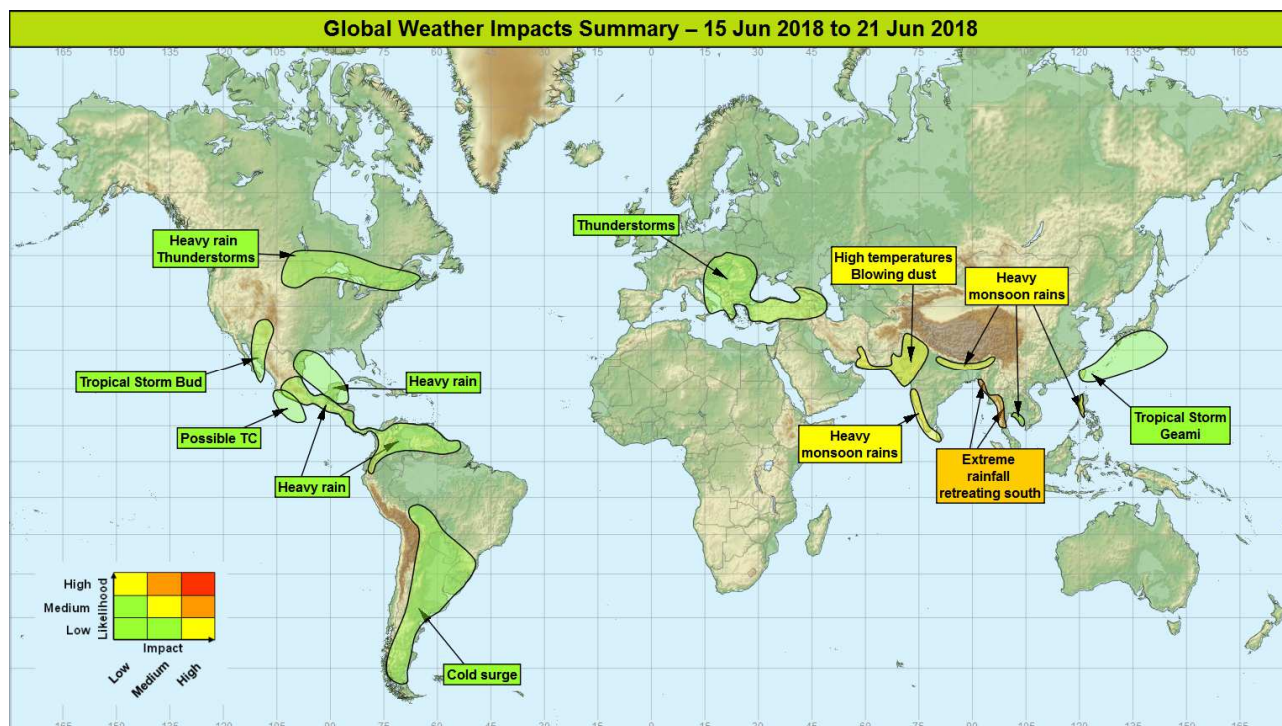


Global Weather Impacts – Friday 15th to Thursday 21st June 2018

Issued on Friday 15th June 2018

HEADLINES

- Heavy rainfall easing across south-eastern Bangladesh (including Cox's Bazar).
- Heavy monsoon rain affecting Luzon in the Philippines, bringing a risk of flash flooding to particularly the Greater Manila Metropolitan Area, home to around 15 million people.
- Severe thunderstorms likely to affect parts of NE India, N Bangladesh, Bhutan and E Nepal.



DISCUSSION

Tropical Cyclones

Tropical Storm Bud – has continued its slow northward progress through the past 24 hours and at 15/03UTC was located at 23.1N 109.5W. Formerly a category 3 hurricane, Bud is now much weakened by passage over cooler seas and increased shear. As such, the main impacts from Bud are likely to be as a result of heavy rainfall and hence potential for flash flooding, and increased landslide risk. Bud is expected to produce 50 to 100 mm, locally 150 mm of rainfall across southern Baja California today, which includes some popular tourist resorts, then also parts of NW Mexico through Saturday as the remnants of the storm continue north. The remnant moisture plume looks likely to continue north, increasing the risk of heavy rain/thunderstorms for parts of Central/W USA over the weekend.



Tropical Storm Geami – Japanese Meteorological Agency in the past few hours named this system which lies just off the southern tip of Taiwan. It is likely to track NE'wards, bringing heavy rainfall to Taiwan today. Large model differences develop in the coming days, the most likely track from the ensembles suggests that it will pass by to the S of Japan as it undergoes extra tropical transition. At present, the most likely impacts will come from heavy rain over Taiwan, and a continued enhancement of the SW'ly monsoonal flow over the northern Philippines (mostly north of Manila), with heavy rain over S Japan a lower probability outcome.



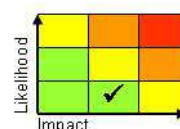
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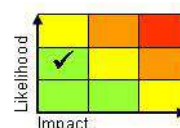
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Other areas being monitored for potential development:

Caribbean - An area of thunderstorms E of the Yucatan Peninsula, associated with an African Easterly Wave, now has a minimal probability (10%) of developing into a tropical storm. However organised heavy rain and thunderstorms could bring flash-flooding to parts of Nicaragua, Honduras, Belize, the Yucatan Peninsula (including Cancun), and possibly later S Texas. 100-200 mm could affect parts of Belize and southern Yucatan over the next 48 hours, then later this weekend or early next week 200-300 mm is possible across NE Mexico or S Texas. In addition to flash flooding and enhanced landslide risk and disruption to travel through the affected regions is likely.



NE Pacific – An area of organised convection has recently been designated Tropical Depression Four-E by NHC, and now has a 90% chance of developing into a tropical storm in the next 24 to 48 hours. Presently this system lies roughly 100 miles south of Acapulco, Mexico. The system is expected to bring 100 to 150 mm, locally 200 mm of rainfall to the Mexican states of Guerrero and Oaxaca over the coming few days, including the popular tourist resort of Acapulco. Flash flooding and landslides are likely, with some disruption to travel.



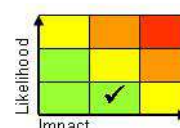
Europe

Central/SE Europe – The warm and thundery airmass across Europe, and associated upper troughs/vortices will largely affect SE Europe over the next few days, as Atlantic mobility spreads across NW Europe. Severe storms, some becoming long-lived/organised, are expected to produce further frequent lightning, very heavy rain, and in places large hail and strong gusty winds. 50-75mm could easily fall in the space of a couple of hours, which could cause flash flooding in urban areas. On Thursday Romania saw the heaviest rainfall, with 45 mm reported at Iasi. Flash flooding is likely due to the longevity and slow moving nature of these storms; while hail may cause damage to crops, vehicles and some property. The storms will also prove a hazard to aviation to and through the region.



North America

Northern USA, southern and south-eastern Canada –A plume of warm, moist air will continue to be the focus for the development of thunderstorms through the next few days. Through Friday the main risk is for the region west of the Great Lakes and into south central Canada, with cities such as Winnipeg and Minneapolis possibly affected. Some of these storms could produce 50mm and locally up to 70 mm of rainfall in a short period, along with strong gusty winds and large hail, and a low risk of tornadoes. Further pulses of warm moist air will feed into this zone over the weekend, maintaining the storm risk then extending it further east such that some of the major cities of SE Canada and perhaps the NE USA could be impacted by the start of next week.



Central/SW USA – See Tropical Storm Bud

S Texas – See tropical storm section.

Central America and Caribbean

Nicaragua, Costa Rica, Panama, Honduras, Guatemala, Belize, Mexico – See South America section.

NE Mexico/Yucatan Peninsula – See tropical storm section.

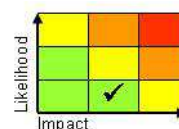
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South America

Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, N Brazil, parts of Central America and S Mexico. – The South American Monsoon remains active with heavy rainfall expected from the Amazon northwards through much of next week, enhanced by African Easterly Waves (particularly Central America). Many places could see 25-75mm falling only a few hours, and perhaps more than 200mm in some places over the next few days; this follows a spell of above average rainfall in some areas over the last few months. Further heavy rain makes flash flooding and landslides more likely. A particular area of concern is the River Cauca in Colombia, which continues to rise following torrential downpours. Hundreds of people have been displaced, thousands more evacuated, and problems with the Hidroituango hydroelectric dam along the river mean that over 100,000 people are at risk should the dam breach.



Argentina, Chile, Uruguay, Paraguay and Bolivia – A surge of Antarctic air is bringing an unusually cold spell to much of Argentina, Chile, Uruguay, Paraguay and parts of Bolivia. Temperatures will be around 5-10°C below average across much of the region, with frost affecting some locations where it is rarely seen leading to the potential for impacts on crops and livestock. Temperatures in parts of Bolivia fell to minus 14°C, and farmers have reported alpaca and llama deaths. Santiago, Chile, had a rare dusting of snow, and on Thursday temperatures at Maquinchao, Argentina plunged to minus 17.5 °C. A warmer airmass will begin to move across S parts of this region later this week, gradually pushing northwards, with temperatures returning to nearer normal values in most places by the beginning of next week.



Africa

Nil Significant

Middle East

Nil Significant

Asia

Pakistan, SE Iran, NW India – The pre-monsoon heat wave is expected to continue across much of this region for the next few days, and whilst temperatures aren't significantly above the seasonal norm, they will nonetheless reach the high 40's of Celsius, and in some places exceed 50°C, which is likely to result in significant stress to human health and fatalities. At least 70 people have died from heat related symptoms in Karachi since mid-May, when temperatures here reached the mid 40's. Temperatures in the interior of Pakistan are currently 5 degrees higher than this. In addition, an associated heat Low over Pakistan is enhancing the low level SW'ly monsoon flow over the Arabian Sea and across SE Pakistan and NW India. This is leading to large areas of lifted and blowing dust and sand, significantly reducing visibility in places and likely adding to the discomfort caused by the heat.



W/SW Myanmar, far NE India, south-eastern Bangladesh (including Cox's Bazar) – Since last weekend a strong SW'ly monsoonal flow has brought persistent and intense convective rainfall which has already killed 3 Rohingya refugees (including a 3-year old boy) and left many more homeless once again. Severe flooding has also been reported in parts of Manipur, Mizoram, Tripura and Assam, leaving thousands homeless. 11 people have been killed by landslides in the Rangamati district of Bangladesh. Cox's Bazar itself has reported just over 573.6mm in the past 6 days (up to 15/00Z), although on Thursday just 12 mm were recorded. There has been a consistent signal from models for a break in the monsoon across southern Bangladesh and NW Myanmar from today (Friday) onwards, with the heavy rainfall confined to southern Myanmar by the weekend. Indeed there is a signal for significantly drier than average conditions to develop in the week ahead, which will bring welcome relief to the region.



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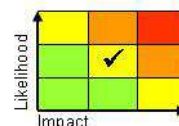
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SW India, SW Sri Lanka – The South Asian Monsoon is expected to remain active across south-western India through the coming days. Further heavy rainfall is expected to bring as much as 250 to 350mm of rainfall to parts of SW India; while Sri Lanka (already badly affected by pre-monsoonal storms and landslides) is likely to see a further 100 to 150mm. Rainfall in these quantities will bring some locally severe flooding, a higher likelihood of landslides and potential loss of life. Since the monsoon began a couple of weeks ago, 27 people have been killed in Kerala alone due to heavy rain and landslides. There are still some signals of a slight reduction in rainfall intensity over the coming weekend, although this looks likely to be brief, with activity increasing again next week.



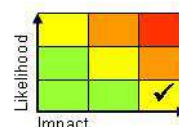
Philippines, Luzon – Strong south-westerly monsoon flow has developed across the South China Sea, and will continue through the next few days, possibly enhanced by tropical cyclogenesis in the next day or so (see tropical cyclone section). This will continue to bring abundant moisture to north-western parts of Luzon Island where the capital Manila (home to around 15 million people) is located. Periods of very heavy showers or thunderstorms are probable with the potential for some places to see back-building storms or shower training over the same locations leading to locally very high rainfall accumulations. Rainfall totals have been highly variable over the past few days with only around 7 mm falling on Thursday in Manila. 60-100mm was reported in the Greater Manila Metro Area on Wednesday, and around 400mm has been recorded over the past 6 days. The GM signals a further 100-200mm in the Manila area, and 300-500mm, perhaps very locally more, over the higher ground in Central and N Luzon over the next few days. Many parts of Manila have reported flooding in recent days, although there are no reports of significant impacts, with the infrastructure currently seeming to cope well.



SE Thailand, S Cambodia – Brisk SW'ly monsoon flow over the Gulf of Thailand looks likely to bring some fairly widespread and persistent heavy showers to this region over the next week, with rainfall totals of around 300-500mm building up over the next few days. This brings a risk of flooding, and especially landslides over the higher terrain.



NE India, Bhutan, N Bangladesh, E Nepal – A region of very warm, moist air looks likely to be the focus for multiple rounds of severe thunderstorms which will bring torrential downpours, strong winds, and potential for large hail/frequent lightning through the next few days. Some places may see 100 to 150 mm per day, with 400-600mm over the next week perhaps locally 800 mm. Flooding and landslides are likely, posing risk to property and to life. Of particular concern is eastern Nepal which is still recovering from a major earthquake in April 2015. Additionally several rivers across NE Bangladesh are already at flood or severe flood levels, so this additional rainfall will be of great concern to this region.



Australasia

Nil Significant

Additional Information

Fuego Volcano, Guatemala – Following the recent eruption of the volcano there are currently ongoing international search & rescue and recovery operations in the region. Ash and debris falls from the eruption will potentially form deadly lahars if mobilised by heavy precipitation and pose a further threat to life. Over the coming week heavy showers and thunderstorms are likely to impact the region, with 20-30mm of precipitation falling in a short space of time and possibly 100-200mm of precipitation falling over the following week (near to a little above normal for the region at this time of year).

FIFA Football World Cup – Opening Ceremony and first match, Russia v Saudi Arabia, Moscow, Thursday 14th June – The 2018 Football World Cup is now underway. The tournament lasts until July 15th with 32 teams competing at 12 venues spread across 11 cities in the European part of Russia. High pressure sits

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over western Russia through the weekend, with the weather for most of the games staying fine. England's first game takes place on Monday evening in Volgograd. The weather looks set to be fine and dry, with temperatures at kick off time around 20 C.

Issued at: 150505 Z **Meteorologist:** Mark Sidaway

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