the south of the major high pressure which is causing the extreme heatwave across the southwest of North America, enhanced easterly winds will blow across the Gulf of Mexico. These pick up ample moisture which will be deposited across the highlighted region, with the mountainous zones in particular (where convection released by ascent over orography) prone to some very high accumulations.

#### **Expected Impacts**

Increased risk of flash and riverine flooding, with the additional chance of landslides in mountainous regions.



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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)

## South America

Nil.

## Africa

### Western Africa

#### **Weather**

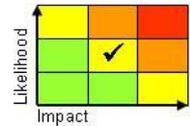
Further periods of prolonged, heavy showers and thunderstorms will affect the region at times in the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 200-300 mm build up (most likely just inland from the coast). This does tend to be the wettest time of the year in the region, but the forecast rainfall will still be equivalent to typical monthly amounts in places.

#### **Discussion**

The monsoon trough currently lies close to its northern extent from roughly Senegal towards southern Sudan. Along and to the south of this trough lies moisture-laden air, with the African Easterly Jet periodically buckling due to the passage of African Easterly Waves. Localised medium impacts are likely to continue to be seen across this wide region.

#### **Expected Impacts**

The potential for further flash and riverine flooding across much of the region, with an enhanced risk of landslides in areas where terrain is steep (such poorly located settlements on the edge of expanding cities). Along the northern boundary of the highlighted region strong wind gusts from thunderstorms will likely trigger dust storms reducing air quality and impacting travel.



## Middle East

### Syria, southeast Turkey, Iraq, Lebanon, and Israel

#### **Weather**

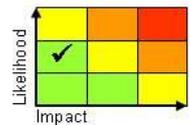
A continued spell of high temperatures with daily maxima well in excess of 40°C in places (which is some 5-8°C above normal for the time of year) will continue for much of this week, but should gradually ease somewhat across the west of the region.

#### **Discussion**

Large-scale subsidence from an upper-ridge coupled with light winds and strong insolation has led to some very high temperatures in recent days. Winds will gradually increase across the west of the region allowing temperatures along the more populated Mediterranean coastal strip to fall back closer to normal over the weekend.

#### **Expected Impacts**

Adverse effects on health of people (particularly children and elderly), and livestock exposed to the heat. Some increased demands on power networks likely due to increased energy demand for things such as air conditioning.



## Asia

Korean Peninsula, southwest Japan and northeast China – see *Tropical Cyclones* section.

## Japan

### **Weather**

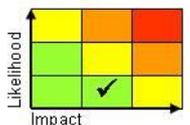
Enhanced rainfall, showers and thunderstorm activity is expected across the country at times this week. At sea level around 100mm of rainfall could fall in places, with 200-300mm possible over prone mountain ranges. These totals would represent over half a months' worth of rainfall.

#### **Discussion**

Now that Typhoon Haishen has completed its extra-tropical transition and cleared north, the cold front extending south from this system (the de-facto monsoon front) will become slow-moving across this region and continue to bring heavy rainfall before weakening. The monsoon front is expected to continue to bring pulses of heavy rain thereafter. Wednesday looks particularly wet for parts of Honshu, though Tokyo should remain drier until later this week.

#### **Expected Impacts**

Flash and riverine flooding is likely, as are landslides in regions where terrain is steep.



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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)

**Northern Bangladesh, eastern Nepal, northeast India and northern Myanmar**

**Weather**

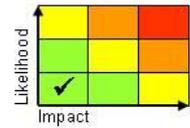
A further spell of enhanced shower and thunderstorm activity looks likely in this region in the next week. Up to 150 mm of rain could fall in a day in places, with an accumulated rainfall amount of up to 400 mm over the hills and mountains.

**Discussion**

As is typical the cause of the increased rainfall in this region appears to be associated with a modest increase in the moist south-southwesterly from the Bay of Bengal. This broad pattern which leads to this setup is more likely when the BSISO1 index is in Phase 1 or 2, with this indeed occurring at the present time.

**Expected Impacts**

Slight increase in the risk of flash flooding and landslides in mountainous areas.



**Northern Vietnam and southern China**

**Weather**

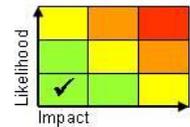
Shower and thunderstorm activity across this region will be well above average during this coming week. Showers could bring 50-100mm of rainfall to any location in a short duration, with the potential for 200-400mm for some spots through the week. Although these amounts are high for September, they would only represent just above average rainfall amounts for the wettest months of the year (June and July).

**Discussion**

The monsoon frontal trough has been drawn across the region. Minor shortwave troughs in the southern-shifted sub-tropical jet will engage with the monsoon front generating enhanced precipitation.

**Expected Impacts**

Slight increase in the risk of flash flooding and landslides in mountainous areas. Perhaps a risk of some minor riverine flooding in smaller catchments.



**Indonesia, Malaysia, Papua New Guinea and Brunei**

**Weather**

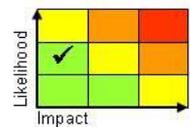
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal over the coming few days. Around 50-75 mm of rain could fall in a couple of hours in places, with overall accumulations through the week of around 150-250 mm.

**Discussion**

Higher than normal SSTs in the region, and enhanced easterly trade winds perhaps in part due to the developing La Niña like conditions (and the strengthening of the Walker Circulation), is fuelling deep convection, with showers and thunderstorms more intense and frequent than is usual for the time of year. This may well be further enhanced by the passage of the weak MJO oscillation across the region Maritime Continent in the coming.

**Expected Impacts**

Slight increase in the risk of flash flooding and landslides in mountainous areas.



**Australasia**

**Papua New Guinea** – see *Asia* section.

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Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319  
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**Additional Information****Cox's Bazar, southeast Bangladesh**

Overall rainfall is expected to be around average for the rest of the week, so thunderstorms are still possible, producing a threat of minor flash flooding at times over the Cox's Bazar area, but probably less so than is usual for the time of year. There are signs of slightly drier weather developing by the weekend.

**Yemen**

Precipitation is likely to be around normal – with the western highlands and along the southwest coast likely to see a few showers/thunderstorms. This could see locally more than 50mm of precipitation fall in some of the wetter spots, and may lead to an increased risk of flash flooding and landslides across the central and western Highlands. *This event may be added into the normal section in the coming days.*

**Sudan/South Sudan**

Further heavy showers and thunderstorms are expected through the coming days across South Sudan and the south of Sudan. Up to 50-75 mm could fall in a 6-hour period in a few places, producing flash flooding. Accumulations over the next week look likely to be widely 25-50 mm, and locally as high as 100-125 mm. We are still in the wet season across this region and there has already been flooding in parts of the region. Therefore, further locally heavy seasonal rainfall could bring more flood impacts in places.

**Southwestern USA**

See *North America* section.

**Issued at:** 080730 UTC

**Meteorologists:** Laura Ellam / Chris Almond

**Global Guidance Unit**

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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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