



# Building Capacity to Use Earth Observations for Water Resource Management Applications: A Summary of NASA's DEVELOP Program and Projects in Central and South America



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## ABSTRACT & ABOUT DEVELOP

NASA's DEVELOP program engages individuals and organizations in 10-week feasibility studies to apply NASA Earth observations (EO) to decision makers' needs. Since 2018, DEVELOP conducted 21 projects in Central and South America, eight of those in collaboration with Sistema de la Integración Centroamericana (SICA) and its member state partner agencies. These projects addressed a diverse set of community needs across multiple themes, including five that explored the use of both spaceborne and airborne EO to assess coastal water quality related to SDG monitoring of natural resources in Belize and Honduras, evaluating evapotranspiration and water balance in Argentina, and characterizing vegetation water use for informed water management in Panama. This poster introduces DEVELOP, its approach to capacity building, key partnerships, and project results highlighting the capabilities of EO for enhanced decision making in the area of sustainable water management.

The DEVELOP model of capacity building connects users (federal agencies, state & local governments, non-profits, private industry, etc.) and early career professionals through rapid feasibility studies. Projects are tailored specific to the partner's decision-making needs and explore the feasibility of integrating NASA remote sensing assets into decision-making processes.

DEVELOP's water resources applications focus on a variety of themes: drought monitoring, stormwater discharge, turbidity, surface water extent, precipitation, submerged aquatic vegetation, snow cover, and salinity.



**16 Countries impacted by DEVELOP projects in the Americas (2018-2021)**



## BELIZE & HONDURAS WATER RESOURCES II – 2019 FALL

This project developed a Google Earth Engine dashboard to help partners assess coastal water quality in Belize and Honduras barrier reefs to identify adequate waste control and inform coastal resource monitoring and management.



## CHILE WATER RESOURCES – 2019 SPRING

This project worked with the Servicio Nacional de Geología y Minería (SERNAGEOMIN) of Chile to classify land types throughout the Atacama using multiple spectral indices, analyze how extent and distribution of Atacama Desert saline systems have changed over time, and create a Saline Analysis Tool (SaIT) in Google Earth Engine that can be used in future years to monitor the extent and health of saline systems, providing decision making support to the project partners.

