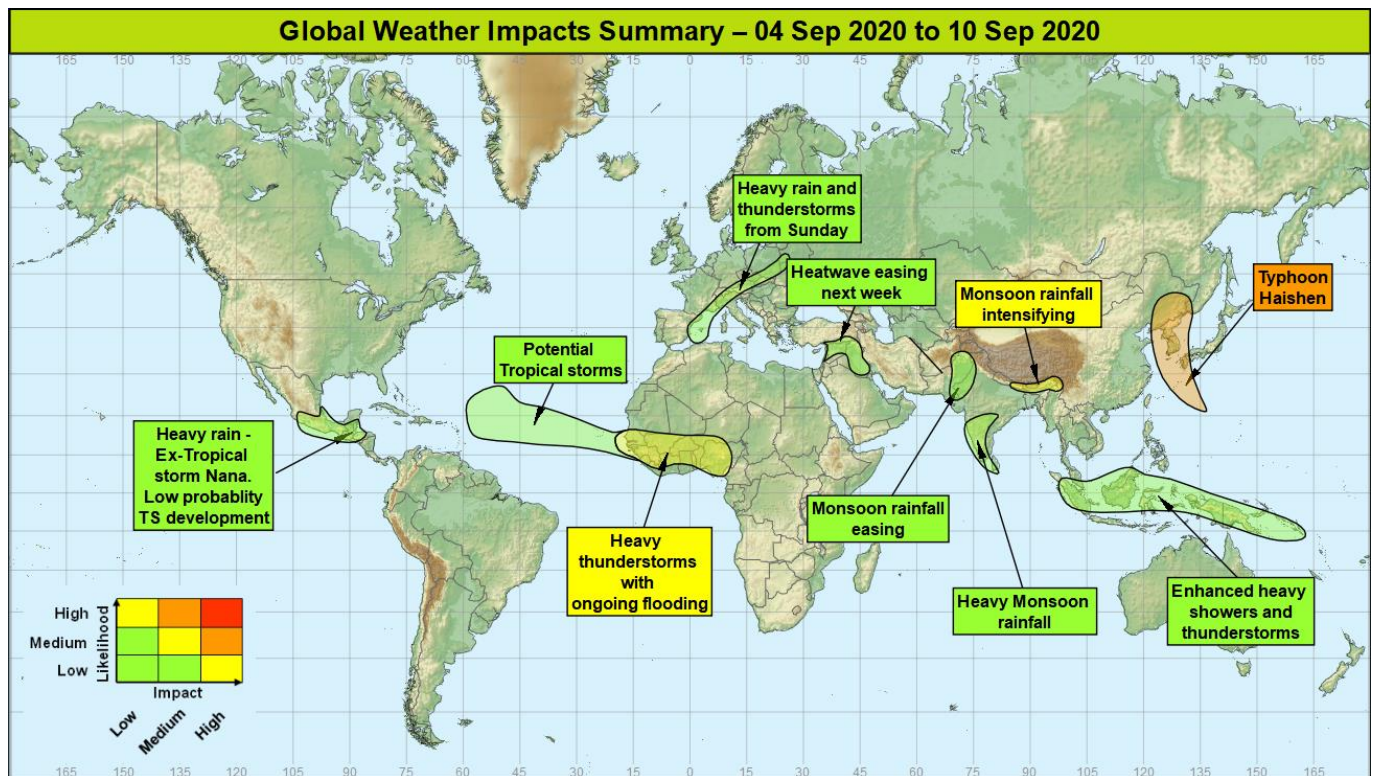


## Global Weather Impacts – Friday 4<sup>th</sup> to Thursday 10<sup>th</sup> September 2020

Issued on Friday 4<sup>th</sup> September 2020

### HEADLINES

- Haishen forecast to become another powerful typhoon impacting Japan and Korea this weekend.
- South Asian Monsoon easing in the west, but intensifying in the east leading to further flooding.
- African Monsoon still causing flooding in places, spawning numerous Easterly Waves over the Atlantic, with the potential for Tropical storms to form.



### Tropical Cyclones

Over page

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

Typhoon Haishen currently lies around 500 miles southeast of Okinawa and is gradually moving northeast over the open northwest Pacific. Haishen is continuing to strengthen, with maximum 10 minute sustained winds around 115mph and gusts of 160mph (equivalent to a Category 3 hurricane). There is a strong signal that Haishen will intensify in the next few days as it starts to track further north towards southwest Japan and Korea. Wind speeds are expected to peak in intensity in the next 24 hours while south of the Ryukyu Islands and although may moderate a little, will still be a powerful Typhoon when it makes landfall across southwest Japan on Sunday (likely similar to current winds speeds). Haishen is on a similar track to Maysak earlier this week, and brings the risk of destructive winds, a dangerous storm surge (~ 3 m) large waves (8-10 m) and copious amounts of rainfall (300-500mm). Thereafter Haishen is expected moderate as it moves north across the Korean Peninsula and towards northeast China on Monday and into Tuesday, though still brings storm force winds, especially across the east of Korea, along with 100-200mm or rain.

**Discussion**

Very warm seas (>30°C) and a very low vertical wind shear environment will allow this system to continue strengthening as it slowly drifts west-northwest over the coming days. The upper flow will back ahead of a long wave East Asian upper trough, which will see Haishen track north towards southwest Japan at the weekend. There is good model agreement for the timing of the northward progression as well as its intensity up to this point, with all models showing a very strong or violent typhoon likely impacting southwest Japan and then parts of South Korea early on Monday, while undergoing extra-tropical transition. The official track provided by the JMA, shows Haishen tracking north across the Korean peninsula, and this has support from the GM, though still bringing storm force winds across the Sea of Japan, to the east of Korea. However EC and GFS tracks this system more quickly close to the east coast and this gives the risk for stronger winds than the JMA guidance along the east and northeast coast of the Korean Peninsula.

**Expected Impacts**

Flash flooding and coastal flooding will occur with a storm surge of 3 m possible, as well as 8-10 m waves. Destructive winds will not be limited to coastal regions. Landslides are likely too. River flooding is also possible, especially 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). It is likely that extremely severe weather impacts will be seen across parts of the Korean Peninsula due to the accumulated rainfall from these events, increased displaced population and extremely stretched emergency services.

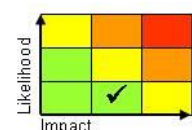
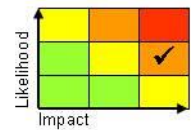
*The following areas are being monitored for potential tropical cyclone activity affecting land:*

**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, with none posing any threat to land (primarily the northern Lesser Antilles) until the middle part of next week at the earliest.

**Discussion**

Disturbances within the monsoon trough associated with African Easterly Waves (AEWs) could trigger tropical cyclone development 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. Regardless the current steering flow would suggest that none of the current disturbances have the potential to reach land before the middle of next week, with the presence of a slow moving tropospheric upper trough resulting in this systems having slow forward speed and likely to have a tendency to curve to the north on approach to the northeast Caribbean.

**Expected Impacts**

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Potential for some tropical storm type impacts for the Cabo Verde Islands. If any systems do form further west they look unlikely to quite reach the northern Lesser Antilles during this period.

## **Eastern Pacific – southern coast of Mexico**

### **Weather**

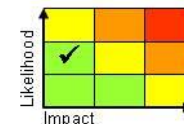
Enhanced heavy showers and thunderstorms (100mm per day) are expected to track along the southern coast of Mexico in the next few days. There is a very low probability that this may organise into a tropical storm for a time.

### **Discussion**

The remnants of Atlantic basin Tropical Depression Nana are moving into the eastern Pacific waters near the Gulf of Tehuantepec. Unfavourable upper-level winds, plus land interaction are expected to inhibit significant development through early next week while the system moves generally west-northwestward, near or along the southern coast of Mexico. The NHC currently give a 20% risk of development

### **Expected Impacts**

Risk of flash and river flooding, along with an enhanced landslide risk.



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## **Europe**

### **Parts of southern, central and eastern Europe**

### **Weather**

Outbreaks of heavy rain and thunderstorms are likely to develop along a cold front over parts of Europe early next week.

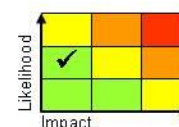
There is the potential for heavy rain across parts of the area with 50-100 mm over a couple of days. Whilst some areas will miss them, thunderstorms could bring torrential downpours, gusty winds, hail and lightning in places.

### **Discussion**

The Mediterranean front, the baroclinic zone between Atlantic and tropical air masses, will be slow moving over the weekend before being engaged by a disrupting upper trough on Sunday. This will cause waves and areas of heavy rain to form. Within the higher WBPT air to the southeast of the low level thermal boundary, the plume looks likely to destabilise allowing thunderstorms to develop. Underneath the cut-off low that eventually forms, over parts of Spain and the Balearics, the early part of next week could see further thunderstorms forming, fuelled in part by SSTs of >25°C.

### **Expected Impacts**

Increased risk of flash flooding in places, initially central/eastern parts of Europe from Sunday, then in early/mid-week, Spain and the Balearics could be affected too.



## **North America**

### **Southeast Mexico** – see *Central America and Caribbean*

## **Central America and Caribbean**

### **Belize, Guatemala and Honduras, El Salvador & southern Mexico**

### **Weather**

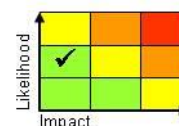
Areas of thunderstorms and heavy rain will affect this area for much of the coming week, and although it is the wet season, the rain is likely to be intensified by the remnants of the previous Tropical storm Nana which affected parts of this region recently.

### **Discussion**

Nana lost its identity yesterday but its remnants will act as a focus for the development of heavy showers and thunderstorms for the next few days.

### **Expected Impacts**

Risk of flash flooding and landslides.



## **South America**

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Nil.

## Africa

### Western Africa

#### **Weather**

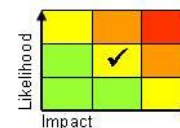
Further prolonged, heavy showers and thunderstorms will affect the region at times in the coming week. Whilst not all areas will see heavy rain, each day 50-75 mm could fall in places within a few hours, and over this period the wettest areas may see 200-300 mm build up (most likely over southwest Mali and across to 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. The likelihood of medium impacts is indicated due to there already having been numerous reports of flooding. NWP consistent in suggesting the highest rainfall totals across the west of this area.

#### **Expected Impacts**

Ongoing flooding with the potential for further surface water and riverine flooding from additional rainfall. Strong wind gusts across the far north of this area could trigger dust storms.



## Middle East

### Syria, southeast Turkey, Iraq, & Lebanon

#### **Weather**

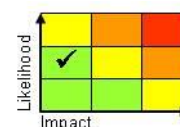
A prolonged spell of high temperatures with daily maxima well in excess of 40°C in places (which is some 5-8°C above normal for the time of year) will continue for a few days but will gradually ease next week.

#### **Discussion**

A blocked, settled pattern with light winds will persist over this region initially, and this along with large-scale subsidence from an upper-ridge has led to some very high temperatures in recent days. Winds will gradually increase next week and temperatures will return closer to normal. The prolonged nature of the hot spell is likely to lead to impacts, even for a region which in general is used to high temperatures.

#### **Expected Impacts**

Adverse effects on health of people (particularly children and elderly), and livestock. Power cuts could occur due to increased energy demand.



## Asia

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

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

#### **Weather**

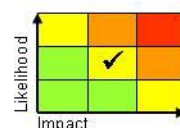
An increase in the frequency of intense showers and thunderstorms look likely in this region over the weekend, and next week, particularly the early part of the week. Up to 200 mm of rain could fall in a day in places, with an accumulate rainfall amount of up to 600 mm by early next week (over 50% of the average September rainfall in places).

#### **Discussion**

The cause of the increased rainfall in this region looks like to being a modest increase in a more moist South-SW'ly flow in the wake of a monsoon low pressure system. However, there may also be a contribution from the MJO which has now entered Phase 3.

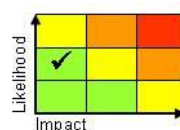
#### **Expected Impacts**

Flash and some riverine flooding likely, an increased risk of landslides in mountainous parts.



### Far east of Afghanistan, much of Pakistan and northwestern India

#### **Weather**



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The areas of intense showers and thunderstorms of recent days will tend to ease through the weekend across this region, and then many places will become dry from mid-week onwards. However, up to 50-100 mm of rain could still fall in places through the weekend.

## Discussion

There has been a consistent signal for the Monsoon plume to retreat eastwards, with many places becoming dry by through next week. The plume and associated rain will retreat from Afghanistan first, then Pakistan, then finally weakening as it enters India.

## Expected Impacts

Flash flooding and landslides are likely in places through the next couple of days, but will become less likely through the weekend and next week.

## Southwest India, southwest Sri Lanka

### Weather

Monsoon rainfall looks likely to continue during the coming few days, with 150-250 mm possible in a few places during the weekend and in to next week – though perhaps relenting for a time early in the week.

### Discussion

There is good model agreement for the moist monsoon onshore winds returning into southwestern India during the rest of the week after being interrupted in the last few days. This will bring a return of heavy rain and thunderstorms, and even though it is Monsoon season, this is still expected to result in above average rainfall.

### Expected Impacts

Flash flooding and landslides are possible in places through the next few days.



## Indonesia, Malaysia, Papua New Guinea, Brunei and the Solomon Islands

### Weather

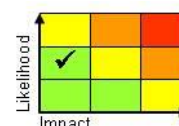
Heavy showers and thunderstorms will continue to be more frequent, intense and widespread than normal over the coming few days. Around 50-75 mm of rain could fall in a couple of hours in places, with overall accumulations through the week of around 150-250 mm.

### Discussion

Higher than normal SSTs in the region, perhaps in part due to the developing La Niña like conditions, is fuelling deep convection, with showers and thunderstorms more intense and frequent than is usual for the time of year. This will be further enhanced by the passage of the MJO across the Maritime Continent through early September.

### Expected Impacts

Flash flooding and landslides in areas with steep terrain are likely.



## Australasia

Papua New Guinea and the Solomon Islands – see *Asia* section.

## Additional Information

### Cox's Bazar, southeast Bangladesh

Overall rainfall is expected to be below average with the worst of the showers and thunderstorms staying away to the north. Some thunderstorms are still possible at times, producing a threat of flash flooding at times over the Cox's Bazar area, but probably less-so than is usual for early September.

## Yemen

Heavy showers and thunderstorms are expected to ease during the next few days, with activity tending to reduce over the weekend and in to next week and become confined to the higher ground of the Western Highlands and along the south coast. Where they do still occur, they are could be heavy with 20-30 mm falling in the space of a few hours.

## Sudan/South Sudan

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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 serious flooding in parts of the region. Therefore, further locally heavy seasonal rainfall is likely bring more flood impacts in places.

#### **Southwestern USA**

Whilst the extreme heat has now abated it will remain predominantly dry west of the Rockies with no significant rainfall in the foreseeable future across existing firegrounds of northern California. A gradual upward trend in temperatures is signalled through early September, although a spell of strong, offshore winds are not currently forecast, with the Santa Ana wind seasonal usually commencing in October and running to March.

**Issued at:** 040745 UTC

**Meteorologists:** Chris Almond / Tony Wardle

**Global Guidance Unit**

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

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