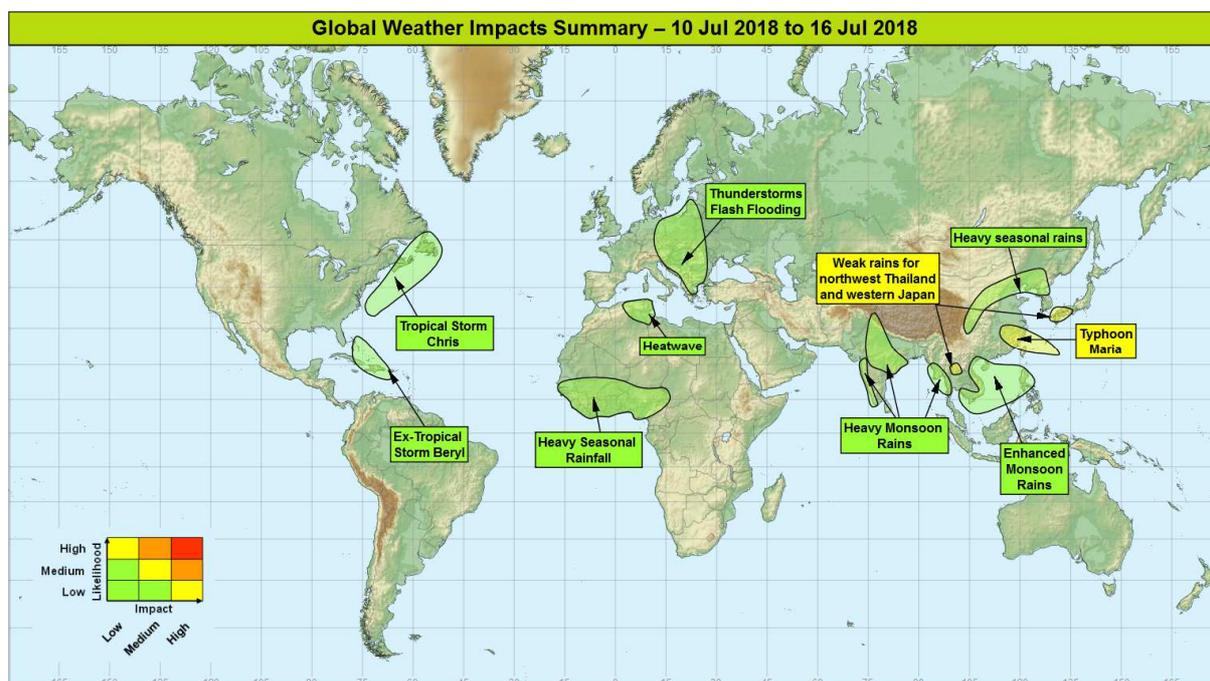


Global Weather Impacts – Tuesday 10th to Monday 16th July 2018

Issued on Tuesday 10th July 2018

HEADLINES

- Typhoon Maria will bring flooding and destructive wind impacts to parts of eastern Asia.
- Lower than average rainfall across flood impacted western Japan and in northwestern Thailand.
- Tropical Storm Chris may strengthen into a hurricane today off the eastern coast of the USA.
- The remains of Tropical Storm Beryl will bring heavy rains to part of the Caribbean.

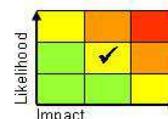


DISCUSSION

Tropical Cyclones

Very Strong Typhoon Maria (West Pacific) – The GM, EC and GFS are in good agreement for the timing and track of Maria, resulting in high confidence in the GM evolution.

At 2100 UTC on the 9th July, very strong Typhoon Maria was located 23.8° North 27.9° West with a motion towards the westnorthwest at around 18mph. The system has mean wind speeds of 115 mph, with maximum gusts likely reaching 160 mph. Maria will weaken very slightly but remain a very strong typhoon as it continues westnorthwest across the southern islands of the Ryukyu Islands chain, and very close to northern Taiwan, between 10/0000 UTC and 10/1800 UTC. When Maria makes landfall in Fujian or Zhejiang provinces by 11/0000 UTC, it is likely to have maintained very strong or strong typhoon status, which is likely to have significant impacts on the city of Fuzhou. As well as the typhoon strength winds, Maria will bring very large rainfall totals (100-300mm) in a 24 hour period as it tracks steadily towards China.



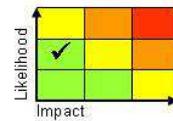
Maria will bring a high likelihood of flash flooding, landslides, storm surge coastal flooding and structural wind damage to the southern islands of the Ryukyu Islands chain and across northern Taiwan (perhaps including the capital Taipei) on the 10th (UTC). Similar impacts are then likely across Fujian or Zhejiang provinces of eastern China on the 11th (UTC).

This forecast may be amended at any time

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter
Tel: +44(0)1392 884319 VP: n6225 4319 Email: ggu@metoffice.gov.uk

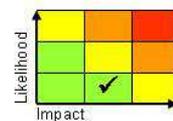
© Crown copyright 2018

Tropical Storm Chris (North Atlantic) – There is still some model uncertainty regarding timing of Chris through the coming 4 or 5 days. This is due to Chris being located in an area of very weak flow. However, all models show Chris intensifying to hurricane status later today (10th) as it remains slow moving over warmer than average sea surface temperatures in a low shear environment. An upstream extending upper trough is expected to steer Chris northeastwards just offshore from the eastern seaboard of the USA from midweek, potentially bringing sustained winds of up to 40 to 60mph and some heavy rainfall (up to 100mm in 24 hours) to Nova Scotia and Newfoundland by the weekend. During this track, Chris will undergo extra-tropical transition and weaken.



Large waves are likely to pose a hazard to small craft off the eastern seaboard of the USA, and in addition these large waves may break on beaches. However, some flash flooding is possible across parts of Nova Scotia and Newfoundland towards the weekend as Chris makes landfall.

Remnants of Tropical Storm Beryl (North Atlantic) – Models are in good agreement for the track of the remnants of Beryl during this week. The NHC give a 50% chance of Beryl reforming between the Bahamas and Bermuda by the weekend, although none of the main models currently support this.

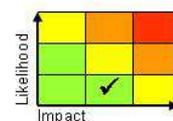


The remains of Beryl will still bring thunderstorms to some of the Caribbean islands through the next couple of days, with some heavy rainfall (up to 50-80mm) likely. Through Tuesday, the remnants of Beryl will continue westnorthwest, bringing heavy showers and thunderstorms to parts of Puerto Rico, Dominican Republic, Haiti and the Turks and Caicos Islands, with the eastern Bahamas also likely to be affected on Wednesday.

Flash flooding, and perhaps landslides, is the most likely impact for the islands closest to the track of ex-Beryl, should they see the heavier accumulations. This is in addition to flooding and power outages caused in Puerto Rico on Monday.

Europe

Eastern Europe – A warm plume across SE Europe will be engaged by an upper trough through the next few days. By Tuesday the plume will extend north to be engaged by another upper vortex that will transfer south from Scandinavia into eastern Germany.



Severe thunderstorm activity is expected across southeastern Europe over the next few days, with these storms expected to transfer north to affect Poland, central and eastern Germany, the eastern Alps and perhaps the Baltic States from Tuesday to Friday. Some place could see around 50-100mm of rain falling in a short period, along with strong gusty winds and large hail.

The main impacts are likely to come from flash flooding, but there will also be a low likelihood of landslides in mountainous areas. Meanwhile, large hail could damage crops, vehicles and some property. Large slow-moving thunderstorms will be disruptive to aviation.

North America

Nova Scotia and Newfoundland, Canada – see Tropical Cyclone section.

Central America and Caribbean

Puerto Rico, Dominican Republic, Haiti, the Turks and Caicos Islands and the Bahamas – see Tropical Cyclone section.

South America

Nil significant.

This forecast may be amended at any time

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter
 Tel: +44(0)1392 884319 VP: n6225 4319 Email: ggu@metoffice.gov.uk

© Crown copyright 2018

Africa

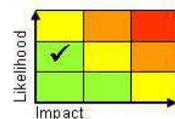
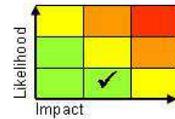
Equatorial West Africa and southern Sahel – Further African Easterly Waves will move westwards across the region bringing periods of heavy rainfall and dust storms on the northern flanks.

Areas of intense thunderstorms will continue to affect central Africa, producing spells of torrential rainfall. Most places in this region will see 50-100mm of rainfall over the next 5-6 days, with as much as 250mm likely in some locations. These storms will also produce strong winds and dense dust storms on their northern fringe (over the southern Sahel).

These storms are likely to produce flash flooding, with an increased likelihood of landslides. Flash flooding will pose a threat to life, as well as damaging infrastructure and transport networks (e.g. roads and bridges). Meanwhile, large scale thunderstorms near the West Africa coast may result in re-routing of some air traffic.

Tunisia and parts of Algeria - Temperatures here will reach 5-10°C above average over the weekend, resulting in highs of up to 45°C.

Exposure to excessive heat may have a negative impact on human and animal health in the region, particularly those vulnerable populations with pre-existing conditions. High temperatures are also expected to place increased demand on power generation and transmission.



Middle East

Nil significant.

Asia

Central India – Across Central India States a monsoon low pressure will track slowly northwestwards, bringing an area of enhanced monsoon rainfall. The heaviest rainfall will tend to migrate northwest with time.

Heavy shower and thunderstorm activity will transfer northwest through Central India for the next 4 or 5 days. Each day 25-50mm will fall across a wide area, with peaks of the order of 100-200mm.

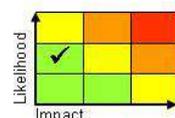
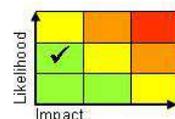
A further depression is expected to move in from the Bay of Bengal from Friday, bringing similar accumulations to the Odisha region in the east.

Impacts will include both flash flooding (particularly across urban areas), and as rainfall accumulations build up over the coming week or so.

Southwestern and northern India, along with western Myanmar – An enhanced Southwest Monsoon flow is expected to persist across southwestern and northern India and western Myanmar through the next week, bringing very high rainfall accumulations.

Persistent heavy rains with thunderstorms are expected to affect southwestern India through the next 7 days. 50-150mm of rainfall may occur each day within this region, with some locations recording totals in excess of up to 700mm over the period. The rains just north of Myanmar, in southeast Bangladesh where the Cox's Bazar humanitarian camp is located, look like being weaker than average through the next week.

This amount of rainfall is not unusual for this region at this time of year. However, the heavy rains maintain a high likelihood of flooding and landslides, posing a danger to life, as well as damage to property and infrastructure.

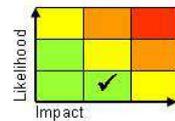


This forecast may be amended at any time

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter
Tel: +44(0)1392 884319 VPN: n6225 4319 Email: ggu@metoffice.gov.uk

© Crown copyright 2018

Philippines, Vietnam, Cambodia and the far south of China – The Madden Julian Oscillation is strengthening over the Maritime Continent, and has led to a broadly enhanced monsoon flow across the region. Across the Philippines and the South China Sea this flow will be further enhanced as Typhoon Maria tracks westwards well to the north.

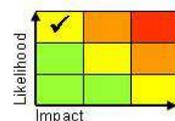


Enhanced monsoon rains are signalled in this region over the coming week, and will be in the form a heavy showers and thunderstorms. Most locations in this region should see daily precipitation accumulations of 25-50mm, with peaks in excess of 100mm each day, with the western Philippines likely to see near double this.

Impacts include the usual enhanced likelihood of flash flooding, and landslides in mountainous areas. With the possibility of these impacts affecting the highly populated Greater Manila Metropolitan Area, and also parts of Southeast Asia popular with British travellers.

Japan (Ryukyu Islands), Taiwan and central China – see Tropical Cyclone section.

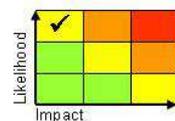
Cave Rescue area, Chiang Rai, Thailand – This part of Thailand looks likely to see only weak rains through the next week, lower than climatology would suggest.



Only low amounts of rainfall are expected across the cave rescue region in Thailand, much lower than what is usually expected at this time of year, but heavier rains are expected in the mountainous regions to the northeast. Despite the weaker monsoon rains, isolated thunderstorms are possible, which could produce 25mm of rain in a few hours.

These drier than average conditions through the next week is likely to be welcome news to the rescuers in northwestern Thailand. However, there is still the possibility of flash flooding from isolated thunderstorms.

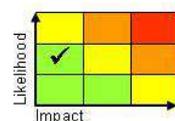
Recent floods in western Japan – The Baiu frontal zone (seasonal rain band) has been pushed north of Japan across the Sea of Japan. This will introduce a much drier, anticyclonic southeasterly flow.



Scattered showers are expected to affect parts of this region through the coming week, but the rainfall will be much lower than is usual in early to mid-July.

Western parts of Honshu as well as Shikoku have seen devastating floods and landslides due to very large rainfall totals late last week. There are reports of up to 1190mm of rain falling in a few days in this region (almost twice the average July rainfall). There are reports of 126 fatalities with people still missing. The much improved weather will help in the recovery efforts this coming week, although further landslides are likely.

Northeast China and North Korea – A series of mid-latitude upper troughs will engage the seasonal front (called the 'Mei-yu' in China and the 'Changma' in the Korean Peninsula) through the next 7 days.



Heavy rain and thunderstorms are expected at times through the next 7 days from eastern China to northeast China and across North Korea. A further 200mm of rain could fall during the next day or so in North Korea, on top of the 70-85mm that has fallen in places over the last 12hrs (equivalent of the average July rainfall). Parts of China are at risk of seeing up to 300 mm of rain in a short period from today, eastern parts such as Chengdu today and northeast parts from Wednesday to Saturday. The remains of Typhoon Maria could enhance the heavy rainfall on Friday and Saturday, with Beijing likely to see heavy rainfall and thunderstorms at times.

Flooding seems likely given that a months worth of rain is expected in just a few days. The flooding events could impact large cities in this region, with landslides a possibility in mountainous regions. These conditions will pose a threat to life, and will likely impact property and transport infrastructure.

This forecast may be amended at any time

Australasia

Nil significant.

Additional Information

FIFA Football World Cup, Russia – The 2018 Football World Cup continues until 15th July. The forecast for the next England match against Croatia (at 7pm British Summer Time on Wednesday) in Moscow is for sunny or clear spells and some showers with a risk of a thunderstorm. Temperatures through the match are likely to be between 20 and 23 Celsius.

Issued at: 100500 Z **Meteorologist:** Ele Hunt

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

© Crown copyright 2018