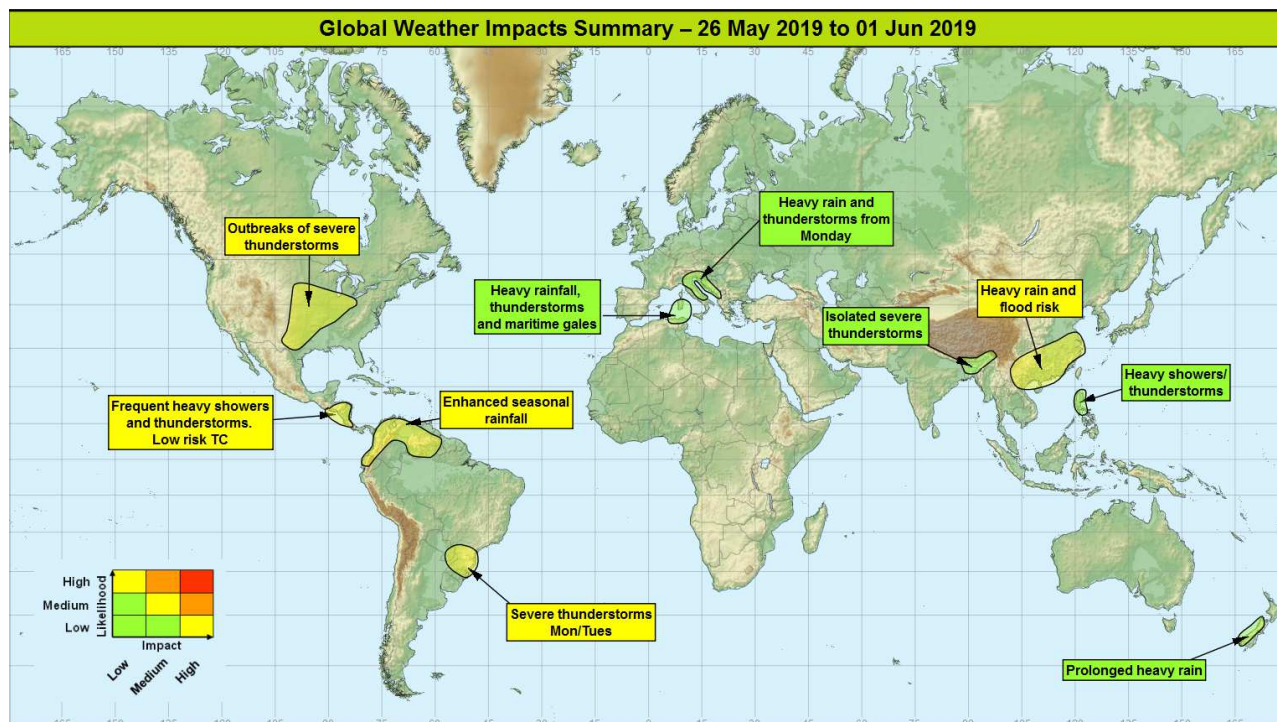


## Global Weather Impacts – Sunday 26<sup>th</sup> to Saturday 1<sup>st</sup> June 2019

Issued on Sunday 26<sup>th</sup> May 2019

### HEADLINE

- Extreme rainfall possible across parts of Central America over the next few days.
- Severe thunderstorms over parts of USA and South America.
- Heavy rain and flood risk for northern Vietnam and SE China.



### DISCUSSION

#### Tropical Cyclones

There are no active tropical cyclones currently. The following area is being monitored for potential tropical cyclone development:

#### Northeast Pacific

##### Weather

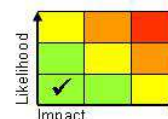
An area of persistent shower and thunderstorm activity in the vicinity of Nicaragua has a small chance of developing into a tropical storm near the Pacific coast in the next few days.

##### Discussion

Thunderstorm activity organising around a shallow depression, in co-operation with favourable oceanic and atmospheric conditions may allow the gradual development of a weak tropical storm.

##### Expected Impacts

Regardless of whether an "official" tropical storm forms or not, heavy, organised showers associated with this system will bring an enhanced flash flood risk to parts of Central America. See Central American section for further details.



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

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## Europe

### Italy, Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Albania

#### **Weather**

A weather system over the Mediterranean early next week is expected to spread a mixture of heavy showers, thunderstorms, and more persistent rain (particularly so over the Dinaric and NE Italian Alpine regions) during the first part of next week (Mon-Wed). 50-100 mm of rain is likely to fall quite widely, with 150 to very locally 200 mm where rain becomes especially persistent.

#### **Discussion**

An upper trough is forecast to extend over the W'ern Med over the weekend before cutting off. The resulting upper vortex will drag north and destabilise a high WBPT plume on its E'ern flank leading to outbreaks of heavy rain and thunderstorms. An associated surface depression should see a SW'ly low level flow eventually becoming established which may focus rainfall on the windward side of the Dinaric and NE Italian Alps.

#### **Expected Impacts**

Flash flooding is the main concern – and an increased risk of landslides in the mountainous areas. Little evidence of any river flooding risk at this stage but this aspect under review.



Sardinia – See Africa section

## North America

### Central USA

#### **Weather**

Severe thunderstorm outbreaks will continue across the Central US over the next few days. Where they occur, they bring a risk of very strong winds, large hail and tornadoes, with up to 150 mm of rain falling in a 24 hour period in places, and up to 300 mm of rain possible in a few places through the next week, which is around twice the average May rainfall in this region.

#### **Discussion**

Strongly negative PNA pattern allows for strong SW'ly flow forward of upper troughing and across an extremely warm/moist low level airmass, which is conducive to severe thunderstorm development and accompanying hazards. Details will inevitably vary day on day (see SPC for details), and this will come on top of what has already been a very active convective season with reduced resilience in some already affected areas.

#### **Expected Impacts**

Flash flooding, large hail, damaging winds and strong tornadoes are all likely. Aviation and transportation likely to be affected at times. The longevity of this event increases the likelihood of significant population centres being impacted. Another impact could be larger scale river flooding due to already very high river levels through the central part of the USA.



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**Central America and Caribbean****Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and north Panama****Weather**

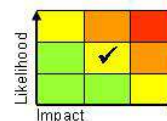
Torrential showers and thunderstorms are likely to become frequent and persistent across the area over the next 4 or 5 days, with the emphasis likely to be further south initially, moving north. Many places will see in excess of 50mm per day, with 100 to very locally 200 mm falling where showers are most frequent each day. Through the period 150-200 mm of rain is likely in many areas, with a chance that a few spots could see in excess of 500 mm, most likely in Nicaragua or Costa Rica. The average rainfall total for Managua (Pacific coast of Nicaragua) for May is 166 mm, with the highest totals being forecast representing around 300% of the monthly average.

**Discussion**

The MJO will to continue to propagate E across the western hemisphere, ramping up convection along the ITCZ as it does so. Large amounts of precipitable water and CAPE (3000J/kg) are present; the heaviest precipitation this week looks to be associated with the potentially enhanced flow ahead of a potential tropical storm development area.

**Expected Impacts**

Flash-flooding, with significantly increased risk of landslides in what is a mountainous area and gusty winds are all likely. However, heavy rainfall in this region is welcome in the longer term due to the significant drought that is being experienced in this part of Central America.

**South America****North Ecuador, Colombia, Venezuela, Guyana, Suriname****Weather**

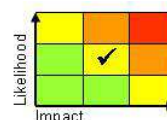
Heavier than normal seasonal rainfall is expected across this region through the next 7 days with daily rounds of frequent heavy showers and thunderstorms. Where the showers occur most frequently a further 200-300 mm of rain could accumulate, which is close to the average for the whole of May in the wetter Colombian sites.

**Discussion**

Good model agreement for another spell of heavy seasonal rainfall towards the end of what has been an active rainy season in this region. This active period of weather is likely to be due to the passage of the MJO.

**Expected Impacts**

Further flash flood and landslide events seem increasingly likely through next week, threatening transport infrastructure and settlements in the region.

**Southeast Brazil and the far east of Paraguay****Weather**

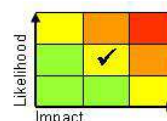
Following a break in the heavy showers experienced across the region in the past few days, a resumption of organised thunderstorms is expected to develop through the coming week with a further 100-200mm of rain over the course of 48 hours in some areas. Torrential rain, with a risk of localised wind damage/tornadic activity will be the main hazard.

**Discussion**

Following the clearance of the recent SACZ plume, a sharp trough in the STJ moving across the country will engage the next plume drifting S from Brazil, generating a band of severe thunderstorms that will move across the area over the course of Monday and Tuesday. High PWAT and "skinny" CAPE profiles will contribute to large volumes of rain, whilst significant vertical wind shear and turning in the boundary layer brings a moderate risk of localised tornadic activity.

**Expected Impacts**

Localised flash flooding and increased chance of landslides in mountainous areas. Localised strong winds and frequent lightning are additional hazards which may cause damage to property and disruption to transport and utilities. Parts of this region are recovering from ongoing flooding and this rainfall is likely to hamper this recovery.



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**Africa****North-east Algeria, North Tunisia, Sardinia****Weather**

Heavy showers and thunderstorms continuing through Sunday are likely to develop into a spell of heavy and persistent rainfall, with north and east facing high ground areas likely to see the highest rainfall totals. 50-80 mm of rain could fall over the course of 36-48 hours, with a low probability that some locations could see over 100 mm, Sardinia now seems especially prone. This represents around 200% of the monthly rainfall for the African region and potentially as much as five times the average May rainfall for Sardinia.

**Discussion**

A high WBPT plume on the N'ern side of a desert low will continue to be engaged by a disrupting trough over the W'ern Med. The location of the low over the next few days will allow for significant orographic enhancement of rainfall in the developing backbent occlusion onto the E facing slopes of Sardinia and the N facing slopes of the Atlas mountains.

**Expected Impacts**

Flash flooding will be the primary potential hazard. Strong winds/gales developing around the western periphery of the Low Pressure impacting on maritime operations in the region.

**Middle East**

Nil significant.

**Asia****Northeast India, Bhutan and northern Bangladesh****Weather**

Severe thunderstorms will continue in the region through Sunday before easing, although there are signs of an increase in activity once again by the end of the week. As well as intense rainfall (up to 100 mm daily although many areas will miss the heaviest rain), large hail and strong winds are possible.

**Discussion**

Various shortwave upper troughs moving northeast in the sub-tropical jet over northern India and Nepal will lead to destabilisation of the airmass and the development of diurnal thunderstorms. High CAPE and vertical wind shear will aid the development of severe, long-lasting storms, with hail and strong winds additional hazards.

**Expected Impacts**

Localised flash flooding and increased chance of landslides in mountainous areas bringing a danger to life. Large hail, strong winds and frequent lightning are additional hazards which may cause damage to property and disruption to transport and utilities. The Bangladeshi capital, Dhaka, could see severe storms during the period.



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## Southern and central China, far north of Vietnam

### **Weather**

Very heavy rainfall is expected to affect parts of southern and central China for the next few days, with over 200 mm possible in 24 hrs. In some areas this could lead to event totals of 350 mm. This would be over the average monthly rainfall for May (which is 150-300 mm). This rainfall is an active pulse of the seasonal Mei-yu rains, and will see severe thunderstorms in places, that could produce large hail, very strong winds and frequent lightning. A further active pulse is likely towards the end of the coming week.

### **Discussion**

There is good model agreement for an upper trough to continue to engage a surface warm plume for the next few days. This will destabilise the plume, resulting in large CAPE / vertical wind shear profiles that also contain a signal for a low level warm nose above a shallow moist zone. These are ingredients for severe convection.

### **Expected Impacts**

Flooding and flash flooding are likely to be the main impacts, especially in urban areas. However, there will be an increased likelihood of landslides, with a threat of impacts on the power network from frequent lightning, and structural damage from large hail and very strong winds.



## Northern Philippines (Luzon)

### **Weather**

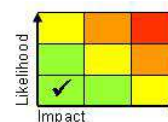
Enhanced showers and thunderstorms in the prevailing moist easterly flow are likely to develop and spread across the northern Philippines through the start of the coming week (particularly eastern Luzon), with potential for 150-250mm over the course of a few days. This is close to twice the average for May in this region.

### **Discussion**

A cold front has moved south towards Luzon, the strong E'ly flow in its wake converging with SW'ly flow into W Luzon bringing an enhancement to the diurnal showers forming across Luzon over the next few days. Forecast profiles signal large, skinny CAPE with potential for frequent torrential downpours.

### **Expected Impacts**

Some flash flooding is possible, with impacts should the heaviest showers fall over urban centres. Manila looks likely to be spared the worst of the showers.



## Australasia

### Westland and Fiordland, South Island, New Zealand

### **Weather**

A period of moist north-westerly flow with a number of weather fronts embedded within it will lead to prolonged heavy rain in this region during the coming week. Accumulations of 300mm to locally 500 mm are expected during the course of this event over western parts of the Southern Alps, representing around twice the average May rainfall for parts of this region.

### **Discussion**

Broadscale upper troughing arriving in to the W of New Zealand, becoming slow moving will provide an extended period of north-westerly flow with embedded frontal zones onto the NW facing upslopes of the mountains of South Island. Although this region is used to heavy rain, this is expected to be a significant event with warnings issued by New Zealand Met Service.

### **Expected Impacts**

The main impact will be increased risk of flooding, with streams and rivers also rising rapidly. Increased risk of landslides and driving conditions will be very difficult in places.



## Additional information

Nil.

**Issued at:** 260500UTC **Meteorologists:** Ele Hands

**Global Guidance Unit**

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