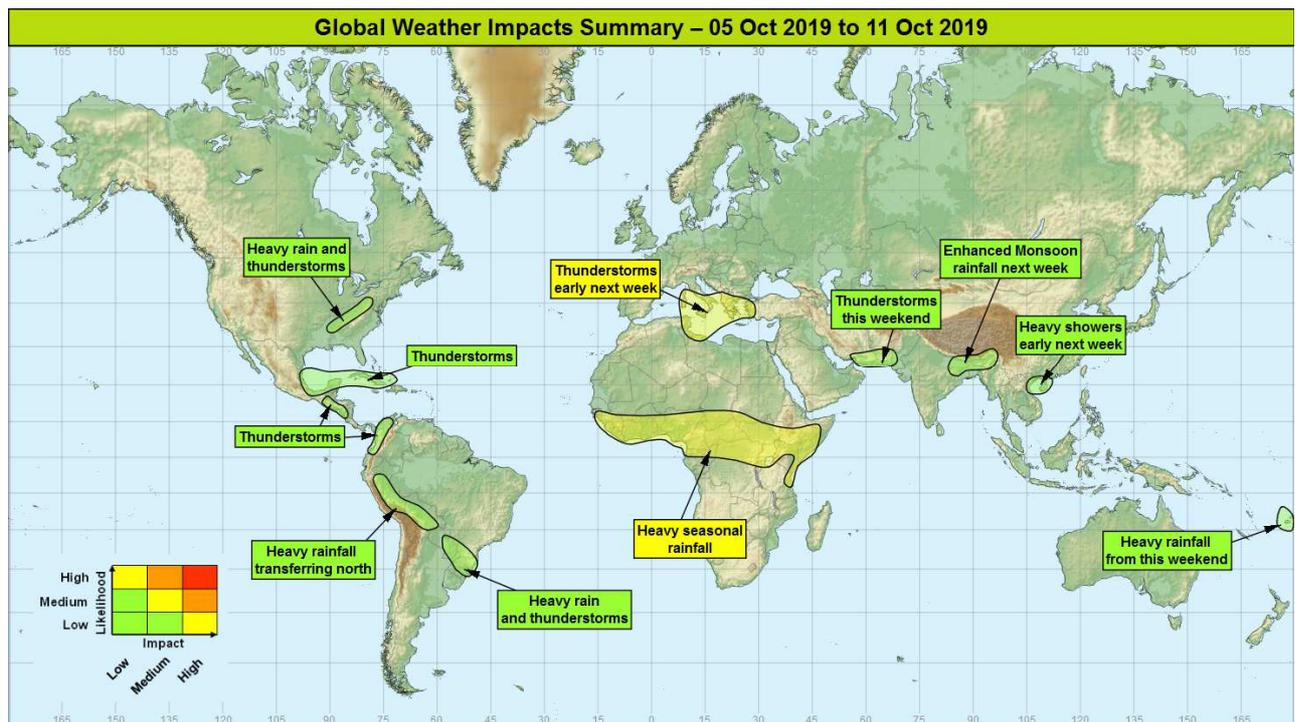


Global Weather Impacts – Saturday 5th to Friday 11th October 2019

Issued on Saturday 5th October 2019

HEADLINES

- Enhanced rainfall across Tropical Africa in the coming week.
- Severe thunderstorm threat at times in southern Europe and the central Mediterranean.
- Indian Summer Monsoon (June to September) has been the third wettest on record (back to 1901) and the commencement of the withdrawal is now the latest recorded.



DISCUSSION

Tropical Cyclones

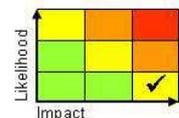
There are no active tropical cyclones, and no tropical cyclone impacts on land are expected over the next 7 days.

Europe

Parts of SE Europe, Tunisia and Libya

Weather

Following a rather disturbed couple of days across parts of SE Europe, a return to generally dry and settled conditions is expected this week. However, early next week (Monday onwards), severe thunderstorms are likely to redevelop quite widely over this region, bringing large amounts of rain (locally 50-75mm in a few hours) and isolated large hail storms. The heaviest showers look likely to become mainly confined to Tunisia/Libya thereafter, potentially quite slow moving and persistent where in excess of 200mm could fall in a couple of days over coastal parts given a feed of frequent showers and thunderstorms. This would be equivalent to between 3 and 5 months worth of rain for places in Tunisia, although October is climatologically among the wettest months.



Discussion

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The upper trough and plume responsible for showers/thunderstorms and large hail/funnel clouds (among other meteorological hazards) is clearing away and disengaging, such that more settled conditions develop across this region over the weekend. On Monday another major trough extension is signalled to take place, engaging the resident warm/moist air mass, generating occasional thunderstorms which will be vigorous in places (very high CAPE), and MCS developments. As the trough disrupts on Tuesday, the mobile portion will accelerate E taking thunderstorms across Greece and into Turkey and quickly dissipating, but the slow moving cut-off sinking across Tunisia and Libya will generate a 48hr (at least) spell of heavy showers/thunderstorms, which will become increasingly persistent across coastal parts as a depression forms over Libya, establishing an unstable easterly flow beneath the upper cold pool containing increasingly frequent showers/thunderstorms.

Expected Impacts

Impacts across Europe are likely to be confined to localised flash flooding, isolated hail/lightning and minor wind damage, some disruption to transport and utilities possible. Over Africa, potential for more widespread and severe flooding of communities, increasing risk of landslides, and long term transport disruption.

North America

Eastern USA

Weather

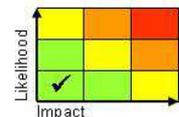
A band of heavy rain and thunderstorms is expected to develop on Monday, with 25-50mm of rain in 24 hours quite widely, but some locations perhaps seeing 70-90mm. The thunderstorms are likely to be accompanied by the odd strong, possibly damaging wind gust.

Discussion

A cold front is forecast to become slow moving over the region on Monday, with a sharp but mobile upper trough swinging across developing a band of heavy (for a time) rain and likely thunderstorms in the warm air ahead of the cold front. The environment does not look conducive for severe thunderstorms (large hail/tornadoes) however. Once the trough moves on the rain band should quickly decay.

Expected Impacts

Localised flash flooding of homes/businesses, temporary transport disruption.



Central America and Caribbean

Cuba, southern Bahamas, and Mexico.

Weather

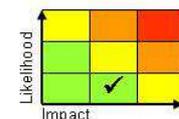
More frequent than normal thunderstorm activity is expected during at least the next 5 days. Isolated rainfall accumulations of 20-40mm are probable in a few hours; some locations could see in excess of 100mm through this period. A separate area associated with a tropical wave is now moving westwards, this now looks unlikely to develop into a tropical storm but is expected to bring very heavy rainfall to parts of eastern and southern Mexico (perhaps 200-300 mm of rain from Monday which would be the equivalent of the whole average October rainfall in a few days).

Discussion

A broad trough of low pressure exists over this region, providing an environment for enhanced showers and thunderstorms over at least the next 5 days. A tropical wave migrating westwards will tend to elongate the trough towards Mexico, which now looks very unlikely to undergo tropical cyclogenesis over the Bay of Campeche but will bring significant enhancement to showers and thunderstorms as it and its associated high WBPT airmass make landfall over parts of eastern and southern Mexico early next week.

Expected Impacts

Increased risk of flash flooding (possibly severe across parts of Mexico), with landslides also more likely in areas of steep terrain.



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Guatemala, El Salvador, Honduras, Nicaragua, western Colombia

Weather

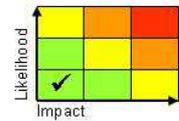
Shower and thunderstorm activity is expected across the tropical Pacific Ocean coastline, maintaining the possibility of locally heavy downpours producing 50-75 mm of rainfall in a few hours. The largest cumulative rainfall totals are expected to be across portions of western Colombia.

Discussion

A series of tropical waves will be supportive of enhanced convection across Central America.

Expected Impacts

Increased risk of flash flooding with landslides also more likely in areas of steeply sided terrain.



South America

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

Paraguay and southern Brazil

Weather

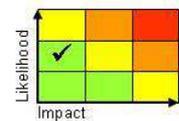
An area of heavy rain and thunderstorms is expected to move very slowly north across this region today, before steadily dissipating tomorrow (Sunday). Rainfall of up to 100 mm in 24 hours is possible.

Discussion

A warm plume from the tropics has undergone frontogenesis beneath a left entrance region of the sub-tropical jet. Profiles continue to exhibit significant elevated instability within the warm plume, with heavy, thundery showers and a threat of large hail. Rain associated with the developing cold front will be persistent but generally less heavy as the whole system slowly moves north-eastward across the region.

Expected Impacts

Increased risk of flash flooding, particular in the larger urban areas, and localised hail and wind damage.



Bolivia and Peru

Weather

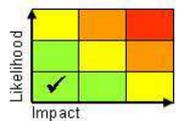
A northward transferring area of heavy rainfall and thunderstorms is expected across this region from Saturday to Wednesday. Up to 100-150 mm of rain could fall in a 24 hour period. This rainfall heralds the beginning of the rainy season in this region.

Discussion

A northward extension of the sub-tropical jet will engage the southern part of the tropical plume to produce an area of deep convection that will transfer north across western parts of South America.

Expected Impacts

Flash flooding is the main impact, with a lower likelihood of landslides.



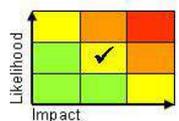
Africa

Equatorial Africa

Weather

Shower and thunderstorm activity is expected to be more frequent than normal across a large portion of equatorial Africa over the next week, with a particular focus on eastern Africa where the beginning of the wet season is now underway. Up to 50-100mm of rain could fall in a few hours in a few places, with some localised totals of up to 200 mm are possible through the next week, close to what is normally seen over an entire month.

Discussion



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An active phase of the MJO moving through Phase 1 across Africa, plus possible ERW activity and a strong positive Indian Ocean Dipole is expected to result in period of above average rainfall across much of the equatorial region. Whilst the West African Monsoon has begun to retreat across the Sahel, additional late season rainfall in this region comes at a time where river levels are approaching an annual maximum and is where flooding impacts are considered most likely. Rainfall across east Africa is now starting to increase significantly, the positive IOD state expected to make rainfall more intense than normal here over the next 2-3 months.

Expected Impacts

Increased likelihood of flash and river flooding along with land/mudslides in areas of more steeply-sided terrain. These impacts are most likely in northern parts of the region highlighted due to antecedent conditions over recent weeks contributing to increased sensitivity.

Middle East

Nil.

Asia

Southern Pakistan and south-eastern Iran

Weather

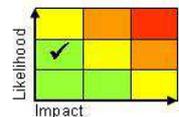
Thunderstorms are expected to affect this region during today (Saturday), before decaying early Sunday. These have the potential to produce up to 50 mm of rainfall in a short period, large hail, frequent lightning and strong gusts of wind.

Discussion

A shortwave upper trough is expected to engage the warm plume across this region on Saturday. Forecast profiles suggest indicate the convective environment has in excess of 2000 J/kg CAPE available, with sufficient shear to allow some organisation of storms. Localised tornadic activity could not be ruled out.

Expected Impacts

Flash flooding is likely the main impact. In addition some damage to crops is possible with potential disruption to power supplies.



Taiwan, Northern Vietnam and Southern China

Weather

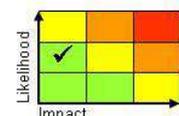
A zone of heavy showers and thunderstorms over the South China Sea today are expected to transfer westwards towards southern China and northern Vietnam, reaching these areas early next week. Up to 50 mm of rain may fall in short time, with potentially 100-150 mm in 24 hours. Some areas could see in excess of 200mm by the middle of next week.

Discussion

Enhanced convection associated with the passage of a Rossby wave across the region,

Expected Impacts

Increased potential for flash flooding along with land/mudslides in areas of more steeply-sided terrain.



North-east India, North Bangladesh, Nepal

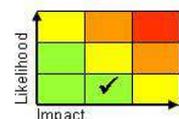
Weather

An increase in monsoon rainfall across the region is expected early next week, with frequent showers and thunderstorms bringing 50-100mm per day in some locations, and locally in excess of 250mm until the end of this period.

Discussion

The slow but steady southward progression of the sub-tropical jet is starting to have an influence on the monsoon plume, which is slow to retreat this year. Longwave troughing approaching from the W, replacing the current broad ridge, is expected to have a remote but still important influence in that it will promote more frequent convection. Profiles exhibit high PWAT and large CAPE, slow steering flow will increase the rainfall totals where the heavy showers develop (expected to become quite widespread).

Expected Impacts



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Increased risk of flash flooding, and river flooding (many rivers already very high with further rainfall increasing the flooding risk and exacerbating ongoing issues).

Australasia

Fiji

Weather

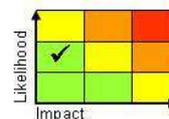
Enhanced heavy rain and embedded thunderstorms are expected to develop in the vicinity of Fiji late this weekend/early next week, bringing 100-200mm of rainfall in around 48 hours. This equates to almost a month's worth of rain for somewhere like Nadi

Discussion

The South Pacific Convergence Zone lies just to the N, with a sharp and relatively low-latitude trough disruption/cut-off vortex swinging by on Sunday/Monday. This will draw the SPCZ southwards, and develop an area of heavy rain and slow moving thunderstorms across Fiji and surrounding areas. As the upper trough relaxes away early next week rainfall will return to normal levels.

Expected Impacts

Increased likelihood of flash flooding, and disruption to transport/homes/businesses.



Additional Information

The Indian Summer Monsoon (also called the South Asian Monsoon) has still to retreat south. This process should have started on the 1st of September, with the northern edge of the monsoon by now having retreated southeast of Delhi and Mumbai. This is now the latest ever commencement of the monsoon withdrawal, but a marked withdrawal is expected to take place within the next week. The 2019 Indian Summer Monsoon (June to September) has been the third wettest on record (back to 1901), and the wettest since 1994. September was the wettest September across India in 102 years.

Issued at: 050300 UTC **Meteorologists:** D J Harris / Paul Hutcheon

Global Guidance Unit

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