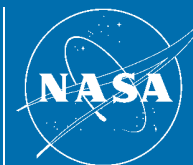
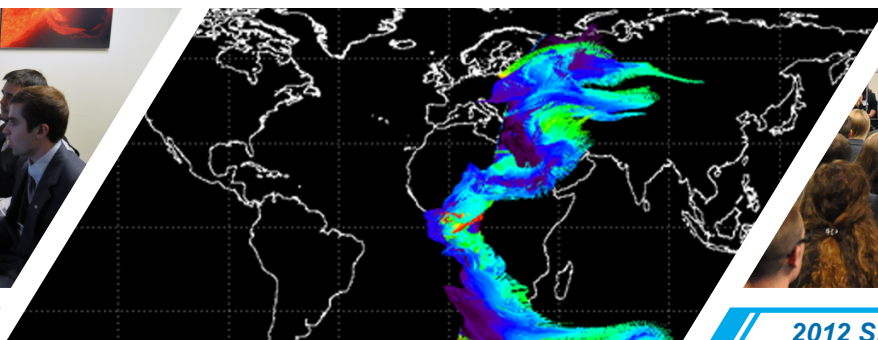


Earth Science Division's Applied Sciences Program DEVELOP National Program

National Aeronautics and
Space Administration



2012 Program Highlights



About DEVELOP

The Applied Sciences' DEVELOP National Program addresses environmental and public policy issues through interdisciplinary research projects that apply NASA Earth observations to community concerns around the globe. DEVELOP bridges the gap between NASA Earth Science and society, building capacity in both its interns and partner organizations to better prepare them to handle the challenges that face our society along with future generations.

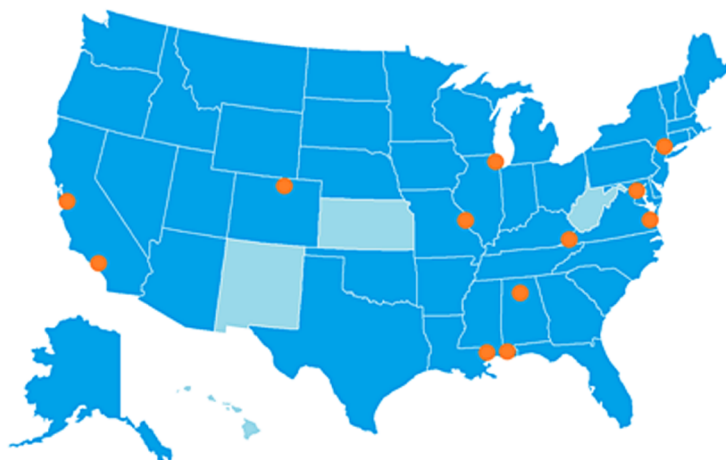
2012 Snapshot

2012 was a record breaking year for DEVELOP with the highest number of applicants, interns, and projects. 337 DEVELOP interns conducted 69 projects across the United States at 12 locations with project activity in three international locations in Mexico, Nepal and Colombia.

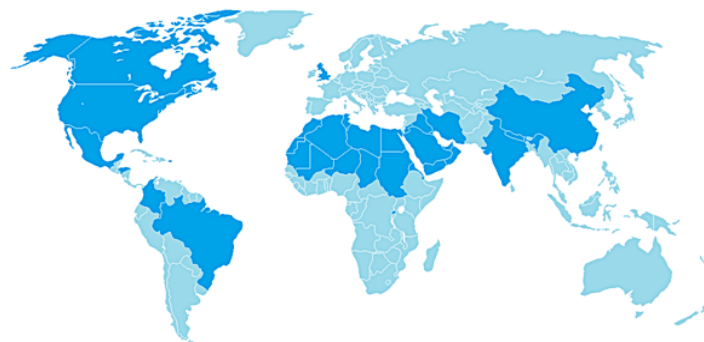
2012 Impacts

Through intern and project activities, DEVELOP impacted 32 different countries and 46 U.S. states, the broadest impact of a DEVELOP year yet.

2012 Domestic Impact



2012 International Impact



- 69 Projects (54 in 2011)
- 337 Interns (259 in 2011)
- 14 Locations (11 in 2011)

2012 Highlights and Sample Projects

▶ The DEVELOP-SERVIR partnership was expanded with three collaborative projects focusing on topics such as fire risk mapping and monitoring the impacts of climate change on agricultural yield, and included DEVELOP interns working around the globe in the United States, Nepal and Colombia.

▶ DEVELOP began a collaboration with the Embassy of Rwanda and hosted four Rwandan Presidential Scholars at the DEVELOP office in Wise, Virginia where teams in both Wise and at Langley Research Center focused their research on the use of NASA Earth observations to assist in reforestation and agricultural monitoring in Rwanda.

▶ Dr. Bernard Eichold II, DEVELOP's mentor at the Mobile County Health Department office, was awarded NASA's Exceptional Public Achievement Medal for his "outstanding achievement in engaging students and young professionals to extend the use of NASA Earth Science data for community education and societal benefit."

▶ An expansion of DEVELOP's corps of young Professionals (recent college graduates) was initiated to assist the National Program Office in achieving the program's strategic goals, as well as increasing continuity at DEVELOP locations across the country

▶ In April, DEVELOP's Wise, Virginia office worked with the University of Virginia at Wise to host an ISS downlink where over 4,000 students attended

▶ DEVELOP's Annual Summer Close Out at NASA Headquarters was the biggest yet - with over 100 interns and advisors in attendance presenting 31 projects

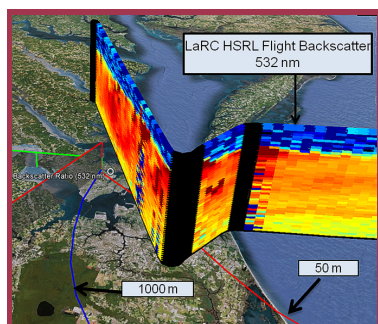
▶ DEVELOP launched a new website with a fresh new look, an increase in interactivity, and new features like a video wall, podcast, and live feeds

▶ DEVELOP saw the addition of three locations taking the total node count to 14 - Fort Collins, Colorado as well as IRI in Palisades, New York and ICIMOD in Kathmandu, Nepal.

▶ A National Science Advisor began working full-time with DEVELOP's National Program Office to oversee the scientific merit of DEVELOP projects and manage science advisors across all 13 locations

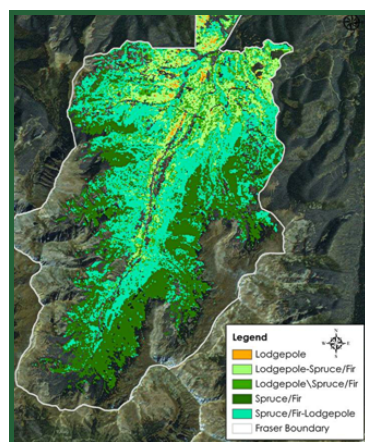
▶ New outreach activities began including the DEVELOP newsletter (The DEVELOPer) and DEVELOP's podcast (D-POD)

▶ With over 20,000 views to date, the DEVELOP "virtual poster sessions" (VPS) took place each term with project teams creating unique and interesting videos about their work and the capabilities of NASA's Earth observations



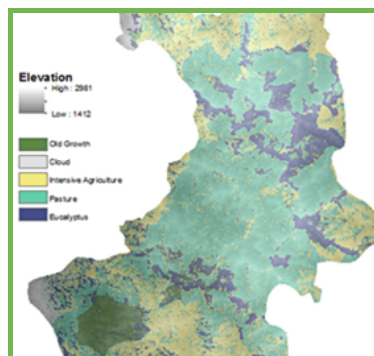
▶ **Dismal Swamp Health and Air Quality** (Langley) - Using NASA EOS to Assess Air Quality and Health Risks associated with the Virginia Dismal Swamp Fires of 2011 for Improved Decision Making

▶ **Los Angeles Health and AQ** (JPL) - Investigating Summer 2009 CO₂ Greenhouse Gas Emissions and Urban Policy Impacts in Los Angeles with AIRS and OCO-2 Satellite Data for Local Decision Support



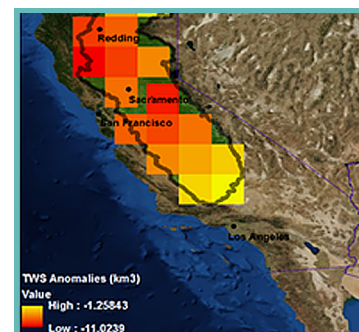
▶ **Colorado Eco** (Fort Collins) - Quantifying Invasions in the Western US: New Methods in Mapping Infestations and Supporting Management Response Strategies

▶ **Louisiana Eco** (Stennis) - Utilizing NASA EOS to Determine Ideal Planting Locations for Bottomland Hardwood Trees in St. Bernard Parish Louisiana



▶ **Rwanda Eco & Ag** (Langley/Wise) - Monitoring of Long-Term Deforestation & Reforestation Dynamics and Agricultural Practices through NASA EOS for Natural Resource Management

▶ **Colombia Disasters** (MSFC) - Utilizing NASA EOS data for fire management in el Departamento del Valle del Cauca, Colombia



▶ **Central Valley Water** (Ames) - Downscaling GRACE satellite data for small-scale groundwater storage estimates in California's Central Valley

▶ **Mobile County Water Resources** (MCHD) - Characterization of Potential Impact of Road Network Development on Big Creek Watershed and Big Creek Reservoir Water Quality