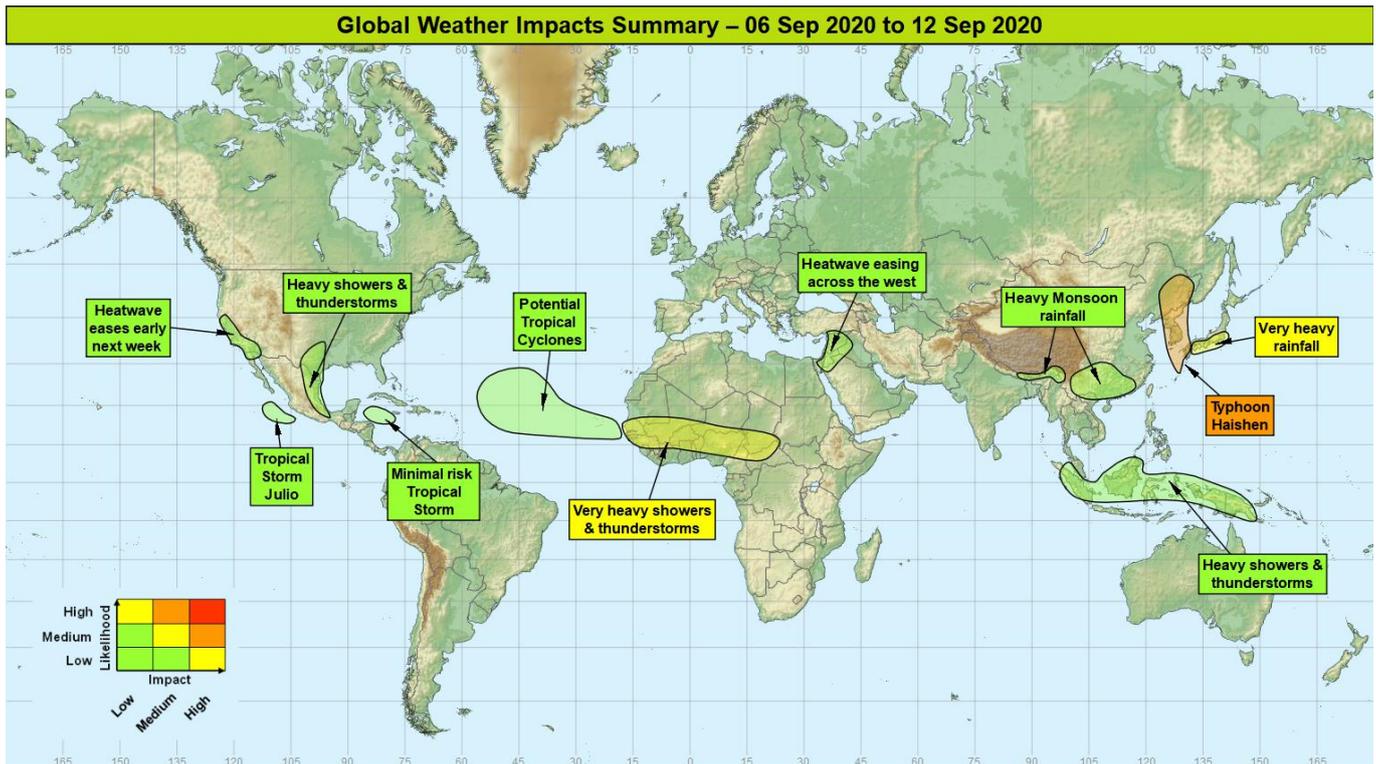


## Global Weather Impacts – Sunday 6<sup>th</sup> to Saturday 12<sup>th</sup> September 2020

Issued on Sunday 6<sup>th</sup> September 2020

### HEADLINES

- Typhoon Haishen brings significant impacts to Japan and the Korean Peninsula through the next couple of days.
- Continued heavy showers and thunderstorms across the Sahel region of West Africa.
- Potential for development of multiple Atlantic tropical cyclones, no significant impacts to land within the time period of this product.



### Tropical Cyclones

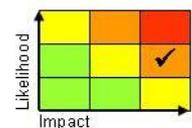
#### Typhoon Haishen - West Pacific (Japan, Korea, northeast China and far east of Russia)

#### **Weather**

Very Strong Typhoon Haishen is currently just to the north of the Ryukyu Islands (Japan) with maximum sustained winds (10 minute average) around 110 mph with gusts to 155 mph. Little change in intensity is expected as it continues to move northwards past the far west of Kyushu Island (Japan) today. Thereafter transferring towards and across the Korean Peninsula on Sunday night and northeast China by Monday as a gradually weakening system. This is a similar track to Typhoon Maysak earlier this week. Haishen brings the risk of destructive winds and a dangerous storm surge (2-3 M), very large waves for Japan and South Korea in particular. For all countries along the path of the typhoon 300-500mm of rainfall could occur.

#### **Discussion**

The period of ideal environmental conditions in which this typhoon developed and maintained its strength have now passed. A combination to reduced Ocean Heat Content (OHC), some land interaction, and increasing vertical wind shear (ahead of the approaching mid-latitude upper trough), will see an increasingly rapid weakening of the winds as it moves close by Kyushu today, then across the eastern Korean Peninsula on Monday, and eventual decay (although heavy rain continues) across northeast China.



**This forecast may be amended at any time**

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## Expected Impacts

Dangerous sea conditions across the region with significant wave heights of 10-15 M possible in the Pacific, East China Sea, and Sea of Japan. The combination of large waves and a storm surge up to 2-3 M above astronomical tides will likely lead to some coastal inundation of the small percentage of low lying land close to the storms centre. Destructive winds (not just limited to coastal regions) will likely cause utility outages, damage to structures, and disruption to travel. However rainfall and associated flash and riverine flooding and the enhanced risk of landslides is felt likely to be the primary hazard. This especially so across the Korean Peninsula due to the very wet monsoon season (this will be the third such typhoon to affect the country in recent weeks), some evacuations and temporary displacement of citizens is likely.

## Tropical Storm Julio - Eastern Pacific Weather

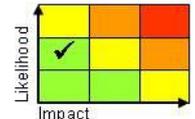
The remnants of Hurricane Nana crossed across Mexico and has since re-developed into Tropical Storm Julio, this system moving west-northwest offshore from the Mexican coast, with the majority of precipitation associated with this system to the west of the circulation.

### Discussion

The remnants of Nana have moved out into the Pacific and have managed to consolidate into a small tropical storm. There is good model agreement for this system to track west-northwest well offshore from the Mexican coastline, and with easterly wind shear displacing much of the convection to the west of the circulation (even further from land).

### Expected Impacts

Rough seas causing some minor disruption to shipping.

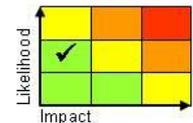


*The following areas are being monitored for potential tropical cyclone activity affecting land:*

## Tropical North Atlantic - Cabo Verde to the central tropical Atlantic Weather

There is the potential for multiple disturbances moving west from West Africa across the Tropical Atlantic to act as a focus for potential tropical cyclone development. There are several areas of possible development;

A tropical wave and area of low pressure located over the eastern tropical Atlantic and well to the west of Cabo Verde continues to produce a large area of disorganised showers and thunderstorms. This is given a 70% probability of formation by the NHC in the next 2 days, and a 90% chance in the next 5 days as it moves generally westnorthwest.



Another tropical wave located inland over western Africa is forecast to move offshore on Sunday. Gradual development of this system is then expected, and a tropical depression is likely to form by the middle of next week as it moves generally westward over Cabo Verde and across the far eastern tropical Atlantic. This is given a 20% probability of formation by the NHC in the next few days, and a 80% chance in the next 5 days.

However any developments not posing any threat to land, other than the Cabo Verde Islands where any systems would remain weak during this period.

### Discussion

Disturbances within the monsoon trough associated with African Easterly Waves (AEWs) could trigger tropical cyclone developments in the coming days. There are significant model differences in the synoptic evolution of a number of potential development areas, which will likely interact with each other. Any tropical cyclones that do develop would be influenced by the slow moving upper trough across the region, and would result in systems having slow forward speed and likely a tendency to curve to the north and remain across the open North Atlantic ocean.

### Expected Impacts

Potential for some heavy rainfall bringing some minor flooding the Cabo Verde Islands.

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## Western Caribbean

### **Weather**

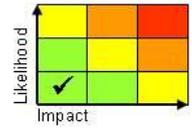
An area of shower and thunderstorm activity has the small chance to develop into a tropical storm in the next few days as it tracks northwest across the central and western Caribbean Sea. Development is thought unlikely, rated at just 10% by the National Hurricane Center. Although heavy showers and thunderstorms may affect Jamaica and the Cayman Islands over the next couple of days.

### **Discussion**

A tropical wave located over the central Caribbean Sea is producing an area of showers and thunderstorms. There is a low probability (NHC suggest 10%) for some slight development of this system during the next couple of days, though overall conditions are unfavourable for formation.

### **Expected Impacts**

Flash flood risk and enhance landslide risk for several islands in the region.



\*\*\*\*\*

## Europe

Nil.

## North America

### Southwest USA and northwest Mexico

#### **Weather**

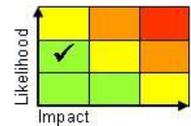
Heatwave conditions continue to impact much of California and northwest Mexico today. Daytime maximum temperatures will reach the mid, perhaps locally high 40s°C, with the potential for today to be one of the hottest ever days across California. The heatwave will begin to subside beyond Monday with temperatures then returning to nearer average.

#### **Discussion**

A major upper ridge across the region is leading to marked subsidence causing diabatic compression and heating of the air across the region. This subsidence will lead to largely cloud free conditions which coupled with light winds, will allow strong insolation across the area each day. Beyond Monday the pattern begins to re-orientate and allows cooler air to push southwards across the region.

#### **Expected Impacts**

Given that this weekend is a national holiday in the USA impacts may be greater than usual. People and animals will be at risk of adverse heat health impacts with exposure. Electrical supplies may be stressed for demand for power from air conditioning units. Although wildfires continue to burn in the region leading to reduced air quality, light winds during this time will make fire containment fairly straightforward



Texas, USA – See *Central America and Caribbean* section

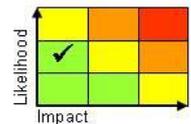
## Central America and Caribbean

Northwestern Mexico – See *North America* section

### Northeastern Mexico and Texas

#### **Weather**

Heavy shower and thunderstorm will be much more frequent than usual across this region this week. Initially this focused across Mexico, but tending to transfer across Texas from Monday. 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.



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## 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.

## South America

Nil.

## Africa

### Western Africa

#### Weather

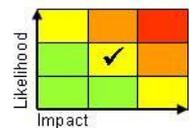
Further periods of prolonged, heavy showers and thunderstorms will affect the region at times in the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 200-300 mm build up (most likely just inland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

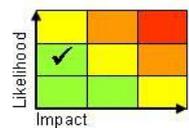
A continued spell of high temperatures with daily maxima well in excess of 40°C in places (which is some 5-8°C above normal for the time of year) will continue for much of this week, but should gradually ease somewhat across the west of the region.

#### 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.



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## Asia

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

### **Southern Japan**

#### **Weather**

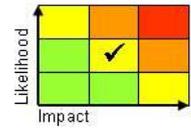
Enhanced rainfall, showers and thunderstorm activity is expected across this region today (Sunday) and tomorrow. During this time as much as 100mm of rainfall could fall at sea level, and 200-400mm over the mountains in the region. These totals would represent around a half a months' worth of rainfall.

#### **Discussion**

The generally southerly monsoon flow will be enhanced by the passage of Typhoon Haishen to the west of the region in the next few days, with ascent of this moisture across the high mountains of Japan leading to high amounts of rainfall. After Haishen completes its extra-tropical transition and clears north, the cold front extending south from this system (the de-facto monsoon front) will become slow moving across this region on Monday, continue to bring heavy rainfall, before clearing southeast.

#### **Expected Impacts**

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



### **Northern Bangladesh, eastern Nepal, far northeast of India and northern Myanmar**

#### **Weather**

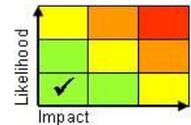
A further spell of enhanced shower and thunderstorm activity looks likely in this region in the next week. Up to 150 mm of rain could fall in a day in places, with an accumulated rainfall amount of up to 400 mm over the hills and mountains.

#### **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**

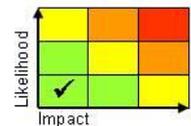
Shower and thunderstorm activity across this region will be well above average during this coming week, mainly the next 2 or 3 days. Showers could bring 50-100mm of rainfall to any location in a short duration, with the potential for 200-400mm for some spots through the week. Although these amounts are high for September, they would only represent just above average precipitation 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**

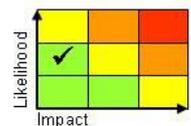
Slight increase in the risk of flash flooding and landslides in mountainous areas. Perhaps a risk of some minor riverine flooding in smaller catchments.



### **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.



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**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.

**Additional Information****Cox's Bazar, southeast Bangladesh**

Overall rainfall is expected to be below average until the middle of the week, with an increase to near or slightly above average precipitation than expected. Some thunderstorms are still possible at times, 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.

**Yemen**

Shower and thunderstorm activity currently below average is signalled to increase above average next week, as a plume of moisture is drawn westwards across the region. This could see locally more than 100mm of precipitation fall in some of the wetter spots from Tuesday, 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 sections over the coming days.*

**Sudan/South Sudan**

Further heavy showers and thunderstorms are expected through the coming 7 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:** 060330 UTC

**Meteorologists:** Tony Wardle

**Global Guidance Unit**

**This forecast may be amended at any time**

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