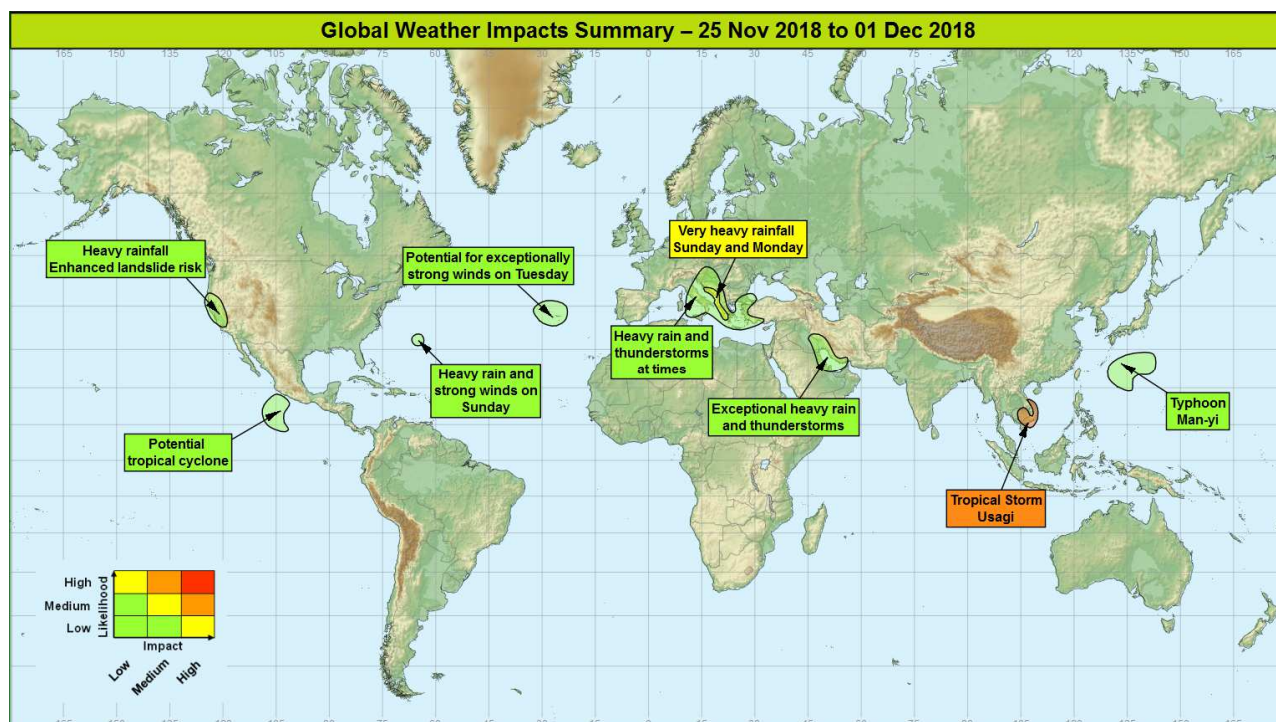


## **Global Weather Impacts – Sunday 25<sup>th</sup> November to Saturday 1<sup>st</sup> December 2018**

Issued on Sunday 25<sup>th</sup> November 2018

### HEADLINES

- Tropical Storm Usagi impacting southern and central Vietnam.
- Unsettled in the Mediterranean with a threat of flash flooding in places through the coming days.



### DISCUSSION

#### **Tropical Cyclones**

##### **Typhoon Man-yi: NW Pacific Weather**

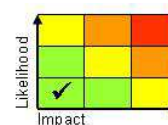
Typhoon Man-yi has slowed to become near stationary at the present time over the open northwest Pacific Ocean. It is likely that the system has attained its peak strength and has weakened in the past 24 hours with mean wind speeds reaching 85-90 mph. The system will weaken further on Sunday, and then on Monday it will accelerate north or northeast where it will dissipate. Only as a much weakened system will it pass close by any land, and then the land will only be very sparsely inhabited outlying Japanese Islands.

##### **Discussion**

Despite becoming near stationary Man-yi has managed to maintain deep convection, there is evidence now that increased vertical windshear on the northern section of the storm is elongating rainbands here, but at the same time providing excellent poleward outflow, with warm underlying Sea Surface Temperatures (SSTs) of 29-30°C. The weakening trend in the short term is largely down to the slowing of the system allowing SSTs beneath the storm to cool. However the main weakening will occur late on the weekend as a sub-tropical ridge forms to the north, and advects drier and cooler air into the system. Finally an increase in vertical wind shear as the system reaches the mid-latitude westerly upper flow will see dissipation of the system over the open northwest Pacific on Monday.

##### **Expected Impacts**

Impacts will be limited to marine transport due to very strong winds and large seas.



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

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## Tropical Storm Usagi (known as Samuel in the Philippines)

### **Weather**

Having briefly reached typhoon strength on Saturday, Usagi has since weakened and currently lies around 100 miles southeast of Ho Chi Minh City in southern Vietnam with mean wind speeds of 55-65 mph. In the short term intensity is expected to continue to slowly weaken up until landfall on during the later on Sunday (just south of Ho Chi Minh City). After landfall the circulation will rapidly dissipate. Heavy rainfall of locally as high as 250-500mm will be associated with the storm. In addition within the enhanced easterly flow on the northern flank of Usagi, heavy rainfall (locally 200-400mm) is possible on the mountains of central and southern Vietnam.

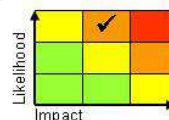
### **Discussion**

Favourable environmental conditions should see Usagi only slowly lose intensity up until landfall, with the greater the weakening of the storm the greater the turn to the right the storm will take (as it becomes steered by winds at every lower levels). The system is slow moving and compact, and despite the short lead time uncertainty in the precise track once it approaches land/makes landfall is higher than normal. Last weekend Tropical Storm Toraji (a weaker system) impacted the area to the north, and produced nearly 400 mm of rainfall at Nha Trang, resulting in flash flooding and landslides which were reported as having killed at least 12 people.

Looking back over the archives the last similar intensity storm we could find that took a similar track was Typhoon Durian (2006), which killed 98 people in Vietnam and damaged/destroyed 200,000 homes.

### **Expected Impacts**

Heavy rain will pose a threat of flash and river flooding, and landslides, with a lower, but not insignificant likelihood of damaging winds and coastal flooding. Parts of this region were impacted by Tropical Storm Toraji less than a week ago, and so the ground is likely saturated already, enhancing the flood and landslide threat. Within this zone lies the relatively low lying Ho Chi Minh City (population of around 8 million).



## Potential Tropical Cyclones

### Eastern Pacific

#### **Weather**

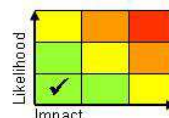
There is a small risk of a tropical cyclone forming just off the western Mexico coastline during the middle of next week and being steered north towards land.

#### **Discussion**

A tropical wave is expected to develop along the ITCZ over the weekend, perhaps aided by the arrival of the MJO in the region during the early part of next week. This wave would lie in an area moderately conducive for development into a tropical cyclone around the middle of next week.

#### **Expected Impacts**

Nil during this period any potential system would remain offshore. A watch must be kept though as if this system were to form it would have the potential to reach the western Mexican coastline in around a week's time.



### Europe

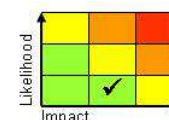
### Italy and Slovenia through to western Turkey

#### **Weather**

Further spells of heavy showers and thunderstorms are likely to continue in this region through the next week. Some areas could see 50-100mm rain in a day, and the possibility of over 200 mm during the week. With time drier conditions will prevail across the west of the region.

#### **Discussion**

The strongly blocked pattern over central/northern Europe has led to a southerly displaced jet, and continued very disturbed weather across southern Europe as numerous shortwave upper troughs engage warm plumes coming north from Africa, assisted by still very warm Mediterranean SSTs. Frequent thunderstorms are expected, with the potential to organise and upscale into MCSs at times.



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## Expected Impacts

There will be a threat of flash flooding, with additional hazards of large hail, frequent lightning and the odd tornado/waterspout. Aviation travel through the region may be disrupted.

### Bosnia, Montenegro, Albania and Western Greece

#### Weather

Within the broader region of heavy rainfall and thunderstorms mentioned above, this sub-region looks at greatest risk of seeing the highest precipitation totals. During both Sunday and Monday some mountainous locations in this region could see in the order of 150mm on each day, meaning up to 300mm is possible during this event.

#### Discussion

The combination of an eastward progressing upper trough and a northward extending warm plume will produce conditions for frequent heavy showers and thunderstorms. This signal is supported by all models. These are the areas that models signal are likely to be prone to prolonged periods of frequent storms, resulting in higher rainfall totals accumulating.

#### Expected Impacts

Both river flooding and flash flooding look likely in the areas highlighted, with the enhanced risk of landslides. Frequent lightning and large hail is also possible, with aviation travel through the region likely to be disrupted.



### Azores, Portugal

#### Weather

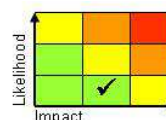
There are signals that a deep area of low pressure could move by the northwest of the Azores on Tuesday. On the southeastern flank of this low there are signals that the mean wind speed may exceed 60 mph with gusts locally exceeding 80 mph. This Portuguese Meteorological Service (IPMA) have already issued warnings for the Azores and named this low "Storm Diana". This storm will retain this name as it moves across northwest Europe between Wednesday and Friday.

#### Discussion

A shallow area of tropical low pressure has moved northeast away from the Caribbean, and is just beginning to be engaged by a sharp trough in the sub-tropical jet stream. Later on Sunday, the low will move onto the cold side of the sub-tropical jet and rapidly deepen as it accelerates northeast across the Atlantic. It is expected to pass by the north-western most of the Azores islands on Tuesday, and is likely to bring exceptional winds speeds to the region.

#### Expected Impacts

Strong winds would cause rough seas, dangerous beach conditions and disrupt air and sea travel. If the winds reach the speeds quoted above damage to property and infrastructure would be expected, with loss of electrical power and other utilities.



### North America

#### California

#### Weather

Following recent rainfall across central and northern California, dry conditions are forecast to prevail until Tuesday. Then from late Tuesday as further active Pacific frontal systems will sweep across the state. Some elevated locations are likely to see over 250 mm through the week, with 25-50mm likely across lower terrain.

#### Discussion

A southwards displaced polar front jet will continue to bring unsettled weather to California over the coming week. Rainfall at lower levels will be a mixture of dynamic and convection precipitation, and at higher levels heavy snowfalls are expected over the Sierra Nevada Mountains.

#### Expected Impacts

In the regions affected by recent disruptive wildfires heavy rainfall will bring an enhanced risk of ash and mud flows emanating from areas laid bare by the recent fires. The heavy rainfall and strong winds are likely to adversely impact some of the displaced population that are living in tented settlements, and are adding to the difficulties for the authorities sifting through ash to try and find the remains of unaccounted people.



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

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**Bermuda**  
**Weather**

There is a significant risk that Bermuda will see a period of very heavy rainfall and potentially severe thunderstorms on Sunday. These could produce 50-100 mm, perhaps 150 mm in 24 hours. In addition some strong winds are possible.

**Discussion**

The development described in the Azores section will cross Bermuda on Sunday. At this point the low will not have vigorously deepened and hence is not likely to bring notably severe winds, however the abundance of tropical air wrapped up in the system is likely to lead to large amounts of rainfall.

**Expected Impacts**

Localised flash flooding is possible, with brisk winds creating dangerous sea and beach conditions.

**Central America and Caribbean**

Nil significant.

**South America**

Nil significant.

**Africa**

Nil significant.

**Middle East****Southern Iraq, Iran, northeast Saudi Arabia, Bahrain and Qatar****Weather**

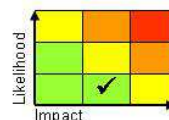
One further day of heavy showers and thunderstorms will affect this region. These will bring locally 50mm of rainfall, which falling in a usually arid area could have marked impacts where there are urban centres. In addition to the rainfall these storms are capable of producing strong and gusty winds that are capable of lifting dust plumes. During Monday as this area reaches the UAE and Oman it will markedly weaken, with much more settled conditions prevailing across the region thereafter.

**Discussion**

An upper trough to the west of the region, has promoted a cyclonic southwesterly flow through depth, and this has drawn high WBPT air across the region. Finally this upper trough will move east through Sunday, and continue to engage this warm moist plume of air. During Monday the trough will begin to relax away and overrun the plume as it reaches the south of the Arabian Gulf. Meaning fewer and much less severe storms are expected across the UAE and Oman.

**Expected Impacts**

Intense rainfall will produce a threat of severe flash flooding in these arid, and in places mountainous regions. Frequent lightning also likely with the possibility of large hail too; gusty winds may lift dust plumes. These storms could disrupt major aviation routes between Europe and the Middle East.

**Asia**

**Vietnam**— see *Tropical Cyclone* section.

**Australasia**

Nil Significant.

**Additional information**

Nil.

**Issued at:** 250800 UTC **Meteorologist:** Nick Silkstone

**Global Guidance Unit**

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