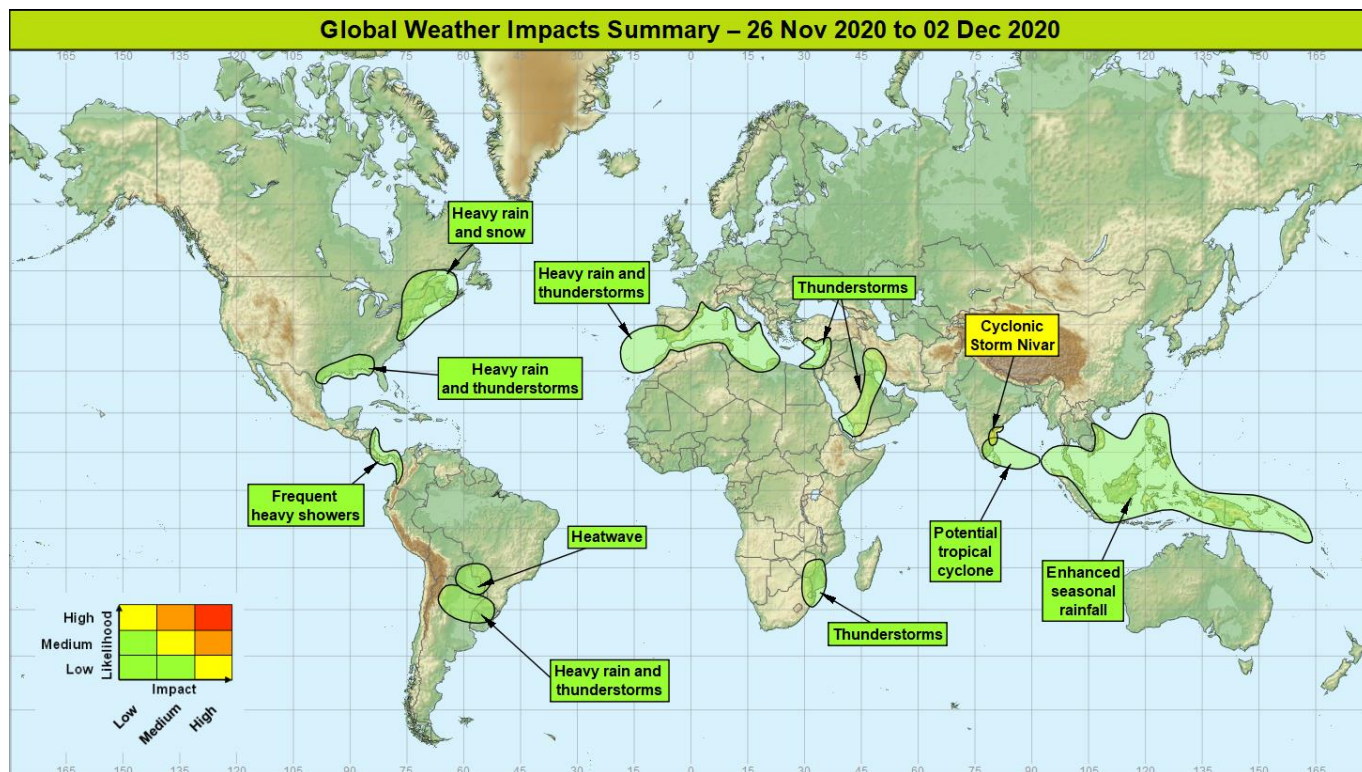


## Global Weather Impacts – Thursday 26<sup>th</sup> November to Wednesday 2<sup>nd</sup> December

Issued on Thursday 26<sup>th</sup> November 2020

### HEADLINES

- Severe cyclonic storm Nivar made landfall overnight over southeast India, now weakening.
- Frequent showers affecting parts of Central America severely impacted by recent hurricanes.
- Severe thunderstorms possible over parts of the Mediterranean and Middle East.



### DISCUSSION

#### Tropical Cyclones

##### Cyclonic Storm Nivar (Tamilnadu, India)

#### Weather

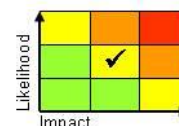
Nivar made landfall in the Tamilnadu province in southeast India last night with sustained winds of around 75mph. Now that Nivar is over land, the wind speed will reduce markedly as it continues to track slowly northwestwards. Though winds should now ease, torrential rain will impact a large area to the north of the landfall location. Many areas are likely to see 50-100 mm of rain with 300-400 mm in a few locations. This would be equivalent to a month's worth of rain in the wettest areas (November is typically the wettest month in this part of India).

#### Discussion

There is good model agreement that now Nivar has made landfall, it will continue to weaken due to frictional effects and the removal of the warm/moist fuel source. There is now high confidence that Nivar will lose its identity in the next few days as it moves slowly west/northwestwards, with all NWP models agreeing on this, though still with very large rainfall totals.

#### Expected Impacts

Flash and river flooding likely across parts of Tamilnadu and southern Andhra Pradesh. Dangerous coastal conditions and a storm surge could lead to coastal flooding in the immediate future but the main risk of this has now passed. Some damage to buildings and infrastructure near the landfall of the storm is likely.



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

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*The following areas are being monitored for tropical cyclone development that may impact land:*

**Bay of Bengal****Weather**

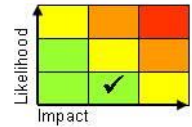
There is a possibility of a further tropical cyclone developing in the Bay of Bengal by early next week. If this forms it will likely move toward Sri Lanka and southeast India by midweek. Even if a tropical cyclone does not form heavy rainfall is likely with the potential for 100-200mm in 24 hours, this close to the region affected by "Nivar".

**Discussion**

There is good support amongst both deterministic and ensemble output for a tropical disturbance to develop, likely related to an equatorial rossby wave currently emanating from the Malay Peninsular. Extended output from EC additionally redevelops this system late next week as it moves into the Arabian Sea.

**Expected Impacts**

Flash and river flooding. Potential for dangerous coastal conditions and a storm surge. Damage to buildings and infrastructure near the landfall of the storm.

**Europe****Spain, Portugal, Morocco and many Mediterranean coastal countries (inc. N Africa)****Weather**

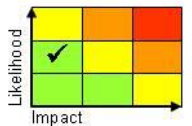
Areas of heavy rain and thunderstorms currently influencing western parts of the highlighted area will gradually move east into the Mediterranean over the coming days. As much as 100mm of rain is possible each day in a few places, most likely for Mediterranean coasts. Thunderstorms will also bring frequent lightning and strong gusty winds. Strong winds or gales may develop more widely over the weekend across the Mediterranean as a low pressure system develops.

**Discussion**

A major trough disruption yesterday resulted in a cut off low forming over western Iberia. This and an associated upper cold pool will slowly drift eastwards over the following days supporting areas of deep convection, especially over the sea and adjacent coasts with SSTs widely 18 to 20°C still. A number of convective modes are anticipated with the most severe convection (risk large hail and possible waterspouts/tornadoes) over the Med on the upper low's NE flank. At this stage confidence in details are low but the formation of a surface low may help to align deep convection into some coastal areas elevating the risk of very high rainfall totals and flash flooding. Parts of eastern and southern Spain, Corsica and Sardinia currently look most at risk.

**Expected Impacts**

Flash flooding is the most likely impact, and perhaps minor river flooding later in the week. Lightning and strong winds may bring some localised damage. Strong winds around the periphery of the surface low could approach gale force, which could induce some large waves.

**Cyprus, Turkey, Syria, Lebanon, Israel and Egypt****Weather**

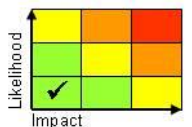
Showers and thunderstorms will become more widespread and frequent across this in the coming days. Whilst most areas are unlikely to see impactful rainfall, a few places could see 50-100mm in a few hours in association with the most intense storms (most likely coastal areas). Frequent lightning will be an additional hazard.

**Discussion**

Sharp upper troughing across the eastern Mediterranean will interact with a plume of high WBPT sourced from NE Africa to develop a depression, which will both focus showers and also provide variable wind directions to expose a number of areas to heavy showers during the period. Troughing will relax briefly today, steering showers more reliably onto coastal parts of the Levant, but sharpen up again thereafter as a downstream consequence of the Iberian cut-off coming E to re-amplify the pattern.

**Expected Impacts**

Flash flooding is possible in a few locations.



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**North America****Southern USA****Weather**

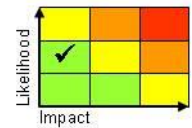
Heavy rain and thunderstorms are likely to become more frequent later this week and over the weekend over southern parts of the USA. There is the potential for 150-200mm of rain over the course of 2-3 days. Through next week, this area could spread northeast to affect a wider area (not marked on map at this time)

**Discussion**

A cold front is expected to become slow moving across this area, before stalling and finally being increasingly acted upon by upper troughing arriving from the west. Strengthening southerly flow and moisture coming up against the cold front will generate an area of increasingly extensive rain, with embedded thunderstorms. This system will subsequently undergo cyclogenesis and move across NE'ern USA and SE Canada early next week (see below).

**Expected Impacts**

Flash flooding is the most likely impact.

**Northeast USA and southeast Canada****Weather**

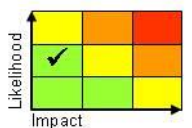
A deep area of low pressure is expected to form early next week on the eastern seaboard of the USA. As this moves northwards heavy rain and strong winds will develop widely, with rainfall accumulations of 50-100mm in 24 hours for some areas. In addition, heavy snowfall is likely to affect western parts of the highlighted area.

**Discussion**

The tropical air across southern USA over the coming days will be picked up by a marked upper trough during Sunday, this drawing the plume of tropical air northeastwards and initiating cyclogenesis. This develops into a deep area of low pressure with a cold undercut moving along its W'ern side.

**Expected Impacts**

Flash and minor riverine flooding is possible in places. There is a chance of disruption to transport and utilities from strong winds and snowfall.

**Central America and Caribbean****Nicaragua, Honduras, Belize, Guatemala, Costa Rica, Panama and western Colombia****Weather**

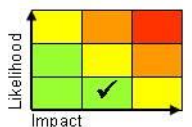
Frequent heavy showers and thunderstorms will affect this region over the next few days, and despite something of a respite over the weekend, heavy showers have the potential to become widespread again next week. 150-200mm of rain is likely to build up across many parts of the region, with a few spots perhaps seeing as much as 300mm in the coming week – which is (very roughly) twice the normal rainfall for this time of year.

**Discussion**

An active period in the ITCZ will see strengthened northeasterly winds in the northern part of this area, and southwesterlies in the south of the area. The associated low-level convergence of very high PWC air will bring an increased frequency of tropical thunderstorms generally, but particularly into areas exposed to these winds, i.e. coastal parts with onshore winds. This is likely to be particularly problematic for Honduras and Nicaragua, currently trying to recover from the impacts of Hurricanes Eta and Iota earlier this month. Winds are forecast to reduce over the coming weekend, which should see conditions improving across this region.

**Expected Impacts**

Flash and further riverine flooding, with increased likelihood of landslides. This is likely to be particularly impactful in areas already suffering due to the impacts from Hurricanes Eta and Iota.



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## South America

Colombia – See Central America and Caribbean section

### Paraguay, far north of Argentina, western Brazil

#### **Weather**

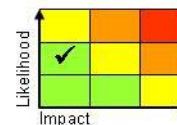
Temperatures are expected to rise into the low 40's of Celsius most days this week, with very warm overnight temperatures too. The hot, dry conditions will be conducive to the maintenance/regeneration of wildfires, of which there are numerous across this region.

#### **Discussion**

Paraguay is in the grip of a drought and has been experiencing multiple hot spells over the past few months. Persistent low pressure to the east of the Andes continues to advect hot, dry air from areas further N – the warming process further aided by orographic descent and forced subsidence due to upper ridging aloft. Temperatures in excess of 40C are not unprecedented in this region at this time of year, although it is likely that a few local station records for November will be broken, with temperatures around 5-8C above the average. Meanwhile, Paraguay in particular is suffering with numerous wildfires, with these conditions conducive to increasing spread and frequency of these.

#### **Expected Impacts**

The longevity of the heat is likely to impact on vulnerable demographics, combined with the drought conditions will increasingly stress national resources/agriculture etc. Poor air quality associated with wildfire smoke will also impact on human health.



### Northern Argentina, Uruguay, far southwest of Brazil

#### **Weather**

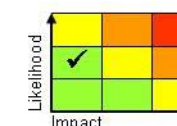
A marked frontal zone will affect the region for several days. Partly helped by the very warm air to the north (see section above), a sharp boundary exists between this and the relatively cold airmass to the south. This is likely to lead to some prolonged and heavy rain at times, and in the north of this area the additional threat of thunderstorms. Totals of rain will be 100 to 150 mm quite widely, and up to 200 to 250 mm in some parts.

#### **Discussion**

The marked baroclinic zone will be overrun by a succession of upper troughs associated with the nearby jet. Pulses of heavy rain are expected as a series of frontal waves develop and cross a similar area, as well as some severe thunderstorms developing in the warm airmass to the north. High PWC and largely skinny-CAPE will lead to some large totals of rainfall building up in the coming days.

#### **Expected Impacts**

Increased likelihood of flash and river flooding, with potential for landslides in the higher terrain.



## Africa

Morocco, Algeria, Tunisia, Libya– See Europe section

Egypt– See Europe section

## Middle East

Levant coastline – See Europe section

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## **Parts of Saudi Arabia, Northwest Yemen, Southeast Iraq, Kuwait, southwest Iran**

### **Weather**

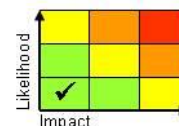
Potential severe thunderstorms will develop across these areas later this week and over the weekend. Frequent lightning and strong gusty winds are likely in places. Torrential downpours are possible too with 50-75 mm falling in a few hours. While the worst-affected areas are likely to be near or over the sea, places close to the coast are also at risk of some severe thunderstorms, with frequent lightning

### **Discussion**

A shortwave upper trough (the same feature bringing heavy showers and thunderstorms to the Levant earlier this week) will engage an Arabian plume to generate areas of high-based showers and thunderstorms. The high PWAT air mass will support some locally intense downpours, but often high cloud bases will be supportive of frequent lightning, locally strong, gusty winds, which could cause local damage and is likely to lift areas of dust.

### **Expected Impacts**

Small likelihood of isolated flash flooding, which should this impact urban areas could cause significant disruption. Frequent lightning could cause isolated issues, and lifted dust could cause disruption to transport.



## **Eswatini, parts of South Africa, Zimbabwe and Mozambique**

### **Weather**

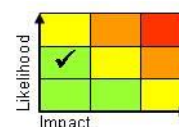
Severe thunderstorms are expected to develop in this area over the weekend and into the following week. Frequent lightning and large hail is likely in places, with potential for torrential rain to bring 50-150mm in 24 hours. Despite the region is entering its wettest period of the year (December to February) these totals are above what would normally be seen in late November and early December.

### **Discussion**

A very warm tropical airmass lies across this region with profiles indicating deep instability and the potential for severe convection and associated hazards. A sub-tropical low develops off the southeast coast of South Africa by Sunday, with the cold front emanating from this moving northwards and assisting the development of the storms.

### **Expected Impacts**

Threat of flash flooding. Damage to infrastructure from lightning and hail.



## **Asia**

**Southeast India** – See *Tropical Cyclones* section

## **Philippines, Vietnam, Cambodia, Thailand, Malaysia, Indonesia, Papua New Guinea, and The Solomon Islands**

### **Weather**

There is likely to be enhanced convective activity in the coming week with heavy showers and thunderstorms affecting large parts of this wider region at some time or another. There will be some drier interludes as well in all areas, but when the showers do come along they are likely to be torrential, with a risk of hail and frequent lightning. Windward coasts and mountainous areas are likely to see the worst of the storms.

### **Discussion**

Several factors are contributing to this potentially very wet spell in the region. Even though it is not unusual at this time of year, effects are still likely to be felt, given antecedent wet conditions and the anticipated frequency and intensity of the rains. The MJO is moving into Phase 4, which will bring large-scale upper divergence. A train of Rossby waves to the east will also likely enhance the convection in pulses. And finally, La Niña will also contribute as SSTs are well above average over this part of the world, with a large area of  $>28^{\circ}\text{C}$

### **Expected Impacts**

Increased likelihood of flash and river flooding, with potential for landslides in the higher terrain. Hail damage, and impacts from gusty winds, while not widespread, could be impactful - as could lightning strikes.



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**Australasia**

*Nil – but see additional information below.*

**Additional Information**

**Northern India, Pakistan and parts of SE China:** Urban pollution, combined with crop burning, will continue to generate high levels of air pollution in this area over the coming months. Very unhealthy air quality has continued to be reported in cities in the area including Delhi and Lahore.

**Southwest USA and the far northwest of Mexico:** Santa Ana (strong, very dry and warm easterly) winds are expected in this area over the next two days bringing a heightened wildfire risk.

**Central and eastern Australia:** These parts are likely to see some very high temperatures in the coming days, with temperatures quite widely in excess of 40°C – and many November temperature records likely to be broken. Though heatwaves are not uncommon in this area, it is particularly early this year and is likely to produce conditions favourable for wildfires to spread as the winds also pick up during the coming days.

Issued at: 260900 UTC      Meteorologist: Chris Almond / David Oliver

Global Guidance Unit

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