Building Capacity in Decision Makers through Applied Earth Science Feasibility Projects

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Abstract

The NASA DEVELOP National Program seeks to simultaneously build capacity to use Earth observations in early career and transitioning professionals while building capacity with institutional partners to apply Earth observations in conducting operations, making decisions, or informing policy. This is done through 10-week feasibility projects, conducted by the DEVELOP teams in collaboration with decision makers. The program carries out 60-80 projects each year, engaging with over 120 partners from local, state, and federal governments to academic institutions and NGOs. To best understand project partner needs, projects begin with a thorough proposal development process in which partners share their current practices, needs, and capabilities. Throughout the project life cycle, the DEVELOP teams engage with the partners to ensure communication, feedback, and understanding. DEVELOP's model of conducting rapid feasibility projects is an effective way to show decision makers how they can use NASA Earth science data in new ways to help them make informed decisions. Because the projects are conducted by a DEVELOP team in collaboration with end users, the partners are introduced to new data products and methodologies that they otherwise might not be able to explore within their own resource constraints. This presentation will discuss project examples, success stories, and best practices for engaging with decision makers on applied science projects.

About DEVELOP

DEVELOP addresses environmental and public policy issues through interdisciplinary feasibility studies that apply the lens of NASA Earth observations to community concerns around the globe. Bridging the gap between NASA Earth Science and society, DEVELOP projects build capacity in both participants and partner organizations to better prepare them to address the challenges that face our society and future generations.

Part of NASA's Earth Science Division, the Applied Sciences Program (ASP) works with a wide variety of partner organizations to discover innovative and practical uses of data and results from NASA's satellites, airborne missions, and modeling outputs. ASP supports partner organizations' decision-making processes by combining data, knowledge, tools, and experience to develop solutions and enhance decisions. ASP does this through eight thematic application areas and the Capacity Building Program and its three elements:

- **ARSET**: Empowers the global community through remote sensing training to increase the use of Earth Science in decision making
- **DEVELOP**: Conducts 10-week feasibility studies that build capacity in individuals and institutions to use NASA Earth observations to enhance environmental decision making
- **SERVIR**: Works in partnership with USAID and leading regional organizations globally to assist developing countries use information provided by Earth observations

2018 Programmatic Impact

308 Participants

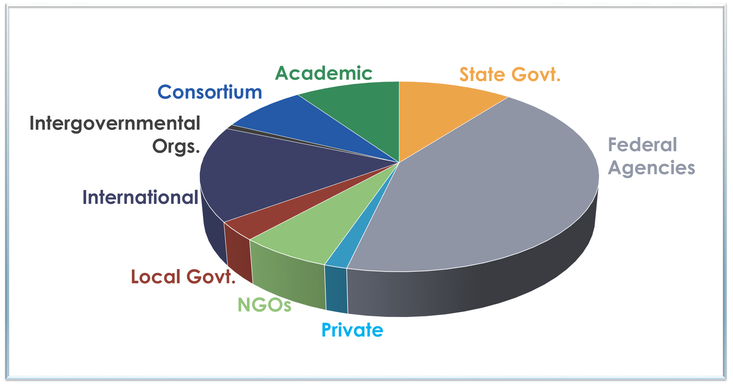
65 Projects

121 Partner Organizations

35 & 16
U.S. States & Countries

Some Recent Partners

- National Park Service
- U.S. Fish and Wildlife Service
- Bureau of Land Management
- The Nature Conservancy
- Mississippi Department of Marine Resources
- Georgia Department of Natural Resources
- Maryland Department of Natural Resources
- Virginia Department of Environmental Quality
- Texas Commission on Environmental Quality
- United Nations Office for the Coordination of Humanitarian Affairs
- City of Miami Beach
- City of Atlanta
- City of Phoenix
- Metropolitan Water District of Southern California
- Mobile County Health Department
- Las Cruces Office of Sustainability



Project Benefits

Partner organizations gain:

1) an introduction to new methods to augment current practices resulting in cost-saving & time-saving,
2) enhanced decision support through use of NASA Earth observations,
3) increased exposure to NASA Earth Science technologies and capabilities,
4) introduction to NASA's Applied Sciences Program and its contributions to society,
5) opportunities for networking with the NASA community, and
6) rapid response – projects completed in 10 weeks.

Engage with DEVELOP

Interested in working with a DEVELOP team?

- **Project Partner** – submit a project request form, found at https://develop.larc.nasa.gov/projects.php. Email to NASA-DL-DEVELOP@mail.nasa.gov.

Project Formulation & Lifecycle

The DEVELOP project formulation process takes place 4-9 months prior to a project being conducted. Combined with the 10-week term, this short timespan allows for nimble response and partner engagement.

DEVELOP Project Characteristics:

- Highlight applications & capabilities of NASA Earth observations
- Address actionable environmental issues
- Partner with decision-making organizations
- Conducted by interdisciplinary teams under guidance of DEVELOP Science Advisors

Ecological Forecasting · Urban Development · Water Resources · Transportation & Infrastructure
Disasters · Health & Air Quality · Energy · Agriculture & Food Security

Partner Engagement

DEVELOPers engage with potential partners through a variety of methods: scientific and policy conferences & meetings, networking (conference presentations & booths, embassy interactions, etc.), and word-of-mouth (science advisors, alumni, current/past partners, etc.).

Partner Needs Assessment

Initial conversations between DEVELOP and the partner organization focus around the partner's decision-making process and the type of information and tools that would support and enhance that process.

Proposal Process

DEVELOP Center Leads take ownership of the proposal writing process, simultaneously creating a plan for the project while improving their proposal writing skills. Proposals are reviewed by DEVELOP's National Program Office and program management at NASA Headquarters to ensure they meet DEVELOP requirements and have strong technical merit.

Project Team Creation

Once proposals are approved and projects finalized for each DEVELOP location, the participant selection process takes place to identify top interdisciplinary candidates who have applicable skills, a desire to learn about Earth observations, and capacity to work effectively on a team.

Project Execution

DEVELOP projects take place during 10-week terms (spring, summer and fall). Teams autonomously work under the guidance of advisors to apply NASA Earth observations to support partner decision-making needs. Each project creates a set of deliverables that are handed off to partners at the project's culmination.

Science Communication

Each DEVELOP project team creates a comprehensive set of deliverables that aim to effectively communicate the project's research results and methodologies. Publicly available deliverables include a technical report, poster, presentation, and video.

About DEVELOP

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#AGU18

Contact

Questions?
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