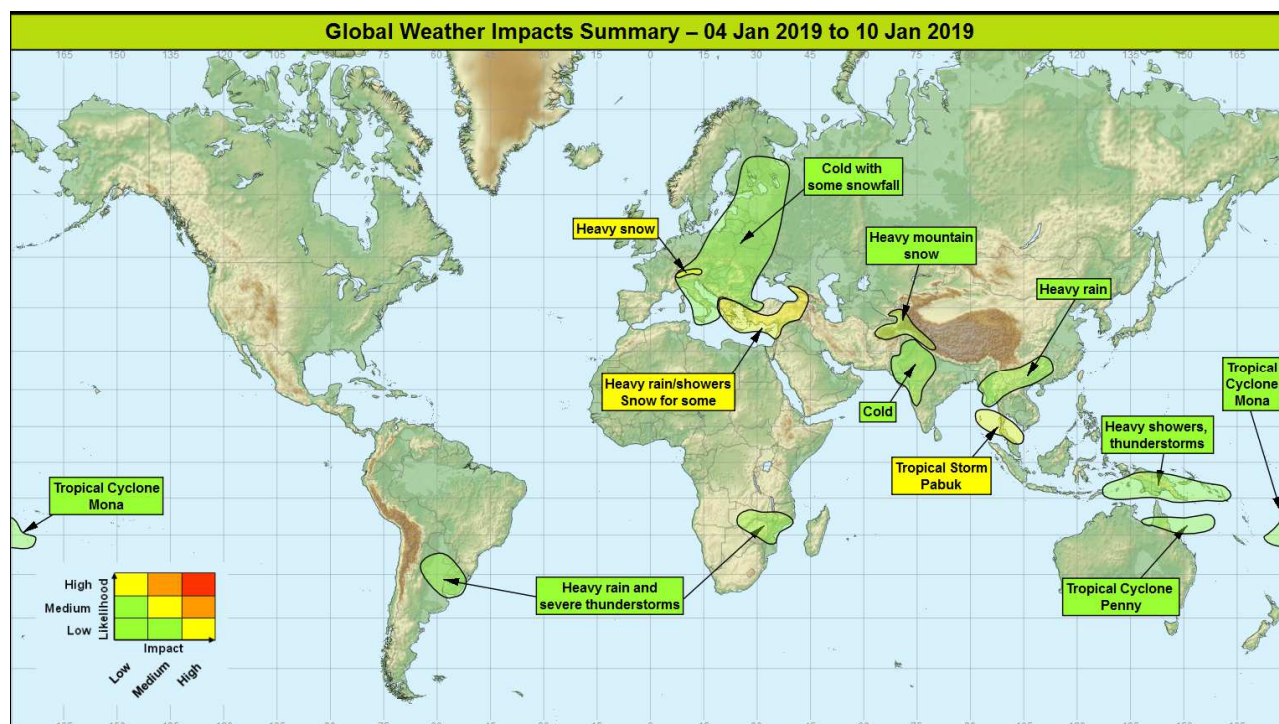


Global Weather Impacts – Friday 4th to Thursday 10th January 2019

Issued on Friday 4th January 2019

HEADLINES

- Tropical Storm Pabuk will impact areas of Thailand popular with Western tourists today.
- Heavy snow expected across the Alps Sat/Sun, disrupting transport and increasing avalanche risk.
- Further snow expected Greece today, and several days of heavy showers/thunderstorms for the Levant, southern Turkey and northern Syria.



DISCUSSION

Tropical Cyclones

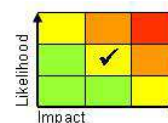
Tropical Storm Pabuk, Southern Thailand, North Andaman Islands

Weather

Tropical Storm Pabuk was at 0345 GMT centred around 75km NW of Songkhia, with sustained winds of around 50 mph. Pabuk is expected to make landfall imminently, strengthening a little before it does so, across southern Thailand, before then heading out into the Bay of Bengal towards the Andaman Islands over the weekend. 100-200mm of rain was reported in various locations adjacent to the Gulf of Thailand yesterday; a wide swathe of 100-150 mm can be expected across Southern Thailand with some coastal locations likely to see in excess of 350mm by the end of today (Friday).

Discussion

Conditions are favourable for some weak strengthening of this system as it crosses the Gulf of Thailand. The latest official advisories indicate modest strengthening to reach sustained wind speeds of around 57 mph before landfall. Ensemble spread in the forecast track remains low, with high confidence in a landfall somewhere over Southern Thailand today (Friday).



This forecast may be amended at any time

Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter

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Expected Impacts

The main impacts will be from heavy rainfall, with an enhanced risk of flash flooding and landslides across Southern Thailand. In addition strong winds will generate rough seas, curtailing marine transport (ferries), fishing activities. Large waves and coastal flooding are probable close to the centre of the storm at landfall. Over land the winds will be capable of felling trees, causing road blockages and utility outages. This region contains a large number of holiday resorts popular with European tourists at this time of year, although the core of the system looks likely to pass to the south of the main hotspots of Koh Samui, Koh Phangan and Koh Tao.

Tropical Cyclone Penny, Australia

Weather

Tropical Cyclone Penny was at 0001 GMT centred over the Coral Sea, well away from land, generating sustained winds of 60 mph. Penny is expected to move slowly towards the coast of Queensland over the next several days, whilst gradually weakening. There is a low likelihood that Penny will make landfall as a weak tropical cyclone next week, but regardless of intensity Penny is likely to bring heavy rain accompanied by gusty winds.

Discussion

Penny has moved back over the Coral Sea and is expected to slowly meander before heading back towards the Queensland coast sometime next week. The precise track remains rather uncertain with large ensemble spread, but most model output signals a weak tropical cyclone or ex-tropical cyclone making landfall most likely close to the town of Townsville.

Expected Impacts

Strong winds/heavy rain affecting any marine transport in the area will be the primary impact over the next few days, before an increased risk of flash flooding as Penny or the remnants of Penny make landfall on the Queensland coast.



Tropical Cyclone Mona, Fiji, Tonga, and Nuie

Weather

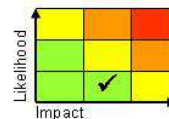
Tropical Cyclone Mona was at 0415 GMT centred approximately 250 km northwest of Vanua Levu, Fiji, with sustained winds of 60 mph. Mona is situated in an environment conducive for slight strengthening, although the official advisory indicates that it will merely maintain its present strength. Either way, strong winds and heavy rain (some places up to 300 mm) look likely to affect Vanua Levu and Fiji as the slow moving storm system meanders across over the next couple of days. Mona's subsequent track is very uncertain, as can often be the case with these slow moving, broad tropical systems.

Discussion

Mona continues to look rather disorganised on satellite imagery but convection can be seen to be trying to wrap around the centre and the sea/atmosphere environment is conducive for at the least maintaining, but potentially increasing in strength before reaching the Fijian Islands over the next couple of days. There remains large model differences in track, with the 03/12Z GM an outlier in taking the system quickly SE'wards. The official guidance is more like EC/GFS, with a slower arrival and a track closer to the main island of Fiji. The uncertainties are particularly marked in the ensemble spread of tracks, which span a large longitude following its encounter with Fiji.

Expected Impacts

Strong winds, high seas and torrential rainfall are likely to cause disruption to road, sea and air travel across region; affect utilities; with a heightened risk of flash flooding and landslides. There is an increased chance that the main island of Fiji could see a more direct hit from Mona, but confidence remains low. Should it do so, flooding and wind impacts are more likely, although not particularly unusual given the time of year.



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Europe

Greece, Cyprus, The Levant, Turkey, Georgia and northern Syria

Weather

A repetitive pattern of weather systems developing over the Eastern Mediterranean will see a number of spells of heavy showers and thunderstorms affecting in particular southern Turkey, northern Syria, and the Levant. 50-80 mm could fall in some locations on any particular day, with up to 300 mm in some places building up over the course of the next several days. Some of this will be locked up as snow over the higher ground of southern Turkey. In addition, further snow is expected for Greece today, down to sea level in northern Greece and to around 400m above sea level in the south. Athens is likely to see a mix of rain and wet snow, but in places further north a further 10-15, locally 20cm could fall.

Discussion

The remarkably persistent planetary scale ridge near to the meridian will continue to feed trough extensions south towards the eastern Mediterranean, creating an unstable environment and spinning up a number of waves/lows which will then feed showers/thunderstorms across the region. One such wave is expected to bring further snow to parts of Greece which have already seen some impacts from snow according to media reports. The largest and most reliable rainfall totals through the period look likely to be W facing slopes of the Levant, and S facing slopes of southern Turkey.

Expected Impacts

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. Significant snowfall and unusually cold temperatures for parts of Greece will continue to disrupt transport, perhaps cause utility outages and impact vulnerable populations.



Northeast, central and eastern Europe

Weather

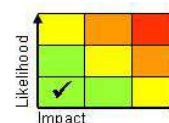
Cold air is well established across a large part of Central and eastern Europe, bringing bitterly cold temperatures as well as some snowfall. A weather system pushing south-east will bring more significant snow (see below), but also confine the cold air further east for a time over the weekend, before a further surge of cold but generally settled/dry weather spreads back across the region. As well as Greece (see above), the cold air spreading S over the Mediterranean is likely to cause frequent snow showers for higher parts of the NE facing Apennines of Italy, and higher ground of Sicily today.

Discussion

See above.

Expected Impacts

Severe cold will stress vulnerable sections of the population across a wide area. In additional snowfall will likely lead to some localised disruption of travel.



Alps, Switzerland, Austria and southern Germany

Weather

Within the broad zone of cold and snow mentioned above, conditions will exist for significant snowfall across the Swiss, southern German and Austrian Alps (including some cities such as Munich and Innsbruck). The heaviest snowfall is signalled on Saturday and Sunday, but in total over coming 5 days some parts of the higher Austrian Alps are likely to see 1.5 to 2 metres of fresh snowfall, bringing a high risk of avalanches. An interlude of more settled weather is expected early next week, before further snow develops in a similar weather pattern.

Discussion

Frontal systems arriving from the N, bringing higher WBPT/moister air, combined with brisk northerly flow will generate significant orographically enhanced ppn, including snow to above approximately 600-800m. Flow and ppn will tend to ease early next week, but further weather systems pushing down from the N will likely see a resurgence of snow later next week. Rising and falling freezing levels associated with the passage of systems will make the snow pack more unstable than usual, increasing the risk of avalanches.



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Expected Impacts

Even in a region so well prepared for such weather, this amount of snowfall is likely to cause disruption to air and land based transport. With Saturday (and to a lesser extent Sunday) being a busy switchover day for people on skiing holidays, the disruption has the potential to affect many more people than it would on any other day. Additional snow will also increase the risk of avalanche in the region, particularly next week.

North America

Nil significant.

Central America and Caribbean

Nil significant.

South America

Northern Argentina, far south of Brazil, south Paraguay, and Uruguay

Weather

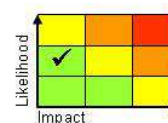
Further rounds of frequent heavy showers and thunderstorms are expected to develop in this area through the next week producing a combination of heavy, short-period rainfall, large hail, damaging wind gusts and a few tornadoes. Storms will develop during most afternoons, persisting well into the night time.

Discussion

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 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. Additionally, large hail, frequent lightning and strong winds/tornadoes are likely to cause some damage to property and utilities infrastructure, as well as pose a threat to life.



Africa

Mozambique, Zimbabwe, Zambia, Malawi

Weather

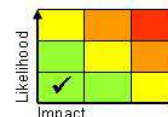
Enhanced seasonal rains are expected to continue, with the focus for the heaviest rain having gradually transferred northwards over the past few days. These could locally bring 30-80mm of rainfall in a short period, with some locations potentially seeing around 200mm through the week. In addition to heavy rainfall, these will likely produce frequent lightning, strong downdraughts and possibly large hailstones too.

Discussion

Enhanced seasonal rainfall associated with monsoon plume is forecast to continue over the next several days, with significant rainfall anomalies being generated by the models. Showers will mainly be focussed by the (at times diffuse) axis of high WBPT, with any dynamical forcing tending to lie increasingly to the south of the main activity.

Expected Impacts

The majority of the area highlighted is sparsely populated; however there are a few large densely populated cities within it. Impacts will be fairly localised given the nature of showers, but flash flooding from heavy rainfall is possible. 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. The likelihood of a populated area being significantly affected is rather low.



Middle East

Syria and Levant – See *Europe* section.

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Asia

Eastern Pakistan, northeast India.

Weather

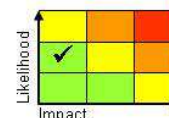
Following on from the relatively cold spell (particularly minimum temperatures) of recent days, a further push of cold air from the continental interior (see below) is expected to maintain below normal temperatures.

Discussion

Recent days have been characterised by below normal temperatures accompanied by areas of poor visibility. The weak cold front associated with the snow expected further north will push into this region over the weekend, bringing further cold air and minimum temperatures widely into low single figures, locally close to freezing, which is 5-8°C below normal for the time of year. IMD currently have yellow alerts for cold wave and poor visibilities in this region too.

Expected Impacts

Predominantly a human health issue, with cold overnight minima impacting on vulnerable and poor populations. Poor visibility exacerbating the health aspect.



Afghanistan, southern Turkmenistan, Tajikistan, northern Pakistan, northern India

Weather

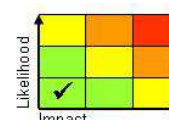
A spell of heavy snow is expected across mountainous parts of south west Asia, with 30-50 cm possible over a couple of days quite widely.

Discussion

A marked upper trough and associated frontal systems will sweep eastwards across the region this weekend, bringing some heavy rain to low levels and heavy snow across mountains.

Expected Impacts

Heavy snow may cause localised disruption to transport, and a heightened risk of avalanche in some areas. There is a small chance that snow amounts could be sufficient to collapse roofs.



Myanmar, Thailand, Laos, Vietnam and southern China.

Weather

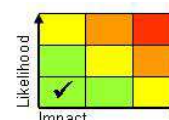
A slow moving area of heavy rain may develop over the region early next week, bringing the potential for 100-200mm of rain quite widely. The main notability of this event is that this region is usually dry during this time of year.

Discussion

The sharp upper trough responsible for earlier snowfall further west (see above) looks likely to progress and interact with the Mei-Yu front, generating a marked frontal wave and area of heavy precipitation. All models currently signal this evolution, with significant ppn anomalies and 100-200mm of rain offered by the global models.

Expected Impacts

This region deals with these sorts of rainfall totals regularly through the summer monsoon season, so little more than a very slight increase in risk of flash flooding and landslides.



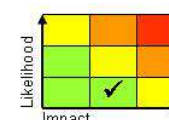
Eastern Indonesia, Papua New Guinea, Solomon Islands.

Weather

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. 400 mm could to accumulate in some places by the end of this period, which is roughly a month and a half to two month's worth of rain.

Discussion

The MJO now moving into Phase 7 is taking the deepest convection gradually further E, with this region of enhanced rainfall gradually shrinking back from the W through the period. The presence of the Phase 7 MJO, along with Equatorial Rossby Wave activity, is expected to maintain a greater than average shower frequency and intensity, with models suggesting peak totals in the region of 200-400mm over the next 5-7 days. Higher ground will tend to be favoured for the largest rainfall totals.



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Daily Global Weather Impacts Assessment

Expected Impacts

Flash flooding and particularly enhanced risk of landslides are the most likely impacts, leading to damage to homes and businesses, local transport disruption, and risk to life.

Australasia

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

Additional information

Nil.

Issued at: 040820 UTC **Meteorologist:** D J Harris

Global Guidance Unit

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