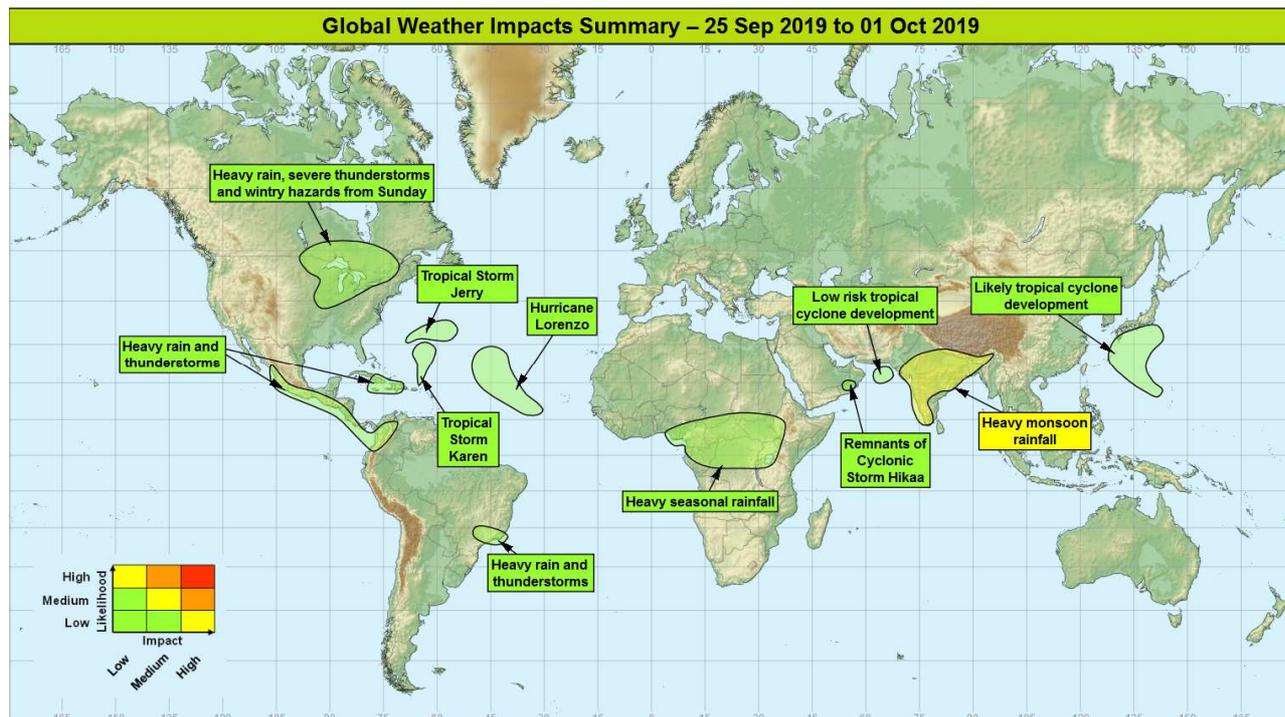


**Global Weather Impacts – Wednesday 25<sup>th</sup> September to Tuesday 1<sup>st</sup> October 2019**

Issued on Wednesday 25<sup>th</sup> September 2019

**HEADLINES**

- Heavy monsoon rain is expected across much of the Indian subcontinent this week.
- Tropical Storm Jerry, Karen and Lorenzo in the Atlantic are unlikely to produce significant impacts.



**DISCUSSION**

**Tropical Cyclones**

**Tropical Storm Lorenzo (North Atlantic)**

**Weather**

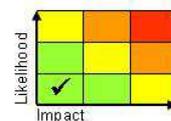
Lorenzo developed to the south of the Cabo Verde on Monday and was located around 400 miles southwest of the islands on Wednesday morning. Lorenzo will strengthen to a hurricane on Wednesday and is likely to develop into a major hurricane over the next day or so but pose no threat to land during this time.

**Discussion**

Lorenzo is likely to steadily develop over the next few days as it remains within an environment conducive to further intensification. However, there is good model agreement of track over the open Atlantic during the next week.

**Expected Impacts**

None.



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

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**Tropical Storm Jerry (North Atlantic)**

**Weather**

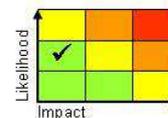
On Wednesday morning Tropical Storm Jerry was located around 200 miles southwest of Bermuda and is expected to move northeast towards the island. Whilst Jerry is showing signs of weakening, tropical storm force winds (40 mph with higher gusts) are likely to affect Bermuda through much of Wednesday, before winds ease into Thursday. Further locally heavy rainfall will continue today with a further 20-40 mm probable over the coming day or so. Whilst the future track of Jerry becomes less certain later in the week, the system is likely to continue weakening.

**Discussion**

Jerry looks more like a sub-tropical than tropical storm with strong vertical wind shear continuing to displace convection away from the low-level centre. A steady weakening trend is expected to persist through the next few days, as shear increases further and drier air beginning to surround the circulation. The future track of likely remnants of Jerry becomes less certain over the coming days, with it remaining as a remnant depression this will not have any significant impacts.

**Expected Impacts**

Tropical storm force winds are likely to affect Bermuda through Wednesday, easing into Thursday. Heavy rain leading to isolated flash flooding. Large swells are already affecting the island and are likely to persist through the next few days.



**Tropical Storm Karen (North Atlantic)**

**Weather**

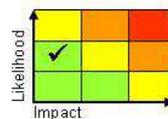
Tropical Storm Karen was located around 125 miles north of the British Virgin Islands on Wednesday morning. Karen's tropical storm force wind field (sustained winds of 40 mph) will shortly clear the Virgin Islands, with heavy showers and thunderstorms associated with the system taking until the end of the day to clear both Puerto Rico and the Virgin Islands. The track and intensity of Karen becomes uncertain later in the week but there is a minimal chance it may affect Bermuda later in the weekend.

**Discussion**

Karen remains an unconventional tropical storm with northerly wind shear displacing persistent deep convection to the south of the low-level centre. Shear will gradually reduce through Wednesday, with sea and the majority of environmental conditions supporting gradual strengthening over the coming days. However reduced humidity of the ambient air around the cyclone will likely act to taper this. In a few days times the steering mechanism of the system becomes incredibly complicated and confidence reduces.

**Expected Impacts**

Minor damage to poorly built structures is possible from tropical storm force winds over the coming few hours. Heavy rainfall is likely to cause some flash flooding, and enhance the risk of mudslides in Puerto Rico through Wednesday, easing thereafter.



*The following area is currently being monitored for potential tropical cyclone development affecting land over the next 7 days:*

**Arabian Sea**

**Weather**

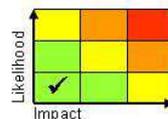
There is a low likelihood of a tropical cyclone developing in the Arabian Sea later this week which has a very low likelihood of affecting the Oman coast early next week.

**Discussion**

Another monsoon low pressure system is likely to emerge from northwest India on Thursday and move into an environment supportive of gradual development. However, there is large model spread in both the extent of development as well as its westward movement, with the number of solutions favouring development much lower than 24 hours ago.

**Expected Impacts**

A low risk that locally heavy rain and strong winds may affect portion of the northern Omani coast early next week.



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**Northwest Pacific**

**Weather**

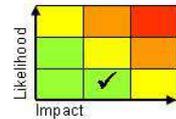
There is a high likelihood of a tropical storm development in the Northwest Pacific (between Guam and the Ryukyu Islands) this weekend, with this system likely to strengthen to a typhoon early next week, possibly tracking north towards Japan.

**Discussion**

Good model agreement for this type of development from the weekend, but with much lower confidence in the track next week and likely landfall of this system. However, climatological tracks would suggest that Japan is a likely location for landfall at some point next week

**Expected Impacts**

Dangerous marine transport conditions highly likely, with a lower likelihood of flash flooding rains, landslides, storm surge flooding and damaging winds due to greater uncertainty in location of landfall next week.



**Europe**

Nil.

**North America**

**Central parts of the USA, across the Great Lakes into parts of southern Canada**

**Weather**

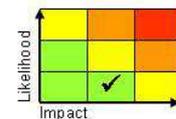
A mixture of heavy rain, very early season snow and severe thunderstorms looks likely across central parts of North America from Sunday into the early part of next week. Up to 200 mm of rain could fall in places over a 3 day period (which is three times the average monthly rainfall), with short period (6-12 hours) rainfall of up to 100 mm in severe thunderstorms that could also produce large hail and tornadoes. The heaviest rainfall and severe storms are likely to affect the southern part of this region (from the Great Lakes southwards). The northern fringe of the region (mostly into Canada) is likely to see a threat of heavy snow, which would result in an early season snow event.

**Discussion**

An amplifying upper pattern will result in a major trough extension south across the western USA, with the downstream backing flow allowing for a northward push of very warm air (PS24C 850hPa WBPT) into the Great Lakes. This will result in a very strong baroclinic zone (20C difference over several hundred miles) and the development of a surface depression. There will be enough upper forcing and upper level flow to develop an area of severe storm threat. The northern fringes of the region will see heavy precip falling into cold low level air due to a strong, deep undercut, resulting in a threat of early season heavy snowfall.

**Expected Impacts**

Flash flooding is the most likely impact, but with a threat of frequent lightning, hail damage and tornado impacts associated with severe thunderstorms. River flooding is also possible, with northern parts of this region at threat of significant wintry impacts from heavy snowfall.



**Central America and Caribbean**

**Puerto Rico and Virgin Islands** – See *Tropical Cyclones* section.

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**Eastern Cuba, Jamaica and Hispaniola**

**Weather**

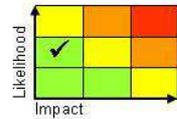
Enhanced shower and thunderstorm activity is expected to continue affecting the region over the next few days before drier conditions become established from Friday onward. Isolated rainfall accumulations of 30-50 mm are likely in a few hours, with some places receiving up to an additional 100 mm over this period.

**Discussion**

In the wake of Tropical Storm Jerry a well-defined zone of low-level moisture convergence has become established across the region, forced by a low latitude cut-off vortex, generating persistent and slow-moving showers and thunderstorms.

**Expected Impacts**

Risk of flash flooding with landslides possible in mountainous areas.



**Southern Mexico, Guatemala, El Salvador, Nicaragua, Costa Rica and western Colombia**

**Weather**

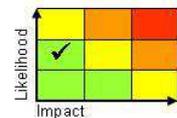
Shower and thunderstorm activity is expected to remain more widespread, frequent and intense than normal over the next week. Whilst the showery nature of rainfall will mean accumulations will vary significantly across the region, some locations are likely to receive 75-150 mm in 24 hours and as much as 350 mm over the next week. Although considered a low probability at this range, there is a chance of a tropical cyclone developing just off Mexico's Pacific over the weekend

**Discussion**

The eastward progression of the MJO continues through Phase 8 towards phase 1 (Western Hemisphere and Africa) contributing to enhanced shower and thunderstorm activity along the ITCZ. It is only through early October where shower activity is likely to return to nearer normal.

**Expected Impacts**

Increased likelihood of flash flooding with landslides also possible in more mountainous regions. If a tropical cyclone does develop this weekend, some rough sea and strong winds may affect portions of Mexico's Pacific coastline.



**South America**

**Western Colombia** – See *Central America and Caribbean* section.

**Southeast Brazil**

**Weather**

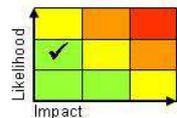
An area of heavy showers and thunderstorms is expected to develop through today, and moves eastwards towards the Brazilian Atlantic coastline into Thursday. These storms are capable of bringing 50-100 mm of rain in a few hours, accompanied by frequent lightning, and towards the northwest of the highlighted region a risk of large hail and tornadoes. This region includes populated cities such as Rio de Janeiro.

**Discussion**

The usual synoptic set-up of warm advection returning southwards in the wake of a dissipating South Atlantic Convergence Zone further north, being engaged by a potent shortwave upper trough, is likely to generate severe thunderstorms. Forecast profiles indicate large amounts of CAPE and strong vertical wind shear supporting isolated supercells and upscale growth to one or more MCSs.

**Expected Impacts**

Flash flooding of homes/businesses possible, particularly in more urbanised areas. Localised hail and wind damage.



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**Africa**

**Central parts of Africa**

**Weather**

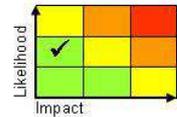
A period of enhanced seasonal rainfall is expected in this region of Africa through the next week due to more widespread thunderstorm development. Up to 100 mm of rain could fall in a few hours in places, with some parts seeing 250 mm of rain through the next week, which would be up to twice the average monthly rainfall in parts of this region.

**Discussion**

Strong model signal for a heavy rain event in this region of Africa, possibly influenced by the MJO moving into the Atlantic and the positive IOD.

**Expected Impacts**

Increased likelihood of flash and river flooding along with landslides.



**Middle East**

**Oman and southeast Saudi Arabia**

**Weather**

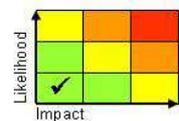
The remnants of Cyclonic Storm Hikaa now lay inland across southern Oman. In a usually desert dry region the remnants of this system may bring a further 25-50mm on Wednesday, and lesser amounts to southern Saudi Arabia through Thursday.

**Discussion**

The moisture footprint associated with the remnants of Hikaa will continue to promote some shower and thunderstorm activity over the usual dry desert regions of Oman and southern Saudi Arabia. As this moisture plume moves across western Yemen over the weekend, it is likely to result in well above average October rainfall here.

**Expected Impacts**

Rough seas will gradually ease along the Omani coast. The remaining impacts likely to be due to isolated dust plumes lifted by thunderstorm downdraughts, and the potential for some isolated flooding of usually dry Wadis.



**Asia**

**Much of India, Nepal, Bhutan and Bangladesh**

**Weather**

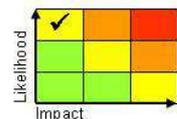
Enhanced monsoon rainfall expected over the next 7 days with 50-100 mm per day and up to 500 mm in some places over the course of the next week. The heaviest rainfall is most likely to fall across portions of northern India, including the states of Uttar Pradesh and Bihar.

**Discussion**

Within the broadly enhanced monsoon rainfall, one, possibly two monsoon depressions are signalled to develop and move west. The enhanced rainfall signal decreases generally toward the end of the week, although it's possible a further system may form over the Bay of Bengal, bringing a repeated bout of heavy rainfall to the northeast of the highlighted area over the weekend and into early next week.

**Expected Impacts**

Since this heavy rainfall comes at the end of the summer monsoon, many areas are relatively sensitive compared to earlier in the season. Therefore, an increased likelihood of flash flooding and river flooding is expected, with flooding likely along even some of the larger rivers including the Ganges



**Australasia**

Nil.

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**Additional information**

Nil.

**Issued at:** 250715 UTC    **Meteorologist:** Nick Silkstone / Paul Hutcheon    **Global Guidance Unit**

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