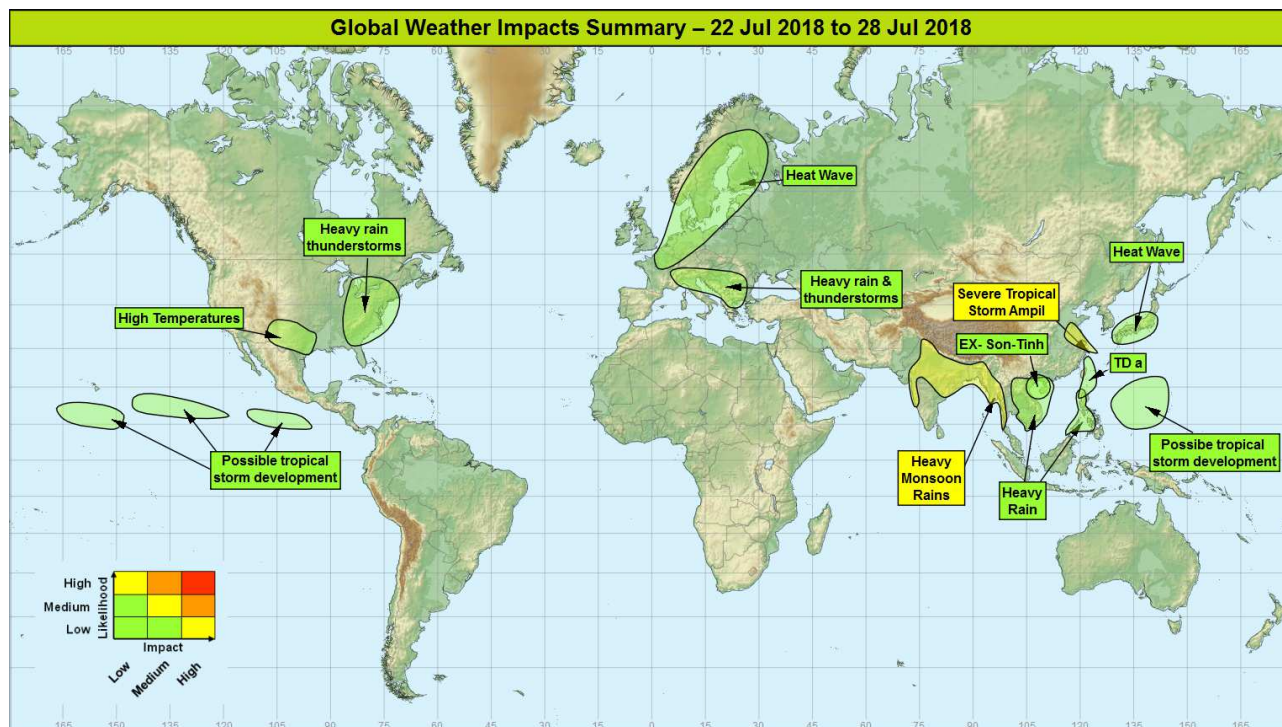


## Global Weather Impacts – Sunday 22<sup>nd</sup> July 2018 to Saturday 28<sup>th</sup> July 2018

Issued on Sunday 22<sup>nd</sup> July 2018

### HEADLINES

- Heavy monsoon rains continue to affect parts of south and Southeast Asia, including Cox's Bazar.
- Severe tropical storm Ampil will likely bring heavy rain and coastal flooding to parts of East China over the weekend.
- Extreme heat affecting many places including Japan, southern USA and later this week NW Europe.



### DISCUSSION

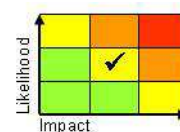
#### Tropical Cyclones

##### Severe Tropical Storm Ampil (West Pacific)

Ampil remained a severe tropical storm through Saturday and at 0300 UTC Sunday was roughly 90 miles ESE of Shanghai. Ampil is expected to continue northwest to make landfall close to Shanghai, China this morning UK time, the centre of the storm likely passing just north of the city. Little change in strength is expected prior to landfall. Ampil is then expected to continue north-westwards across eastern China, weakening as it goes. The remnants may pass close to or just east of Beijing later Monday or early Tuesday.

Ampil brought heavy rainfall and strong winds to the Okinawa Islands on Saturday, with 165 mm recorded at Okinoerabu. The storm will bring similar impacts to parts of eastern China through the next few days, with more than 200mm possible in some locations. In addition, storm force winds are expected on the northern flank of the storm as it makes landfall close to Shanghai.

Heavy rainfall will lead to flash flooding and an increased likelihood of landslides over mountainous parts of eastern China especially. Significant disruption to travel into and through the region is likely, with reports suggesting some 400 flights are to be cancelled. Impacts from this storm are likely to affect hundreds of millions of people across eastern China, with Shanghai alone being home to some 24 million people.



##### Western Pacific north of Luzon

This forecast may be amended at any time

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Tropical Depression A formed just west of northern Luzon, Philippines on Saturday, and now lies just north of the island. The system is expected to drift NE then N through today, and may strengthen to become a tropical storm. The model consensus is for the system to pass east of Taiwan, then head toward eastern China early this week. However significant strengthening looks unlikely.

The system further enhanced rainfall across north-western Luzon on Saturday, with some 200-300 mm of rainfall reported in places. There is a risk of heavy rain and strong winds affecting easternmost parts of Taiwan through Sunday, although more likely the heaviest rainfall will remain offshore. By the time the system approaches eastern China it is likely to be weakening, but could produce some enhanced rainfall here.

Low risk of some flash flooding across eastern Taiwan. Lower risk of similar impacts for eastern China.

## **Gulf of Tonkin, offshore Vietnam.**

A circulation has emerged into the Gulf of Tonkin off the coast of north-eastern Vietnam. This is likely the remnants of Tropical Storm Son-Tinh, which made landfall on Thursday and moved well inland. There is a possibility that the system may briefly regain Tropical Storm strength through Sunday, then meander slowly around the Gulf of Tonkin into early next week.

Further heavy rainfall is likely in areas surrounding the Gulf of Tonkin. This includes coastal region of NE Vietnam, as well as Hainan and other coasts of southern China. There is considerable uncertainty as to how the system will behave, however as it is slow moving it could well deliver a further 300, possibly 500 mm of rainfall to some places.

Further impacts from flooding are possible along with a risk of landslides. Already the storm has triggered flooding across NE Vietnam, including Hanoi, with 20 people reported killed and a further 16 missing. Further heavy rainfall will hamper recover efforts.

## **Central & Eastern Pacific**

Various areas of thunderstorms have been identified by the NHC, Miami and CPHC, Honolulu as having a low probability of developing into tropical storms in the next five days. Regardless of development, none of these storms are likely to affect land.

Heavy rain and very strong winds can be expected from several organised areas of thunderstorms as they track westwards across the central and western Pacific and potentially strengthen into tropical storms.

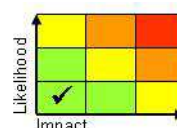
Nil, as any system will remain over open water.



## **Western Pacific**

Heavy rainfall and strong to gale force winds are likely close to these systems.

These systems are at this time only likely to affect the unpopulated northern Mariana Islands. The populated islands of the group, including Guam, are likely to escape significant impacts.



## **Europe**

### **North-western Europe**



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High pressure over north-western Russia will remain in place through the week ahead. This will act to draw warm air into north-western Europe. Meanwhile a major upper vortex is likely to become slow moving in the eastern Atlantic, preventing marked eastward progression of fresher Atlantic air into the continent this week. With this set up day on day heating of the airmass is likely to lead to a steady build of heat across north-western Europe.

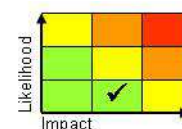
Temperatures across north-western Europe and Scandinavia will increase day on day through the week ahead. By midweek many places will see temperatures in the mid, possibly high 30's C, and it's possible that some local records may be threatened. Prolonged heat will have impacts on vulnerable populations. Parts of Scandinavia have already seen record breaking heat in the past week, with Sweden in particular being affected by wildfires. While showers this weekend have improved the situation, a further period of hot, dry weather will perhaps lead to a risk of further fires developing.

## **Alps and the Balkans Peninsula, perhaps Greece**

An upper trough will continue to engage the resident warm plume, leading to the development of areas of thunderstorms. The focus for these will east away from the Alps to affect the Balkans and countries west of the Black Sea, perhaps parts of Greece too this week.

Heavy showers and thunderstorms developed on Saturday across northern Iberia, southern France and the Alps, with Vienna, Austria recording 76.9 mm of rainfall. Further storms are likely in a similar region on Sunday. These thunderstorms could last for several hours once they develop and generate 30-50mm in a short period of time. Into the working week the focus shifts east to affect regions west of the Black Sea, which includes some popular tourist resorts.

Flash-flooding, landslides and disruption to land and air travel are possible.



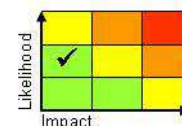
## **North America**

### **Southwest USA**

A plume of hot air lies across south-western states of the US over the next few days. At the same time, the slow moving upper high will lead to mostly clear skies and high surface temperatures for the next few days.

High temperatures are affecting Texas, Oklahoma and parts of New Mexico with maximum temperatures reaching the mid 40C's. High temperatures are not unusual at this time of year, with this current maxima expected to be around 7-10C above average for the time of year. On Saturday Wichita Falls in Texas reached 43.9 C, within half a degree of its record.

The high temperatures will affect plant, animal and human health in the region, and will lead to a high risk of wildfires.



### **Eastern USA**

A broad upper trough lies over the Midwest. This will act upon the warm plume over the eastern USA to produce areas of severe thunderstorms and heavy rainfall today and into the early part of next week.

Thunderstorms are likely again on Sunday through the Midwest. These could produce 50 to 80 mm of rainfall, gusty winds and large hail. Meanwhile an area of low pressure is expected moving north along the eastern seaboard. This will bring some heavy rainfall (locally 100 mm) and strong winds to the NE USA today, including New York City. Further heavy showers and thunderstorms are likely to develop across the eastern USA into next week.

Heavy rainfall will lead to some localised flash and river flooding. Some disruption to travel, including aviation is likely. Large hail may lead to some crop damage. On Saturday Washington DC and the surrounding area saw almost 70 mm of rainfall, which lead to some flooding.



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

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## Central America and Caribbean

Nil significant.

## South America

Nil significant.

## Africa

Nil significant.

## Middle East

Nil significant.

## Asia

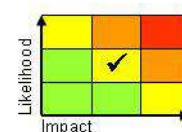
### Parts of India, Bangladesh and western Myanmar

An enhanced southwest monsoon flow will persist across the region through the next week, bringing very high rainfall accumulations over upslopes and hills that face into the prevailing wind. At the same time, a monsoon depression over the northern Bay of Bengal will move westwards into northern India bringing a period of very heavy rainfall.

Persistent heavy rain and thunderstorms are expected to continue through this week. Around 100-200mm of rainfall may occur each day within this region, with some locations across Orissa in NE India and Myanmar likely to record totals of up to 500mm over the period.

Cox's Bazar humanitarian camp in southeast Bangladesh is likely to see further heavy rainfall, with perhaps 200 mm falling through the week.

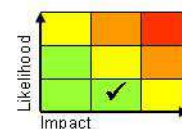
A high likelihood of flooding and landslides, posing a danger to life, as well as damage to property and infrastructure.



### Philippines, Laos, Vietnam, parts of Cambodia, Thailand and the far south of China

Strong south-westerly Monsoon flow has developed, and is likely to be reinforced by the re-emerging remnants of tropical storm Son-Tinh across northern Vietnam and southern China. Enhanced monsoon rains are signalled in this region through this week. Most locations highlighted within the map should have daily precipitation accumulations of 50-75mm, with peaks of the order 150mm each day. Parts of the Greater Manila Metropolitan Area were affected earlier in the week, with rivers in the area beginning to respond to these totals (<http://cnnphilippines.com/news/2018/07/17/Rain-flood-stranded-flight-cancel.html>).

Impacts include the usual enhanced likelihood of flash flooding and landslides in mountainous areas.

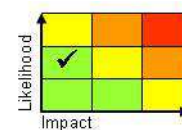


### Central and western Japan

An extreme heat wave has affected much of central and western Japan through the past week. The warm plume responsible is likely to remain in place this week. Day on day heating of the airmass will see further extreme, possibly record breaking temperatures. High humidity will add to the extreme conditions.

Temperatures have already hit 40C in the past week, threatening the Japanese record which stands at 41 C. Kyoto has seen temperatures above 38C (100F) for seven consecutive days for the first time since records began. Similar temperatures are likely to continue into the week ahead with Tokyo among the cities affected.

The heat wave has already killed 30 people, and hospitalised thousands. Further similar impacts are likely, especially amongst vulnerable populations. The heat is hampering recovery efforts in western Japan, where record rainfall, floods and mudslides killed 200 people earlier this month.



## Australasia

Nil significant.

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**Additional Information**

Formula 1 – German Grand Prix, Hockenheim. For today's race there is the low risk of a shower. It will be hot however with temperatures likely close to 30 C at race time.

**Issued at:** 220430 UTC    **Meteorologist:** Mark Sidaway

**Global Guidance Unit**

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