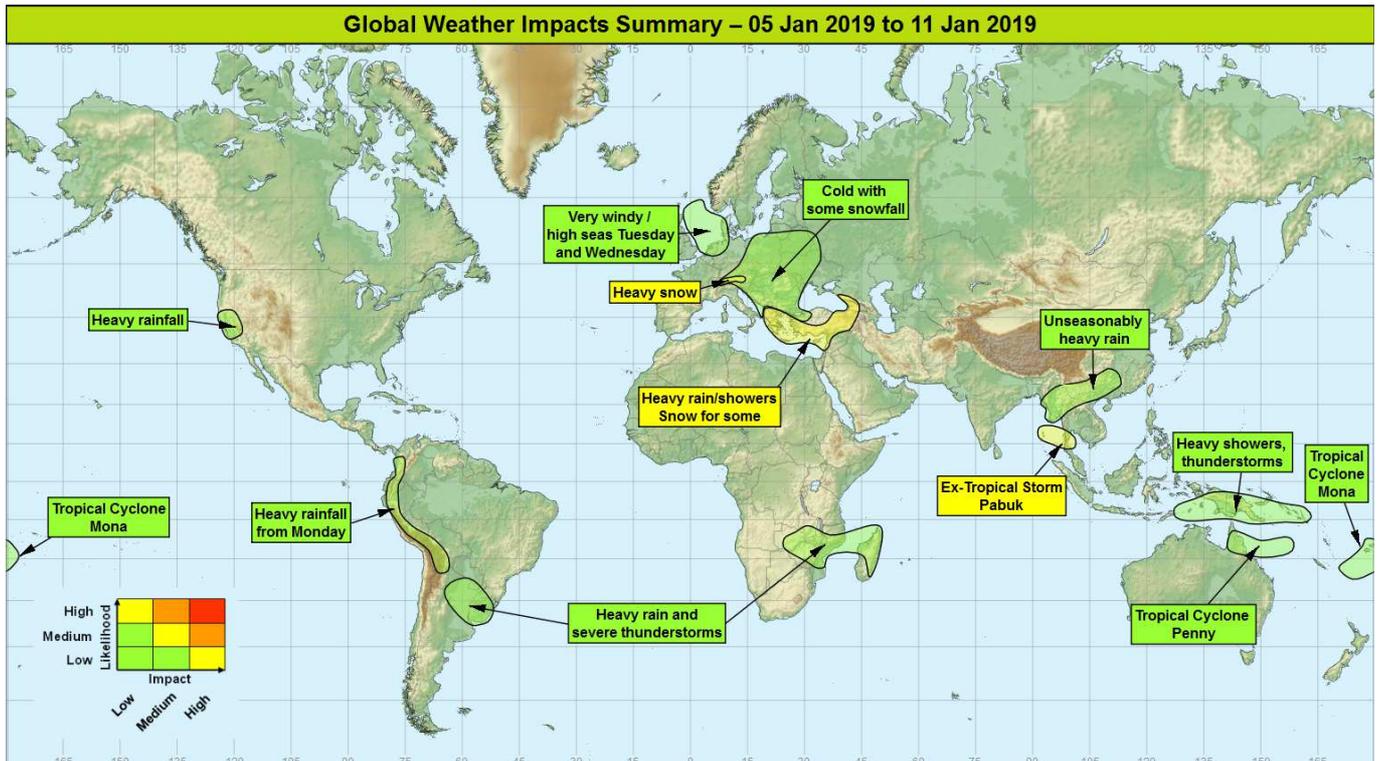


Global Weather Impacts – Saturday 5th to Friday 11th January 2019

Issued on Saturday 5th January 2019

HEADLINES

- Further flooding likely in southern Thailand today from the remnants of Tropical Cyclone Pabuk.
- Heavy snow expected across the Alps Sat/Sun, disrupting transport and increasing avalanche risk.
- Several days of heavy showers/thunderstorms for the Levant, southern Turkey and northern Syria. Heavy snowfall in parts of Turkey.



DISCUSSION

Tropical Cyclones

Ex-Tropical Storm Pabuk (Southern Thailand, North Andaman Islands)

Weather

Tropical Storm Pabuk made landfall on the Thailand peninsula on Friday, producing strong winds and heavy rainfall (widely 100 mm which is the around the average January rainfall). The interaction with land has weakened Pabuk, with the official tropical cyclone forecasting centre (Japanese Meteorological Agency) downgrading Pabuk to a tropical depression.

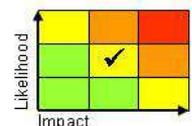
Despite the weakening of this system, further very heavy rainfall is expected today (Saturday), with a further 200 mm possible in places from frequent thunderstorms.

The remains of Pabuk will continue to track northwest as a weakening system across the North Andaman Islands on Sunday and Monday, producing up to 100 mm of rain here. This would be twice the average January rainfall in what should be the dry Northeast monsoon season.

Discussion

Good model agreement for this weakening track northwestwards through the weekend. Pabuk is likely to be the worst tropical storm to impact Thailand for 30 years, and has resulted in the evacuation of thousands of tourists. Severe flooding has been reported in this part of Thailand due to very heavy rainfall and a coastal storm surge.

Expected Impacts



This forecast may be amended at any time

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With the system weakening, winds and seas will become much less of an issue today (Saturday). However, further very heavy rainfall will likely exacerbate the flooding issues in this part of Thailand. Impacts on the Andaman Islands are likely to be much less significant.

Tropical Cyclone Penny, (Northeastern Queensland, Australia)

Weather

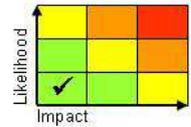
Tropical Cyclone Penny remains slow moving in the Coral Sea, well away from land, and has weakened to a category 1 cyclone (sustained winds of 39-54 mph). Penny is expected to gradually move towards the coast of northern Queensland over the next 4 or 5 days, whilst weakening below tropical storm strength. By the middle of next week the remains of Penny are expected to bring widespread thunderstorms to northeastern Queensland, possibly resulting in up to 200 mm of rain (around 50% of the January average rainfall).

Discussion

Good model agreement for the continued weakening of Penny as it tracks west towards Cairns or Townsville.

Expected Impacts

Risk of flash flooding as the remnants of Penny make landfall on the Queensland coast next week.



Tropical Cyclone Mona, (Fiji, Tonga)

Weather

Tropical Cyclone Mona was centred approximately 500 km northwest of Fiji, having recently been downgraded to a category 1 cyclone (sustained winds of 39-54 mph). Mona is expected to track south across the Fijian Islands later this weekend or early next week, with official guidance from Fiji Meteorological Service suggesting no significant strengthening or weakening during this time.

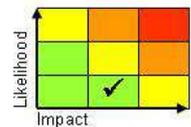
There remains uncertainty about the timing and exact tracking of Mona, but this system is likely to produce heavy rainfall (up to 300 mm in places). This is close to the average January rainfall, which is part of the rainy season.

Discussion

Mona continues to look rather disorganised on satellite imagery, with the suggestion of a twin centre. This could be the reason for the large spread of model and EPS tracks from a very early forecast stage. The GM continues to be the furthest east track, with the EC and GFS having tracks closer to the official RSMC track which takes Mona across the main Fijian Islands.

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 threat of flash flooding and landslides. However, these impacts are not particularly unusual given the time of year.



Europe

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

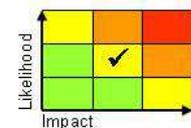
Weather

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 coastline. Up to 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. The precipitation will produce heavy snowfall across parts of Turkey.

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. On the northern edge of the systems cold air will result in heavy snowfall across parts of Turkey. The largest and most reliable rainfall totals through the period look likely to be western facing slopes of the Levant, and southern facing slopes of southern Turkey.

Expected Impacts



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Further heavy rainfall will lead to an enhanced threat of flash flooding and landslides in the region after a lot of wet weather in recent weeks and months. In addition strong winds and below average temperatures are likely to affect vulnerable populations in parts of southern Turkey and the Levant. Significant snowfall in parts of Turkey will likely disrupt transport, perhaps cause utility outages and impact vulnerable populations.

Eastern Europe

Weather

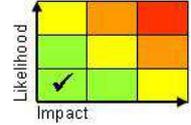
Cold air is well established across a large part of Eastern Europe, bringing bitterly cold temperatures as well as some snowfall. A weather system pushing south-east will bring more significant snow (see below), but also confine the cold air further east for a time over the weekend, before a further surge of cold but generally settled/dry weather spreads back across the region.

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

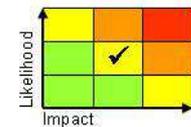
Within the broad zone of cold and snow mentioned above, conditions will exist for further significant snowfall across the Swiss, southern German and Austrian Alps. The heaviest snowfall is signalled this weekend and again towards midweek, but in total over coming 5 days some parts of the higher Austrian Alps are likely to see a further 1.5 metres of fresh snowfall, bringing a high risk of avalanches.

Discussion

Frontal systems arriving from the north, bringing higher WBPT/moister air, combined with brisk northerly flow will generate significant orographically enhanced ppn, including snow to above approximately 600m. Flow and ppn will tend to ease early next week, but further weather systems pushing down from the north will likely see a resurgence of snow by midweek. 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, with the Austrian Meteorological Service (ZAMG) highlighting a top level 5 catastrophic avalanche risk.

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 threat of avalanche in the region, particularly next week.



North Sea and adjacent coastlines

Weather

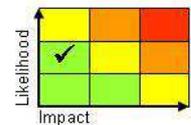
Severe gales or storm force (sustained winds of 47-63 mph) northwesterly or northerly winds will transfer across the North Sea through Tuesday and Wednesday, building very high seas.

Discussion

A deep depression will track southeast across the North Sea and Denmark next week.

Expected Impacts

Significant disruption to marine and offshore activities is expected. Wind damage is possible across Denmark, northern Germany and the Netherlands, with these coastlines seeing the threat of storm surge flooding.



North America

California

Weather



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Several spells of wet weather is expected to affect California through the next week, possibly producing as much as 300 mm of rainfall, with 24 hour totals as much as 100 mm on Sunday and Wednesday. Across the Sierra Nevadas heavy snowfall is expected.

Discussion

A series of active Pacific frontal systems will run across California through the next week.

Expected Impacts

Flash flooding is likely in more mountainous parts of California. Mudslides are a significant threat in burn scare regions of the State. Heightened avalanche threat is also likely in the Sierra Nevadas.

Central America and Caribbean

Nil significant.

South America

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

Weather

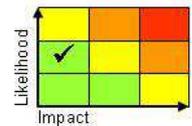
A spell of frequent heavy showers and severe thunderstorms are expected to develop in this area on Sunday, continuing through the first part of next week, producing a combination of torrential, short-period rainfall, large hail, damaging wind gusts and a tornado threat. Storms will develop during most 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.



Western Colombia, Ecuador, Peru and Bolivia

Weather

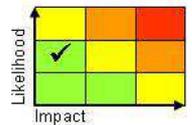
Increased amounts of rainfall, through more frequent showers and thunderstorms, is expected from Monday, with the potential for up to 300 mm of rain in a 5 day period. This is likely to equate to the average January rainfall in just 5 days.

Discussion

The MJO will be moving through tropical South America during the coming week, which is likely to enhance convection across the Andes region.

Expected Impacts

Increased likelihood of flooding and landslides.



Africa

Mozambique, Zimbabwe, Zambia, Malawi, Madagascar

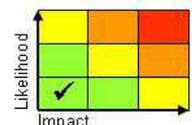
Weather

Enhanced seasonal rains are expected to continue through much of the coming week in the form of more frequent thunderstorms. These could locally bring 30-80mm of rainfall in a short period, with some locations potentially seeing around 200mm through the week. This would be close to the average January rainfall falling in a 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 week, with significant rainfall anomalies being generated by the models. Showers will mainly be focussed by the (at times diffuse) axis of high WBPT.

Expected Impacts



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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.

Asia

Southern Thailand, North Andaman Islands – see *Tropical Cyclone* sections.

Myanmar, northern parts of Thailand, Laos and Vietnam, and southern China

Weather

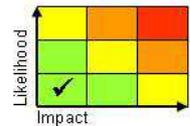
A slow moving area of heavy rain is expected to develop over this region early next week, bringing the potential for 100-200mm of rain quite widely. The main notability of this event is that this region is usually dry during this time of year.

Discussion

The sharp upper trough responsible for earlier snowfall further west will continue to track east, engaging with the remnant warm plume of Ex-Tropical Cyclone Pabuk to produce an area of out of season very heavy rainfall.

Expected Impacts

This region deals with these sorts of rainfall totals regularly through the summer monsoon season. However, with this being the dry season there is the possibility that flash flooding and landslides could surprise populations in this region, disrupting transport and agricultural activities.



Eastern Indonesia, Papua New Guinea, Solomon Islands.

Weather

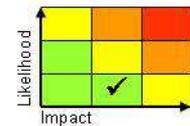
Heavy showers and thunderstorms will bring above average rainfall to the region over the next 4 or 5 days. Up to 100 mm could fall in any one location in a 24 hour period, but many places will remain dry. 400 mm could accumulate in some places by the end of this period, which is roughly a month and a half to two month's worth of rain.

Discussion

The MJO now moving through Phase 7 is taking the deepest convection gradually further E, with this region of enhanced rainfall gradually shrinking back from the west 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 200-400 mm over the next 5-7 days. Higher ground will tend to be favoured for the largest rainfall totals.

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 Islands, Fiji, Tong and northeastern Australia – see *Tropical Cyclone* and *Asia* sections.

Additional information

Nil.

Issued at: 050800 UTC **Meteorologist:** Paul Hutcheon

Global Guidance Unit

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