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## Concern Increases for Impactful Dryness by September Month End

### Key Messages

Even though accumulated rainfall totals for the 12-month period from July 2017 to June 2018 exceeded the average at selected sites across the country, rainfall during June 2018 has been below average. June 2018 was the 9<sup>th</sup> driest June on record at both Piarco and Crown Point with 154.4mm and 82.5mm of rainfall recorded respectively, which represents 38.9 % and 51.2 % less than average, correspondingly.

The 3-month drought outlook ending September 2018 shows dry to moderately dry conditions are likely and hence the outlook changes from no concern to potential for impactful dryness by the end of September, 2018. This has implications for water stress as the year progresses.

### Drought/Dry-Spell Monitor

The 12-month Standardized Precipitation Index (SPI) shows wet conditions were observed at selected locations across the country and notably wet in parts of northeast Trinidad where three of the major water intakes/reservoirs are located (see Figure 1).

12-month cumulative rainfall percent of average exceeded the average levels in all selected areas, with the largest surpluses in north-eastern areas of both islands (see Figure 2).

June 2018 rainfall showed continuation of a drying trend, with the month being the second consecutive month when rainfall under performed, leading to below average totals and rainfall deficiencies (see Figure 3).

Figure 1.

### *Current Dry Spell / Drought Status Based on 12-Month SPIs July 2017 - June 2018*

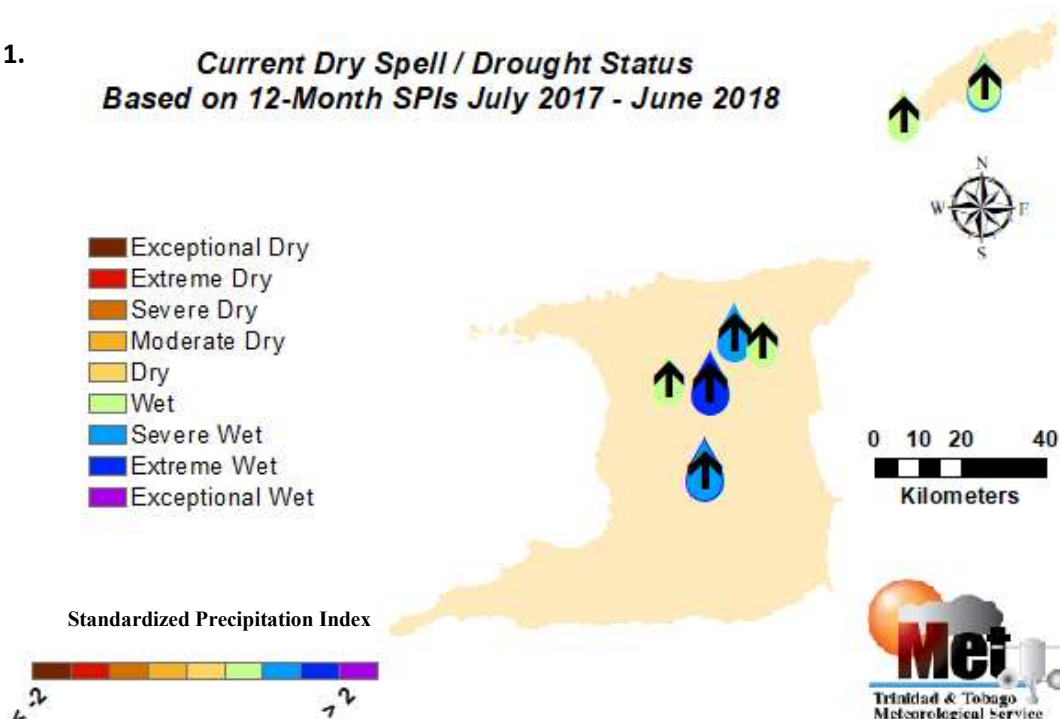




Figure 2

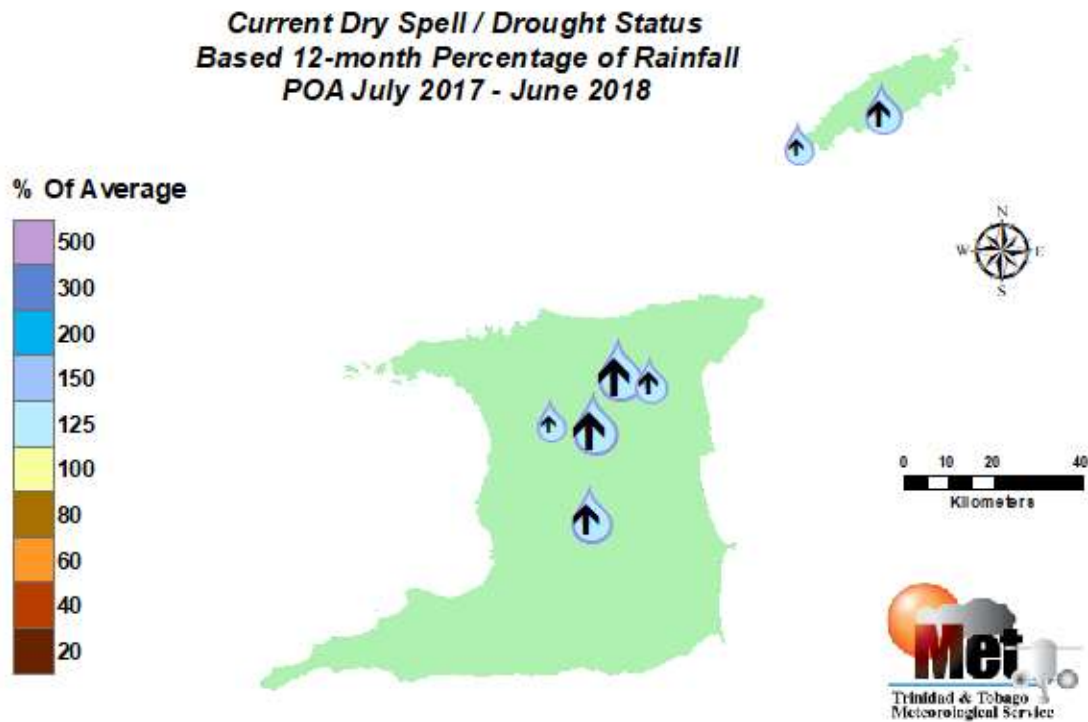
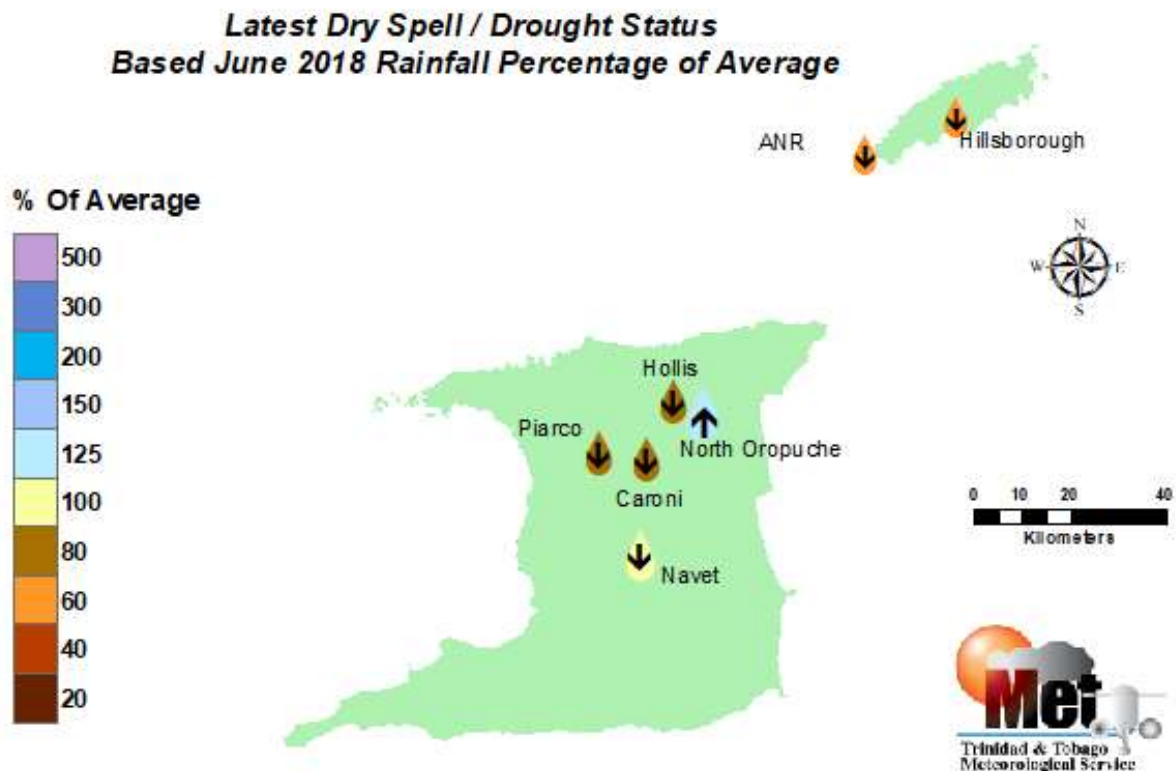


Figure 3

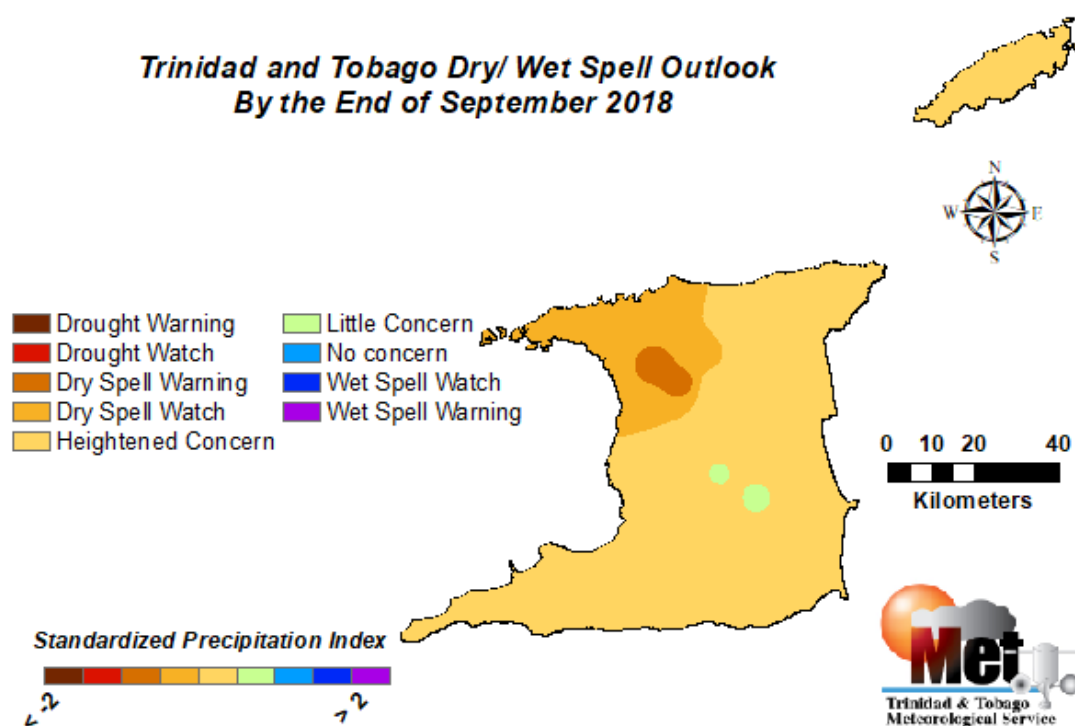




### Drought Indicator Outlook:

- ❖ The 3-monthly SPI based drought indicator for the period ending September 2018 shows a drying trend is likely with increases in negative SPIs leading to possible enhanced rainfall deficits. This moves the drought monitor from no concern to heightened concern for impactful dryness with a drought watch initiated for northwest Trinidad (see Figure 4).
- ❖ In general, dryness impacts are expected if the 3-month SPI during the wet season is lower than -1.5 (very dry or worse). Dryness impacts may include less than usual stream-flows, reservoir levels, groundwater flows and recharge.

Figure 4



### Standardized Precipitation Index

The Standardized Precipitation Index (SPI) is used by the Meteorological Services Division to monitor and estimate dryness and wetness on different timescales. It is a measure of relative dryness and wetness compared to the long term average rainfall for a particular timescale. Negative values of SPI indicate less than median rainfall and drier conditions; positive values indicate greater than median rainfall and wetter conditions. The SPI values can be interpreted as the number of standard deviations by which the observed rainfall deviates from the long-term mean. In general, dryness impacts are expected when the value of the 3-month SPI lies near -1.0. As the SPI value becomes less than -1.0, the severity of impacts increases. For Trinidad and Tobago, extreme dryness is considered to occur when negative SPIs are lower than -1.25 in the dry season and near -1.5 or lower in the wet season.