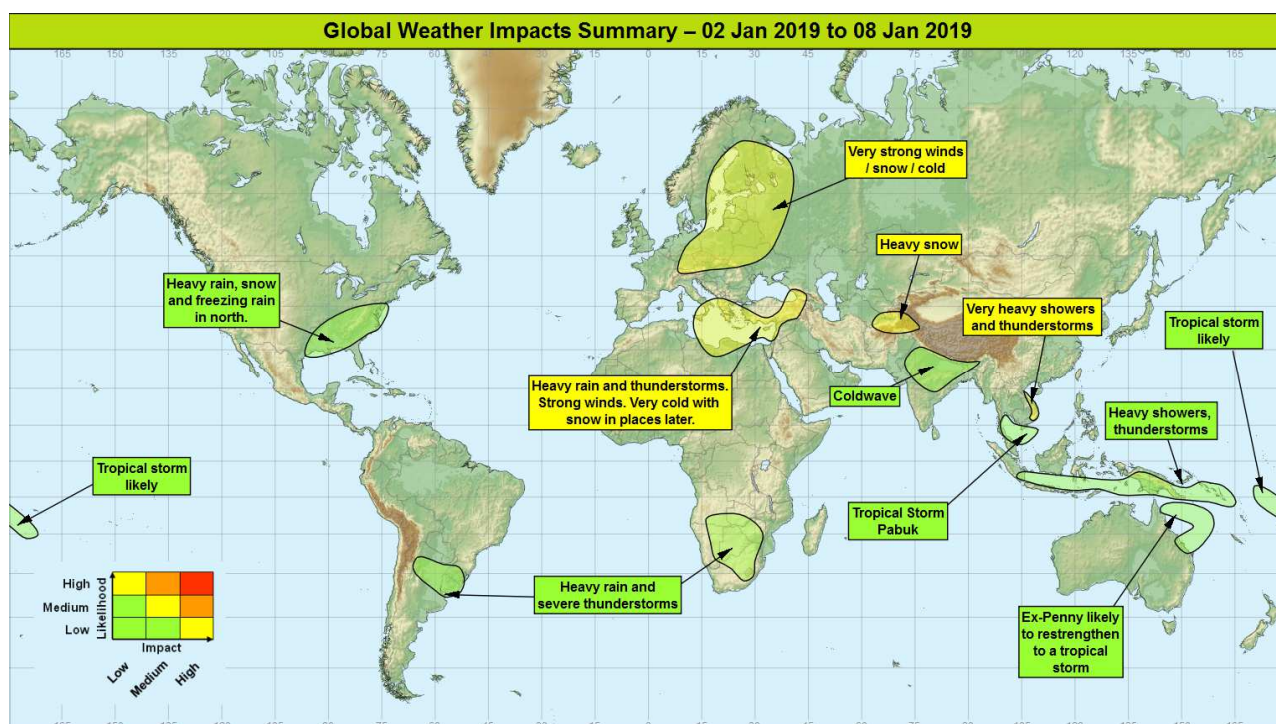


## Global Weather Impacts – Wednesday 2<sup>nd</sup> to Tuesday 8<sup>th</sup> January 2019

Issued on Wednesday 2<sup>nd</sup> January 2019

### HEADLINES

- Very heavy rainfall continues across central Vietnam; and parts of the eastern Mediterranean and Levant.
- Likely tropical storm formation close to Fiji, whilst Tropical Storm Pabuk moves west towards Malay Peninsula.
- Cold plunge across central and eastern Europe this week.
- Heavy snowfall across The 'Stans.



### DISCUSSION

#### Tropical Cyclones

##### Ex - Tropical Cyclone Penny Weather

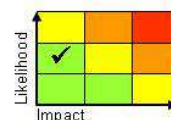
Penny crossed the Cape York Peninsula, North Queensland, Australia on Tuesday and weakened before moving over the Coral Sea. Penny is expected to redevelop into a tropical cyclone during Wednesday, and then deepen further before potentially recurving back towards Queensland over the weekend, perhaps making landfall south of Townsville.

##### **Discussion**

Penny has moved back over the Coral Sea and is in an area which is favourable for redevelopment into a tropical cyclone. Models are in consistent in a turn back towards Queensland on Thursday or Friday, but there is a large spread in potential tracks thereafter and uncertainty over where it may make landfall.

##### **Expected Impacts**

Impacts are expected to be low for the next few days as Penny moves over open water, but heavy rainfall and flash flooding are likely over the weekend as it is likely to move back close towards the Queensland coast.



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

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**Tropical Storm Pabuk****Weather**

Tropical Storm Pabuk formed on Tuesday morning over the South China Sea, with sustained winds of 40 mph. It is expected to move west then northwest during the next few days with slight strengthening likely before making landfall over the Malay Peninsula, probably over southern Thailand, by the end of the week. The system is likely to pass close to southern Vietnam bringing heavy rain for a time on Wednesday and Thursday.

**Discussion**

Conditions are favourable for some modest strengthening of this system as it crosses the South China Sea. The latest official advisories indicate modest strengthening to around 60KT on Friday. Ensemble spread in the forecast track is relatively low, with high confidence in a landfall somewhere over Southern Thailand later Friday or early Saturday.

**Expected Impacts**

The main impacts from this system will be heavy rainfall resulting from the strong flow it has induced to the north across Vietnam (see Asia section). There is a risk of heavy rainfall, flash flooding and landslides across the Malay Peninsula later this week, with some heavy rainfall also for the extreme southern tip of Vietnam directly from Pabuk.

*The following areas are also being monitored for development.*

**Fiji and Tonga****Weather**

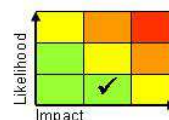
A tropical low, located to the northeast of Vanuatu at 0000UTC, is expected to move southeast over the next 24-36hrs. It is likely to strengthen to a tropical storm before pass close to or across Vanua Levu, Fiji on Friday and then close to Tonga on Saturday.

**Discussion**

Conditions remain favourable for modest strengthening. The storm will be steered south-eastwards by the prevailing flow towards the northern Fijian Islands.

**Expected Impacts**

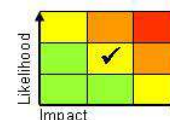
Gale force winds, high seas and torrential rainfall are likely to cause disruption to road and sea travel across Vanua Levu; flooding and a heightened risk of landslides.

**Europe****Southern Italy, Greece, Cyprus, The Levant, Turkey, Georgia, northern Syria and northern Libya****Weather**

A low pressure system, to the southeast of Greece will trundle eastwards during Wednesday bringing heavy rain, thunderstorms and strong winds to parts of the region. This will be followed by another, similar system on Thursday and Friday, with some very cold air in its wake. Up to 100mm of rain could be seen on each day in a few locations. In addition to the rainfall the plunge of very cold air could bring some significant snowfall and unusually low temperatures to parts of the central Mediterranean by the end of the week.

**Discussion**

A major trough extension into the central Mediterranean has caused a relatively deep low pressure system to the southeast of Greece. This system will be the focus for the development of bands of heavy rainfall, showers and thunderstorms which transfer east during Wednesday and Thursday. Later this week yet another trough will plunge south forming another low pressure system. In addition all models signal a surge of unusually cold air southwards across central Europe then into the central Mediterranean by the end of the week, with the potential for significant snowfall and exceptionally low temperatures across central and southern Italy, including Sicily, and Greece.

**Expected Impacts**

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Further heavy rainfall will lead to an enhanced risk of flash flooding and landslides in the region after a lot of wet weather in recent weeks. In addition strong winds and below average temperatures are likely to affect vulnerable populations in parts of southern Turkey and The Levant. Later this week there is a risk of significant snowfall and unusually cold temperatures for parts of central and southern Italy and Greece.

## **Northeast, central and eastern Europe**

### **Weather**

An active weather system moving across the Baltic States into Belarus on Wednesday, and then Russia on Thursday, will bring heavy snow and strong winds, followed by a plunge of cold air over the next 3-4 days. Very strong winds will accentuate the cold in many areas, particularly southern Baltic Sea coastlines. The cold will eventually make it as far south as the central Mediterranean (see above).

### **Discussion**

An area of low pressure will cross the Baltic States today (Wednesday), bringing heavy snow to Finland, Poland, the Baltic States, Belarus and Russia. This, combined with an N-S elongated high over the UK will then lead to a very tight pressure gradient, driving a plunge of cold air southwards into the continent.

### **Expected Impacts**

Gales or severe gales are likely across Poland, the Baltic Sea, Finland, eastern Sweden and the Baltic States, combined with heavy snow in places, leading to locally significant travel disruption. Some disruption to power supplies likely. There will be an increased risk of avalanches for the north-eastern Alps in particular.



## **North America**

### **Southern and eastern USA**

### **Weather**

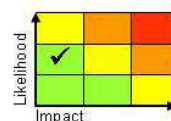
An area of low pressure is expected to develop over the Gulf of Mexico on Thursday and move east-northeast across the southern states and then towards New York by the weekend. This will be accompanied by areas of heavy rain and thunderstorms on its southern and eastern quadrants; while heavy snow and freezing rain are possible on its northern and western flanks.

### **Discussion**

A major trough extension and disruption over the Four Corners regions will draw up another plume of higher WBPT air across the southeast USA later this week which will be the focus for cyclogenesis. As the warm air is pushed north and over-runs the cold boundary layer, significant freezing rain and ice pellets are possible.

### **Expected Impacts**

A wetting-up process from previous rainfall events has made an increasing number of catchments sensitive to further rainfall. This additional rainfall is likely to result in surface water and some river flooding, with impacts most likely across the Mid-Atlantic to southern Appalachians.



## **Central America and Caribbean**

Nil significant.

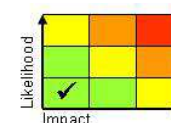
## **South America**

### **Northern Argentina, southern Brazil and Uruguay**

### **Weather**

Frequent heavy showers and thunderstorms are expected to develop through the next 2-3 days producing a combination of heavy, short-period rainfall, large hail, damaging wind gusts and a few tornadoes.

### **Discussion**



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Successive episodes of severe convection are expected as the seasonal warm plume is drawn south and engaged by shortwave upper troughs crossing South America. A combination of large CAPE (at times exceeding  $4000 \text{ Jkg}^{-1}$ ) and vertical wind shear will support the development of persistent MCS and discrete supercells.

## **Expected Impacts**

Impacts will be fairly localised given the nature of showers, but flash flooding from heavy rainfall is likely, particularly near Santa Fe and Parana today. Additionally, large hail, frequent lightning and strong winds are likely to cause some damage to property and infrastructure, as well as pose a threat to life.

## **Africa**

### **Southern Africa, including parts of Namibia, Angola, Botswana, Lesotho and South Africa**

#### **Weather**

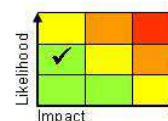
Heavy thunderstorms are expected across this region over the next 4-5 days. These could locally bring 50-100mm of rainfall in a short period, with some locations potentially seeing over 200mm through the week. In addition to heavy rainfall, these will likely produce frequent lightning, strong downdraughts and large hailstones.

#### **Discussion**

A quasi-stationary plume of high WBPT air across the high landmass of southern Africa will provide the focus for daily thunderstorm activity over the plateau. The most severe likely to be from southeast Angola and northeast Namibia across Botswana into South Africa. Here upper winds will support the generation of more long lived cells such as MCS.

#### **Expected Impacts**

The majority of the area highlighted is sparsely populated; however there are some large densely populated cities within it including Johannesburg. Impacts will be fairly localised given the nature of showers, but flash flooding from heavy rainfall is likely. Additionally, large hail, frequent lightning and strong winds are likely to cause some damage to property, crops and infrastructure, as well as posing a threat to life.



**Northern Libya** – See *Europe* section.

## **Middle East**

**Syria and Levant** – See *Europe* section.

## **Asia**

### **Vietnam**

#### **Weather**

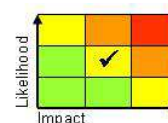
Enhanced shower and thunderstorm activity is expected in this region over the next 2-3 days, with the heaviest rainfall occurring along the central coast exposed to the prevailing northeasterly wind. Some places will receive between 100-150mm per day, with perhaps 300mm over the next 2-3 days.

#### **Discussion**

The already strong E to NE'ly flow (cold surge) will be further enhanced by tropical storm Pabuk to the south. This will result in increased atmospheric moisture and a steady stream of heavy showers feeding onto the coastlines of Vietnam.

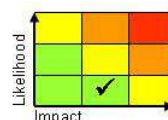
#### **Expected Impacts**

Flash and fluvial flooding, will likely lead to damage to property, infrastructure and agricultural land. Disruption to transport is probable and increased potential for landslides in more mountainous areas.



### **Parts of Indonesia, Timor-Leste, Papa New Guinea, Melanesia, through to Fiji and Tonga.**

#### **Weather**



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Heavy showers and thunderstorms will bring above average rainfall to the region over the next week. Up to 100 mm could fall in any one location in a 24-hour period, but many places will remain dry. 200-300 mm could accumulate in some places by the end of this period, which is roughly a month's worth of rain.

**Discussion**

The presence of the MJO in phase 6 will continue to enhance convection significantly, with an increase in Equatorial Rossby Wave (ERW) and Kelvin Wave (KW) activity. One or more tropical lows, described in the *Tropical Cyclone* section, may also act to organise shower and thunderstorm activity within this region.

**Expected Impacts**

Flash flooding and enhanced risk of landslides are the most likely impacts.

**Northern and Eastern India, Nepal, Bhutan and Bangladesh****Weather**

Below average temperatures are expected to persist across the region into next week with minimum temperatures falling close to freezing in places. Areas of dense fog and poor air quality are also likely to develop which could be slow to clear by day.

**Discussion**

A large stagnant area of cold air associated with high pressure over northern India will be slow moving over the next week. In addition, the strong subsidence inversion will result in poor visibility, fog and very poor air quality. There is the potential for milder air to move across central parts of India next week leading to slightly higher temperatures.

**Expected Impacts**

Colder than average conditions and poor air quality may result in adverse health impacts for vulnerable populations exposed to these lower temperatures. Low visibility may result in delays for some rail and air transport in the region.

**Afghanistan, southern Turkmenistan, Tajikistan, and northern Pakistan****Weather**

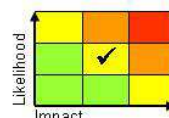
Heavy snow is expected on Friday and Saturday across mountainous parts of the region. Some places are likely to see 50-60cm of snow.

**Discussion**

A marked upper trough and associated frontal systems will sweep eastwards across the region on Thursday and Friday, bringing heavy rain to low levels and heavy snow across hills and mountains.

**Expected Impacts**

Heavy snow will cause disruption to transport, and a heightened risk of avalanche in some areas. In the past winters, this amount of snow has caused damage to buildings and loss of life where roofs have collapsed under its weight.

**Australasia**

**Papua New Guinea, Solomon Sea, Fiji and northern Australia** – see *Tropical Cyclone* and *Asia* sections.

**Additional information**

Nil.

**Issued at:** 020900 UTC **Meteorologist:** Neil Armstrong

**Global Guidance Unit**

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

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