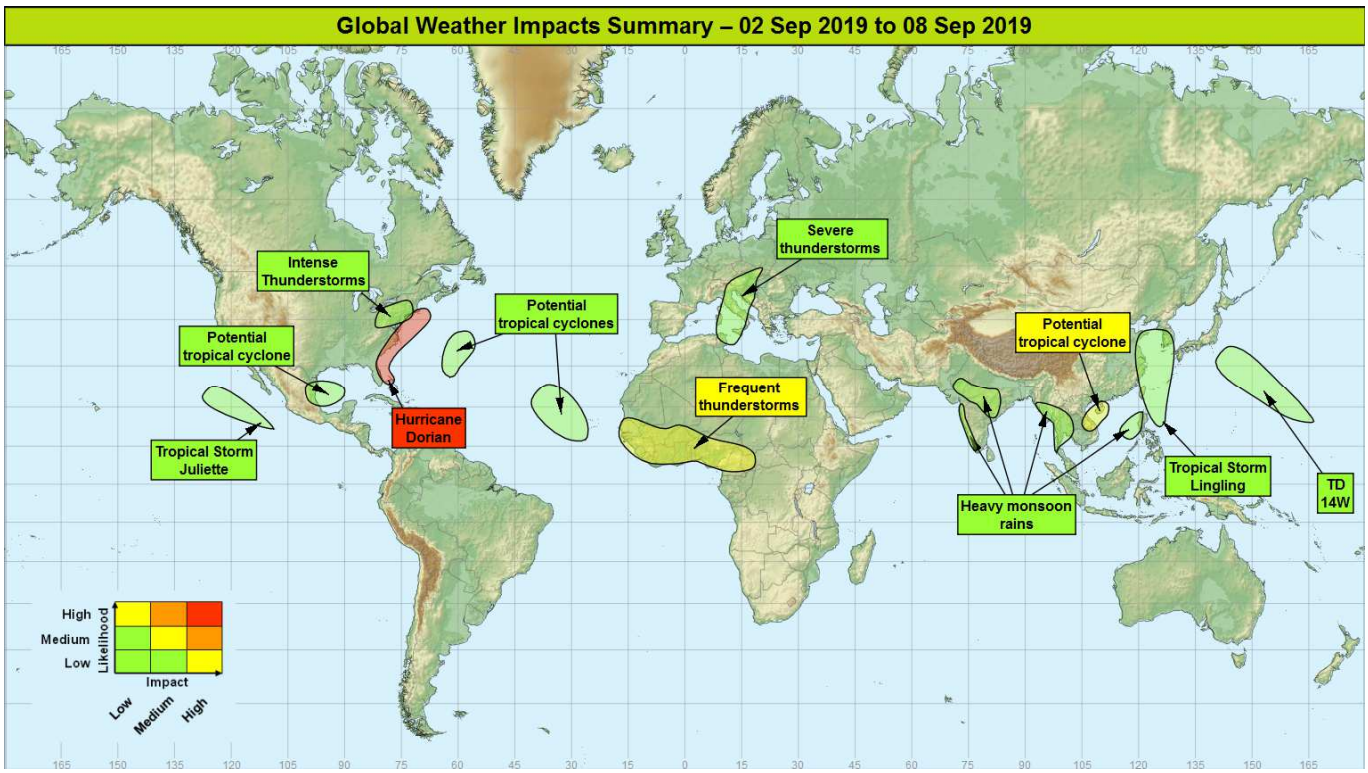
Met Office Daily Global Weather Impacts Assessment

Global Weather Impacts – Monday 2nd to Sunday 8th September 2019

Issued on Monday 2nd September 2019

HEADLINES

- Catastrophic Hurricane Dorian will continue to severely impact the Bahamas during Monday, before moving onto to affect Florida and the Carolinas.
- Increased tropical storm activity across the northern Hemisphere.
- Intense thunderstorms continuing across tropical western Africa.

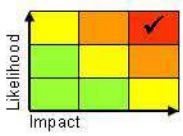


DISCUSSION

Tropical Cyclones

Hurricane Dorian (northern Caribbean Sea and eventually SE USA)

Weather



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Global Guidance Unit, Operations Centre, Met Office, FitzRoy Road, Exeter, Tel: +44(0)1392 884319
VPN: n6225 4319 Email: ggu@metoffice.gov.uk

Catastrophic Category 5 Hurricane Dorian made landfall on Sunday afternoon in the Abacos Islands of the Bahamas with sustained winds of 185 mph and gusts over 220 mph. This ties Dorian for the strongest Atlantic hurricane landfall on record with the 1935 Labor Day hurricane, and is the strongest hurricane on record in the northwest Bahamas. At 0900 UTC Monday Dorian was almost stationary, located 40 miles east of Freeport, Grand Bahama. Although maximum sustained winds eased slightly to 165 mph, Dorian is still a Category 5 hurricane. Dorian's slow movement is prolonging the period of destructive winds, torrential rainfall and significant storm surge affecting the northern Bahamas. Around 900 to 1200 mm of rain is possible, with the surge raising water levels around 5 to 7 metres above normal tides accompanied on the coast by large and destructive waves.

After clearing the Bahamas later Monday, Dorian is expected to pass close to the east coast of Florida through Tuesday and Wednesday, then The Carolinas later this week. There is some uncertainty in its exact track, with most models and the official National Hurricane Centre tack keeping the eye of the hurricane offshore. However, there does remain a small risk of Dorian making landfall on the east coast of the USA between Florida and North Carolina, before then curving back out into the Atlantic. Although the storm is likely to be gradually weakening, regardless of the track, storm surge, hurricane-force winds and torrential rain are expected across eastern parts of the USA from Florida to The Carolinas.

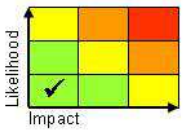
Discussion

Dorian is expected to remain an extremely dangerous hurricane over the next few days. Once clear of the Bahamas, the general model consensus is for the hurricane to turn north-west then north, prior to making landfall along the Atlantic coastline of Florida. However, ensembles continue to suggest a non-negligible chance that Dorian will progress sufficiently far west to make landfall over Florida before turning north. Despite these uncertainties Dorian is expected to bring hurricane conditions to portions of the Florida coastline. Dorian could make still make landfall later in the week as it passes close to the coastline of the Carolinas. Increasing upper level shear should slowly weaken the system, however Dorian is expected to remain a major hurricane for several more days.

Expected Impacts

Extremely damaging winds, particularly across the northern Bahamas are occurring, with near-total destruction of even well-built structures possible in the islands Great Abaco and Grand Bahama. Prolonged disruption to utilities and services is likely, with transport routes and travel services severely affected or severed for a prolonged period. Flash flooding, and widespread coastal flooding due to significant storm surge, is also occurring. Impacts across Florida and perhaps the eastern Carolinas are currently expected to be less severe but still potentially life-threatening.

Tropical Storm Juliette (Eastern Pacific)



Weather

Juliette formed early Sunday over the eastern Pacific and strengthened quickly, likely becoming a hurricane later today. Juliette will track west-northwestwards over open water over the next five days, reaching an expected peak in strength on Tuesday when sustained winds could exceed 100 mph. A gradual weakening is expected thereafter.

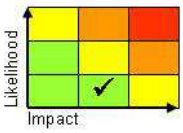
Discussion

Juliette is rapidly intensifying in a favourable atmospheric environment of low shear and high SSTs. However the system is expected to stay over the open ocean.

Expected Impacts

Nil.

Tropical Storm Lingling (Western Pacific)



Weather

Lingling formed overnight Sunday into Monday and currently lies around 300 miles NE of Manila. Steady strengthening of the system is expected as it tracks northwestward over open water during the coming days, perhaps becoming a typhoon. The favoured track of Lingling takes the storm east of Taiwan, then across the East China Sea toward the Korean Peninsula by the end of the week.

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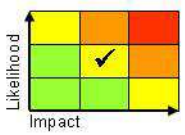
VPN: n6225 4319 Email: ggu@metoffice.gov.uk

Discussion
Lingling is a small system. It is expected to remain in a favourable environment of low vertical wind shear over warm SSTs, although towards midweek upper level divergence is expected to decrease a little which could slow its strengthening trend, and it may well become a typhoon. Ensembles favour a broadly northerly track, likely passing across the outlying southern Japanese islands, then eventually toward the Korean Peninsula.
Expected Impacts
Lingling will likely bring damaging winds and torrential rainfall along its path, affecting the southern Japanese islands and perhaps eastern Taiwan. There is a risk of Lingling bringing typhoon conditions to the Korean Peninsula next weekend.

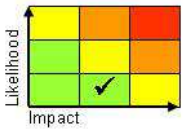
The following areas are being monitored for possible tropical storm development

Central Vietnam, southern Laos, Hainan and southern China



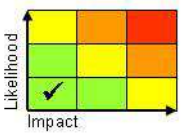
Weather
There are increasing signals for a tropical cyclone to develop in the South China Sea in the next day or so. This could potentially strengthen into a tropical storm as it tracks close to Hainan then toward the eastern coast of Vietnam. There is a very large spread in the models as to the behaviour of any development in this region, with some suggesting the system may return eastwards later this week, perhaps threatening the southern Chinese coast and Hong Kong. Damaging winds and torrential rainfall are likely to be the main impacts, with some parts of eastern Vietnam perhaps seeing 500 to 750 mm of rainfall over the next few days.
Discussion
There have been strengthening signals from the models for development of a tropical cyclone across the South China Sea in the coming days. This may be linked to the passage of a Rossby wave moving west from the western Pacific. There remain very large model differences for the evolution; initially in the position for formation, but especially the subsequent track, with some ensemble members taking the track into central Vietnam and others on a curve north or northeastwards into southern China west of Hong Kong.
Expected Impacts
Flash flooding and landslides, plus damaging winds, storm surge and rough seas.

Western Pacific



Weather
There is the potential for a tropical depression to become organised and to develop into a tropical cyclone south of Wake Island in the western Pacific. The system may well strengthen into a typhoon, but is likely to remain over the ocean through the week, tracking north-westwards in the general direction of Japan.
Discussion
Tropical Depression 14W has formed over the western Pacific. This system is in an environment favourable for development, and is likely to become a tropical storm later Monday, then perhaps a typhoon later this week. The storm will likely track north-westwards in the general direction of Japan.
Expected Impacts
Increased swells and large waves may affect some remote islands in the western Pacific. The system may threaten southern Japan but probably not before next weekend at the earliest.

Tropical Atlantic and Caribbean Sea



Weather
There is potential for tropical cyclones to develop through this coming week, both near Cabo Verde, further northwest across the Atlantic. Currently, there are no indications that if any do develop that they will affect land areas during this period.
Discussion

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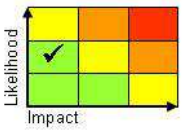
Further AEWs are expected to move through the tropical Atlantic. Compared to earlier in the month, conditions are much more favourable for tropical cyclogenesis and there is potential for a number of systems to form this week. The area of low pressure close to Cabo Verde has been assessed as most likely of these areas to see a cyclone develop, with the NHC giving a high likelihood of this occurring during the next five days. It is too early to determine whether, once formed, any of these will move to affect the Caribbean.

Expected Impacts

Nil, as any systems that form are expected to remain over open ocean during this period.

Gulf of Mexico



Weather

There is the potential for a tropical cyclone to develop in the Gulf of Mexico in the next couple of days. This is not expected to be a major system if it does form, and will likely dissipate as it moves inland over northeastern Mexico soon after. This is not expected to produce strong winds, but heavy rain (100-200mm, locally 400 mm over higher ground) is likely to be associated with this feature.

Discussion

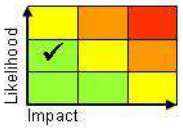
A broad area of low pressure located over the Gulf of Mexico is producing disorganised showers and thunderstorms. Some gradual development of this system is possible during the next several days while it moves slowly westward across the southern and
southwestern Gulf of Mexico. The NHC give a medium probability (50%) for this to develop into a tropical cyclone over the next five days.

Expected Impacts

Flash flooding and landslides.

Europe

Central Mediterranean, Tunisia, parts of central and eastern Europe



Weather

Occasional severe thunderstorms are possible through the rest of this week, bringing the threat of 30-50 mm of rain in a few hours, along with large hail and strong winds. However, many parts will avoid these thunderstorms. North-east Italy through Slovenia and into the Czech Republic is likely to be the main focus.

Discussion

Although upper forcing for these storms will initially be relatively modest, large CAPE will allow some intense downpours, with large hail, to develop in response to diurnal heating in the next few days. Marked wind shear could allow for some organised and long-lasting storms to develop. A further upper trough is expected to engage to trailing cold front later this week with further storm development in a similar area likely.

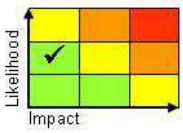
Expected Impacts

Flash flooding, with frequent lightning strikes perhaps leading to an increased risk of power outages. There is a lower likelihood of impacts from strong winds and large hail.

North America

Florida and the Eastern Seaboard – see *Tropical Cyclones* section.

North-eastern USA



Weather

Severe thunderstorms are likely across parts of the north-eastern USA through Monday. These could bring 50- to 75 mm of rainfall in a short period, with some major cities, including New York perhaps impacted.

Discussion

A shortwave upper trough with engage a warm plume overlying the area. Large CAPE and high precipitable water could allow for some intense storms to form across a region where there are numerous major population centres.

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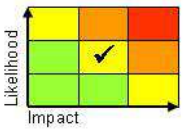
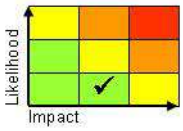
Expected Impacts
Storms could bring flash flooding and disruption to power supplies. Disruption to transport into and through the region is possible, including aviation.

Central America and Caribbean
Bahamas and Mexico – see *Tropical Cyclones* section.
South America
Nil.

Africa
West Africa


Weather
Frequent heavy showers and thunderstorms will continue across this region over the coming week. Thunderstorms are likely to produce locally 50 to 100mm of rain in a short period, with up to 250 mm possible in places during this period. The focus for the largest rainfall totals looks likely to be around coastal areas in the west. This comes on top of wetter than average conditions for many parts over the summer monsoon season so far – around 125-150% of climatology. From midweek there are signs that activity will begin to ease.
Discussion
Enhanced seasonal rainfall continues to be signalled with above normal totals expected in this region. This will likely come in the form of MCS developments, organised at times by African Easterly Waves (AEWs), with impacts especially likely should these affect any of the more urbanised regions within this zone. Models are showing some signs of AEW activity easing from around the middle of next week.
Expected Impacts
Flash flooding is possible in places together with an increased risk of landslides and river flooding. Risk of some dense lifted dust on the northern periphery of the thunderstorms.

Middle East
Nil.

Asia
Parts of South and Southeast Asia


Weather
Frequent intense showers and thunderstorms are expected to continue, producing up to 75-150 mm in a 24-hour period. 200-450 mm could fall through the next five days across parts of western, central and northern India, with 300-500 mm in parts of southern Myanmar and neighbouring Thailand and Laos. This would result in the average August rainfall falling in a week in places.
Discussion
Convection associated with a developing monsoon depression will continue to move west across central and northern India in the coming 3 or 4 days. This being the focus for heavy showers/thunderstorms. Meanwhile, a strong monsoonal flow will bring heavy rainfall to southern Myanmar and parts of Thailand and Laos possibly enhanced by the remnants of TS Podul. Southwest-facing upslopes will be most threatened by enhanced rainfall due to orographic uplift of the very moist airmass.
Expected Impacts
Flash flooding events are likely, with an increasing likelihood of river flooding and landslides.

Northern Vietnam, Hainan and southern China, Taiwan, Japan, eastern China and the Korean Peninsula – see *Tropical Cyclones* section.

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Australasia

Nil.

Additional information

Nil.

Issued at:	021100UTC	**Meteorologist:**	Laura Ellam / Nick Silkstone / Mark Sidaway	**Global Guidance Unit**

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