**NASA DEVELOP National Program**

****University of Georgia

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**Costa Rica Water Resources**

**Updated Abstract**

For the past three years, the Arenal-Tempisque Irrigation District (DRAT), governed by the Servicio Nacional de Aguas Subterráneas Riego y Avenamiento (SENARA), has experienced drought conditions complicating water management and agricultural production. To facilitate a responsive water management decision-making process, the Costa Rica Water Resources team collaborated with SENARA, University of Georgia Costa Rica, and the Costa Rican Embassy. The team created a Soil and Water Assessment Tool (SWAT) model for the DRAT based on NASA Earth observations, ancillary data sources, and *in situ* data. The Mapping Evapotranspiration with high Resolution and Internalized Calibration (METRIC) model was used to offer another source of continuous data. This model derived the evapotranspiration (ET) data used to supplement the SWAT model’s outputs. Additionally, the project partners were provided with a tutorial that will enable the SWAT model’s hydrological outputs to be calibrated and validated. The results obtained from the SWAT and METRIC models provided greater insight into the region’s hydrologic processes, which allowed for the development of a water resource inventory for the study area. Upon receiving the hydrological data and tools, SENARA will be able to replicate the project’s methods to continuously update their water budget; this will allow them to make a more efficient water management plan, benefitting the local inhabitants and stakeholders.