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## **Trinidad and Tobago Dry/Wet Spell Monitor and Outlook by End of December 2017**

### **Wet Spell Concerns Highten**

#### **3-Month Outlook (short-term):**

- ❖ Over the last four months (since June 2017), significant surpluses in accumulated rainfall totals were observed across the majority of Trinidad and Tobago, with accumulated totals exceeding the average in most areas, except in parts of northeast Tobago, where it was slightly less than average. Many areas have now received at least 100% of their average rainfall for the period while areas in northeast Tobago received close to 90% of their average. Top-layer soils are particularly wet, while water levels and flows remain strong in streams, rivers and reservoirs. Hence, the potential for flooding and landslides remain enhanced.
- ❖ Rainfall surpluses continue to ease previously observed short-term dryness in both islands. As a result, the Dry Spell Outlook for the three-month period ending December 2017 continues to show no concern for impactful dryness in Trinidad and Tobago (see Figure 1).
- ❖ On the other hand, the outlook indicates a strong trend towards concern for enhanced and impactful wetness across the majority of Trinidad and Tobago as positive Standardized Precipitation Indices (SPIs) are likely across all areas of the country (see Figure 1).
- ❖ As such, short-term wet-spell concerns are heightened for Trinidad and Tobago during the period (see figure 1).
- ❖ Confidence in the trend towards positive SPIs and wet spell concerns is boosted by the existence of only very slight (1- 5% in both islands) or no chance 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 is 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 and as such, dry spells and drought categories. A positive SPI reflects a rainfall surplus and hence relative wetness.

Figure 1

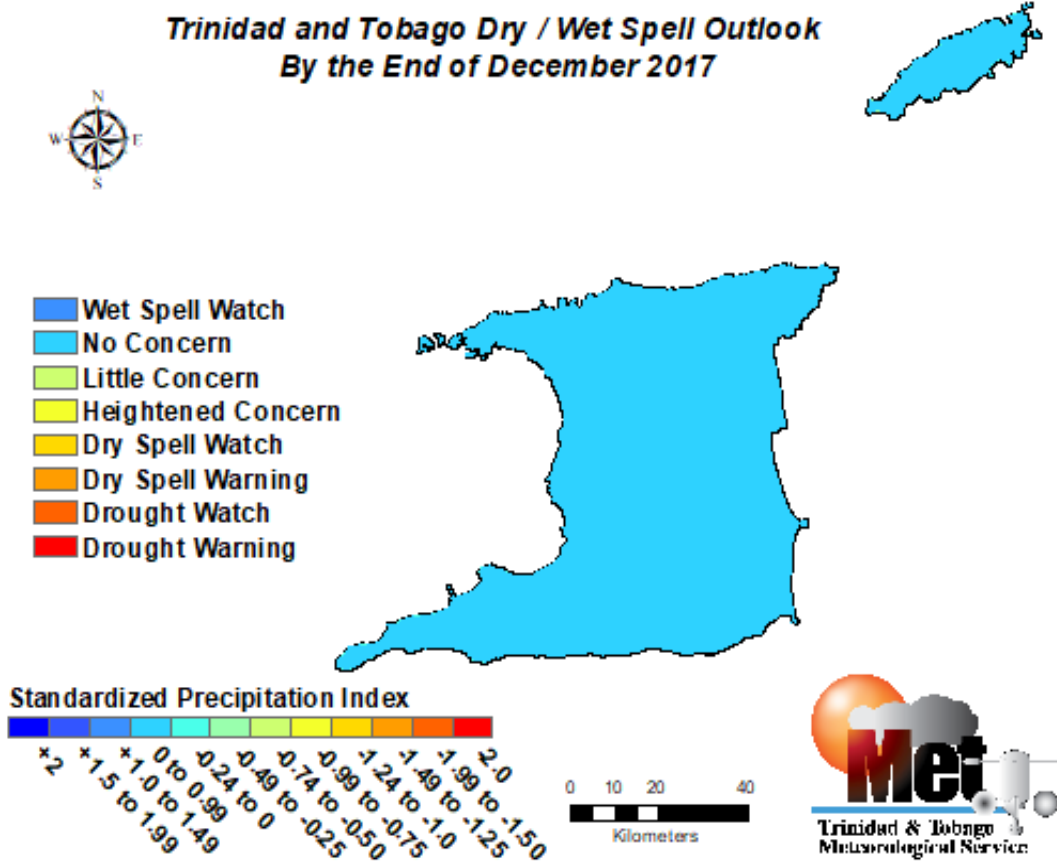
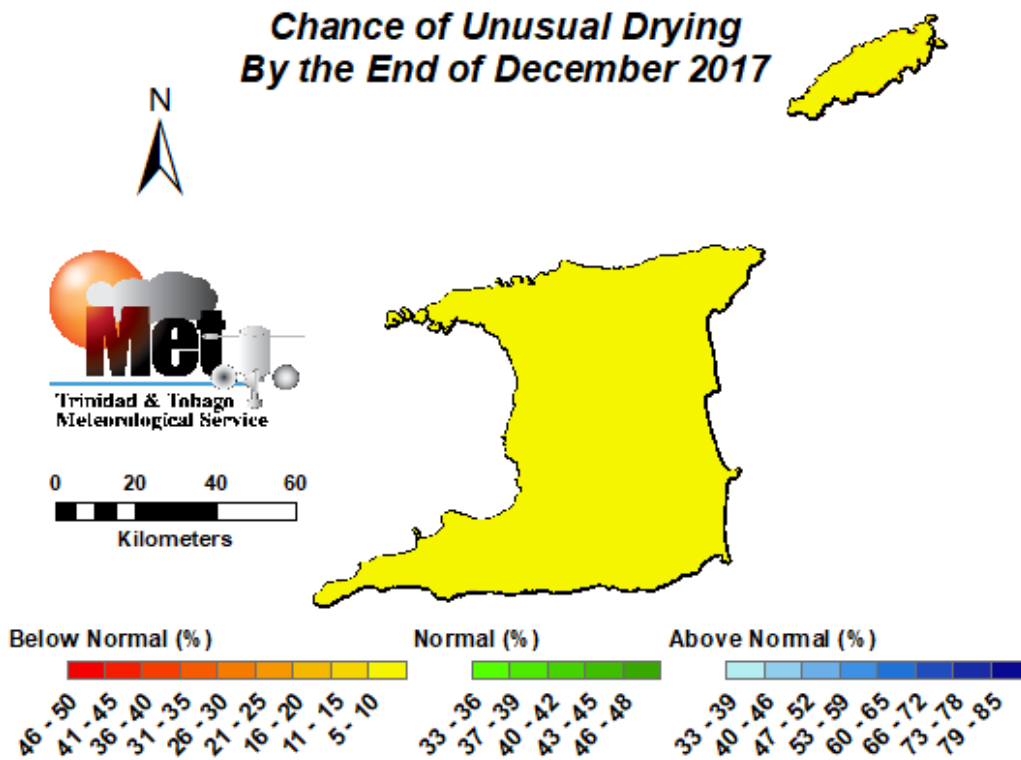


Figure 2



**Longer-term (12-Month) Dryness Assessment:**

❖ Dryness assessment (based on 12-month SPIs) for the 12-month period October 2016 to September 2017 indicates concern for long-term rainfall deficiencies have been significantly eroded, when compared to four months ago. Most areas in Trinidad had positive SPIs or surplus rainfall while some areas in Tobago had slightly negative SPIs. As such, longer-term impactful dryness concerns for the majority of Trinidad and Tobago have been eroded, except in northeast Tobago, where slight concerns exist (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.

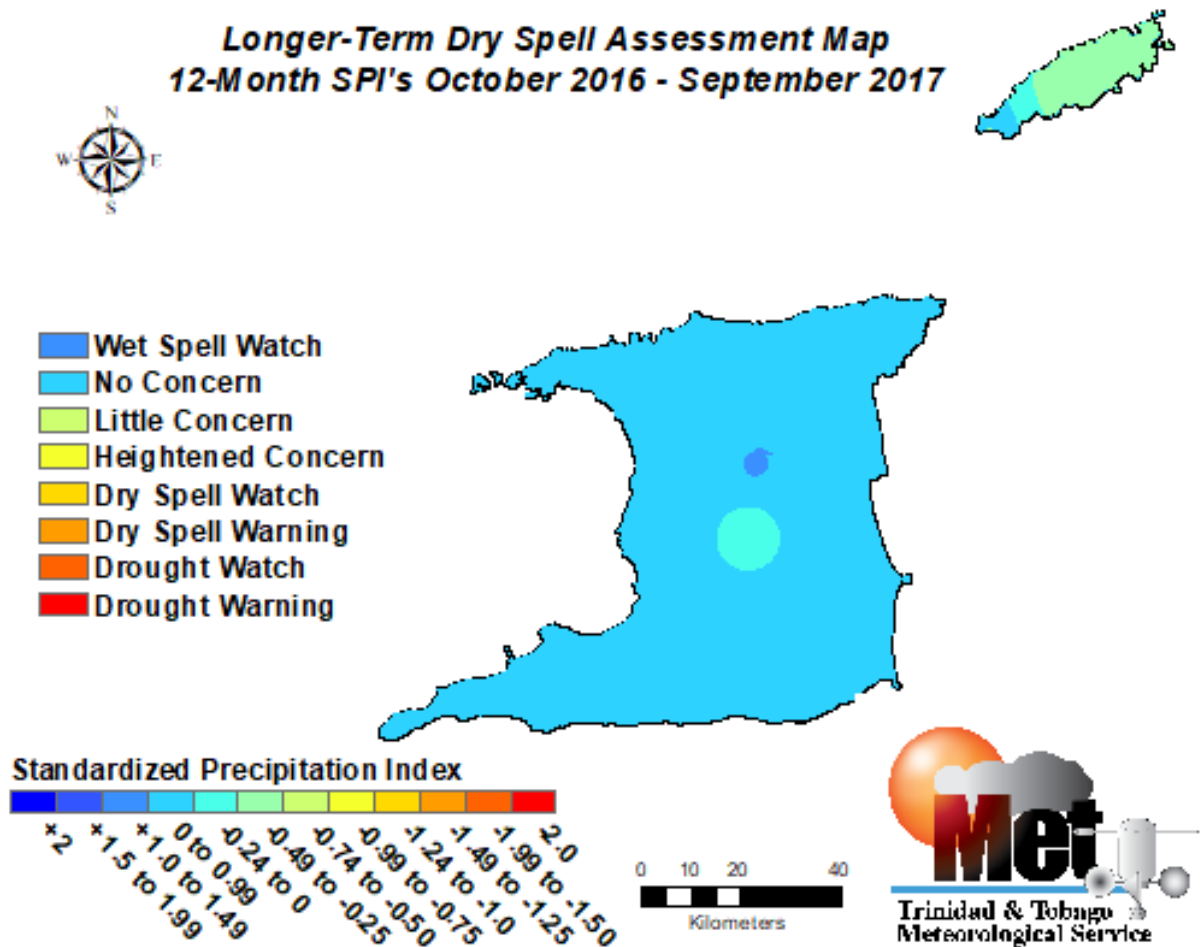


Figure 3