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Heightened Dryness Concerns By End of February 2019

Key Messages

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

October 2018 rainfall totals at the selected stations exceeded the average at all selected stations with wet to extremely wet conditions observed.

Apart from October, rainfall deficits were recorded for all months from April to September at Crown Point. This has implications for ground water recharge rates.

The 6-month Dry Spell/Drought Outlook for the period ending February 2019 (based on observed rainfall for August to October and predicted rainfall for December to February) shows heightened concerns for short-term impactful dryness by February month end.

This has implications for water stress as the 2019 dry season progresses.

Drought/Dry-Spell Monitor

The 12-month Standardized Precipitation Index (SPI) shows that over the 12 months ending October 2018, accumulated rainfall totals were in the dry category at the selected station in southwest Tobago and in the wet to severely wet categories at all the other selected locations across the country (see Figure 1).

Figure 1

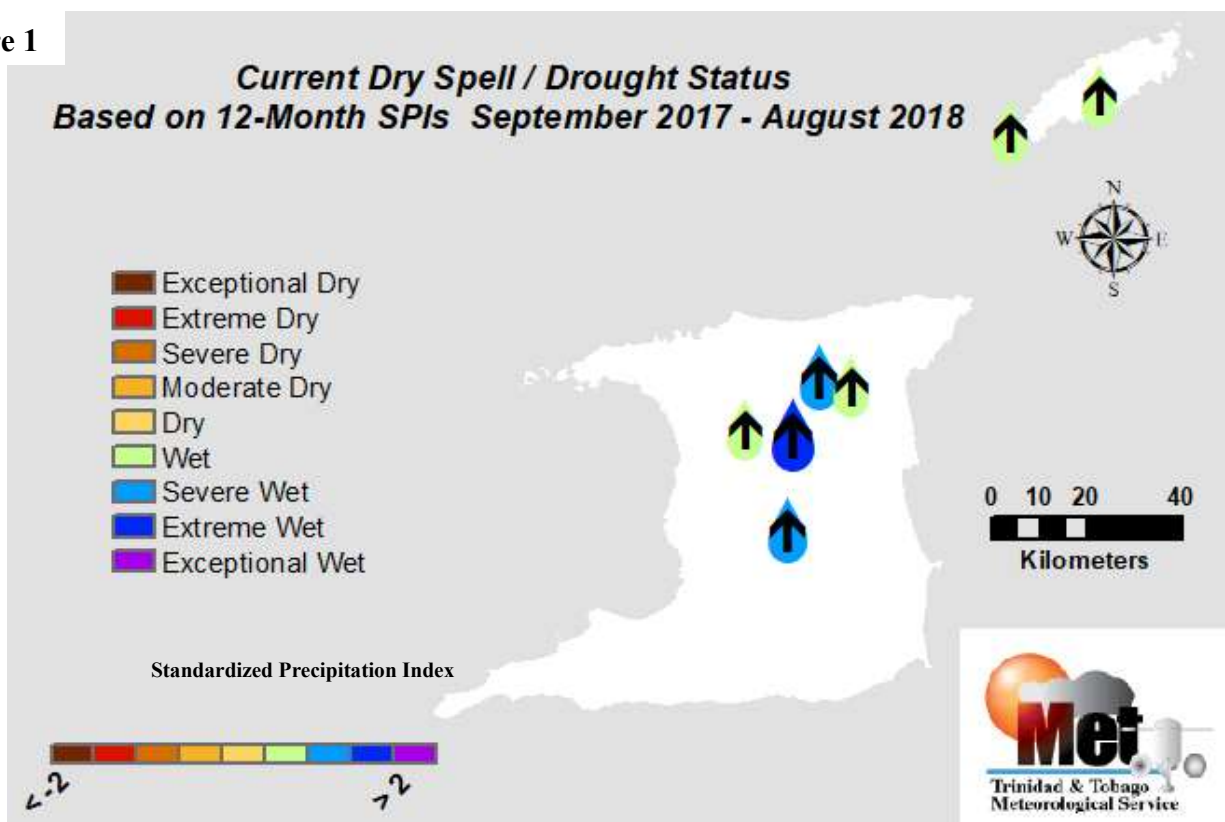
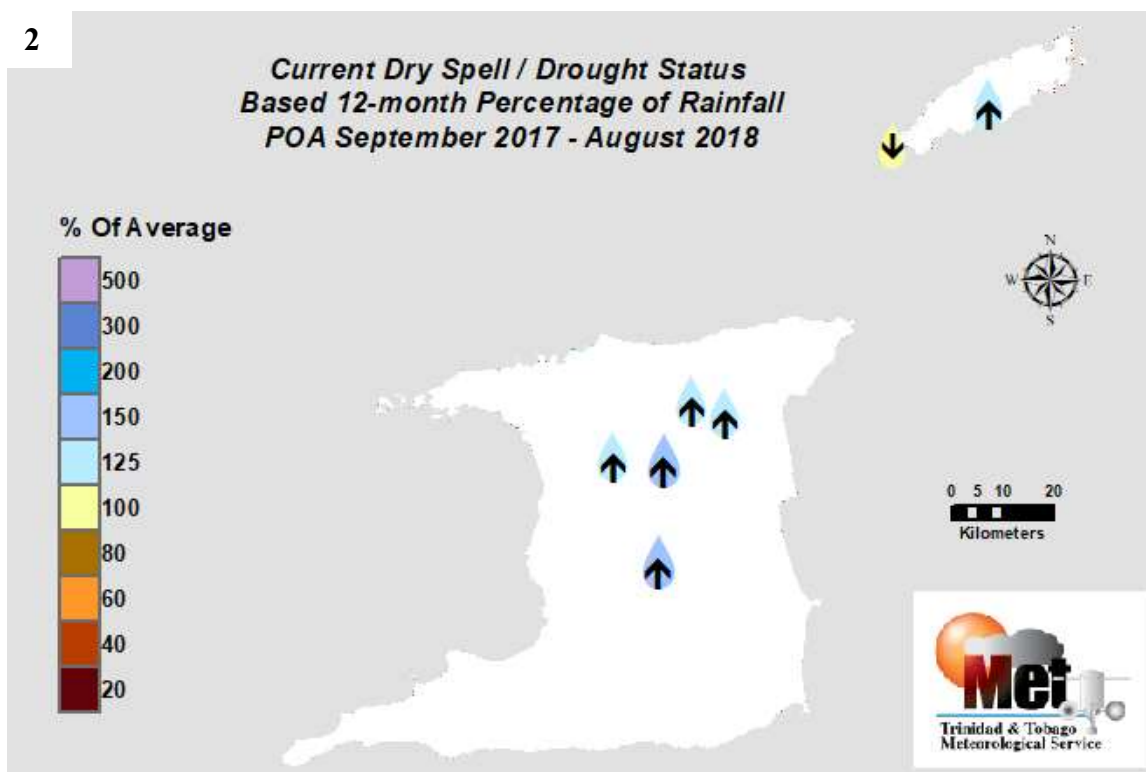


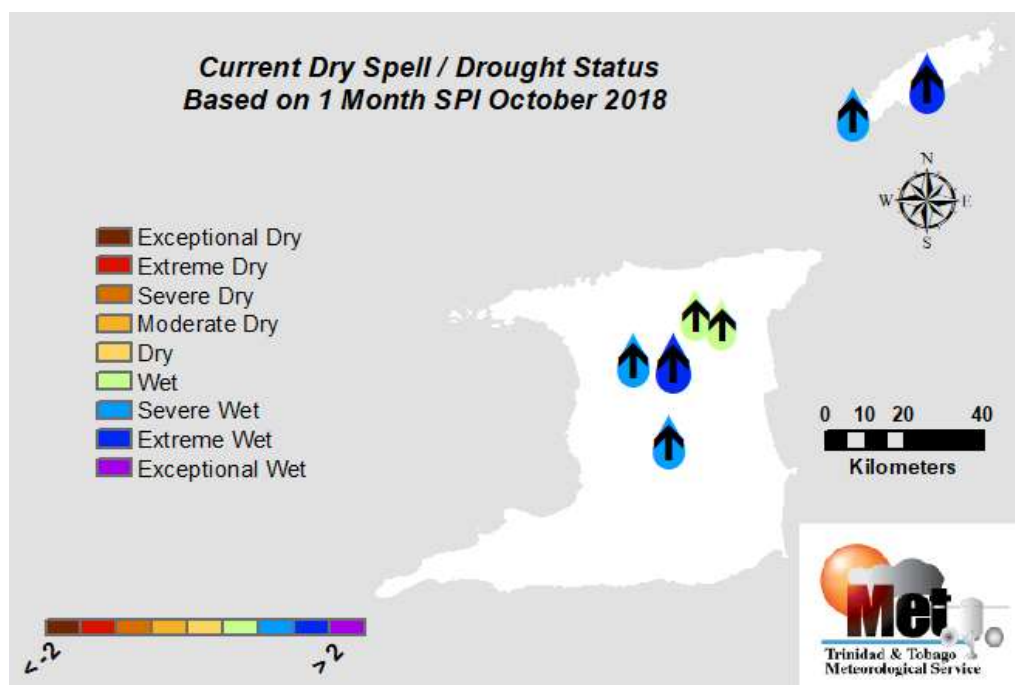


Figure 2



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

Figure 3



At the same time, October 2018 rainfall at all selected stations were in the wet to extremely wet categories, with Arena and Hillsborough being the wettest areas (see Figure 3).

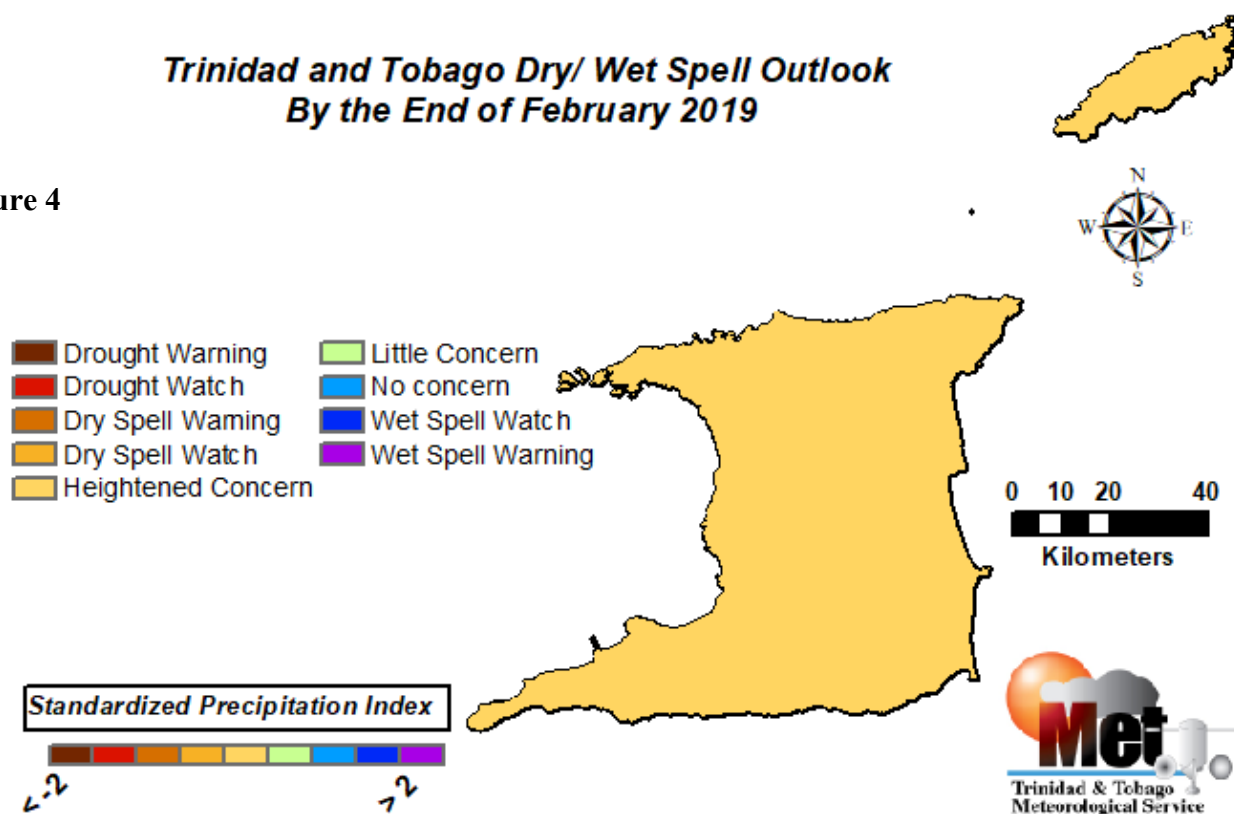


Drought Indicator Outlook:

- The 6-month Standardized Precipitation Index-based drought indicator for the period ending February 2018 takes into account August to October observed rainfall and predicted rainfall for the period December to February (see Figure 4).
- The outlook shows Trinidad and Tobago is likely to be in a heightened concern mode for impactful dryness by February month end.
- 6-month SPIs by the end of February are likely to be negative and range between - 0.20 to -0.60.
- In general, impacts from dryness are expected if SPIs during the dry season are lower than -1.0 (dry or worse). Dryness impacts may include less than usual stream-flows, lower than usual reservoir levels, groundwater flows and recharge, for this time of the year.

Trinidad and Tobago Dry/ Wet Spell Outlook By the End of February 2019

Figure 4



Standardized Precipitation Index

The Standardized Precipitation Index (SPI) is an index showing the severity and rarity of dryness or wetness of an area and is used to monitor and estimate dryness and wetness on different timescales. 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.