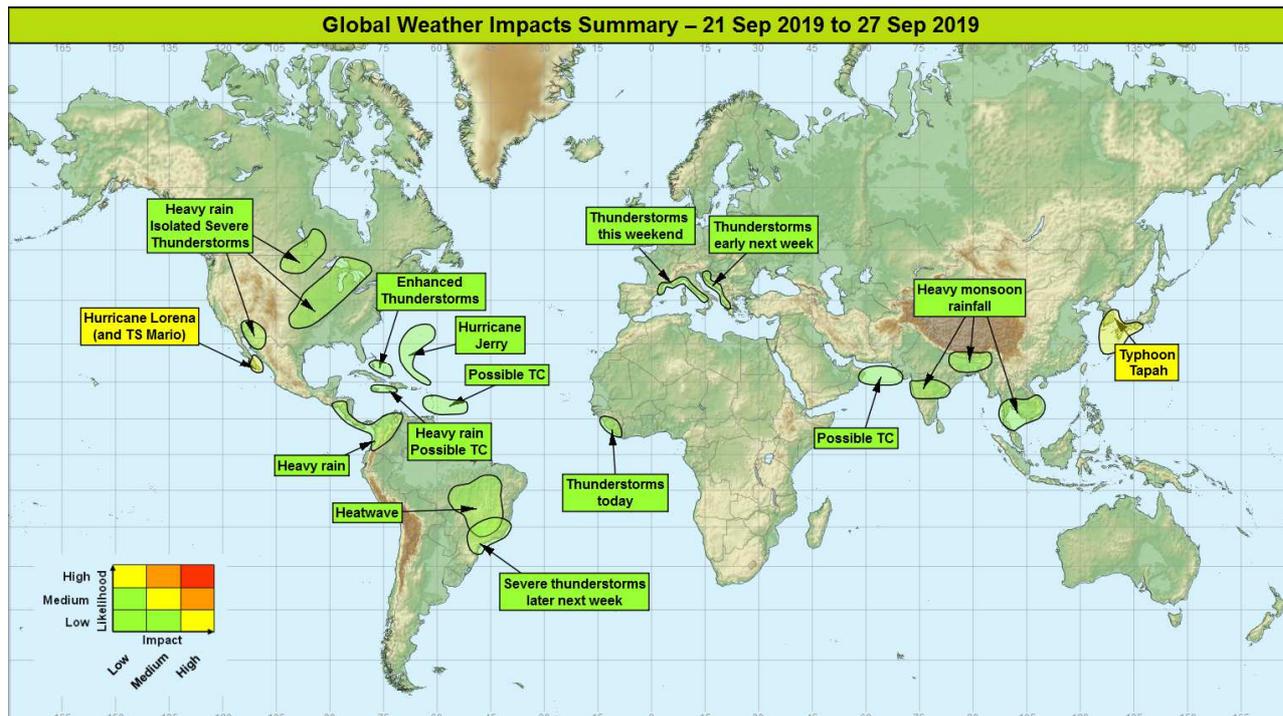


Global Weather Impacts – Saturday 21st to Friday 27th September 2019

Issued on Saturday 21st September 2019

HEADLINES

- Tropics very active with a number of named systems and areas of interest.
- In the short term, Lorena and Tapah are most threatening to land areas.
- Longer term, Jerry could affect Bermuda by the middle of next week.



DISCUSSION

Tropical Cyclones

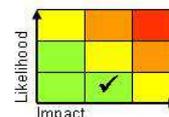
Hurricane Jerry – North Atlantic Weather

Jerry is currently passing north of the northern Leeward Islands, and is expected to remain over open ocean until making a close approach (possible direct hit) to Bermuda mid-next week. Whilst initial confidence in the track is high, once it begins to turn north and then north-east confidence rapidly reduces. Confidence in the intensity forecast is also lower than normal – initially some weakening is expected but it is possible that Jerry could restrengthen on approach to Bermuda.

Discussion

Jerry has been encountering moderate NW'ly shear and has fluctuated in intensity over the past 24 hours, this process is expected to continue as Jerry begins to turn N'wards into a weakness in the sub-tropical ridge. Jerry's future track/intensity will then be dictated by how quickly it comes into the sphere of influence of a shortwave trough digging down from the NW, which is expected to accelerate Jerry NE towards Bermuda early next week and could temporarily restrengthen the cyclone and increase the radius of maximum winds baroclinically before increasing shear ruins the tropical structure. Regardless of precise track, interests in Bermuda should monitor Jerry's progress for the potential of another spell of strong winds and heavy rain.

Expected Impacts



This forecast may be amended at any time

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Heavy rain and flash floods are possible in the Leeward Islands this morning. Low risk of hurricane force winds and heavy rain over Bermuda early to mid-next week, details highly dependent on uncertain track.

Hurricane Lorena and Tropical Storm Mario – Eastern North Pacific
Weather

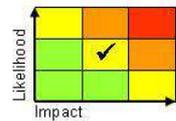
Hurricane Lorena passed over the Cabo Pulmo area of Baja California this morning, and will bring hurricane force winds and heavy rain (100-200mm) to the south of the peninsula today. Lorena has changed track overnight to head towards the N and the Mexican coast. The slow movement, means confidence in the behaviour thereafter is very low. Mario is now expected to remain offshore and not interact with Lorena..

Discussion

Lorena will now maintain it's strength as a Hurricane for the next 36 hours, but may merge with Tropical Storm Mario later this weekend – the degree of interaction between the two cyclones is highly uncertain. Lorena is now likely to pass close enough to bring heavy rain and hurricane force winds to the S of the peninsula. Lorena could then dissipate near the USA/Mexico border, and most solutions suggest that Mario will remain offshore through this time.

Expected Impacts

Flash flooding, and localised wind damage is probable for parts of Baja California and the west coast of Mexico today (Saturday), with a lower risk of a recurrence on Sunday.



Typhoon Tapah – Western North Pacific
Weather

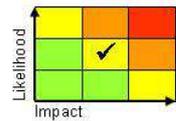
Strengthening into a Typhoon overnight, Tapah is currently located over the East China Sea, west-northwest of Okinawa, and is expected to head due north-east over the next 2-3 days. It's a little unclear as to whether it will make landfall over South Korea on Sunday, or navigate the Korea Strait and more directly impact Tsushima, despite this a period of strong winds and very heavy rainfall (up to 500mm for parts of southern South Korea and southern Japan over the weekend) is expected. Early next week the cyclone is expected to lose its tropical characteristics, and bring a spell of wet and windy (but likely less impactful) weather to parts of North Japan before heading out into the Pacific.

Discussion

As Tapah tracked north-eastwards overnight into a more favourable area for development it attained Typhoon status (Cat 1 Atlantic equivalent). After possibly interacting with the Korean Peninsula (which could weaken the system somewhat), it looks likely to quickly undergo extra-tropical transition as it gets picked up by a mobile shortwave trough and is accelerated across North Japan and into the Pacific. There is a reasonable model spread in precise tracks of the core (hence landfall uncertainties), but still high confidence in heavy rain and strong winds for the areas described.

Expected Impacts

Heavy rain brings an increased risk of flooding, and localised landslides disrupting transport and possibly disabling communities. Risk of minor storm surge inundation, particularly for the island of Tsushima. Localised wind damage is possible, winds also creating rough seas impacting on marine activities.

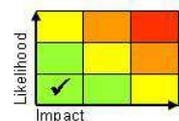


The following areas are being monitored for potentially impactful developments through the forecast period:

Caribbean Sea
Weather

An area of disorganised thunderstorm activity south of Hispaniola retains a small chance of developing into a tropical cyclone, however it is likely to bring some heavy rain showers (chance of 50-75mm in a few hours) and squally winds to parts of the south of Haiti and perhaps Jamaica over the weekend.

Discussion



This forecast may be amended at any time

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Convection associated with a tropical wave is steadily moving WNW over the Caribbean Sea just south of Hispaniola, with wind shear over the region inconducive for tropical cyclogenesis. Spot totals in excess of 100 mm over the coming weekend are present in model output, which could translate into 150mm in a worst case.

Expected Impacts

Localised flash flooding, and risk of localised landslides, in southern parts of Haiti and possibly Jamaica.

Atlantic Weather

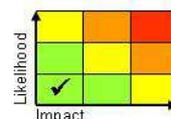
An area of thunderstorms is expected to become gradually more organised as it approaches the Windward Islands over the weekend. There is a small chance that it could develop into a tropical storm but by the time it reaches the Caribbean Sea conditions will become much less favourable for further development. Heavy showers/thunderstorms (50-75mm in a few hours) and squally winds are likely over some of the Windward Islands on Sunday.

Discussion

A tropical wave is moving quickly westwards, conditions initially are favourable for some development but it will have to be quick if it is to attain TS status before encountering more hostile wind shear conditions over the Caribbean Sea. Regardless, an area of heavy showers/TS is expected to affect at least some of the Windward Islands on Sunday as the wave moves through, possibly with squally winds.

Expected Impacts

Slightly increased risk of flash flooding, low risk of very localised wind damage.



Arabian Sea Weather

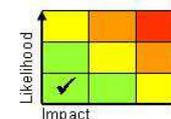
Tropical storm formation looks quite likely over the Arabian Sea over the weekend, east of Gujarat. However as it is steered westwards towards Oman it is signalled to most likely weaken below tropical storm strength, dissipating before it makes landfall. There is a very small risk of heavy rain and strong winds arriving over parts of Oman mid next week.

Discussion

The monsoon low affecting parts of central India is likely to exit into the Arabian Sea this weekend. There is quite a strong signal now from global models and ensembles for tropical cyclogenesis, although anything that does form is signalled to dissipate quite quickly (in the face of strengthening shear), with only a small chance of rain (and even lesser strong winds) reaching Oman.

Expected Impacts

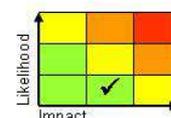
Rough seas in the northern Arabian Sea, with a small risk of very localised flash flooding over parts of coastal Oman should the system make it this far.



Europe Southern Europe Weather

An unsettled few days (although only a day at each individual location), with heavy showers and thunderstorms breaking out across the far northeast of Spain on Saturday, southern France and Italy on Sunday and then parts of Southeast Europe (mainly Balkan coastline) on Monday. These could produce 75-150 mm of rainfall in 24 hrs, along with frequent lightning, large hail and gusty winds.

Discussion



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Sharp shortwave upper troughing will engage a warm plume sourced both from North Africa and further southeast over the Spanish plateau, generating organised and severe thunderstorms over parts of NE Spain on Saturday – this area then transferring steadily east to affect S France and perhaps parts of E Italy on Sunday. Latterly forcing becomes weaker, but profiles suggest storms could become self sustaining with linear MCS developing. A larger scale trough and cold front will catch up the warm plume as it continues to travel east towards the Balkan region on Monday, with further forcing triggering showers, primarily focussed on the Dinaric Alpine region where uplift over terrain favours destabilisation.

Expected Impacts

The main impacts would be from flash flooding. Large hail and frequent lightning are possible, perhaps disrupting travel and power supplies. Increased risk of landslides, particularly over the Dinaric Alps early next week.

North America

Parts of the USA, Central Canada, and the far north of Mexico

Weather

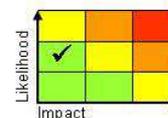
Severe thunderstorms are expected to break out over the northern Plains of the US today, stretching up into Central Canada, before activity transfers south-east to more central parts of the US moving up towards the Great Lakes. On Monday a separate area of storms is likely to develop over the far southwest of the US, and parts of north Mexico. On all occasions, large localised rainfall amounts (75-100, locally 150mm) are expected, with a threat of isolated tornadoes and large hail.

Discussion

A complex trough moving slowly east will engage a high WBPT plume over northern USA today, before a second shortwave revolving around its base activates the cold front which sags southwards across central parts. In all instances there is a risk of isolated supercells, tornadoes and damaging winds/hail, given the very energetic environment. On Monday, a separate trough extending to lower latitudes will engage the resident plume over Mexico to generate severe storms here too.

Expected Impacts

Very localised but potentially severe flash flooding, and a lesser risk of wind and or hail damage to property and crops.



Central America and Caribbean

Haiti, Jamaica, and Windward Islands – See *Tropical Cyclones* section.

Bahamas, and Turks and Caicos Islands

Weather

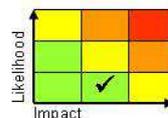
Intense but localised downpours are expected to affect these islands over the weekend, before conditions improve next week. A further 150-200mm is possible, but of course much of this is likely to fall in the surrounding ocean with only a small chance of land areas seeing these totals. Heaviest rain is likely to be south of Grand Bahama and the Abacos, where more sporadic (but still heavy) showers are likely.

Discussion

Hurricane Jerry passing to the east of the islands will allow a well-defined zone of low-level moisture convergence to become established across the region, forced by a low latitude cut-off vortex, generating persistent and slow moving showers and thunderstorms.

Expected Impacts

Flash flooding, especially across the Turks and Caicos Islands.



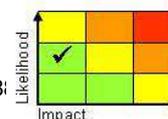
Panama, Costa Rica and Nicaragua – See *South America* section.

South America

Central Brazil

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Weather

Temperatures widely in excess of 35°C, and in some spots 40°C, have been experienced over the past few days as settled weather and a very warm air mass dominate large parts of the country. Over the weekend, the area affected by the high temperatures is expected to diminish, with temperatures returning to nearer normal values for most of the large cities. However, the capital Brasilia is likely to continue to see high temperatures until early next week, remaining 5-8°C above the norm of 30°C for September. Monthly temperature records will have been broken.

Discussion

A strong and persistent surface and upper ridge has allowed temperatures at the surface to rise, mainly through strong subsidence and cumulative sensible heating. 1000-850hPa partial thickness has exceeded 144dm quite widely. This will reduce by the weekend, with temperatures in most of the more populated regions returning to nearer normal values, especially as a weak cold front arrives from the S, associated with the South Atlantic Convergence Zone.

Expected Impacts

Disruption to travel and power outages are possible. Heat stress will increase especially for vulnerable groups in the general population. The heat may also exacerbate ongoing issues with forest fires in the region.

Southern Brazil

Weather

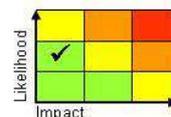
A zone of enhanced showers and thunderstorms is expected to develop towards the end of this forecast period, with 50-100mm of rain possible in a few hours, accompanied by frequent lightning, locally large hail and a risk of tornadoes. Populated cities such as Sao Paolo, Curitiba and Rio de Janeiro are at risk of being impacted

Discussion

The usual synoptic set-up of warm air 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 column shear, with ingredients for intense showers as well as hail and possible supercells.

Expected Impacts

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



Colombia, Costa Rica, Panama and Nicaragua

Weather

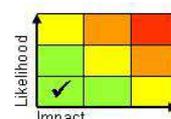
Showers and thunderstorms may be more widespread, frequent and intense than usual over the region during the next few days. Daily accumulations of around 75-125 mm are possible, with up to 350 mm over the course of a week in places.

Discussion

The MJO is expected to cross South America over the next 5-7 days enhancing rainfall across the ITCZ, especially across western parts of the continent.

Expected Impacts

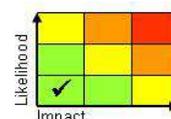
Increased incidents of flash flooding with perhaps an increase in the risk of landslides.



Africa

Guinea, Sierra Leone, Liberia

Weather



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Large parts of West Africa have seen above average rainfall during the past 2-4 weeks courtesy of an unusually active West African Monsoon season, with reports of major flooding in several countries. An area of enhanced thunderstorms associated with a tropical wave is expected to give a further day of heavy rain to this region, before moving out into the Atlantic (where it may develop into a hurricane, see Additional Information). In the heaviest showers, 50-80 mm could fall in an hour, perhaps as much as 150 mm in a few hours. Following this, conditions are expected to return to nearer normal for the time of year.

Discussion

An African Easterly Wave is signalled to bring further above average rainfall to this small part of West Africa, before activity falls to near normal levels, and conditions improve across the region.

Expected Impacts

Ongoing enhanced risk of flash flooding and high river levels. Some further damage to property and infrastructure is possible. In regions of steep terrain the risk of landslides will also be heightened.

Middle East

Oman – See *Tropical Cyclones* section.

Asia

Central India

Weather

Heavy rainfall early next week associated with the monsoon is expected to generate a zone of 200-300 mm over a couple of days, before heading the system heads out into the Arabian Sea

Discussion

Another monsoon depression is forecast to run across the centre of the country, leading to a swathe of heavy rain before it exits out into the Arabian Sea. This region has mainly (way from the coasts) seen below normal rainfall over the past 30 days, the previous monsoon depression affecting areas further N.

Expected Impacts

Likely flooding, but not too much more than can be expected at this time of year.



Northeast India, Bangladesh, Nepal, Bhutan, and northern Myanmar.

Weather

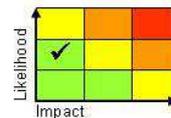
Enhanced monsoon rainfall expected over the next few days with 50-100mm per day and up to 500mm in some places by the middle of next week.

Discussion

Increased S to SW'ly flow, impinging on the foothills of the Himalayas, perhaps with some small influence of troughs in the sub-tropical jet which is beginning to sink south, will lead to repetitious heavy showers and thunderstorms which will deliver large amounts of rainfall to this region. Models signal a wide area of over 250mm over the next few days.

Expected Impacts

Increased likelihood of both flash and river flooding.



Parts of Southeast Asia

Weather

Above average rainfall is expected to persist over the weekend, associated with enhanced monsoonal flow in a broad region stretching from the southern Bay of Bengal towards the western Philippines. The wettest locations could see a further 100-200mm of rainfall. Next week conditions will turn much drier.

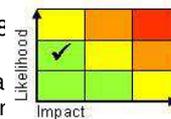
Discussion

Enhanced convection associated with the slow moving monsoon front over the region will continue to bring heavy showers and thunderstorms to this region, activity tending to fade over the weekend.

This forecast may be amended at any time

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Expected Impacts

Flash flooding events are possible, as well as river flooding and landslides, with these issues adding to the reported ongoing flooding across Thailand, Cambodia and Vietnam.

South Korea and Japan – see *Tropical Cyclones* section

Australasia

Nil.

Additional information

Atlantic – There is a reasonably strong signal for tropical storm or even hurricane development early to mid next week associated with a tropical wave currently emerging from West Africa. Current indications are that this system will stay over open water before curving into the North Atlantic, but this will be monitored.

Issued at: 210600 UTC **Meteorologists:** D J Harris / Chris Tubbs

Global Guidance Unit

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