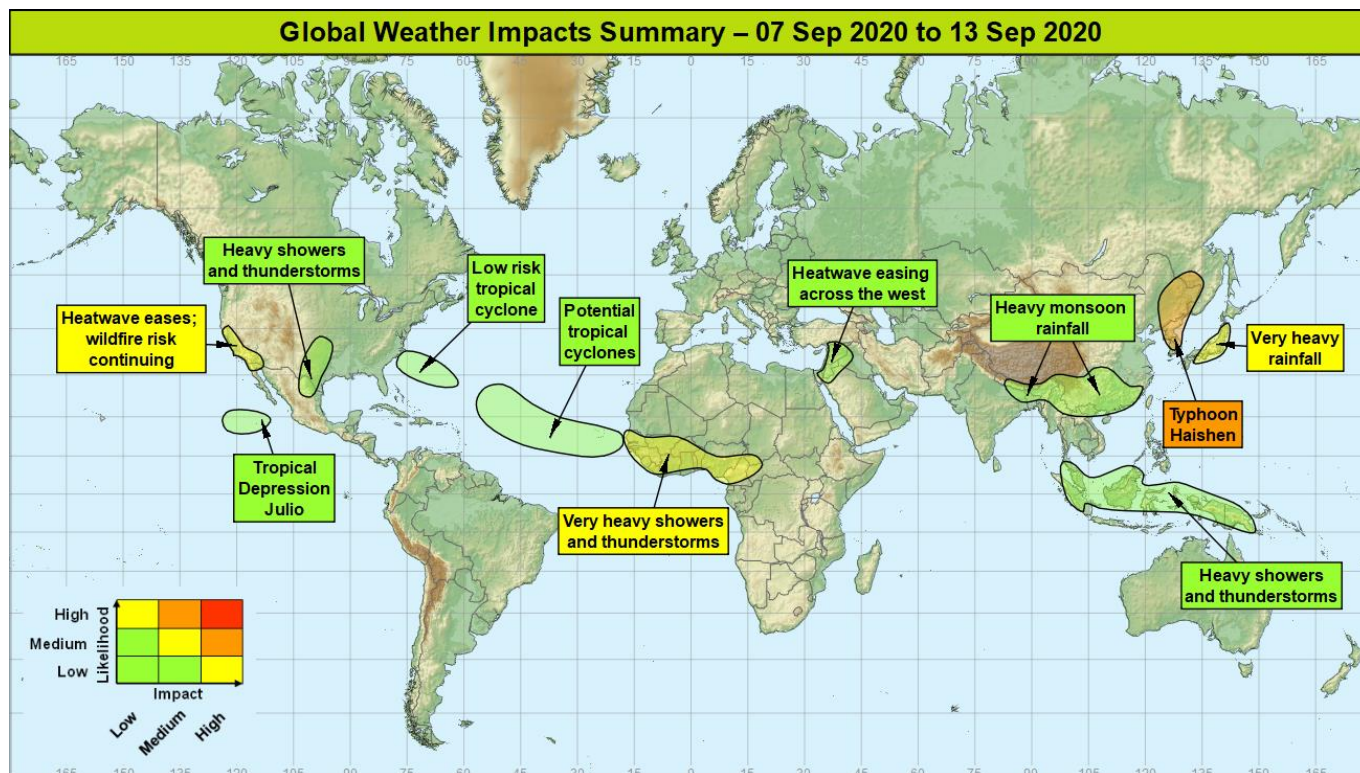


## Global Weather Impacts – Monday 7<sup>th</sup> to Sunday 13<sup>th</sup> September 2020

Issued on Monday 7<sup>th</sup> September 2020

### HEADLINES

- Typhoon Haishen affecting the Korean Peninsula through the next day or two.
- Continued heavy showers and thunderstorms across the Sahel region of West Africa.
- Heightened wildfire risk continuing in US state of California.
- Potential for development of multiple Atlantic tropical cyclones, no significant impacts to land expected within the time period of this product.



### Tropical Cyclones

#### Typhoon Haishen – Korean peninsula, northeast China and far southeast Russia

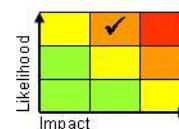
##### Weather

Haishen made landfall Sunday night in South Korea close to Busan as a strong typhoon. It is currently just off the east coast of South Korea between Sokcho and Gangneung with sustained winds around 75 mph and gusts to 110 mph. Haishen has been taking a very similar track to that of Typhoon Maysak last week. Slight weakening is expected before second landfall in North Korea's South Hamgyong province this (Monday) afternoon. Haishen brings the risk of destructive winds, a dangerous storm surge and very large waves. 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 tropical cyclone developed and maintained its strength have now passed. A combination of reduced Ocean Heat Content (OHC), land interaction and increasing vertical wind shear (ahead of an approaching mid-latitude upper trough), will see a continued weakening of the winds as it moves across the western Sea of Japan today, and eventual decay (although heavy rain continues) across northeast China as it tracks further inland in the next day or so.

##### Expected Impacts



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Dangerous sea conditions across the region with significant wave heights of 10-15m possible in the Sea of Japan. The combination of large waves and a storm surge up to 2-3m above astronomical tides will likely lead to some coastal inundation of the small percentage of low lying land close to the cyclone's 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 tropical system to affect the country in recent weeks), and some evacuations and temporary displacement of citizens is likely.

## **Tropical Depression Julio – Eastern Pacific**

### **Weather**

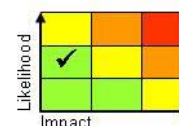
The remnants of Hurricane Nana crossed Mexico and has since re-developed into Tropical Storm Julio, which has recently weakened into to a depression. This system will move west-northwest offshore from the Mexican coast, with the majority of precipitation associated with this system to the west of the 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). Over the past few hours this shear has weakened Julio to a depression and this system should dissipate within 48 hours.

### **Expected Impacts**

Rough seas causing some minor disruption to shipping.

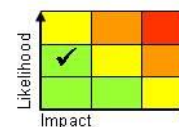


*The following areas are being monitored for potential tropical cyclone activity affecting land:*

## **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 North Atlantic to act as a focus for potential cyclone development. There are several areas of possible development:



- A tropical wave and area of low pressure located over the central tropical Atlantic well to the west of Cabo Verde has now consolidated into a tropical depression (17). This is highly likely to become a storm later as it moves northwest over the next couple of days. This cyclone poses no threat to land in the next 5-7 days.
- Another tropical wave located just off the coast of West Africa is expected to develop into a tropical depression by the middle of the week as it moves generally westward over Cabo Verde and across the eastern tropical Atlantic. This is given a 90% probability of formation by the NHC in the next two days.
- A further tropical wave moving off the coast of West Africa later this week also has the potential to develop into a tropical cyclone by the end of this period as it moves west-northwestward into the tropical North Atlantic.

None of these pose any threat to land during this period, other than to the Cabo Verde Islands where any systems are most likely to remain weak.

### **Discussion**

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

### **Expected Impacts**

Potential for gusty winds and heavy rainfall bringing some minor flooding to Cabo Verde.

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## Tropical Atlantic – southeast of Bermuda

### **Weather**

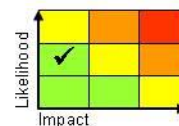
An area of low pressure has a small chance of developing into a tropical cyclone in the next five days as it tracks west-northwest towards the Eastern Seaboard of the USA. Regardless of development, some heavy showers and thunderstorms will likely affect Bermuda in the next few days.

### **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 30%) for some slow development of this system during the next five days.

### **Expected Impacts**

Nil.



## Europe

Nil.

## North America

### Southwest USA and far northwest Mexico

### **Weather**

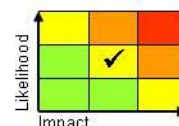
Temperatures across the region will fall today and be close to average by late Monday or early Tuesday. However, wildfire conditions may continue for the next few days with the potential for an early-season Santa Ana wind event to exacerbate the fire risk in southern California.

### **Discussion**

From Monday the broadscale pattern begins to re-orientate and allows cooler air to push southwards across the region, though offshore winds are expected 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 as temperatures start to ease, leading to reduced air quality. The strengthening winds in southern California will make fire containment more difficult.



### 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**

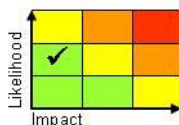
Heavy shower and thunderstorm will be much more frequent than usual across this region this week. Showers may bring 50mm of rainfall in an hour or less, with many locations seeing 50-100mm of precipitation during this time, and some perhaps as much as 200-300mm. This would represent around a month's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

Nil.

## Africa

### Western Africa

#### **Weather**

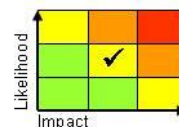
Further periods of prolonged, heavy showers and thunderstorms will affect the region at times in the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 200-300 mm build up (most likely just inland 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**

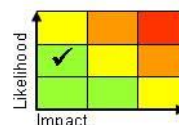
A continued spell of high temperatures with daily maxima well in excess of 40°C in places (which is some 5-8°C above normal for the time of year) will continue for much of this week, but should gradually ease somewhat across the west of the region.

#### **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.

### Southern Japan

#### **Weather**

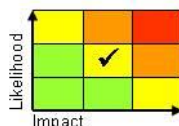
Enhanced rainfall, showers and thunderstorm activity is expected across this region at times this week. As 100mm of rainfall could fall at sea level, and 250-500mm over the mountains in the region. These totals would represent over half a months' worth of rainfall.

#### **Discussion**

After Typhoon 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, continue to bring heavy rainfall before weakening. The monsoon front is expected to continue to bring pulses of heavy rain thereafter.

#### **Expected Impacts**

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



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

### **Weather**

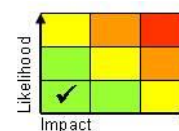
A further spell of enhanced shower and thunderstorm activity looks likely in this region in the next week. Up to 150 mm of rain could fall in a day in places, with an accumulated rainfall amount of up to 400 mm over the hills and mountains.

### **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**

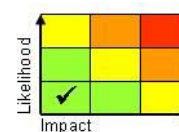
Shower and thunderstorm activity across this region will be well above average during this coming week. Showers could bring 50-100mm of rainfall to any location in a short duration, with the potential for 200-400mm for some spots through the week. Although these amounts are high for September, they would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

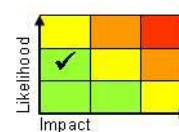
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal over the coming few days. Around 50-75 mm of rain could fall in a couple of hours in places, with overall accumulations through the week of around 150-250 mm.

### **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.

## **Additional Information**

### **Cox's Bazar, southeast Bangladesh**

Overall rainfall is expected to be below average at first, with an increase to near average precipitation then expected by the middle of the week. Early this week some 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.

## **Yemen**

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Shower and thunderstorm activity currently below average is signalled to increase above average this 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 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:** 070720 UTC

**Meteorologists:** Laura Ellam / Brent Walker

**Global Guidance Unit**

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