Rate of Change Observable in Rainfall Measurements

Odalys Martínez-Sánchez
Lead Forecaster and Climate Team Leader WFO San Juan
UPRRP Environmental Sciences PhD Student
Introduction

• Climate Prediction Center Optimum Climate Normals (CPC OCN) and Exponentially Weighted Moving Average (EWMA).

• Rate of Change (ROC) : ROC explains speed of change. The higher the value of ROC, the faster the change occurs; positive/negative values indicate increased/decreased rainfall.

• The Standardized Precipitation Index (SPI) calculation for any location is based on the long-term precipitation record for a desired period. This long-term record is fitted to a probability distribution, which is then transformed into a normal distribution so that the mean SPI for the location and desired period is zero.
Summary

• These results cannot be interpreted as the expected or most likely value during the climate change conditions.

• There are indications that the island as a whole has experienced negative trends during the wet season and positive during the dry season.

• The higher the value of ROC, the faster the change occurs. Islandwide, the change has been faster during the dry season.

• There is a lot of uncertainty in the magnitude of rainfall changes across the area, though most of global climate models show future decreases in rainfall.