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Short-term Dryness Concerns for Tobago and Parts of Northern Trinidad by November Month End

Key Messages

Accumulated rainfall totals for the 12-month period from September 2017 to August 2018 exceeded the average at all selected sites across the country, except one. No concern for long-term dryness.

August 2018 rainfall totals at the selected stations have been mixed, with less than average rainfall totals at five of the selected stations and higher than average totals at the remaining two stations.

During August 2018 rainfall measured at Piarco totalled 264.5mm or 104.7% of the 252.7mm August climate normal (1981-2010).

In Tobago, Crown Point rainfall totalled 164.8mm or 97.6% of the 168.9mm August climate normal (1981-2010) while at Hillsborough rainfall totalled 199.0mm or 85% of the 234.1mm August climate normal (1981-2010). At both stations, August 2018 was the sixth consecutive month of below average rainfall recorded for the year.

The 6-month dry spell/drought outlook for the period ending November 2018 (based on observed rainfall for June to August and predicted rainfall for September to November) shows heightened concerns for short-term impactful dryness with overall rainfall deficits likely for parts of northern Trinidad and all of Tobago, by November month end.

This has implications for water stress as the year progresses and for the upcoming 2019 Dry Season.

Drought/Dry-Spell Monitor

The 12-month Standardized Precipitation Index (SPI) shows that over the 12 months ending August 2018, accumulated rainfall totals were mostly in the wet to severely wet categories at selected locations across the country (see Figure 1).

Figure 1

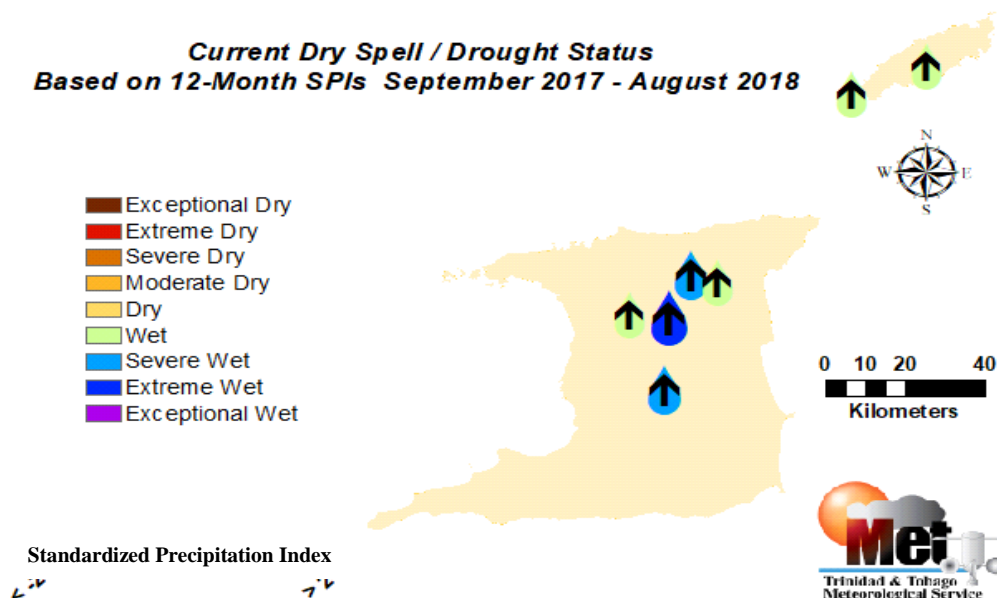
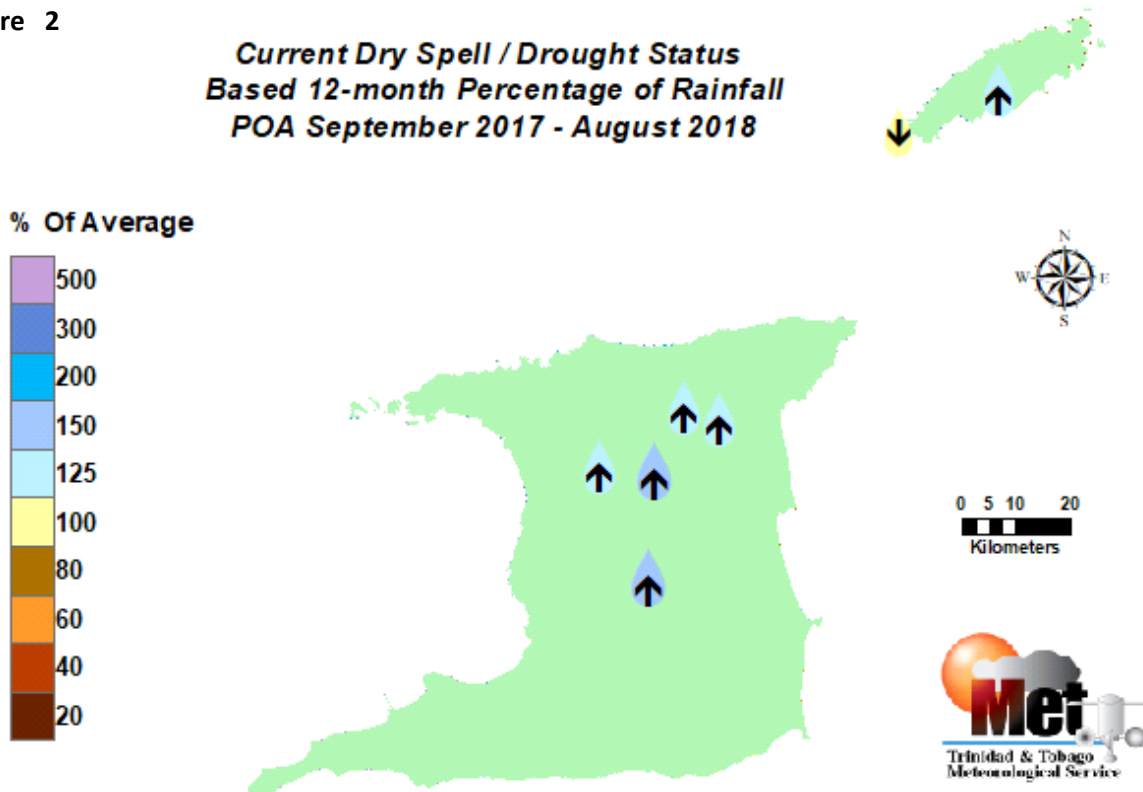




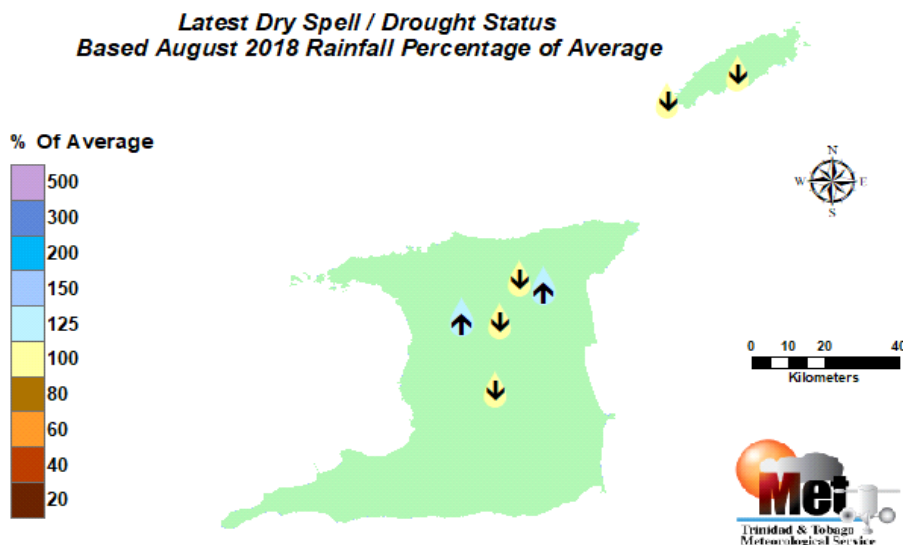
Figure 2



Percent of average 12-month accumulated rainfall totals exceeded the 1981-2010 average at all, except one of the selected stations. The largest surpluses occurred at the Arena and Navet reservoir stations; while Crown Point recorded deficit totals (see Figure 2).

**Latest Dry Spell / Drought Status
Based August 2018 Rainfall Percentage of Average**

Figure 3



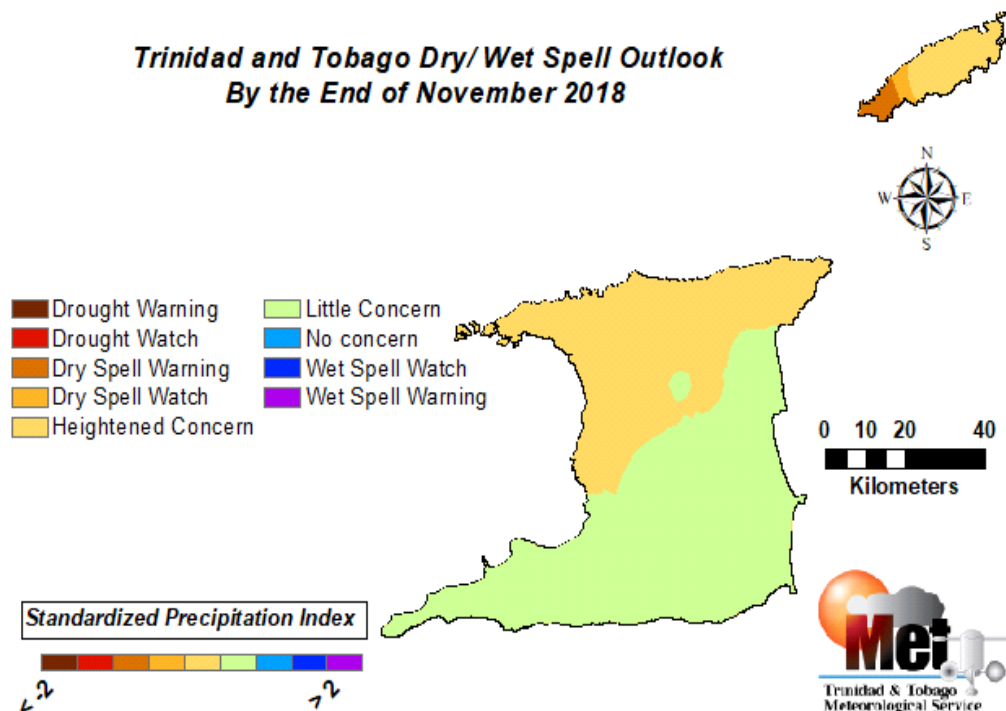
At the same time, August 2018 rainfall maintained the drier than usual trend at all stations except at Piarco and North Oropuche. (see Figure 3).

Drought Indicator Outlook:

- The 6-month Standardized Precipitation Index-based drought indicator for the period ending November 2018 takes into account June to August observed rainfall and predicted rainfall for September to November. The outlook shows overall rainfall deficits are most likely for parts of northeast Trinidad and all of Tobago by November month end.
- 6-month SPIs by the end of November for these regions are likely to be negative and range between - 0.20 to -1.50, with southwest Tobago likely to experience the most impactful dryness.
- Dry Spell Warning is introduced for southwest Tobago and Dry Spell Watch for the rest of the island (see Figure 4).
- Large areas of northern Trinidad have a status of heightened concern for impactful dryness with the rest of the island in the little concern status (see Figure 4).
- In general, impacts from dryness are expected if SPIs during the wet season are lower than -1.5 (very dry or worse). Dryness impacts may include less than usual stream-flows, reservoir levels, groundwater flows and recharge, for this time of the year.

Figure 4

Trinidad and Tobago Dry/ Wet Spell Outlook By the End of November 2018



Standardized Precipitation Index

The Standardized Precipitation Index (SPI) is used 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.