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Trinidad and Tobago Dry/Wet Spell Monitor and Outlook by End of April 2018

No Concern for Impactful Dryness

3-Month Outlook (short-term):

- Over the last four months (since October 2017), Trinidad and Tobago has received accumulated rainfall totals in excess of the average rainfall for this period, across the country. Many areas have now received at least 110% of their average rainfall for this period with some areas receiving as much as 140% of their average over the four months ending January 2018. Based on this, it is reasonable to expect top-layer soils to retain some moisture and remain reasonably damp for this time of the year, while water levels and flows remain strong in streams, rivers and reservoirs.
- According to the Standardized Precipitation Index (SPI) based Dry Spell Outlook Tool, the three-month period, February to April 2018, shows no concern for impactful dryness in Trinidad and Tobago. Instead, positive SPIs (wetter than usual conditions) are forecasted (see Figure 1) and this is strengthened by rainfall surpluses observed during the last four months. Hence, the potential for impactful dryness remains relatively low at this time.

- Confidence in the occurrence of positive SPIs till the end of April and no concern for impactful dryness is boosted by the probability forecast for only a very slight chance (less than 5% in both islands) for excessive dryness, as indicated by below normal probabilities (see figure 2).

Standardized Precipitation Index

The Standardized Precipitation Index (SPI) is used by Trinidad and Tobago Meteorological Service (TTMS) 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. A negative SPI reflects a rainfall shortfall and hence relative dryness. 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 or unusual 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. Negative SPIs are used to characterise the severity of the dryness. A positive SPI reflects a rainfall surplus and hence relative wetness.

Figure 1

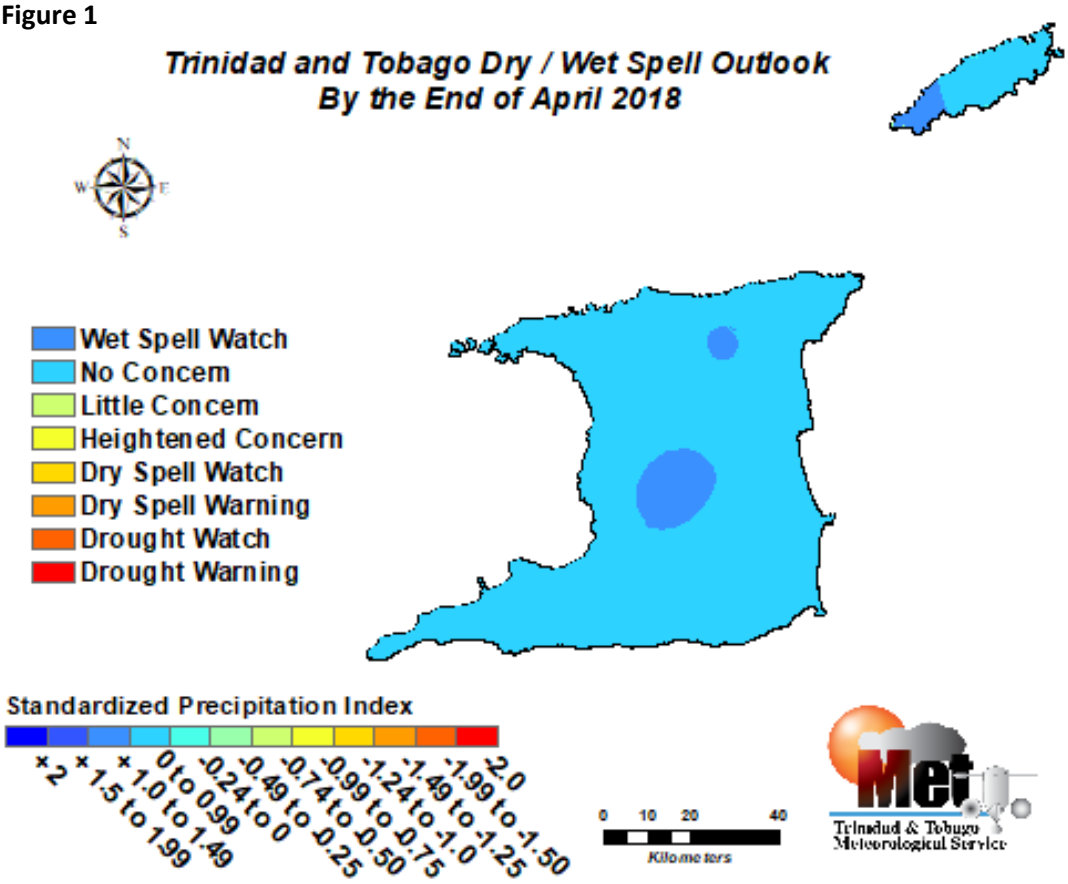
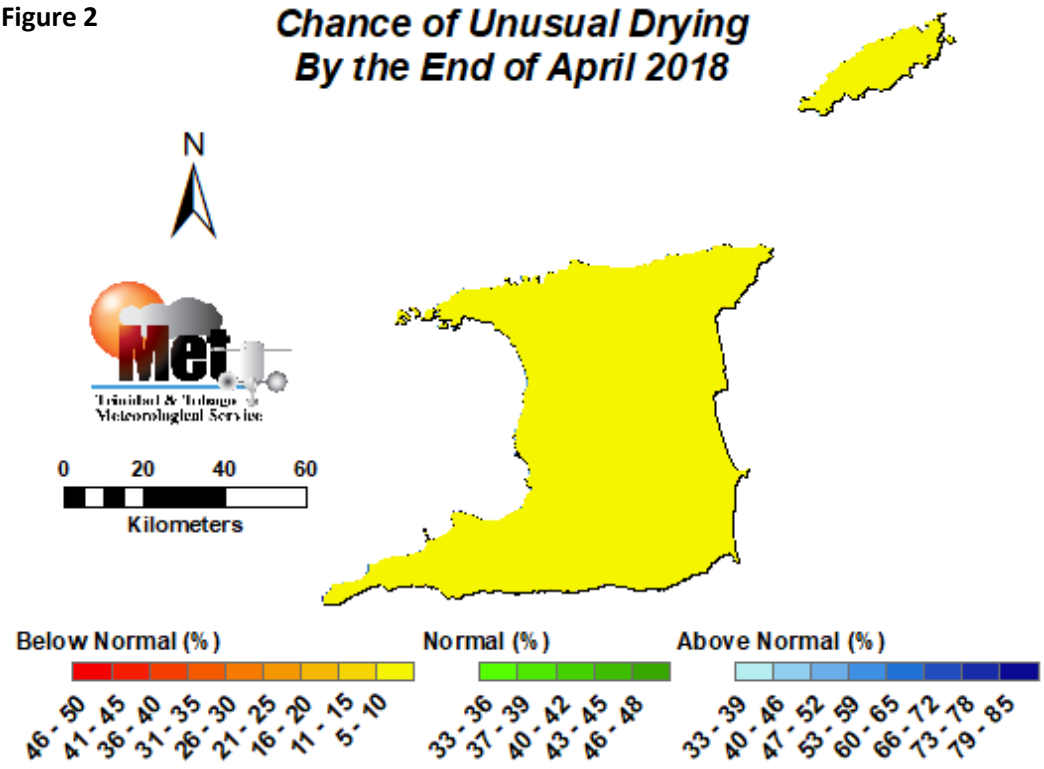


Figure 2



Longer-term (12-Month) Dryness Assessment:

- The TTMS's longer-term dryness monitoring and assessment tool (based on 12-month SPIs) for the 12-month period February 2017 to January 2018 indicates no concerns for long-term rainfall deficiencies. This is particularly due to most areas receiving accumulated rainfall in excess of the average over the first eight months of the water-year,which starts in June. All areas in Trinidad and Tobago show positive 12-month SPIs or surplus rainfall. Compared to the previous longer-term dryness assessments, rainfall deficiencies have been erased, leaving rainfall surpluses across the island and no concern at this time for longer-term impactful dryness concerns for Trinidad and Tobago up to the end of April 2018 (see Figure 3).

- In general, dryness impacts are expected if the 12-month SPI is lower than -1.0 (very dry or worse). Dryness impacts based on 12-month SPIs may include less than usual stream-flows, reservoir levels, groundwater flows and recharge. Wetness impacts based on 12-month SPIs may include higher than usual stream-flows, reservoir levels, groundwater flows and recharge and enhanced potential for flooding and landslides.

Figure 3