



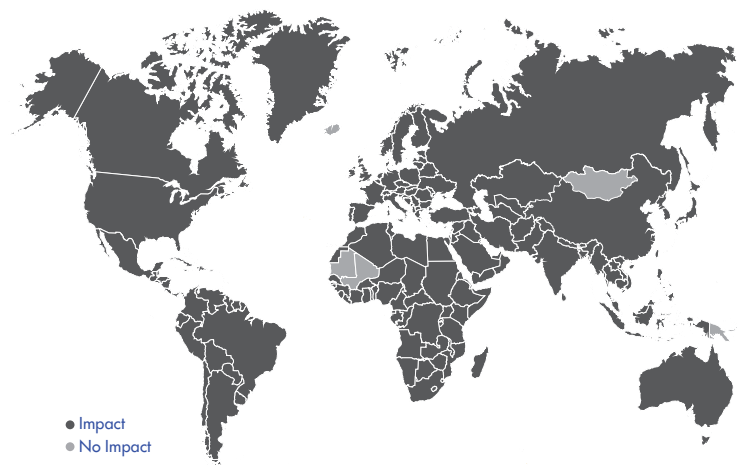
# NASA Earth Science Division Applied Sciences' Capacity Building Program

NASA satellite and airborne missions are continuously collecting information about the Earth's ocean, atmosphere, and land surfaces to support informed decisions and policies related to water resources, disasters, ecological forecasting, health & air quality, and agriculture & food security.

The Applied Sciences' Capacity Building Program engages current and future decision makers to enhance skill development and the capability to access and apply NASA Earth science to decision making in the US and developing countries. The program builds capacity within individuals and institutions through workforce development, training activities, and by partnering with decision makers through collaborative projects.

The Capacity Building Program works around the globe. In FY 2017, CBP engaged 6,281 individuals through 60 trainings, 73 feasibility studies, and 29 multi-year projects. These impacted all 50 US states and 146 countries.

## 2017 IMPACT



**6,281** | INDIVIDUALS ENGAGED THROUGH



**73**  
Feasibility Studies



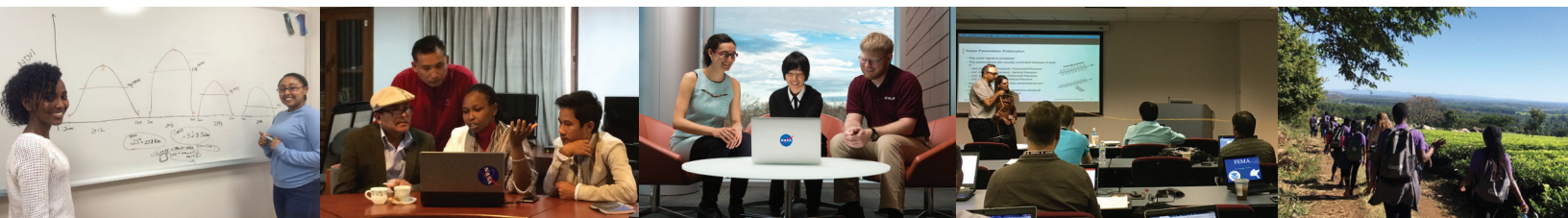
**60**  
In-person & Online Trainings



**29**  
Multi-year Projects

**146** COUNTRIES IMPACTED

**50** STATES IMPACTED



Read more about the Capacity Building Program at <http://appliedsciences.nasa.gov/>

# Capacity Building Program Services

The Capacity Building Program (CBP) supports individuals and institutions in developing capabilities to use Earth observations in decision making through three lines of service delivery: trainings, co-developed products, and relationship brokering. CBP works within a service design framework that considers desired outcomes, timeframe of need, data availability, depth required, and partnerships involved.

► **Trainings:** Online & In-Person

► **Co-developed Products:** Feasibility Studies & Multi-Year Projects

► **Relationship Brokering**

## ARSET

Empowering the global community through online and in-person remote sensing training.

For more information, visit [arset.gsfc.nasa.gov](http://arset.gsfc.nasa.gov)

## DEVELOP

Dual workforce & decision-maker capacity building through collaborative 10-week applied science feasibility studies.

For more information, visit [develop.larc.nasa.gov](http://develop.larc.nasa.gov)

## SERVIR

Building capacity in developing countries through hubs in Western and Eastern Africa, Hindu Kush-Himalaya, and Lower Mekong.

For more information, visit [servirglobal.net](http://servirglobal.net)

## 2017 SERVICE HIGHLIGHTS

**CBP TRAININGS** builds skills to integrate NASA Earth science data into organizational decision-making activities. Both online and in-person trainings are offered primarily through ARSET, SERVIR, and an Indigenous Peoples initiative.

**13 Online Trainings**

**47 In-Person Trainings**

In 2017, ARSET hosted its first training focused on Synthetic Aperture Radar (SAR) with a record breaking 982 participants.

Register to participate in courses or review past recorded webinars:

[arset.gsfc.nasa.gov/webinars](http://arset.gsfc.nasa.gov/webinars)

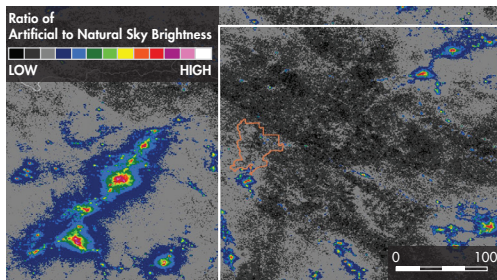


The program sponsors **CO-DEVELOPED PRODUCTS** through 10-week feasibility studies (DEVELOP) and multi-year projects (SERVIR) that apply NASA Earth observations to decision making around the globe. These projects focus on end user needs and extend NASA science data products to state and local governments, federal agencies, NGOs, academia, foreign governments and organizations, and private industry.

**29 Multi-Year Projects**

**73 Feasibility Studies**

### PROJECT SAMPLES



This map depicts artificial skyglow around Grand Teton National Park using VIIRS imagery from July - September, 2014 - 2016 to assist in monitoring sky quality changes.

### Detecting Changes in Nighttime Sky Brightness over Grand Teton National Park with the Suomi NPP VIIRS Sensor

Light pollution is a growing concern in Grand Teton National Park. In response, NASA DEVELOP partnered with the National Park Service and Wyoming Stargazing to create the Skyglow Estimation Toolbox (SET) which ingests Suomi NPP VIIRS day/night band data to calculate annual light scattering. SET provides park officials a mechanism to better assess the quality of the night sky in Grand Teton National Park and surrounding communities and identify sources of light pollution, as well as inform decisions regarding lighting ordinances in Teton County.

DEVELOP Projects: [develop.larc.nasa.gov/about](http://develop.larc.nasa.gov/about)



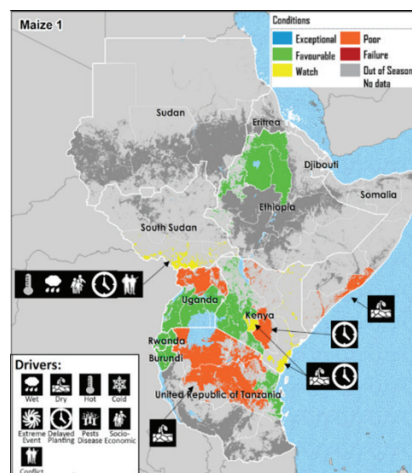
Project Video

### Supporting Agricultural Monitoring for Food Security in Eastern & Southern Africa

A lack of timely and accurate information on crop conditions/prospects is a critical issue in much of eastern and southern Africa, undermining the ability of national authorities to make decisions, particularly during agricultural droughts. SERVIR, together with GEOGLAM is bringing countries together and increasing their national and regional capacity for agricultural monitoring by developing the first monthly Crop Monitor product for the Greater Horn of Africa. This Crop Monitor provides timely, easily interpretable maps on crop conditions to inform agricultural policies for end users such as national ministries of agriculture. The product – reflecting August crop conditions – was released at the region's Climate Outlook Forum (GHACOF 47).

SERVIR Product Catalog: [catalogue.servirglobal.net](http://catalogue.servirglobal.net)

[www.nasa.gov](http://www.nasa.gov)



Crop conditions map for maize for ICPCAC (IGAD Climate Prediction and Applications Center) member countries. Conditions based on remote sensing, ground data, and field reports from experts.

