	Trinidad & Tobago Meteorological Service	**Rainfall and Temperature Outlook for Trinidad and Tobago, July to September 2018**

Key Words: below-normal ("less than usual"), near-normal ("usual") or above-normal ("More than usual")

Less than the usual July to September Rainfall Expected; but Risk of Flooding Remains High

Key Messages

- ✓ July to September (JAS) 2018 rainfall outlook shows the best chance is for drier than usual conditions. Accumulated rainfall totals are likely to be in the below-average category (rainfall totals less than 75% of the long term mean), **medium confidence**;
- ✓ There is a 50-60% chance for accumulated rainfall totals in excess of 700 mm. Typically, significant rainfall is needed to exceed the average during this period;
- ✓ The forecast indicates fewer excessively wet days and spells than usual **(Medium confidence**);
- ✓ The chance for JAS to be extremely dry is low to moderate **(Medium confidence)**;
- ✓ July rainfall is likely to be less than usual **(High confidence)**;
- ✓ October to December accumulated rainfall outlook shows slightly enhanced chances for above-normal rainfall (**Low confidence**);
- ✓ Both day and night temperatures are forecasted to remain warmer than average;
- ✓ At least five (5) hot-spell days are expected during JAS with September likely to produce the most;
- ✓ Episodes of dust-haze outbreaks are likely to continue during JAS.

Likely Impacts

- ✓ Warmer than average temperatures can aid more intense showers. Flooding potential associated with heavy rainfall days is enhanced for flood prone areas;
- ✓ Possibility of reduced water availability and water levels leading to increased water stress as the season progresses;
- ✓ Possible slower than usual increase in surface wetness during JAS;
- ✓ Possible slower than usual recharge rates of water reservoirs/dams;
- ✓ Possibility of increased incidences of pests and diseases that thrive in increased moist conditions.

Date of Issue: 26/06/2018

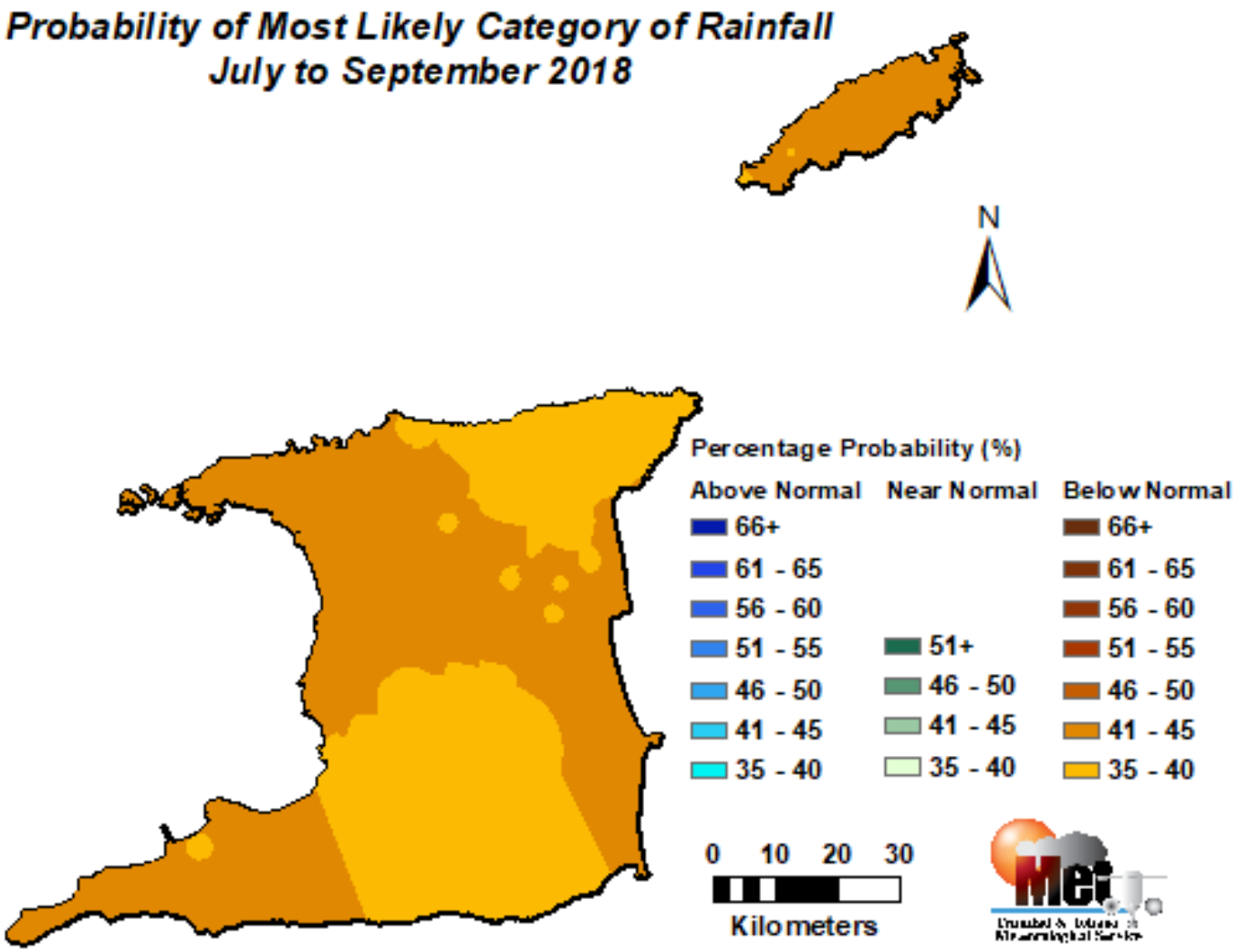

Figure 2: Category of rainfall likely for JAS 2018 with the highest chance of occurrence expressed as probabilities and colour coded on the map. Blue indicates that it is more likely for above normal rainfall to occur than for below normal or near normal. Brown indicates it is more likely for below normal rainfall, while green indicates it is more likely for near normal rainfall. Normal is defined by the rainfall that was observed in middle one-third of the JAS period rainfall totals during the historical period used to produce the outlook.

- ✓ The rainfall outlook for July to September indicates it is likely to be drier than usual with accumulated rainfall totals favoured to be in the below normal category, when compared with the chance for near- or above-normal **(medium confidence).**

- ✓ This means all areas of the country are likely to receive total rainfall amounts that are less than 75% of the long term average. For instance, at Piarco, this means possible accumulated JAS rainfall totals less than 705.0mm and at Crown Point less than 510.0mm.

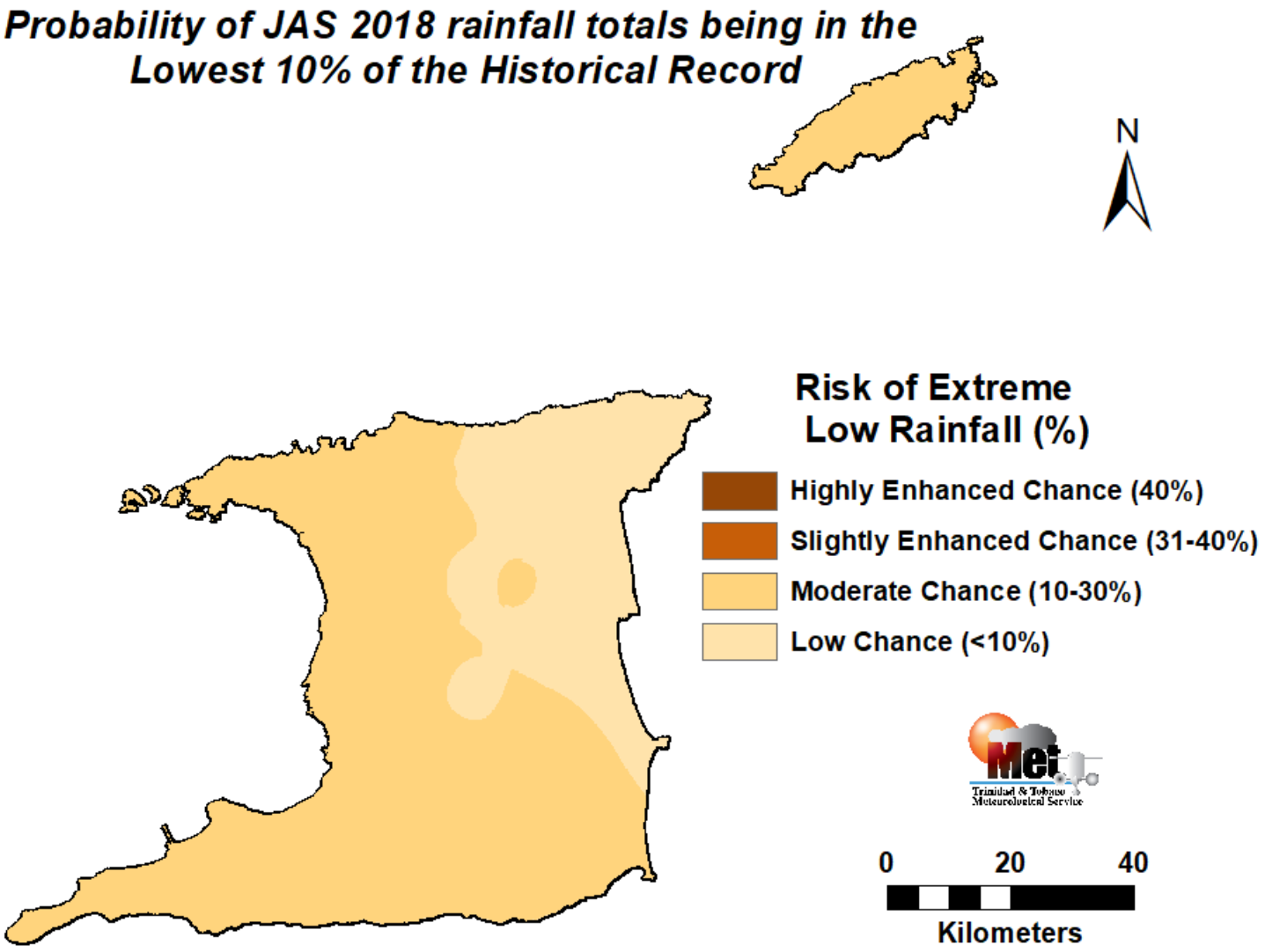

Figure 3: The map shows the chances for extremely dry conditions over the next three months. Extreme refers to the lowest 10% of July to September accumulated rainfall in the historical record.

- ✓ The chance for the JAS period to be extremely dry is low to moderate **(medium confidence);**
- ✓ Even though chances for this to occur range between 5 % to 15 %, should it occur, it can have far reaching negative impacts on water, agriculture and other climate sensitive sectors;
- ✓ The forecast indicates at most, two (2) periods of seven (7) consecutive dry days during JAS.

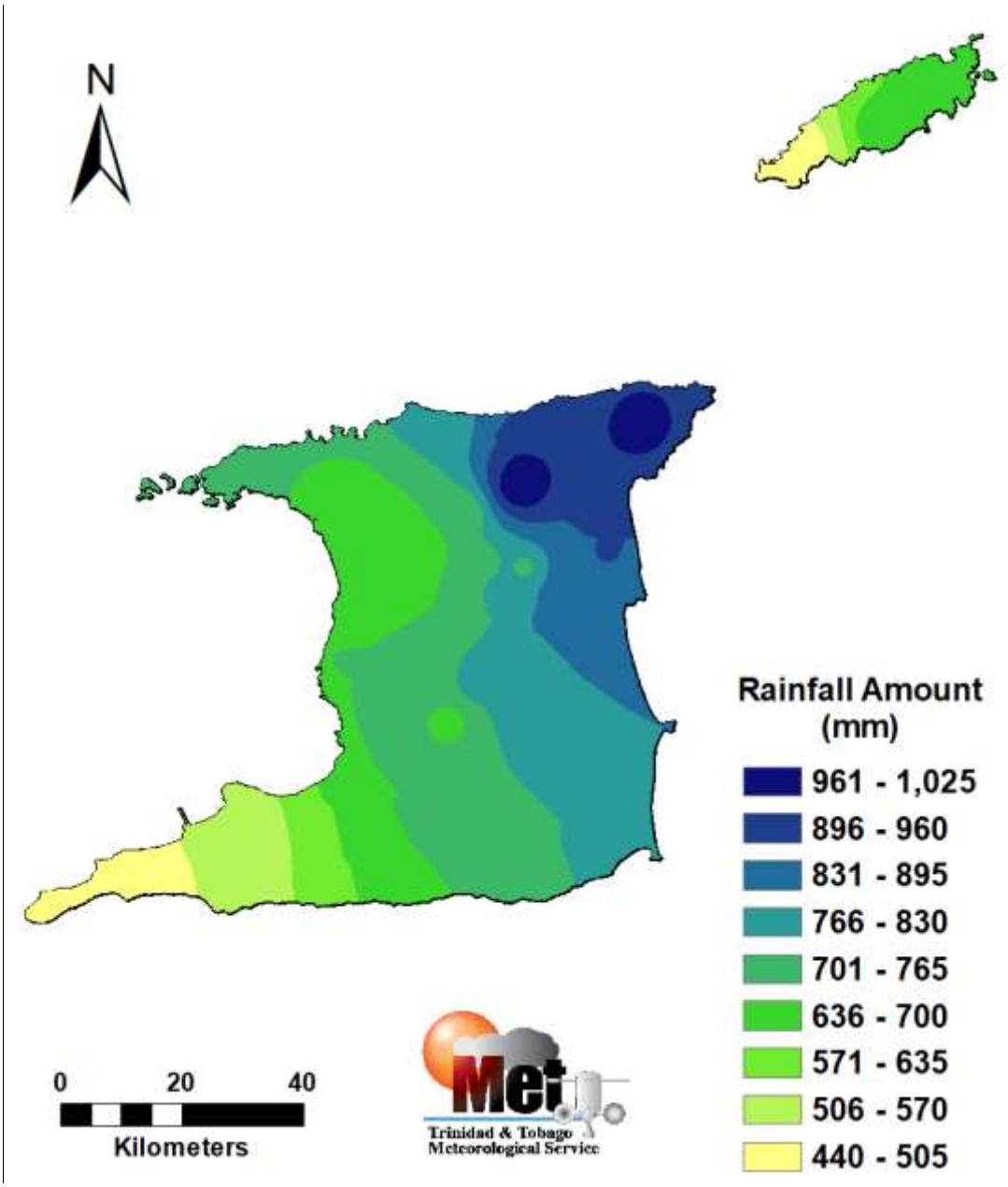

Figure 4: Possible accumulated rainfall totals with the highest chance of occurring during July to September 2018.

Largest rainfall accumulated totals are likely to be near 1025.0mm in Valencia and surrounding environs in east Trinidad with smallest totals likely near Cedros;

Tobago's largest totals are likely to be near 700.0 mm in the Mt. Saint George and other northeastern areas while smallest totals are likely in the southwest, near Crown Point and environs.

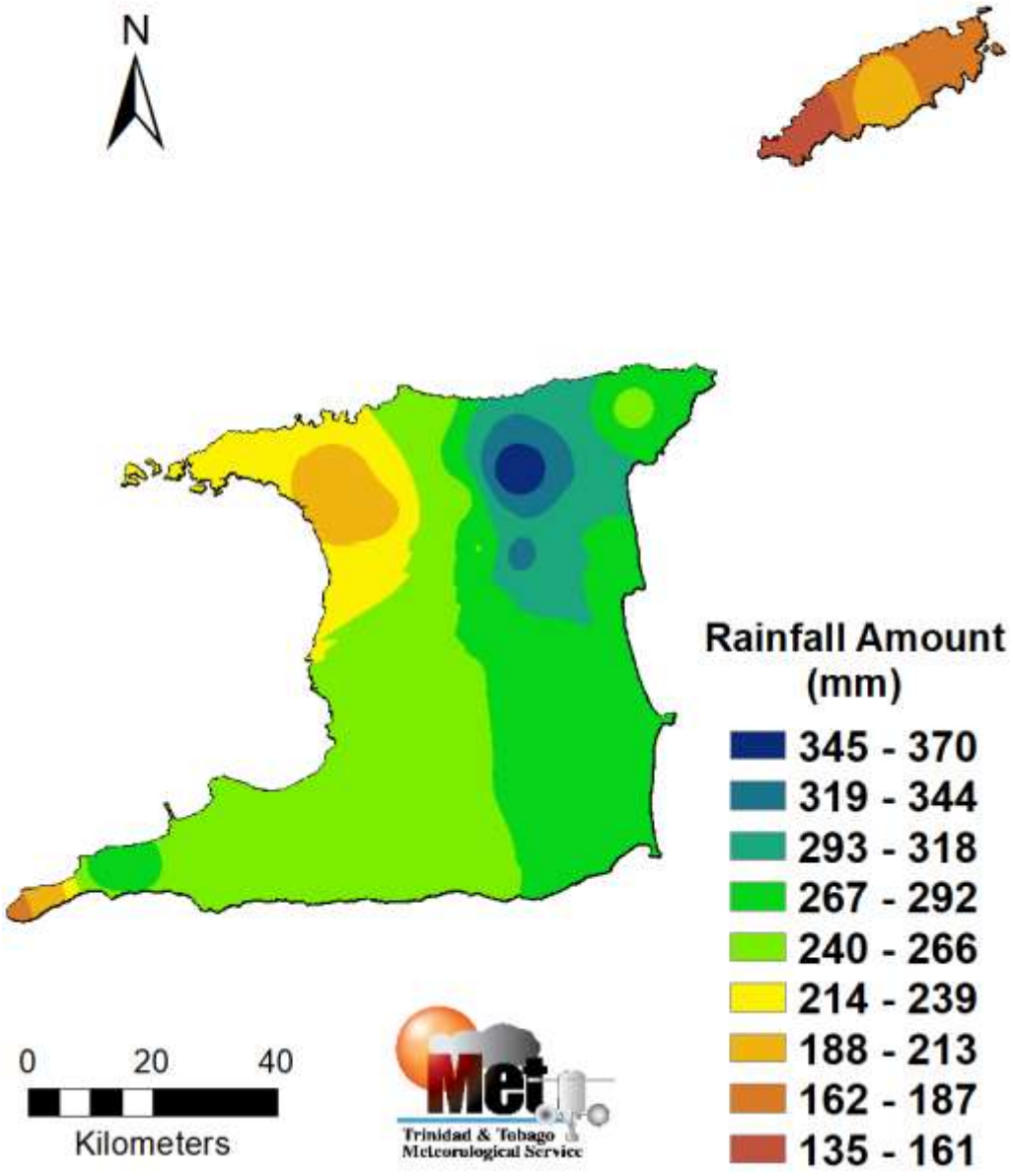

Figure 5: Possible rainfall totals with the highest chance of occurring during July 2018.

July is likely to be drier than usual with most parts of the country having a greater than 50% chance for rainfall totals below average **(High confidence)**.

Possible rainfall totals range between 170.0 mm and 360.0 mm in Trinidad and between 135.0 mm and 210.0 mm in Tobago**.**

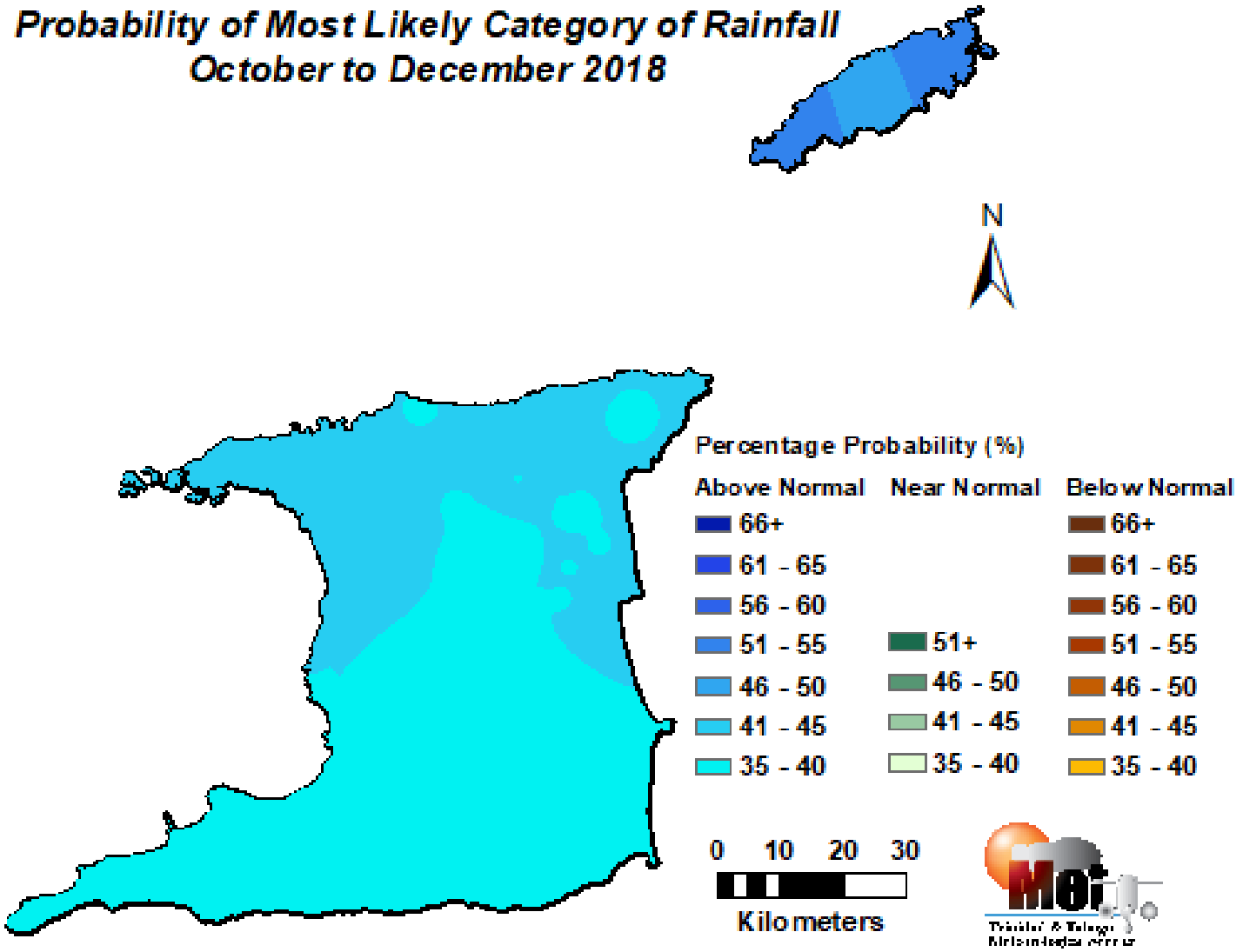

Figure 6: Category of rainfall most likely for October to December (OND) 2018 with the highest chance of occurrence expressed as probabilities and colour coded on the map. Blue indicates that it is more likely for above normal rainfall to occur than for below normal or near normal. Brown indicates it is more likely for below normal rainfall; while green indicates it is more likely for near normal rainfall. Normal is defined by the rainfall that was observed in middle one-third of the OND period rainfall totals during the historical period used to produce the outlook.

- ✓ October to December (OND) 2018 is likely to be as wet as usual with accumulated rainfall totals favoured to be in the above normal category, across both islands (**low confidence**);
- ✓ November is likely to be wetter than usual;
- ✓ Risk of flooding remains relatively high.

Temperature Outlook

- ✓ Trinidad and Tobago is likely to get warmer than usual conditions during JAS with August and September days and nights likely to be the warmest;
- ✓ There is a 60% chance for maximum daytime temperatures to be hotter than average during July and a 75-80% chance during August to September;
- ✓ Chances are high (greater than 75%) for night temperatures to be warmer than average;
- ✓ There is a 50% chance for at least five (5) hot-spell days during the period with the chance for hot-spell days being highest in September.

Likely Implications

- ✓ Warmer than average temperatures can aid more intense showers, which will increase the risk for flash floods on hot days, especially in the cities and built-up areas;
- ✓ Risk of flash and riverine flooding, landslips and landslides on heavy rainfall days remains relatively high;
- ✓ Sunny skies during JAS can turn cloudy with intense rainfall in less than half an hour;
- ✓ Increases in surface water ponding can promote mosquito breeding, leading to higher risk for spikes in vector borne diseases;
- ✓ Increased rainfall, mixed with warm and humid conditions tend to promote rapid multiplication of some agricultural pests, diseases and fungal growth;
- ✓ Increased rainfall could lead to reduced traffic flows, disruptions in localized travel, longer travelling times and increased disruption of outdoor activities;
- ✓ Excessive heat on hot spell days could lead to increased heat stress in the vulnerable population and small livestock, until October.
- ✓ Cooling needs are likely to be high as in recent years during July to October.

How Should You Respond? **Don't be vulnerable. Be sensible! Act now and prepare for heavy rainfall, flood, high-wind, hot spells and spikes in dengue cases.**

Drainage

- ✓ Continue de-silting of drainage systems, canals, drains and river mouths.
- ✓ Clean and clear choked surface drains to allow fast drainage and to reduce flash flood;
- ✓ Clean under drains to keep their outlets open.

Waste Management Sector

- ✓ Continue efforts to prevent waste from entering drains and water courses in order to reduce flooding and water pollution;
- ✓ Implement anti-litter activities to raise awareness on the impacts of poor solid waste management.

Health Sector

- ✓ Clear bushes, open drainage systems, fumigate in and around residences;
- ✓ Revisit contingency plans to manage spike in vector borne incidences.

Disaster Risk Management Sector

- ✓ Sensitize communities on the forecast and its negative impacts.
- ✓ Revisit early warning information dissemination channels;
- ✓ Alert communities and citizens in flood and landslide prone areas to act early.

Agriculture & Food Security Sector

- ✓ Put in place disease control measures;
- ✓ Ready pumps for clearing waterlogged drainage;
- ✓ Clear or clean poorly maintained and choked surface drains to prevent waterlogging.

Water and Energy sector

- ✓ Conduct routine de-silting of reservoirs and riverine flooding channels. Harvest excess rainfall now;
- ✓ Remove dry branches, trees and overhang near electrical wires, especially in landslip prone areas.

General Public

- ✓ Proper preparation especially for persons in at risk areas. Stock up on emergency supplies for 3-7 days;
- ✓ Clear dry branches/ tree-overhang near residence; Guard against the effects of excessive heat;
- ✓ Clean drains and canals; Conserve, store and manage water in a safe and adequate manner;
- ✓ Take measures to lessen impacts from flooding. Be sand-bag ready;

Be vigilant and visit the Met. Service website at www.metoffice.gov.tt regularly to keep up to date with local weather changes and download our free mobile app on the Google Play Store or Apple iStore.

Climatic Influencers and Context of the Outlook

- ✓ Cooler than average to near average sea surface temperatures (SST) in and around Trinidad and Tobago are forecasted to persist into September. This pattern typically inhibits local rainfall occurrence in Trinidad and Tobago.

  The El Niño–Southern Oscillation (ENSO) remains in neutral state - neither El Niño nor La Niña - but signs of a potential El Niño pattern developing by the late half of the local wet season are becoming more evident. Importantly, waters below the surface of the equatorial Pacific are now warmer than average and have strengthened and expanded across the equatorial Pacific over the past two months. This is typical, prior to the development of El Niño. In addition, most ENSO models indicate that El Niño conditions are most likely during the late half of the local wet season.

  ENSO-neutral conditions during JAS are likely to have limited control on local rainfall. This means reduced chances for long-lasting very wet or dry conditions. When an El Niño pattern is in place during the late wet season, November rainfall tends to exceed average totals, but other months tend to have suppressed rainfall.

- ✓ Since April, the North Atlantic Oscillation (NAO) has been in its positive phase. A positive NAO tends to aid in cooling SSTs in waters around Trinidad and Tobago. Cooler SSTs usually have a negative influence on local rainfall. The NAO forecast is for a continuation in the positive phase for the next two to three weeks;

- ✓ The Madden Julian Oscillation (MJO) is usually the main feature driving fluctuation in tropical weather on weekly to monthly timescales. The MJO is likely to be in an unfavourable phase to influence local rainfall during the first two weeks of the forecast period.

The precipitation and temperature outlook is based on statistical and dynamical seasonal climate models output and known seasonal climate influencers. The outlook is in good agreement with some of the global climate models but not all. This reduces our confidence slightly.