DEVELOP Guidebook

Summer 2019

June 3 – August 9

DEVELOP Guidebook

Contents

Background Information

Applied Sciences Program

In connection with addressing basic science questions about the Earth system, NASA pursues applied, use-based research that can be of near-term application and benefit. The overarching purpose of the NASA Applied Sciences Program (ASP) is to discover and demonstrate innovative uses and practical benefits of NASA Earth science data, scientific knowledge, and technology.

The Program funds applied science research and applications projects to promote innovation in the use of NASA Earth science for near-term societal benefits. The research and projects enable the transfer of applied knowledge to public and private organizations and accelerate the adoption of Earth science in organizations' decision making and services.

Overall, the Applied Sciences Program serves as a bridge between the data and knowledge generated by NASA Earth Science and the information and decision-making needs of public and private organizations. To this end, the Program increases the benefits to society of the nation's important investments in NASA Earth Science.

Within the Earth Science Division, the Applied Sciences Program serves the following strategic functions:

- Advance Earth science and technology, particularly through applied research
- Build partnerships, especially with non-traditional partners, to broaden awareness and support for NASA Earth science
- Enable involvement in mission planning and science teams by applications communities to build anticipation and advocacy for the missions and research results
- Enable feedback from applications communities on NASA Earth science datasets and model outputs, helping improve the products available overall
- Demonstrate, deliver, and document socioeconomic benefits and impacts of NASA Earth science
- Raise expectations for use and availability of Earth science products in public and private sector decision making, increasing demand for Earth science technology, observations, and research

The Applied Sciences Program is organized thematically around eight applications areas (Agriculture & Food Security, Disasters, Ecological Forecasting, Energy, Health & Air Quality, Transportation & Infrastructure, Urban Development, and Water Resources) and the Capacity Building Program, which itself has three elements (ARSET, DEVELOP, and SERVIR). Four of the eight application areas are currently funded and have Program Managers – Ecological Forecasting, Disasters, Water Resources, and Health & Air Quality; the other four application areas have plans for future integration into the Applied Sciences.

Note: These programmatic themes are decided upon and selected by the Applied Sciences Program and not up for debate. Also, DEVELOP is able to work in all eight application areas.

The Program also manages program-wide, capacity-building activities to improve domestic and international skills and capabilities in the use of NASA Earth science. More information on these capacity building programs is provided in the next section. The Applied Science Program consists of Program Leadership at NASA Headquarters, Program support at 5 NASA Centers (Ames, Goddard, JPL, Langley, and Marshall), Project Offices at 3 NASA Centers, and project management at principal investigators' organizations.

ASP Website - https://appliedsciences.nasa.gov/
ASP Program Strategy - www.nasa.gov/sites/default/files/files/ASPProgramStrategy.pdf

ASP Personnel:
Lawrence Friedl, Director of the Applied Sciences
Dr. Nancy Searby, CBP Program Manager
John Haynes, Health & Air Quality Program Manager
Woody Turner, Ecological Forecasting Program Manager
Dr. David Green, Disasters Program Manager
Dr. Brad Doorn, Water Resources and Agriculture & Food Security Program Manager
Kathy Carroll, Program Support Specialist

ASP's Capacity Building Program

The Applied Sciences Program supports national and international activities to broaden the range of users applying Earth science data, modeling capabilities, and knowledge in their decision-making activities. The Program manages three specific activities to improve skills and capabilities in the US and developing countries on how to access and apply NASA Earth science – DEVELOP, SERVIR, and ARSET. In addition, the Program is actively involved in the international Group on Earth Observations (GEO), and the GEO activities support the overall capacity-building efforts.

CBP Elements:

1. **DEVELOP:** See below.
2. **SERVIR**: A joint development initiative of NASA and USAID, works in partnership with leading regional organizations worldwide to help developing countries use information provided by Earth observing satellites and geospatial technologies for improving resilience to climate change. SERVIR empowers decision makers with tools, products, and services to act locally on climate-sensitive issues. SERVIR is active in Africa, Hindu Kush-Himalaya, Mekong, and Central America. https://www.servirglobal.net/
3. **ARSET** (Applied Remote SEnsing Training): ARSET conducts professional-level training that provides participants with a better understanding of remote sensing for use in applications. The Program develops training modules on the acquisition, visualization, analysis, use and application of NASA Earth science. Trainings have focused on air quality, water resources, and disasters, as well as other applications. The Program offers several learning programs, such as face-to-face instruction with computer-mediated instruction, to enhance the end user's access and application of Earth science observation tools. Training activities provide students with interactive, hands-on activities and case study analysis to deliver both online and classroom instruction, helping inform people about NASA data characteristics and interpretation and their application in decision making. The training modules are freely available to individuals and institutions wishing to learn about satellite remote sensing and applications for decision making. Access the training modules and materials online. http://arset.gsfc.nasa.gov/

DEVELOP History & Locations

The foundation for the DEVELOP Program began in the summer of 1998 when three student interns at the Langley Research Center co-authored a research paper titled *The Practical Applications of Remote Sensing* (Bauer et al., 1998). Concurrently, the Digital Earth Initiative, a federal interagency project dedicated to furthering humans' understanding of the planet, initiated an effort to increase public access to federal information about the Earth and the environment. With the shared focus of these two ventures, a proposal was submitted to combine the mission of NASA's Digital Earth Initiative and the Langley students' paper. This set the stage

for the creation of a new student internship program within NASA, and in 1999 the "Digital Earth Virtual Environment Learning Outreach Project" (DEVELOP) was officially formed. The next year when the Digital Earth Initiative ended with the Clinton/Gore administration, DEVELOP continued within NASA but dropped the acronym.

The early success of DEVELOP was due to the alignment of projects with the issues facing local and regional communities. DEVELOP gradually expanded from one office at Langley Research Center into a nationwide program that includes over 300 participants each year at thirteen nodes. Today, the National Program Office (DEVELOP's Headquarters) is hosted at Langley, and oversees activity at all of DEVELOP's nodes. Since inception, over 4,300 participant positions have been provided globally, and the DEVELOP Program proactively looks for new opportunities to reach new communities and demonstrate the benefits of NASA's Earth Science research.

Mission, Vision, Core Values & Results Framework

Mission & Vision Statements

Mission: Integrating NASA Earth observations with society to foster future innovation and cultivate the professionals of tomorrow by addressing diverse environmental issues today.

Vision: Shaping the future by integrating Earth observations into global decision making.

Core Values

1. **Collaboration:** Cultivating teamwork, multi-disciplinary solutions, and open communication
2. **Discovery:** Building new skills and exploring the potential of NASA's investment in Earth science
3. **Service:** Dedicating ourselves to the application of Earth science for societal benefit
4. **Passion:** Pursuing all endeavors with energy and enthusiasm to sustain a high level of excellence

NASA Core Values: Safety, Excellence, Teamwork, and Integrity. Definitions and details available here: https://employeeorientation.nasa.gov/main/CoreValues.htm

2019 Summer DEVELOP Locations

DEVELOP locations constantly evolve. Present locations include:

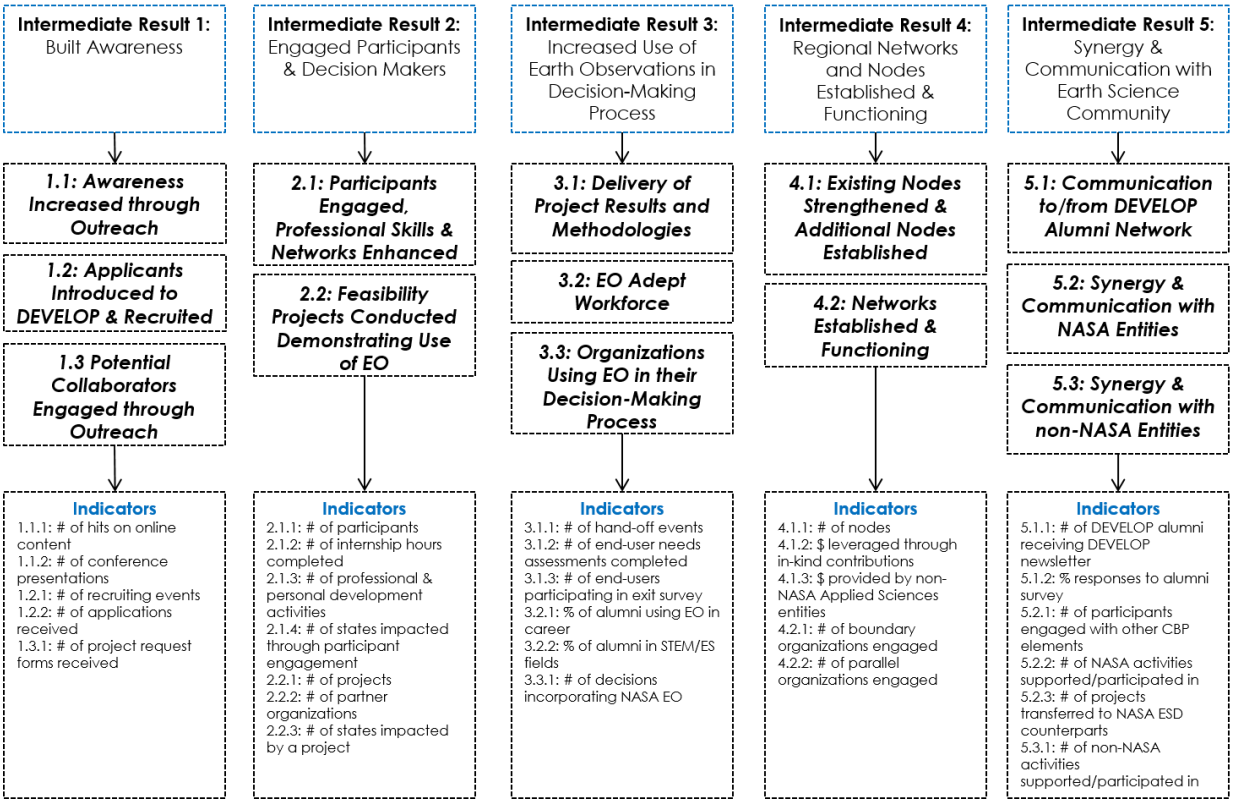
DEVELOP Locations

1. MSFC: Alabama – Marshall in Huntsville, AL
2. AL: Alabama – Mobile in Mobile, AL
3. AZ: Arizona – Tempe in Tempe, AZ
4. ARC: California – Ames in Moffett Field, CA
5. JPL: California – JPL in Pasadena CA
6. CO: Colorado – Fort Collins in Fort Collins, CO
7. GA: Georgia – Athens in Athens, GA
8. ID: Idaho – Pocatello in Pocatello, ID
9. GSFC: Maryland – Goddard in Greenbelt, MD
10. MA: Massachusetts – Boston in Boston, MA
11. NC: North Carolina – NCEI in Asheville, NC
12. LaRC: Virginia – Langley in Hampton, VA

DEVELOP Results Framework

DEVELOP National Program

Strategic Objective: Foster enhanced workforce and end-user capabilities to use Earth observations assets in decision making



Projects, Deliverables, & Partners

DEVELOP Projects

DEVELOP projects focus on the application of NASA Earth observations to address real-world environmental concerns and policy issues. The projects are conducted during rapid 10-week terms, by teams of participants under the supervision of NASA and partner organization science advisors and mentors. All projects align with at least one of NASA's Applied Sciences Program's National Application Areas and are approved by NASA Headquarters prior to the beginning of the project. Each project partners with at least one outside organization that can benefit from the augmentation of their current policy or decision-making process.

The purpose of every DEVELOP project is to highlight the practical and innovative uses of NASA Earth observation datasets and technologies to address societal needs, while demonstrating the benefits of America's investment in NASA's Earth Science.

Project Characteristics:

- Highlight the applications and capabilities of NASA Earth observations
- Address actionable real-world environmental issues
- Partner with decision-making organizations
- Create a comprehensive set of deliverables(Project Summary, Poster, Presentation, Technical Report, Video, Imagery, Shapefiles)
- Align with one of the 8 ASP application areas
- Does not develop or prescribe policy –other agencies and organizations use the data and scientific results in their policy analysis and decision development
- Conducted by interdisciplinary teams under guidance of DEVELOP Science Advisors in just 10 weeks

Earth observations and Earth science data are objective, transparent, and policy-neutral. NASA Earth Science doesn't develop or prescribe policy. Other agencies and organizations use the data and scientific results in their policy analysis and development.

Project Flowchart

DEVELOP projects typically follow this progression:

- **Week 1:** Orientation, paperwork, team building, review project objectives, literature review, initial partner interaction, personality assessments, Entrance Personal Growth Assessment, and DEVELOPedia participant page
- **Week 2:** Literature review, initial partner interaction, begin data acquisition, begin project summary deliverable
- **Week 3:** Deliverables due - Project Summary rough draft; data acquisition & processing
- **Week 4:** Deliverables due - Tech Paper rough draft, Video Outline due (if applicable); data acquisition & processing, brainstorm Project Video, code meeting (if applicable)
- **Week 5:** Deliverables due - Presentation rough draft & Software Release Definition Document (if applicable)
- **Week 6:** Deliverables due - Project Summary final draft, Study Area Shapefile, Website Image, Video check-in with Comm team (if applicable), data processing, initial analyses, begin video filming & footage collection
- **Week 7:** Deliverables due – Poster final draft, Software Release Master Document (if applicable); data processing & results, finishing video filming and footage collection
- **Week 8:** Deliverables due – Project Video and Transcript, Software Release Draft Code due (if applicable), discussion begins and conclusions formed
- **Week 9:** Deliverables due – Poster final draft, Presentation final draft, DEVELOPedia project page; work on final Technical Paper, AESAS (summer)

- **Week 10:** Deliverables due - Tech Paper final draft, Project Feedback Form due, Software Release Code (if applicable), optional deliverables; node closeouts, partner hand-offs, take the Exit Survey, complete Exit Personal Growth Assessment, Archival Drafts of Poster & Presentation

Project Deliverable Descriptions

All DEVELOP projects complete the same set of deliverables. **All deliverables must be submitted on the DEVELOP templates maintaining color and font schemes in the template.** This cohesiveness provides a shared theme across all projects with the aim of easy recognition and 'branding.' Each of the eight National Application Areas has a specific color scheme that was set by NASA Headquarters, and the DEVELOP font standard is Century Gothic for sans serif and Garamond for serif fonts.

Project Summary: Every project is proposed to NASA HQ ASP Management prior to being conducted, and as such, a preliminary project summary already exists. Due to the time difference in proposal and project implementation, objectives and many project details may change. Inevitably, projects evolve as literature review and advisor meetings transpire in the first few weeks. The updated project summary serves as the means to report those changes to management and also provides information for reporting and outreach materials. It is important to include updated project information for NPO and NASA HQ ASP Management to use in a variety of materials, including (but not limited to) project booklets, annual reports, closeout presentations, quarterly program reviews, and monthly status reports. Several fields from the final draft will be compiled for the team's VPS page.

Website/Booklet Image – One image must be submitted along with the project summary final draft. This image should be submitted on the website image template with a minimum resolution of 300 dpi. The image must be representative of the project and show manipulation and processing of NASA data. This image cannot include text or legends. This is to be an aesthetically attractive image that represents the project. Follow guidelines provided on DEVELOPedia. This image will be used on the website, on the team's VPS page, and in the summer project booklet. This image cannot be updated later in the term. Image dimensions and technical requirements are included in the template.

Study Area Shapefiles – Using the WGS 84 coordinate system, save a shapefile of your project's study area and place the files (.shp) into a compressed/zipped folder. Email that file to the Project Coordination email (DEVELOP.ProjectCoordination@gmail.com).

DEVELOPedia Page – Use the content from the final summary to populate your team's DEVELOPedia page. All fields from the project summary should be used, even if they are listed as "optional" on DEVELOPedia.

Technical Paper: This report provides an in-depth synopsis of the whole project with technical details for partners and future DEVELOP teams to follow and understand. There is a template for the technical paper; however, if your team makes the decision that they would like to write the paper for potential submission to a specific journal, you may write in the style needed for that journal. Permission to do so must be acquired from the Project Coordination team. Otherwise, the DEVELOP technical paper template should be used and has a **limit of 12 pages**. Methods should be the focus, and the data acquisition, processing, and analysis sections should allow other teams and your end user to replicate the project, but can also be supplemented by other tutorial materials. Technical papers are archived at the end of the term, so they need to be in a final state, approved by advisors, and completely ready for dissemination by the final deadline.

Any distribution or publication of this work must go through NASA's Export Control *System to get proper NASA approval, prior to its submission or distribution anywhere outside DEVELOP.*

Presentation: This is the final version of your presentation and provides a visually appealing means of telling the story of the project. Make sure to clearly list the project title, team members, location, and date on the title chart. The flow of the presentation should carry the viewer from the community concern to the conclusions. The page structure in the template is only a guide, so feel free to amend it to fit your project. A typical length is 6-20 slides, depending on the presentation venue, but the final version submitted to NPO does not have to be abridged. Speaker notes must be complete and sufficient so that someone who did not conduct the project could present the work if needed at a later date.

Poster: Utilizing the DEVELOP poster template, create a visually interesting representation of your project that is clear for a viewer to follow your project's story and results. Much of the content is the same as or similar to the presentation content. The use of NASA Earth observations to address community concerns should be highlighted, focusing on the capabilities and benefits of the Earth observations. ***Within the template, sections can be resized and moved around - tailor the poster to fit your project. Please do not erase sections or headers.***

Video Outline: The Video Outline is a template that teams should use to organize their story and vision for their project video early in the term. This tool will be helpful to brainstorm the video script, footage, audio content, music, interviews, shot ideas, and required legal content. The outline will be reviewed and discussed with the Communications team during the Week 6 Communications team check-in.

Project Video, Transcript & Citation Log:
*******New this term, the project video is required for the final term of multi-term projects (2nd or 3rd term) and option for single term projects.*

In support of the "Virtual Poster Session" (VPS), some DEVELOP projects create a short video that gives a broad overview of the project. DEVELOP videos are one of the most effective tools for disseminating results to a global audience - in 2015, DEVELOP project videos were viewed in over 100 different countries and territories! DEVELOP videos are highly praised by NASA Headquarters and project partners. The Video deliverable consists of the video and full transcription of audio in the video. The **transcript is a mandatory deliverable** to be included with the video – to post a video on a federally-funded website it must be compliant with Section 508 of the Rehabilitation Act, and the transcript allows us to caption your video. It must be submitted as a .txt file using the template. Videos must be **roughly 2 minutes long**, including the mandatory DEVELOP beginning and ending clips, and provide a good overview of the project. It is completely acceptable for a video to be shorter and focus on the partnership and community concern when results are not finalized; you should, however, speak to the methodology and NASA Earth observations involved. **Creativity is appreciated; however, "goofy" is not.** A good rule of thumb is to ask yourself if you would feel comfortable sending the video to your project partners and if NASA HQ personnel can send this to their colleagues. Keep in mind that you are representing NASA. **Any non-DEVELOPer who appears in the video (project partner, advisor, etc.) must sign a media release.** If you sit at a NASA Center location, make sure that NASA badges are NOT in the video (this goes for participants, advisors, etc.). **Any footage not collected by the team, found in the public domain, or published under Creative Commons, can only be used with full written approval.** If you are using content under a Creative Commons license, you must give proper credit to the source. There are limitations to the types of Creative Commons licensed material that we can use – refer to DEVELOPedia. Partners can contribute content, but ensure that you have written permission (an email is sufficient) to use the footage and that they have permission

to share the content they give you. Required legal statements are provided on the Communications page on DEVELOPedia, in the orientation materials, and below in the deliverable submission section.

Project Feedback Form: The newest deliverable is in response to NASA Headquarters' request that we increase our collection and reporting of feedback relating to three things: 1) NASA Earth observation data (accessibility, processing, and use), 2) research questions surfaced by application projects (what do the feasibility study results lead our partners to pursue next), and 3) partner engagement. Headquarters is also collecting information relating to answering the question "what is your success rate?" driving DEVELOP to increase its reflection on and assessment of projects and resources expended. With this in mind, DEVELOP has created a simple template that collects information regarding the above topics, along with team and advising relating to each project.

Tutorial (optional): The tutorial deliverable is an optional end product that many teams commonly create to provide to their partners. It can guide individuals how to replicate the methodology, how to acquire data, or any piece of the project deemed fitting.

One Pager / Brochure (optional): The brochure deliverable serves the purpose of collecting the project information and visually appealing imagery that can be later used by both DEVELOP and project partners in annual reports, brochures, and conference materials. The brochure allows for the submission of material that can be used for future outreach activities.

For Projects that plan to hand off code to partner(s):
Software Release Definition Document: A detailed description of what the intended software is and its functionalities.

Software Release Master Document: This document contains all the contact information for the contributors, along with important details required for the final paperwork that is submitted to NASA.

Code with README: This deliverable is for code used internally by the team AND for code that will be handed off to a partner. If a team is handing off code to partners, the code with README must be submitted to the Geoinformatics team. However, if teams have created code that they are not sharing with their partners, but believe it may benefit future DEVELOP teams, teams should submit their code for internal use. Coding conventions and templates are provided on DEVELOPedia and should be followed.

Summer Deliverable Calendar

Week 1 – 6/3: Info Sheet, Personality Assessment, Entrance Personal Growth Assessment, DEVELOPedia Participant Page, Orientation Completed
Week 2 – No deliverables! (savor it)
Week 3 – 6/20: Project Summary RD
Week 4 – 6/27: Tech Paper RD
Week 5 – 7/5: Presentation RD
Week 6 – 7/11: Project Summary FD, Study Area Shapefiles, Website/Summer Booklet Image
Week 7 – 7/18: Poster FD
Week 8 – No required deliverables! However, there are due dates for code and AESAS presentations for some teams.
Week 9 – 8/1: Presentation FD, DEVELOPedia Project Page
Week 10 – 8/7: Exit PGA; 8/8: Tech Paper FD, Feedback Form, Technical Image; 8/9: Exit Survey, Optional Deliverables

*Additional deadlines are required for teams creating videos or submitting code for software release. Please see the deliverable calendar on DEVELOPedia.

Deliverable Pre-Submission Checklist

- **A checklist for each deliverable is available on DEVELOPedia**
- The current DEVELOP template was used (all templates on DEVELOPedia).
- The template font and formatting is intact, especially if your team used Google Docs to collaborate on the text.
- The file is named correctly.
    - **File nomenclature: YearTerm_Node_Team_Deliverable_Draft**
        - Ex. 2019Sum_JPL_ArizonaAg_TechPaper_FD
        - Ex. 2019Sum_GA_EasternIndiaEcoll_WebsiteImage
    - Use this for **EVERYTHING**! (all deliverables and **any** separate attachments)
    - **Tips:**
        - **Term:** 2019Sum
        - **Nodes:** AL, ARC, AZ, CO, GA, GSFC, ID, JPL, LaRC, MA, MSFC, NC
        - **Versions:** RD – rough draft, FD – final draft
- Acronyms are spelled out in the abstract as well as the first time used below the abstract in the actual body of text.
- There are no citations in the abstract.
- Earth observations and/or Earth Observing System terms were used correctly (no they are not interchangeable!) – EO is the full suite of sensors, EOS is a smaller, specific subset.
- Consistent style is used throughout the file for imagery borders, headers, etc. (i.e. all images have matching border styles or no borders).
- Century Gothic font is used.
- Presentations use a minimum of size 20 font.
- Posters use a minimum of size 16 font for captions and 24 for main text.
- The poster layout selected highlights the project's results well.
- Methodologies, images, captions, and legends are not saved as an image. The Project Coordination team must be able to edit all facets of the poster, presentation, tech paper, etc.
- If the project is a continuation, the deliverable includes credit and acknowledgement to previous team members and contributors.
- Second/third term projects must create new original content for deliverables, and not just re-use the previous term's work.
- Affiliation for all team members is the DEVELOP location (ex. DEVELOP Langley), not their current or previous university.
- **Due to Export Control restrictions at NASA, sharing of information must go through the proper channels. Work with your node's leadership before sharing data, methodologies, or deliverables with any non-NASA entity.**
- Center Leads and Science Advisors should review and approve prior to submitting to NPO – Schedule time for this because they are busy people!

Deliverable Submission

- Submit deliverables by emailing them to Amanda at Amanda.L.Clayton@nasa.gov as well as to the Project Coordination team email at DEVELOP.ProjectCoordination@gmail.com.
- There is a 20 MB limit for NASA emails, so use NASA's Large File Transfer system or Google Drive to send larger files. NASA's LFT is available to users with a NASA email account.

Amanda can also invite anyone who does not have a NASA email account to the LFT to send her a file, so email if you would like to use the system.

- If there are any issues or delays, please send an email to both Amanda.L.Clayton@nasa.gov and DEVELOP.ProjectCoordination@gmail.com.
- All deliverables should include the following short paragraph of legal statements. This is already on the deliverable templates and should not be deleted.
    - ***This material is based upon work supported by NASA through contract NNL16AA05C. Any mention of a commercial product, service, or activity in this material does not constitute NASA endorsement. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Aeronautics and Space Administration and partner organizations.***

Deliverable Archiving

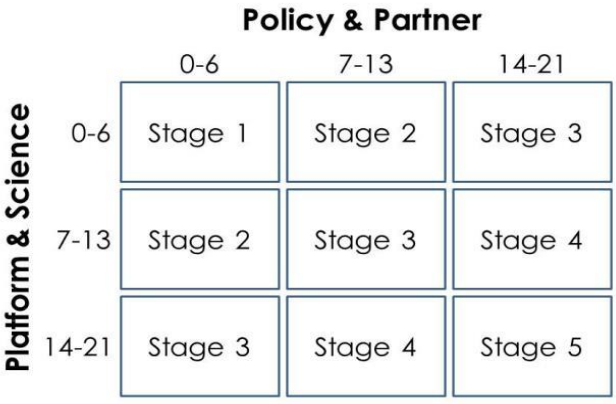
- All Teams should ensure that a final, clean set of all deliverables is archived locally at their node.
- If project details change or edits are made after the final draft version of a deliverable is submitted (e.g. updates to the Project Summary or Poster), send the new updated version to the PC team for archiving by the end of the term.

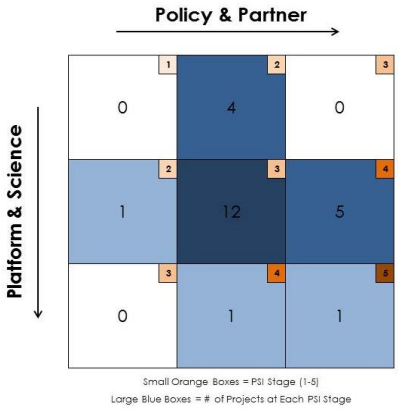
Project Strength Index (PSI)

DEVELOP projects have consistently improved and matured over the Program's last 20 years. A means of assessing project progression and comparing project success was previously subjective. The Project Strength Index (PSI) provides DEVELOP a means of objectively evaluating projects and tracking progress. It is completed by the Center Leads following the end of each term and involves answering a series of questions which gain points for specific activities.

There are two sections - 1) Policy & Partner, and 2) Platform & Science. The score for each category is then places on the index to receive the project's current stage (1 to 5).

Stage 1: Basic Research
Stage 2: Application Concept Complete
Stage 3: Application Demonstration Successful
Stage 4: Application Verified / End User Engaged
Stage 5: Transition to End User / Decision Enhanced





Partner Engagement

A cornerstone of DEVELOP projects is the engagement of decision and policy makers who can benefit from the integration of NASA Earth observations in their decision-making process. All DEVELOP projects strive to engage at least one decision-making organization to provide project results and methodologies and demonstrate the benefit of NASA Earth observations.

Engagement of partners and end users varies across nodes, terms, and projects. A typical project team has an introductory telecon or in-person meeting (if the partner is local) in the first or second week of the term. In that first call/meeting, they work with the partner to discuss how communication will continue, and many teams have weekly or bi-weekly telecons with partners to inform them of progress, ask for feedback, ensure the project is on track to provide something useful, and keep communication lines open. At the end of the project, teams should plan for a hand-off of final results and tools. This can be through email, telecon, videocon, webinar, training, virtual or in-person presentation, etc. Every hand-off is unique. Take into consideration your partner's needs and what is useful to them, and what is doable in the time the team has, and within a limited travel budget.

Tips for engaging partners:

- Ensure professionalism in all interactions - you are representing yourself, your team, your advisors, your node, DEVELOP, Applied Sciences, and NASA!
- Keep communication lines open.
- Build off of previous communications with the partner and keep communication flowing but not overwhelming; stream communications through one point of contact for clarity.
- Assess end users' needs and keep project objectives and end products in response to the needs. Sometimes an end user doesn't know they need something, however, so don't be afraid to share new ideas and suggestions for other products NASA Earth observations could provide. Pose questions like:
    - What is the community concern or policy at hand?
    - What is their decision-making process relating to the concern?
    - What kind of economic impacts are involved?
    - Do they currently use GIS and/or remote sensing?
    - What data types are they familiar with?
    - What software do they use and/or have access to?
    - What type of tools would benefit them most?
- Have a plan and a schedule.
- Ensure that partners know and understand the project timeline, project objectives, what deliverables or tools will be created and provided to them at the end, and general hopes and expectations.
- Keep in mind the language used when describing the partner's current decision-making process – do not use overly negative words.
- When describing how the tool you are providing will benefit the partners, consider using language like "augment", "enhance", "complement" and "extend", and avoid words like "replace" – the reasoning behind this is your work will give them another touch point in their decision-making process, but it is not necessarily meant to be a replacement of what they already do, which can seem threatening to some end users, so be diplomatic.
- Keep in mind the limitations of resolution (spatial and temporal) of NASA data and work within them.
- Be realistic in what you promise and the expectations of the partner; in fact don't "promise" anything, but ensure the plan you are working to is clear and that there is a healthy understanding of challenges and potential obstacles and risks.
- Make sure that partners understand when the project will conclude and who they can contact following the end of the term (typically the Center Lead).

- Communicate that DEVELOP will follow up to assess their experience and satisfaction with the project results.

DEVELOP Partner Types & Definitions

Often, DEVELOP teams use the terms 'partner,' 'collaborator,' and 'end user' interchangeably. However, there are some distinct differences relating to these terms, and thus the standardized definitions of typical DEVELOP partners are described below.

Partner: The umbrella term for all types listed below. All DEVELOP partners are **either** collaborators **or** end users, as determined by whether they will use the end products. Some partners will also be classified as boundary organizations in addition to either collaborators or end users.

Collaborator: Organization or individual that works directly with a DEVELOP project team and provides some kind of leveraged resource (advising, data, model, software, funding, etc.), but are not actually using the project's products or methodologies to make a decision or policy. A collaborator CANNOT also be an end user.

Ex. A researcher from a university who provides a team with an ancillary dataset to validate their results.

End User: Organization or individual that receives results and methodologies from DEVELOP (either directly from a DEVELOP project team or through a partner/collaborator) and can use the project's products or methodologies to make a decision or policy. They may also provide some kind of resources (advising, data, model, software, funding, etc.), but it is not required. An end user CANNOT also be a collaborator.

Ex. The Texas Forest Service's Predictive Services that can use the products and methodologies from the DEVELOP project in their risk mapping creation.

Boundary Organization: Organization or individual that disseminates the project's results to other end users, decision makers, policy makers, etc. The Applied Sciences Program defines a boundary organization as "an organization outside of your own that broadens your reach across the boundary into the operational domain (i.e. policymakers, decision makers, and other key stakeholders)." A boundary organization is ALWAYS also either a collaborator or an end user, but not both.

Ex. The Smithsonian Conservation Biology Institute works with local groups in Myanmar and helped DEVELOP disseminate results from the Myanmar Ecological Forecasting project to those in-country groups.

Designated Countries

NASA goes by the State Department's "Designated Countries" list, which is a compilation of 38 countries/territories with which the United States has no diplomatic relations, countries determined by Department of State to support terrorism, countries under Sanction or Embargo by the United States, and countries of Missile Technology Concern. Communication with partners in designated countries has restrictions, so coordinate with NPO ahead of opening communication lines. The current Designated Country list can be found here: http://oiir.hq.nasa.gov/nasaecp/index.html.

Export Control & Software Release Authority

The NASA Export Control Program is based on the philosophy: "We want to maximize the benefits of our international efforts while ensuring that we comply with U.S. export control laws

and regulations". This is the personal responsibility of each employee or contractor to pursue appropriate international activities involving transfers of technologies, software, and commodities. The Agency's Export Control Program is the mechanism that provides checks and safeguards at key steps to help manage international activities and ensures that NASA works within Export Administration Regulations (Department of Commerce) and the International Traffic in Arms Regulations (Department of State), which could result in criminal, civil, or administrative enforcement actions against NASA, individual employees, and/or private contractors.

This means that for any project deliverables, products, decision support tools, etc. to be transferred to any partner (domestic or international) a review must take place first. SSAI leadership in NPO ensure that DEVELOP works within NASA Export Control guidelines. **SSAI representatives must be made aware of any presentations, publications, or information transfer that take place before they occur.** A "transfer" is considered to be an email, publication, presentation, telecon, webinar, etc. If you have any questions or have content, you would like to publish or hand-off to foreign entities (especially in designated countries) contact Amanda Clayton. The process typically takes 2-3 weeks.

Former Administrator Charles Bolden: "As a U.S. Government Agency on the forefront of technological development and international cooperation in the fields of space, aeronautics, and science, the National Aeronautics and Space Administration will strive to fulfill its mission for cooperative international research and civil space development in harmony with the export control laws and regulations of the United States. Due to heightened proliferation challenges facing the United States and the world, including risks posed by the spread of missile technologies and weapons of mass destruction, and in view of the significant criminal, civil, and administrative penalties that may affect the Agency and its employees as a result of a failure to comply with U.S. export control laws and regulations, it is the responsibility of every NASA official and employee to ensure that the export control policies of the United States, including nonproliferation objectives, are fully observed in the pursuit of NASA's international mission."

Software Release Authority is NASA's system for approving all software and programming tools created by agency funds. It takes into consideration legal and scientific requirements relating to contracts and copyrights. **For any tools, programs, or software (defined as even a single line of code) created by a team will need to go through this system before being handed-off outside of DEVELOP**. The process is rigorous and requires a lot of paperwork, but is led by NPO. If your project has materials that would need to go through this process, or you have questions regarding if your tools are required to go through it, contact Jordan Vaa (Jordan.S.Vaa@nasa.gov) as early as possible. The process typically takes 6-12 months, but it can take longer.

Operational Guidelines

DEVELOP Hours at Your Node

Office hours vary by DEVELOP location. Check with your Center Lead to understand your node's open office hours.

Ensure that your Center Lead and NPO are aware of your schedule, and any changes that may occur should be approved by your Center Lead ahead of time. Outside work or telecommuting is not permitted with the exception of NPO pre-approved visits to partner organizations, conferences, meetings, and other events and activities.

Absence/Tardiness: If you are going to absent or late, you must notify your Center Lead (in advance when applicable). In the case of an unforeseen event (accident, flat tire, etc.), call the DEVELOP Office prior to the time you would have reported to work and report your situation.

Illness: If an illness occurs, the participant must notify your Center Lead.

If making up hours, part-time employees can work no more than 40 hours in a workweek; however, the total hours at the end of the term cannot exceed the 290 maximum.

DEVELOP Locations will be closed on:
February 18th (Monday) in honor of President's Day

Dress Code

DEVELOP is a professional organization that asks participants to maintain a standard of excellence every day. In a professional environment, the common rules of business are applicable. This organization interacts with many sectors of government, industry, and non-profit organizations. For these reasons, the DEVELOP encourages a daily dress code of business casual. However, for formal presentations, participants are encouraged to wear formal business suits.

Computer Usage

As a participant in the DEVELOP National Program, each individual must comply with computer usage guidelines as specified by their location.

Note: Please keep file structures organized so it will be easier for you to back up your material at the end of the term.

Participants at NASA Centers: All participants are required to pass the SATERN IT Security training before access is permitted to computers on NASA Centers. Personnel may use computing resources for business, emergency, and very limited personal use. All networking activity at NASA Centers, including personal email traffic, is subject to monitoring and every keystroke is stored. Guidelines are as follows:

1. US Government computers are for authorized users only.
2. It is NASA's policy to permit **limited personal use of Government office equipment**, including information technology (IT).
3. The limited personal use of Government office equipment by NASA employees and contractors **shall not interfere with official business, violate existing laws, and should involve only minimal additional expense to the Government**.
4. **Privacy Expectations - NASA employees and contractors do not have a right to expect privacy while using Government office equipment at any time, including accessing the Internet and using e-mail.**
    a. Employees and contractors are advised that the Government maintains call details and network access records to monitor telephone activity and Internet access.
    b. The Government also employs monitoring tools to track system performance and improper usage.
5. **Unauthorized use** of the computer accounts and computer resources to which you are granted access is a **violation of Federal Law**; **constitutes theft**; and is **punishable by law**.
6. **Misuse of assigned accounts and accessing others' accounts without authorization is strictly forbidden**.

7. Failure to abide by these provisions may constitute grounds for **termination of access privileges**, **administrative action**, as well as **civil or criminal prosecution**.

Reiteration of Privacy Expectations: You do not have a right to expect privacy while using Government office equipment at any time, including accessing the Internet and using email.

Computers:

- Computer equipment cannot be taken off-site.
- Do not move any equipment (computers, monitors, projectors, etc.). All equipment is documented according to room and internet jack. Please notify your Center Lead for any necessary moves.
- Do not try to change system settings yourself. Notify your Center Lead to make the changes for you.

Software:

- Installation of legally licensed software is permitted if the software is necessary to complete your project. Do not install any new software yourself; ask your Center Lead for assistance.
- Do not make copies of proprietary software. This violates federal copyright laws and does not fall under computer usage guidelines.
- If you have any questions regarding permissibility of software, please contact your Center Lead.

Participants at Regional Locations: Check with your Center Lead in regards to computer and IT policies in place. Do not expect privacy while sending or receiving emails from/to a NASA email account.

Participant Classifications & Eligibility

Who is eligible to apply to DEVELOP?

Individuals interested in pursuing experience in the Earth sciences and remote sensing, including currently enrolled students, recent graduates with a college degree, transitioning career professionals, and transitioning veterans of US Armed Forces.

General Requirements

1. At least 18 years of age
2. Ability to provide personal transportation to and from the DEVELOP location
3. Strong interest in Earth science and remote sensing
4. US citizenship is required to apply to some DEVELOP locations (as listed on website)

** In addition to meeting the general eligibility requirements stated above, each applicant must meet the additional requirements specific to their applicant classification.*

Participant Classifications:

Currently Enrolled Students: Individuals who are currently enrolled at a US accredited community college, undergraduate or graduate college or university. Open to all majors.

- Evidence of enrollment at an accredited US school (acceptance letter or current unofficial transcripts)
- Minimum 3.0 GPA on a 4.0 scale (cumulative or most recent)

Recent College Graduates: Individuals who have graduated with an undergraduate or graduate degree from a US accredited college or university within the past two years.

- Evidence of successful graduation from a college or university (diploma or transcript showing graduation)
- Minimum 3.0 cumulative GPA on a 4.0 scale (cumulative or most recent semester) at last institution of higher learning

Early or Transitioning Career Professionals: Individuals that graduated from a US accredited college or university more than two years ago and are transitioning to a new career field or who are pursuing further experience in the Earth sciences and remote sensing (including transitioning and recently transitioned personnel from the US Armed Forces).

- Two or more years of work experience in a professional environment
- Minimum 3.0 cumulative GPA on a 4.0 scale from last institution of education

Payments, Taxes, Travel & Insurance Policy

**Please see your respective funding mechanism for further information on these topics.*

- Participants are paid on a step scale based on applicant classification, education level, and locality. In order for a participant to qualify for the next step pay rate, the individual must be currently taking classes or graduated at that grade level. For example, a participant who finishes their sophomore year in the spring is only eligible to move to the next pay step in the fall once he/she begins taking junior level classes.
    - As an employee, all required taxes (based on your tax forms) are withheld. You will receive a tax form at the beginning of the next calendar year, which will be sent to the address provided on your tax form at the time of enrollment.
- As a DEVELOP participant, it is each individual's responsibility to have the appropriate health and medical coverage. **SSAI does not provide any insurance coverage for part-time temporary employees**.
- Travel is a privilege for DEVELOP participants and must originate from the DEVELOP NPO.
    - Travel Process:
        1. If a location finds a conference or meeting they are interested in attending, a request for travel must be submitted to NPO. A template for the request for travel is available, and it includes the dates, name of trip/meeting/conference, location, sponsor, description, proposed attendees, and justification for the travel.
        2. NPO will assess merit of the event and funds available.
        3. If approved to attend as a DEVELOP representative, travel requests must be submitted for the travel to be approved by the funding contract. If funding is not approved for the travel, participants can still present DEVELOP-related work **with approval**, but they must leverage or provide their own travel funding and cannot use DEVELOP as their affiliation.
        4. Once approved, travel arrangements will be made (if needed) by NPO.
        5. Reimbursements will be processed upon the travelers' return following the submission of a travel report, travel reimbursement form, and all original receipts. This paperwork should be returned within five business days of returning from travel.
    - ***Note:*** *All proposed conference travel must be input into the NASA Conference Tracking System by NPO and gain approvals from Langley and NASA HQ. NASA has a 50-person limit at conferences. Some large conferences, like AGU Fall Meeting, have waivers allowing for more to attend; however, attendance is still limited and must be approved by NASA HQ.*
- DEVELOPers who travel during the term may claim a maximum of eight hours for travel compensation per day. Other information regarding travel is located on DEVELOPedia.

- If any problems occur while checking into the hotel or during any other processes for reservations made with a DEVELOP credit card, the participant must contact the credit card holder (Karen Allsbrook for SSAI).
- DEVELOP encourages participants to present their work, but since all research is property of the program, **any abstract submissions to a conference/meeting/workshop/recruiting event/etc. must be approved before submission by NPO**. Contact Amanda Clayton if you have a question or presentation request.

Security & Node Access Requirements

In the event of inclement weather, the DEVELOP offices will follow the schedule of their host location.

Checkout Process

All participants must complete the following checklists:

- Clean your workspace - desk drawers are empty, desktop cleared.
- Ensure all shared spaces (kitchen, break room, meeting rooms, etc.) are tidy.
- Empty all trash cans.
- Clear out any remaining food or drinks from refrigerators.
- Any office supplies are collected and put away in the appropriate place.
- **Ensure that all files you may want to keep are retrieved from your computer.**

Project Checklist:

Final versions of each of the project deliverables must be archived at your node and submitted to NPO:

- Technical Paper
- Presentation with full speaker notes
- Poster
- Project Summary
- Website Image
- Study Area Shapefiles
- Project Feedback Form
- Code with README
- Project Video
- Optional Deliverables: Tutorial, Brochures

Reminder: File Nomenclature: YearTerm_Node_Team_Deliverable_Draft
(ex. 2019Sum_LaRC_NorthCarolinaWater_TechPaper_FD)

SSAI Participants: All SSAI participants must fill out and sign the Employee Termination of Benefits Summary on their last day in the office.

NASA Center Participants: All program participants are required to checkout through the DEVELOP office at the end of the term. Badges must be returned to Center Leads on the last day of the term. It is a federal offense to not return your badge at the end of the term.

Participant Resources

Helpful Websites & Contacts

Geoinformatics Team: DEVELOP.Geoinformatics@gmail.com

If you have a GIS or programming question or issue, you can email the Geoinformatics team to help you problem solve and find solutions.

Project Coordination Team: DEVELOP.ProjectCoordination@gmail.com
If you have any questions relating to publications, deliverables, templates, feedback, etc., you can email the Project Coordination team to request assistance.

Communications Team: DEVELOP.Communications@gmail.com
Email the Communications team if you have any questions relating to the VPS, project videos, recruiting, or social media.

Information Technology: DEVELOP.InformationTechnology@gmail.com
Email the IT team with questions about the software release process and program software provided by NPO.

Impact Analysis Team: DEVELOP.ImpactAnalysis@gmail.com
Email the Impact Analysis team with questions regarding the personal growth assessments, exit survey, or alumni.

DEVELOP Website: https://develop.larc.nasa.gov/
News, application deadlines and links, videos, publications

DEVELOPedia: http://www.devpedia.developexchange.com/
Internal wiki for sharing knowledge related to DEVELOP
You should have received information about your account just before the beginning of the term. For assistance, talk to your center lead, and then contact Jordan Vaa.

DEVELOP Earth Science Collaborative: https://groups.google.com/d/forum/developesc
A forum for software, geospatial, and coding questions
Moderated by the Geoinformatics Team

Remote Sensing Tutorial:
https://arset.gsfc.nasa.gov/webinars/fundamentals-remote-sensing
http://www.nrcan.gc.ca/earth-sciences/geomatics/satellite-imagery-air-photos/satellite-imagery-products/educational-resources/9309

Writing and Message Strategies & Tips:
http://sfa.terc.edu/materials/activities.html
http://sfa.terc.edu/materials/pdfs/memorable_messages.pdf
http://sfa.terc.edu/materials/pdfs/memorable_graphs.pdf

GIS, Programming & Automation:
General GIS:
http://training.esri.com/gateway/index.cfm?fa=catalog.webcoursedetail&courseid=2500
General Coding: http://www.codecademy.com/
General Python Training:
https://www.e-education.psu.edu/geog485/node/17
https://www.esri.com/training/catalog/57630436851d31e02a43f13c/python-for-everyone/
Spatial Analysis & Data Statistics:
http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&courseid=2586

Data Sharing:
http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&courseid=2501
Working w/Raster Data in R:
http://cran.r-project.org/web/packages/raster/raster.pdf

Note:

- Use of Google Docs is permitted as long as the files are not accessible to people outside DEVELOP.

Personnel Issues

Should a personnel issue arise, immediately verbally communicate the situation up the chain of command. If an issue with a team member or any DEVELOP participant, Project Lead, or Center Lead should arise, follow the chain of command for reporting issues. If the problem is one of those links in the chain, go to the next person in the chain. If you are uncomfortable contacting the next person up the chain, feel free to contact NPO.

Team Member → Project Lead → Center Lead → NPO

SSAI-funded Participants NPO POC – Karen Allsbrook, 757.864.1276

Controversial Topic Discussions

At times, conversation in the office may turn to controversial topics. Take into consideration the following guidelines:

1. Respect others opinions, especially those that are opposite your own.
2. Be open-minded.
3. Don't aggravate or exacerbate the situation.
4. Be fair.
5. Care about those around you.

Dealing with Project Setbacks

There will also be times when projects have unexpected setbacks. When this happens, remember that all setbacks are a learning opportunity. Take into consideration the following:

1. Take a moment to reflect and regroup – take a step back or work on something else for a bit so that you can return with a fresh perspective.
2. Evaluate the situation – look at what went wrong, break it down logically, see what positives you can take from the situation.
3. Revisit the original objectives – look at the path that brought you to the setback, start fresh at the beginning.
4. Brainstorm new options – work with the team to find new alternatives, different ways to approach the problem, and potential changes to the original objectives.
5. Outline what's next – come up with concrete steps forward and action items.
6. Move on – fuhgettaboudit. The term is too short to dwell!

Frequently Asked Questions

About DEVELOP FAQ

What is the DEVELOP elevator speech? *DEVELOP is a dual capacity building program sponsored by NASA's Applied Sciences Program that addresses environmental and public policy issues by conducting interdisciplinary feasibility projects that apply the lens of NASA Earth observations to community concerns around the globe. Bridging the gap between NASA Earth Science and society, DEVELOP builds capacity in both participants and partner organizations to better prepare them to address the challenges that face our society and future generations.*

How many DEVELOP locations are there and do they ever change? Currently, *there are 12 locations. Node locations evolve over time due to changing partnerships, personnel, and needs.*

What is the natural progression of opportunities in DEVELOP? *The trajectory through DEVELOP is as follows: Team Member > Project Lead > Asst. Center Lead > Center Lead or Fellow > Senior Fellow > NPO. Although this is the ultimate progression, not all participants will progress through each of these positions.*

What is NPO? *DEVELOP's National Program Office is DEVELOP's Headquarters. The NPO team sits at NASA Langley and oversees the program as a whole. NPO ensures daily operations run smoothly, manages the online application system and application process, processes all paperwork involved, works closely with Center Leads and Advisors/Mentors, manages the project proposal and approval process, manages software, leads programming and geoinformatics initiatives, monitors progress of projects and nodes, organizes all travel and conference activity, reports program-wide performance, oversees all NASA Export Control and Software Release Authority requirements, leads communication activities (social media, website), leads strategic planning activities, organizes the annual summer showcase, and supports the Applied Sciences Program and NASA HQ as requested.*

What are DEVELOP Senior Fellows? *DEVELOP Senior Fellows are part of the NPO support team who previously spent a year as DEVELOP Fellows, Center Leads, or multiple terms as participants (see exact eligibility requirements on DEVELOPedia). The position is focused on furthering the individual's personal and professional development, leadership and technical skills, all while supporting the NPO and national teams. Senior Fellow positions are based at Langley Research Center within NPO.*

What is DEVELOP's Fellow Program? *The DEVELOP Fellows Program is a class of competitively selected college graduates who spend one year working full-time with DEVELOP growing both personally and professionally, focusing on a specific facet of the program, and contributing to the organization as a whole. Each Fellow serves in a dual-role, splitting their time between their node and NPO-related tasks.*

What is the DEVELOP Ambassador Corps? *DEVELOP's Ambassador Corps is a group of competitively selected DEVELOP participants and alumni who coordinate recruiting activities at their respective university, local community, or military installation communities for one term or academic year. The ideal ambassador is a responsible, outgoing leader who has a passion for NASA's Applied Sciences Program and DEVELOP. This initiative draws on the skills and enthusiasm of DEVELOP participants to enhance the program's brand and global visibility by promoting awareness of the NASA Applied Sciences.*

What is a Results Framework and how is it used? *A Results Framework presents an organization's strategy for achieving specific objectives and was selected by the NASA Capacity Building Program (CBP) to clearly outline activities within each of the three CBP elements. It is both a planning and management tool, and provides a baseline for performance reporting to NASA HQ.*

Communication FAQ

How do I know who to contact in NPO if I have a question? *Refer to the orientation slides. There is a specific slide describing all individuals in and supporting the National Program Office, and lists general topics and who is best to respond to them. If your question or concern isn't one of those, reach out to anyone in NPO! They are all nice, don't bite, and can direct you to the right person if it's not them.*

How should my team communicate with partners? *Clear expectations and communication lines are key to a successful partnership. Open communication lines at the start of the term and provide concise information to partners. Schedule regular telecons to report progress and give updates. Be clear about the project timeline and deliverables, don't over promise, yet be open to ideas and input from the partner. Many teams find that weekly or bi-weekly (every two weeks) is a good timeline for staying in communication with partners.*

How should my team communicate with offsite team members? *Open communication is key to a successful collaboration between nodes. Set up regular tag-up times and consider using instant messaging options to stay connected while in the office. Skype, Google Hangouts/Chat, Slack, and telecons can all assist in this process.*

Can I contact other teams and nodes? *Of course! Inter-node collaboration and communication is highly suggested. The best approach is to work with your Center Lead to establish first contact.*

Where can I learn about what DEVELOP alumni are doing? *The DEVELOP Newsletter goes out three times a year and highlights many of the activities of past DEVELOPers. A recent presentation at the AGU Fall Meeting focused on the DEVELOP Alumni Survey and has many interesting examples from alumni of where they are now and how they feel DEVELOP benefited them. In June of each year, DEVELOP initiates an alumni survey on behalf of DEVELOP which is the biggest resource of information. NPO is presently working on new methods of sharing 'success stories' with current and former DEVELOPers, so stay tuned! There are also two alumni groups: 1) LinkedIn, and 2) Facebook's Once a DEVELOPer, Always a DEVELOPer group.*

NASA Knowledge FAQ

Why should I learn about NASA's organization chart, Applied Sciences, and Capacity Building? *NASA supports DEVELOP, and it is important to know where that funding is coming from and who is in charge of it. If you are selected to represent your project and DEVELOP at a conference or meeting, it is important that you know who the key personnel are so that you can interact with them intelligently. These people also visit NASA centers and universities often, so understanding their role is key to great interactions with them.*

What are the ASP National Application Areas and do they ever change? *There are eight presently – Agriculture & Food Security, Disasters, Ecological Forecasting, Energy, Health & Air Quality, Transportation & Infrastructure, Urban Development, and Water Resources.*

They do change occasionally, but any changes are decided on and driven by NASA HQ.

What's the difference between Earth observations (EO) and Earth Observing Systems (EOS)? *EO is an umbrella term that covers the full satellite suite, while EOS is a very specific subset of those. Only if your project is solely using satellites that are part of the formal EOS, can you use the term EOS in the description of your project. http://eospso.nasa.gov/mission-category/3.*

Projects & Deliverables FAQ

Why are deliverables important and what are they used for? *Refer to the Deliverable Descriptions above in this document for details regarding each deliverable and its use. But deliverables are key to communicating your projects results and methodologies. Each is a learning opportunity for participants to create and inform partners and the public. Deliverables cadence is meant to facilitate successfully working a project from beginning to end in just 10 weeks.*

When are deliverables due? *Each term has a pre-set schedule of deliverable deadlines for submitting deliverables to NPO. Most Center Leads have parallel set of deadlines when they request the deliverables so they can edit before sending to NPO.*

How are the teams able to complete a project in just 10 weeks? *Deliverable due dates play an important role, as do communication, creative problem solving, delegation of duties, flexibility, and being open minded with a can-do attitude.*

Why is file nomenclature important? *DEVELOP conducts over 70 projects each year. That is a lot of deliverables and files to keep organized. Nomenclature is key in archiving and staying organized. You should consider it important in your personal life and non-DEVELOP projects if you haven't already.*

Why are templates mandatory? *The goal of standardized templates for all project deliverables is to establish a clear, consistent, and unique visual identity for DEVELOP. This identity builds on NASA's world-famous brand and gives the program a clear style and personality of its own. There are rigid guidelines for using the NASA insignia, and DEVELOP templates adhere to all requirements.*

I do not like the colors of the templates, can I change them? *Sorry, but no. The color scheme is part of DEVELOP's branding. If you have any questions regarding coloring, please reach out to the National Program Office to discuss.*

Why does DEVELOP use Century Gothic as the standard font? *NASA's preferred font is Helvetica, which is not available freely on all computers. The Earth Science Division management prefer sans serif fonts, and so DEVELOP selected the clean and visually appealing Century Gothic to serve as the standard font for DEVELOP, as it provides a slight, but noticeable differentiation from the masses using Arial.*

What is the PSI? *The Project Strength Index (PSI) is DEVELOP's version of the TRL (Technical Readiness Level) and ARL (Application Readiness Level) scales, which are used by NASA and the Applied Sciences Program. It provides a standardized means of tracking project progress, and evaluating project success and strength. It was specifically designed such that only in our wildest dreams would a project get all the points available. Aspire to make your project that project!*

How is the VPS contest judged? *Judges are volunteer DEVELOP alumni, science advisors, NPO, and the general public. There is a formal rubric judges are provided with that is used to rate assigned videos, and each video is scored by three or more judges. The team with the highest average points will be the "VPS Winner."*
VPS videos are hosted on DEVELOP's YouTube page, with links available on the DEVELOP website. Teams are encouraged to share their videos on social media with the tag #NASADEVELOP. In fall 2018, the VPS was a bracketed tier competition. There were two rounds of judging, first round included judges from the National Program Office and node leadership. Members of NASA's Applied Sciences judged the second and final round of videos.

How much should I expect to interact with my project advisor? *This varies by project, by node, by term, and by year, but generally speaking plan to have a weekly tag up with your project advisor (assuming they aren't on travel in a given week).*

What geospatial software programs are available to me? *NPO provides access to ENVI/IDL, ERDAS IMAGINE, and Esri ArcGIS. There are some limitations to this availability – DEVELOP can only provide these software packages to computers that are solely used by DEVELOPers (i.e. not university lab computers), yet not a personal computer. ArcGIS software can only be provided to computers that are on a NASA center or purchased by NASA money. For more details contact Jordan Vaa or Amanda Clayton.*

Can projects continue for more than one term? *Yes, they can and often do continue for up to two or three terms, but do not continue past three terms (one year). There needs to be a substantial argument for the continuation and it is typically planned for ahead of time when the project is first proposed. Similar to how participants must reapply to participate in a following term, DEVELOP projects must go through the proposal review and approval process for each term they would be worked on.*

How are teams formed? *The needs of each team are based on the nature of the project, skill sets required, experience available in applicants, mixing different education levels and skill levels, and scheduled availability. As a program focused on capacity building, DEVELOP seeks participants who have room to grow technically and professionally and would be able to benefit from the Program, as well as contribute to it.*

Personnel Issues FAQ

What if I have a disagreement/problem with one of my team members and it's serious? *Personality conflicts and other disagreements often arise in teams under pressure. With the short timeline of DEVELOP terms, don't hesitate to try to improve the situation. Take a step back and try to see the other person's side. If no resolution can be worked out, go up this chain: Team Member > Project Lead > Center Lead > NPO. If the issue regards one of the links in that chain, skip to the next one. Remember to not put anything in writing relating to personnel issues. Speak to those available in person, and if you would like to pull NPO into the discussion contact them on the phone. Karen Allsbrook is the SSAI representative for personnel issues.*

Logistics FAQ

What if I'm going to be late or absent? *Contact your Center Lead before the time you were supposed to report for duty. Explain the situation and when you will be in. If making up hours, part-time employees can work no more than 40 hours in a workweek; however, the total hours at the end of the term cannot exceed the 290 maximum.*

What kind of tax form will I receive? *US citizens will receive a W-2 form. Foreign nationals will receive a W-2 or 1042-S form, depending on their alien residency status. Visit the IRS website (https://www.irs.gov/individuals/international-taxpayers/aliens-employed-in-the-us) to gain an understanding of what this means for you.*

When will I receive my tax form? *All tax forms come directly from your funding organization (SSAI) and are mailed to the address you submit on your enrollment tax forms. W-2 forms will be sent by mid-February and 1042-S forms by mid-March.*

Are taxes taken out of my payments? *Yes, as an employee, all required taxes are withheld from your paychecks. Foreign nationals may be exempt from tax withholdings or may have an automatic required withholding based on their country of citizenship. This will be determined by your alien residency status and enrollment tax forms.*

Do I have to reapply if I want to work at DEVELOP for another term? *Yes, all participants must reapply each term. Only DEVELOP Center Leads, Fellows, and Senior Fellows do not have to reapply for each term, as those positions are competed on an annual basis.*

How long am I eligible to reapply? *There are no limits to eligibility length as long as you meet GPA, transportation, and citizenship requirements. Currently enrolled students are eligible to apply as students as long as they are enrolled. Recent Graduates have graduated within the previous two years. After two years, candidates should apply as Early or Transitioning Career Professionals.*