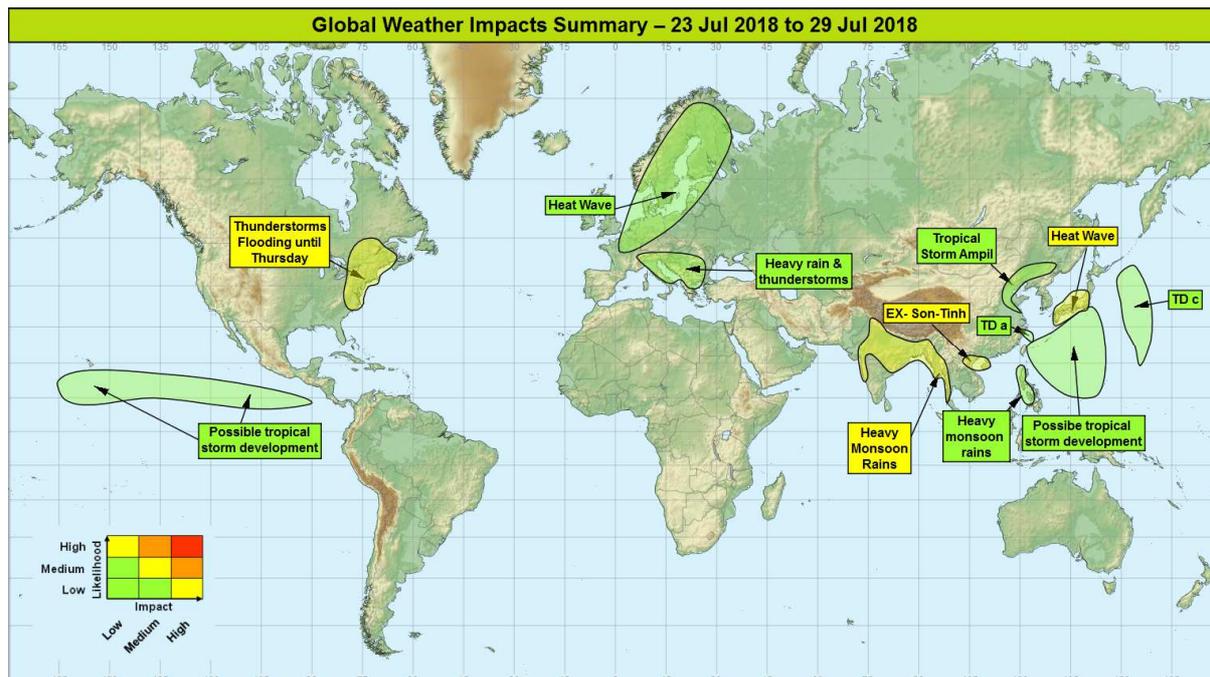


## Global Weather Impacts – Monday 23<sup>rd</sup> July 2018 to Sunday 29<sup>th</sup> July 2018

Issued on Monday 23<sup>rd</sup> July 2018

### HEADLINES

- Heavy monsoon rains continue to affect parts of southern Asia, including Cox's Bazar.
- Flooding likely in parts of eastern USA and SE Canada through until Thursday.
- Extreme heat affecting Japan and northwest Europe this week.



### DISCUSSION

#### Tropical Cyclones

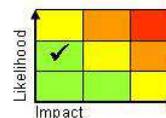
##### Tropical Storm Ampil (West Pacific)

Ampil has weakened during the past 24 hours due to the interaction with coastal China. This process is expected to continue today (Monday) and Tuesday as it tracks northwest then north across NE China, becoming entrained in the upper level westerlies and undergoes extra-tropical transition.

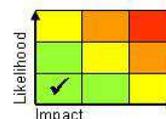
Ampil will weaken to a tropical depression today (Monday) as it tracks northwest towards Beijing, bringing heavy rainfall and thunderstorms. Up to 300mm of rain could fall in a 24 hour period across the provinces of Jiangsu, Shandong, Hebei and Beijing during the next few days.

The remains of Ampil will then track northeast across the border into Russia towards midweek, bringing a continued threat of heavy rainfall.

With the winds from Ampil weakening due to landfall, the main impact will come from the very heavy rainfall. So, flash flooding and an increased likelihood of landslides over mountainous parts of eastern China will be the main impact during the next few days. Significant disruption to travel into and through the region is likely, although life in Shanghai will be getting back to normal after recent disruption from this tropical storm.



##### Between Taiwan and Shanghai



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

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A tropical depression ('TD a' from the Japan Meteorological Agency (JMA); 'TD 13W' from the Joint Typhoon Warning Center (JTWC) ) located just north of Taiwan is expected to weaken today (Monday) as it tracks northwest into the Chinese coast just south of Shanghai.

A weakening tropical depression is expected to transfer northwest from north of Taiwan into the Chinese coastline, just south of Shanghai today (Monday). This system will bring some thunderstorms that could produce up to 50mm of rain.

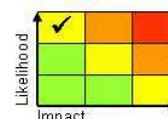
The weakening of this system should prevent any significant impacts occurring.

### Hainan and northern Vietnam

The remnants of Tropical Storm Son-Tinh, which made landfall last Thursday and moved well inland, seems to be redeveloping across or close to the Chinese island of Hainan. There is a possibility that the system may briefly regain Tropical Storm strength today (Monday) in the northern part of the Gulf of Tonkin before decaying across northern Vietnam. The JMA are not producing any advisories for this system, but JTWC have renamed it 'Son-Tinh' and are producing a track.

A tropical system will produce heavy rainfall and thunderstorms across parts of northern Vietnam and Hainan through the next 2 or 3 days. There is some uncertainty as to how the system will behave, however there could be as much as 300mm 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.

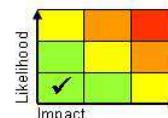


### Western Pacific

A tropical depression ('TD c' from the Japan Meteorological Agency (JMA); 'TS 14W' from the Joint Typhoon Warning Center (JTWC) ) was located close to 25 degrees North and 159 degrees East. All models strengthen this system into a tropical storm and track it north across open waters east of Japan during the rest of the week.

A tropical depression well to the southeast of Japan is expected to strengthen through the coming week as it tracks northwards, but will remain in open water, well away from any land. This tropical system could produce sustained winds of up to 60mph along with thunderstorms and very heavy rainfall.

Since this developing tropical system looks like remaining offshore, the impacts will be limited to marine traffic in this region.

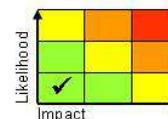


### Central & Eastern Pacific

Various areas of thunderstorms have been identified by the National Hurricane Center, Miami and Central Pacific Hurricane Center, 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.

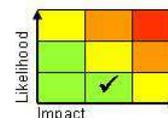
Nil, as any system will remain over open water.



### Western Pacific

A tropical storm is likely to develop to the east of the Philippines later this week. However, there is still a large spread of solution from deterministic models and EPS output. The most likely scenario is for a strong tropical storm or typhoon to develop and track north towards Japan, perhaps close to Tokyo, later this week and through the weekend. However, there is also a risk that this system could track northwest rather than north, to affect the southern Japanese islands and Taiwan.

A significant tropical storm or typhoon is likely to develop during the next week and track north or northwest to affect Japan or Taiwan. There is significant uncertainty in the track of a developing system, but it is likely to produce very heavy rainfall and very strong winds.



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

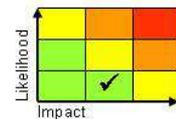
There will be a risk of flooding rains, landslides, storm surges and destructive winds from the system than develops later this week and through the weekend, with Japan and Taiwan possibly in the path of this system.

## Europe

### North-western Europe

High pressure over northwestern Russia will remain in place through the week ahead. This will act to draw very warm continental air across northwestern 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 northwestern Europe. The 1000-850 partial thickness could reach 140dm across northern Scandinavia and 143dm across Belgium, the Netherlands, eastern France and western Germany later this week.

In recent days Scandinavia has seen record breaking temperatures, e.g. Trondheim reached 32.4 Celsius which broke the all time record. Temperatures across north-western Europe and Scandinavia are likely to increase day on day through the week ahead. By midweek many places will see daily maximum temperatures in the mid, 30's Celsius, with overnight minimum temperatures of the low 20's Celsius. 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. So a further period of hot, dry weather will perhaps lead to a risk of further fires developing. There is also the possibility of human and animal heat stress becoming an issue, along with impacts of extreme temperatures on the transport network, especially the rail network.

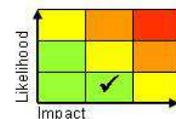


### Alps and the Balkans Peninsula, perhaps Greece

An upper trough will continue to engage the resident warm plume, leading to the development of areas of thunderstorms. The focus for these will ease away from the Alps to become focussed in the Balkans and countries west of the Black Sea, perhaps parts of Greece too through the next 2 or 3 days.

Heavy showers and thunderstorms are expected to affect parts of southeast Europe during the next 2 or 3 days, also impacting the Alps and Italy today (Monday). These thunderstorms could last for several hours once they develop and generate 30-50mm in a short period of time. These storms will also affect regions west of the Black Sea, which includes some popular tourist resorts.

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



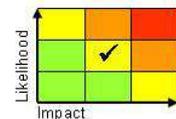
## North America

### Eastern USA and SE Canada

A broad upper trough will remain slow moving across the eastern part of the Usa and southeast Canada through until the middle of this week. The upper forcing will act upon the warm plume over this part of North America to produce areas of thunderstorms. Analysis of forecast profiles show around 1500J/Kg of CAPE with 50-60mm of perceptible water, but little directional shear. So, severe thunderstorms are unlikely, but high rainfall intensity thunderstorms are expected.

Thunderstorms will affect eastern parts of the USA and SE Canada through until Thursday. These storms will produce up to 150mm of rainfall in the space of 6-12 hours, with some places seeing up to 250mm during the next 4 days.

These rainfall accumulations will produce a high likelihood of flash and river flooding, with these impacts possibly occurring across highly populated cities such as Washington DC, Philadelphia, New York, Boston, Toronto, Ottawa and Montreal. Disruption to travel, including aviation is likely, with the potential for significant property damage and threat to life.



## Central America and Caribbean

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

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Nil significant.

**South America**

Nil significant.

**Africa**

Nil significant.

**Middle East**

Nil significant.

**Asia**

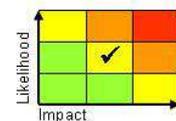
**Parts of India, Bangladesh and western Myanmar**

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 low pressure system will move westwards across 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 700mm over the period.

Cox's Bazar humanitarian camp in southeast Bangladesh is likely to see further heavy rainfall, with perhaps 300 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.

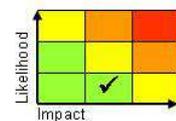


**Central and northern Philippines**

Strengthening southwesterly Monsoon flow will bring increasing amounts of moist deep convection to some western parts of central and northern Philippines this coming week.

Enhanced monsoon rains will affect in this region through this week. Most locations highlighted within the map should have daily precipitation accumulations of 25-50mm, with peaks of the order 150mm each day. Parts of the Greater Manila Metropolitan Area could see up to 300-400mm of rainfall through the week, which is close to the July average rainfall.

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

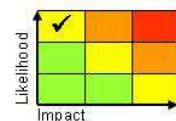


**Central and western Japan**

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, but may cool a little to allow for a slight lowering of temperatures. However, temperatures are still likely to remain above average for much of this week. High humidity will add to the extreme conditions.

The heatwave across much of Japan will continue through much of this week, although the temperatures should be slightly lower than they have been in recent days. However, temperatures will continue to peak in the mid 30's Celsius, with overnight minimum temperatures in the mid 20's Celsius.

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.



**East Asia and West Pacific**

See Tropical Cyclone section

**Australasia**

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

Nil significant.

**Additional Information**

Nil.

**Issued at:** 230600 UTC    **Meteorologist:** Paul Hutcheon

**Global Guidance Unit**