DEVELOP Orientation

Module 4. Resources & Opportunities to Make the Most Of

EARTH ACTION

Resources

Technical

Coding Workshops
Virtual Machines
DAACs
Data Pathfinders
DESC
ARSET Trainings

Programmatic

DEVELOPedia
Webinars
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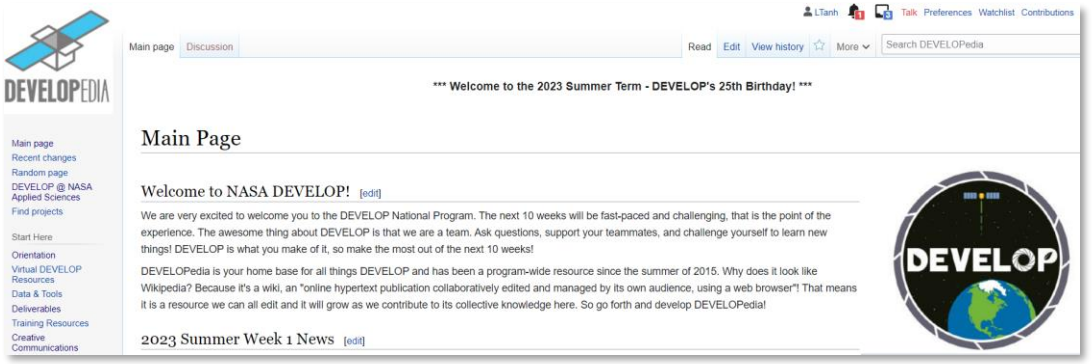
People

Leads
Fellows
Senior Fellows
Advisors
Node Networks
National Program Office
NPO Support Team
DEVELOP Alumni
HQ Personnel
Your Teammates

Professional Development

LinkedIn & Facebook Groups
Alumni Speakers & Visitors
Professional DEVELOPment Week
Anniversary Events: Meet Ups

DEVELOPedia



- DEVELOPedia is your primary source for all things DEVELOP. It is an internal wiki intended to serve three purposes:
  - Share critical information about the program and projects
  - Hosts detailed information relating to term logistics (templates, deadlines, etc.)
  - Source of information about past projects, participants, resources, guidelines, opportunities, and more!
- **Visit DEVELOPedia daily** for weekly news, due dates, deliverable templates, training resources, past project deliverables, and more! Best Practice: make it your landing page for the term!
- DEVELOPedia is a collaborative effort and living document, constantly adapting to meet the needs of the NASA DEVELOP National Program and the people that make the program great (That's you!).
- **Note**: this is a resource that you keep access to even after your term ends!

Completing Your Personal DEVELOPedia Page is a Week 1 Deliverable!

Make sure to include a picture, a long-term email address, information about your background & interests, & a link to your LinkedIn profile!

http://www.devpedia.developexchange.com POCs: Laramie Plott & Amanda Clayton

RESOURCES & OPPORTUNITIES

DEVELOP Earth Science Collective (DESC)

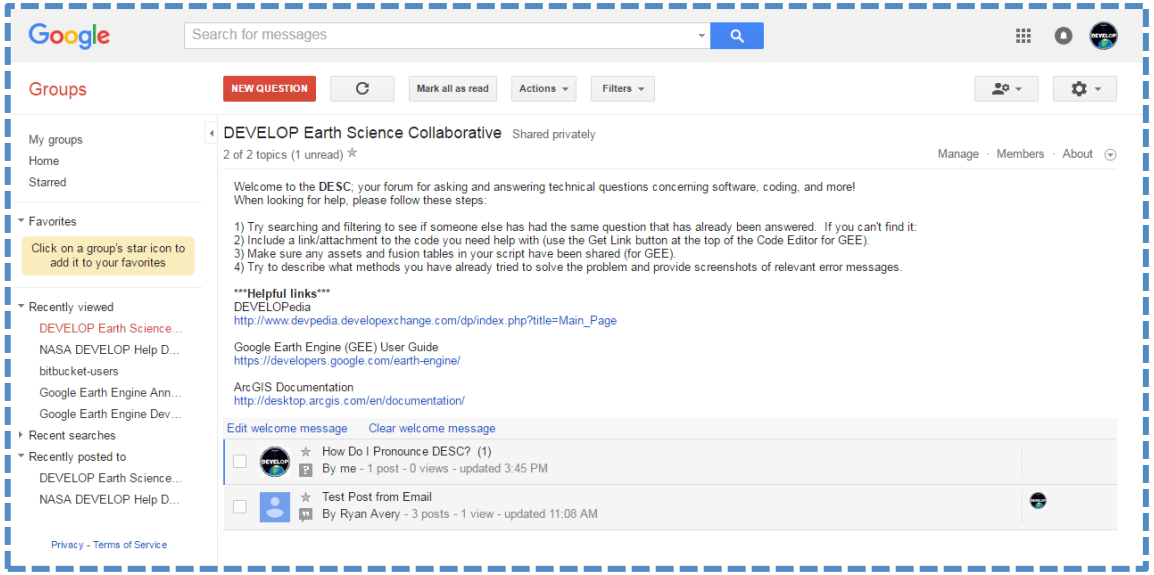
By The Way

The DESC is not a full-service help desk but is crowd sourced by DEVELOP alumni, Leads, & participants – It's possible that your question could go unanswered.

- A forum for all your software, geospatial, and coding questions! Participants should feel welcome and comfortable to help each other troubleshoot and respond to each others' questions
- Can email forum directly like a regular email address
- Be sure to attempt troubleshooting on your own as a team and with your Lead before posting

Copy link, go join, and bookmark the DESC on your favorite browser!

https://groups.google.com/d/forum/developesc



Virtual Machines

Virtual machines are a resource for DEVELOPers to run processing and access specific software. Note: Some NASA locations have limitations in accessing VMs due to firewalls. Please turn off your VM after each use to avoid incurring extra costs!

Online Policies:

- Virtual machines should be used for DEVELOP purposes only, meaning absolutely no games, commercial radio, or music/video downloads (unless it's for the project).
- No Facebook, Twitter, etc. unless it's for DEVELOP purposes!
- Limited use of personal emails are acceptable as long as they DO NOT interfere with your project work.
- Be mindful of the websites you visit and links you click on.
- Be diligent against phishing attempts.

Software:

- Installation of legally licensed software is permitted if the software is necessary to complete your project – but you must have approval from your Lead.
- If you have questions regarding permissibility of software, please contact your Lead.
- Do not make copies of proprietary software.

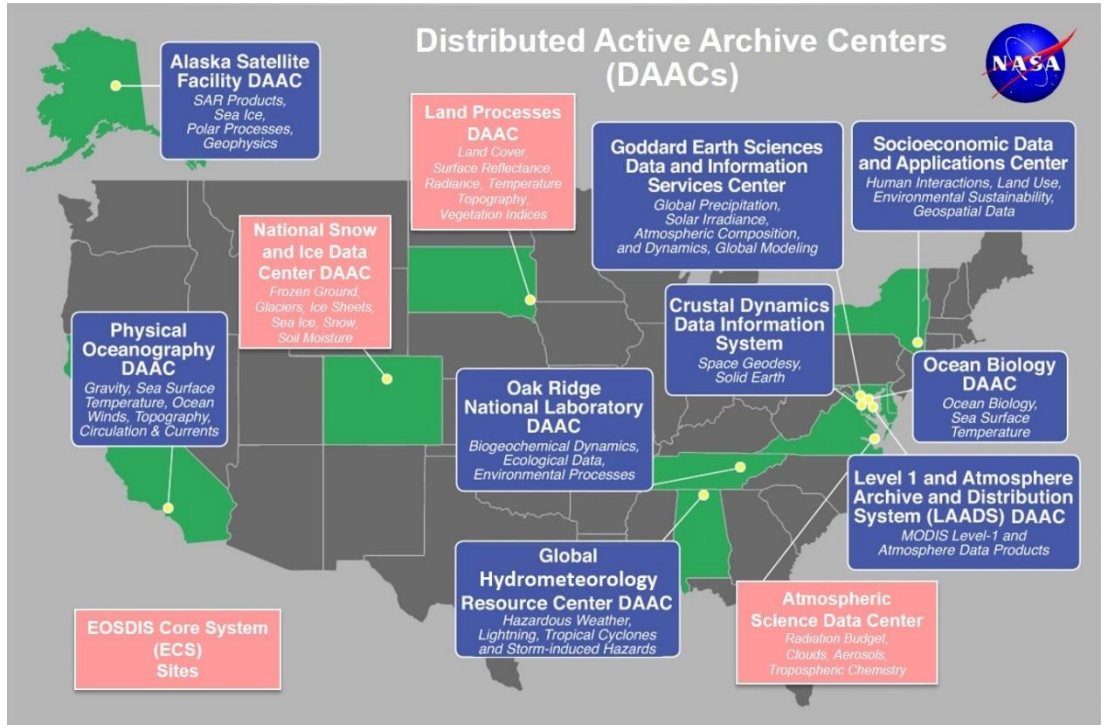
By The Way

DAAC websites are a great way to access NASA Earth observation data! You can also find thorough documentation and metadata attached.

NASA Data Centers (DAACs)

- The Earth Observing System Data and Information System (EOSDIS) is designed as a distributed system, with major facilities at Distributed Active Archive Centers (DAACs) located throughout the United States.
- These institutions are custodians of EOS mission data and ensure that data will be easily accessible to users.

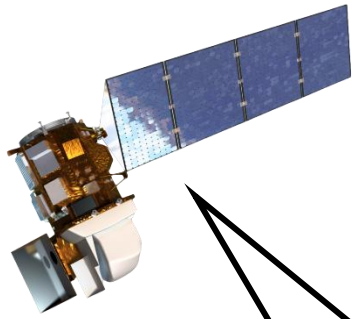
- The EOSDIS DAACs process, archive, document, and distribute data from NASA's past and current Earth-observing satellites and field measurement programs.
- DAACs provide services to users whose needs may cross the traditional boundaries of a science discipline, while continuing to support the particular needs of users within the discipline communities. User services include:
  - Assistance in selecting and obtaining data
  - Access to data-handling and visualization tools
  - Notification of data-related news
  - Technical support and referrals



DAAC Resources

By The Way

Don't forget to attend DAAC meetings in week 2!



Now where did I put those data...?

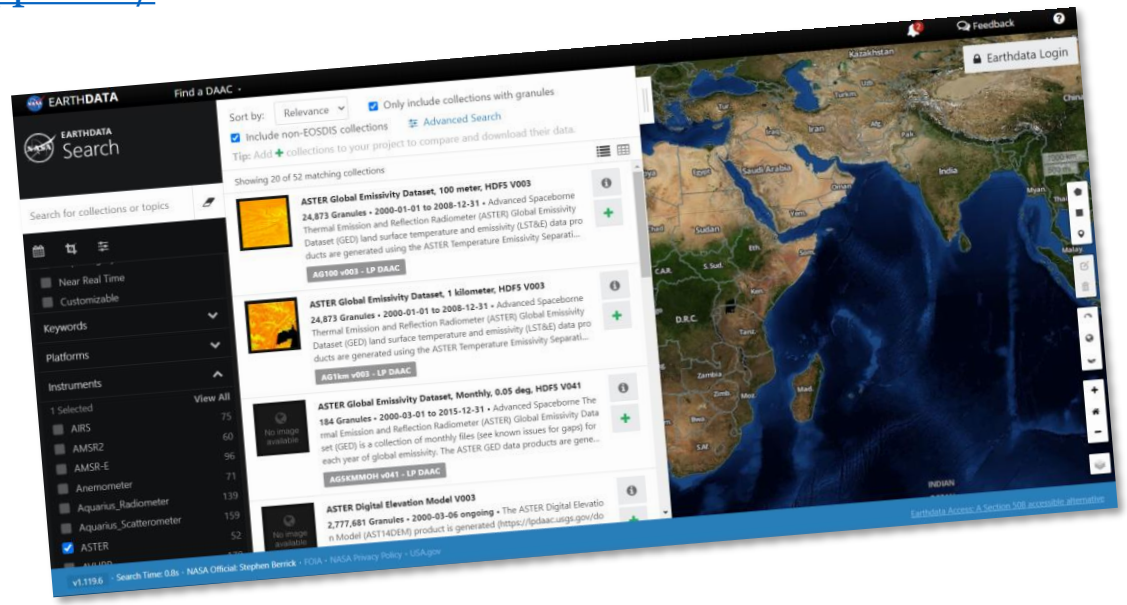
Need access to NASA data? Check out the following sites:

- EOSDIS Distributed Active Archive Centers (**DAACs**) https://earthdata.nasa.gov/about/daacs
- **Earth Data Search** https://search.earthdata.nasa.gov/search
- **Earthdata Forum** https://forum.earthdata.nasa.gov/
  - Ask questions about data types, access, issues, etc.
- **LP DAAC AppEEARS** https://lpdaac.usgs.gov/tools/appeears/
  - Simple and efficient data access and transformation

New to using NASA Earth science data?

Data Pathfinders provide direct links to commonly-used datasets across NASA's Earth science data collections

- *Agriculture & Water Resources*
- *Biological Diversity & Eco Forecasting*
- *Geographic Information Systems*
- *Disasters* · *Health & Air Quality* · *Wildfires*



ARSET

Through ARSET trainings, you can learn how to:

- Use NASA data for environmental management
- Search and access NASA resources relevant to your needs
- Visualize, interpret, and apply remote sensing data and imagery

- **Remote Sensing Fundamentals:** These webinars are available for viewing at any time. They provide basic information about the fundamentals of remote sensing and are often a prerequisite for other ARSET trainings. https://appliedsciences.nasa.gov/join-mission/training/english/fundamentals-remote-sensing
  - Session 1: Fundamentals of Remote Sensing
  - Session 1A: NASA's Earth Observing Fleet
  - Session 2A: Satellites, Sensors, Data and Tools for Land Management and Wildfire Applications
  - Session 2B: Satellites, Sensors, and Earth Systems Models for Water Resources Management
  - Session 2C: Fundamentals of Aquatic Remote Sensing

https://appliedsciences.nasa.gov/what-we-do/capacity-building/arset

By The Way

ARSET is a great resource for brushing up on your remote sensing skills!

SESSIONS

Session 1: Fundamentals of Remote Sensing

A general overview to remote sensing and its application to disasters, health & air quality, land, water resources, and wildfire management.

TAKE THIS ONLINE TRAINING »

Data Acquisition & Coding Workshops

- DEVELOP offers optional workshops for participants to build and improve their data acquistion and programming skills.
- Participants can choose between:
    1. **DAAC Meetings –** covers the available resources for acquiring data via the Distributed Active Archive Centers. Good for participants who are unfamiliar with accessing Earth observation data or are new to a specific dataset that will be used for their project. 2/3-2/6
    2. **Python** – covers the basics of Python programming and introduces geospatial Python topics including the use of ArcPy for ArcGIS Pro. Good for participants who have never programmed or never used Python before, especially for geospatial workflows. *Cannot enroll in R if enrolled in Python*. 2/10-2/13
    3. **R** – covers the basics of R programming and introduces geospatial R topics. Good for participants who have never programmed or never used R before, especially for geospatial workflows. *Cannot enroll in Python if enrolled in R*. 2/11-2/13
    4. **Advanced Topics** – covers advanced methods for accessing SpatioTemporal Access Catalogs using Python to retrieve and process imagery. Good for all Participants regardless of skill level 2/13
- Times and dates for all workshops available on the Spring 2025 Events calendar.

Webinars & Workshops

DEVELOP offers webinars and workshops periodically through the term to share information about a variety of topics including:

- Weekly deliverable webinars (video posts on Teams)
- Fundamentals of Remote Sensing – 2/5, 3-4:35p ET
- Esri Cartography Webinar – 2/10, 3-4p ET
- Esri Office Hours #1 – 2/19, 1-2p ET
- Esri Office Hours #2 – 3/3, 1-2p ET

DEVELOP Social Media

DEVELOP National Program: features projects, node highlights & accomplishments, VPS announcements
www.facebook.com/developnationalprogram

Once a DEVELOPer, Always a DEVELOPer: job posts
https://www.facebook.com/groups/387243741376125/

Articles & Important Events: Tweet **@NASA_DEVELOP** or **#NASADEVELOP**
http://twitter.com/#!/nasa_develop

NASA DEVELOP National Program: Project and promotional videos
www.youtube.com/user/NASADEVELOP

NASA DEVELOP National Program: job posts, job skills & tips, and important events. ***This is a private group! Follow the link to join!***
www.linkedin.com/groups/4343498

By The Way

Watch time spent on social media during work hours. If you are going to be on it, you should probably be on the DEVELOP pages liking and commenting on DEVELOP posts!

Opportunities

- Reapplying to DEVELOP
- Lead & Fellow Positions
- Professional DEVELOPment Week
- DEVELOP Day
- Presenting DEVELOP Work
- Publishing
- Conference Attendance

Reapplication & Eligibility

DEVELOP Terms: 10 weeks

Classifications:

- Currently Enrolled Student
- Recent Graduate (within 2 years of graduation)
- Early or Transitioning Career Professional (2+ years after graduation from last degree)

Eligibility Requirements:

- 18+
- Minimum 3.0 GPA (for paid positions)
- Strong interest in Earth science and remote sensing
- Able to provide personal transportation to and from DEVELOP location
- DEVELOP does not provide transportation to nodes nor can DEVELOP provide a badge to a participant's driver to gain access to NASA Centers
- U.S. citizenship is required to apply to the following in-person opportunities: ARC, JPL, LaRC, MSFC, GSFC, NCEI

Reapplication:

- Required if you would like to continue with DEVELOP in a future term
- The returning application is shorter and **does not** require letters of recommendation

By The Way

Applications for the Summer DEVELOP term are currently open and close on Feb. 21st, 2025.

Enhanced Capacity Building Opportunities

We will compete multiple full-time Lead and Fellow opportunities this spring that will begin in May 2025!

Application information will be posted to DEVELOPedia soon.

Lead Positions

- Node Lead: NC – Asheville
- Lead: VA – Langley
- PUP Lead: VA – Langley

Fellow Positions

- Project Coordination: LaRC or MSFC

Leads

Leads manage a DEVELOP Node (75%) and provide Programmatic Support (25%). Leads are located at the DEVELOP Node they manage: ARC, CO, GA, GSFC, ID, JPL, LaRC, MA, MSFC, NC. PUP oversee teams remotely from a NASA Center location.

Eligibility: US Citizenship, college degree with min 3.0 GPA, 1+ term(s) with DEVELOP, Recent Graduate or Early/Transitioning Career Professional applicant status, ability to begin the position in early September at the office location, and ability to work 40 hours/week during standard business hours.

Responsibilities:

- **Participant Management** – selections, onboarding, performance tracking, time management, professional development
- **Project Management** – idea generation, proposal writing, project execution, deliverable reviews, project handoff
- **Partner Engagement & Relationship Management** – identify new partners, manage relationships, coordinate handoffs
- **Office Management** – lead logistics for the DEVELOP node, networking, coordination of resources, etc.
- **Programmatic Support** – support programmatic and element team initiatives & tasks as assigned, support travel and representation at conferences, meetings, pop-up locations, etc.

Fellows

Fellows lead programmatic support specific to an **Element** (Communications, Project Coordination, Impact Analysis, Geoinformatics). Fellows can be located at a NASA Center (ARC, GSFC, JPL, LaRC, MSFC).

Eligibility: US Citizenship, college degree with min 3.0 GPA, 1+ term(s) with DEVELOP, Recent Graduate or Early/Transitioning Career Professional applicant status, ability to begin the position in early September at the office location, and ability to work 40 hours/week during standard business hours.

Element *Fellow Responsibilities*:

- **Lead Element Initiatives** – manage element initiatives, complete programmatic tasks, track timelines and progress, communicate efforts to the program, support reporting requirements to NASA HQ
- **Programmatic Support** – support programmatic activities beyond their Element as assigned

Element Fellow Responsibilities

Geoinformatics

Tutorial Collection & Curation

DEVELOP Code Curation

Software Carpentry Instruction

Curation & Communication of GIS & RS Resources

Coordination w/DAACs

Project Coordination

Deliverable Review

Export Control Submissions

Project Webpage Content

DEVELOPedia Project Pages

Communications

Coordinate Recruiting Efforts

Social Media

Ambassador Corps

Review & Manage Creative Communication Deliverables

Support Newsletter Production

Write Web Features

Impact Analysis

Exit Surveys

Manage PGA

Collect Indicators

Conduct Partner & Alumni Interviews/Features

Create Term Report Card

Senior Fellows

Senior Fellows support programmatic needs and work across Elements managing specific activities. They are part of the NPO Support Team and responsibilities will be assigned based on interest, skill, and programmatic need.

Senior Fellows are located at LaRC.

Eligibility: US Citizenship, college degree with min 3.0 GPA, 2+ term(s) with DEVELOP, Recent Graduate or Early/Transitioning Career Professional applicant status, ability to begin the position in early September at LaRC, and ability to work 40 hours/week during standard business hours.

Collective Senior Fellow Responsibilities:

- Coordinate Software Carpentry Trainings
- Oversee Software Release Handoffs
- Manage CSDA Use
- Manage Export Control Submission Process
- Review Deliverables
- Update DEVELOPedia
- Update Orientations
- Manage Mailman Listserv
- Produce Annual Newsletter
- Maintain Project & Partner Tracking Sheets
- Collect Content for Monthly Reports & ESD Weeklies
- Support travel to conferences, meetings, site visits, pop-up locations, etc.

Join the Ambassador Corps

The DEVELOP Ambassador Corps was established in Summer 2013 to amplify the presence of DEVELOP and the NASA's Earth Action at university campuses and increase the number of applicants from qualified participants not near DEVELOP nodes.

DEVELOP Ambassadors make a volunteer commitment to represent DEVELOP at their academic institution, as well as in their professional workplaces and additional communities.

Roles & Responsibilities:

- Share information about NASA DEVELOP (and NASA's Earth Action)
- Increase the number of applications from qualified students and recent graduates from universities who are not near DEVELOP nodes and have historically been underrepresented at DEVELOP
- Engage in personal and peer-to-peer conversations with potential applicants and emphasize the diversity of DEVELOP experiences

Interested? Reach out to Jennifer Hall (Jennifer.Hall@ama-inc.com)

MENTORSHIP OPPORTUNITY

Connect with an Alumni Mentor

DEVELOP alumni are incredible sources of knowledge, support, and networking. Whether they were a participant recently or long ago, our alumni have plenty of career advice to offer, as well as tips and tricks to help participants succeed during the term. For the Spring 2025 term, we are offering participants the opportunity to be paired with an alumni mentor.

What to Expect

- **Virtual mentorship meetings:** Participants and alumni are expected to meet several times on Teams throughout the term. In-person meetings are not expected or required, but are a bonus if mentors/mentees are close enough.
- **Engaging and helpful career discussions:** Alumni mentors will be matched with participants based on each participant's career interests.
- **A safe space to discuss challenges:** Mentees are encouraged to come with questions.

For more information, please review the guidelines. To participate as a mentee, please take the interest survey by COB Thursday, January 30.

RESOURCES & OPPORTUNITIES

Professional DEVELOPment Week

Networking and professional development are two critical aspects of DEVELOP!

In week 5, DEVELOP hosts a variety of skill-building activities, guest speakers, and other professional development opportunities. Take advantage of these if you can! Events this spring include:

- NASA Leaders Panel
- Career Panel
- Speaker Series: One Small Step
- Science Corner

Presenting & Publishing Your Work

- For the purposes of ensuring appropriate export control review, performance metric tracking, and reporting to NASA HQ, **any and all presentations or publications** related to DEVELOP (projects or the program in general) must be communicated to, and content shared with, NPO **before submission** of the presentation or publication.

- Submitting work for presentation or publication is encouraged; however, **ALL research is shared property of NASA**; therefore, you must have permission prior to submitting your research anywhere.

- Coordinate with your Lead, and, if approved at your node, send a simple email with your ideas before the presentation (Sarah.Hafer-Martin@nasa.gov) or publication (Amanda.l.clayton@nasa.gov) with the following information:

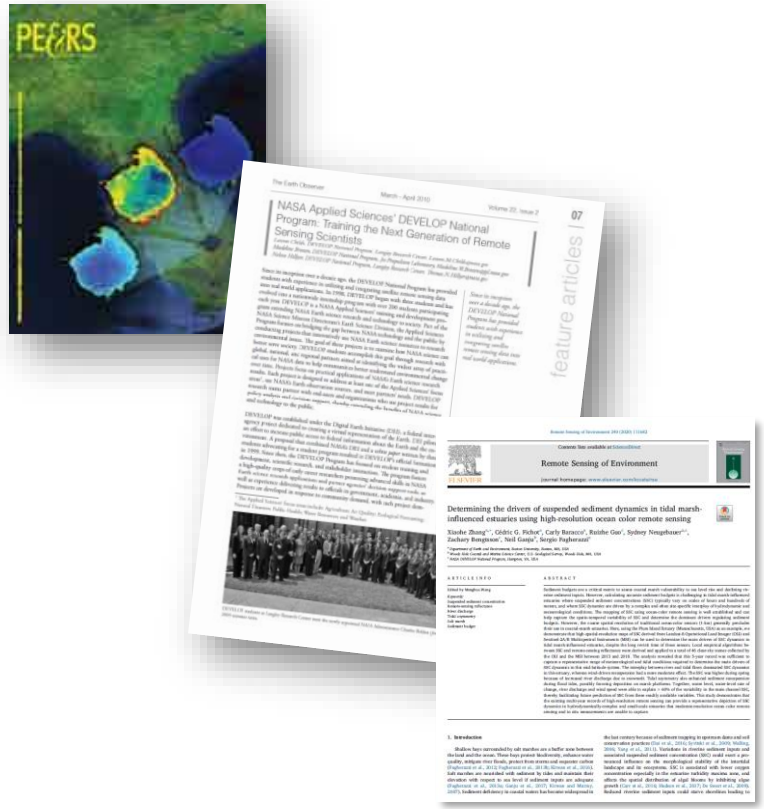
    - **Description of the activity** – conference, presentation to a class, publication, etc.
    - **Timeline for the activity** – when the event is or deadline for publication, etc.
    - **Cost estimate** (if applicable) – DEVELOP has a small amount of funds set aside to support publishing and presenting work.

Publications

- Publications are a great avenue for getting the word out about the great research you are a part of with DEVELOP!
- DEVELOP usually publishes a 2-3 peer-reviewed articles each year
- Publications can be pursued by motivated DEVELOPers, however, they are *not* a metric of project success and this work is typically outside DEVELOP.
- If you are interested in working your project toward a potential publication, contact your Lead, Project Coordination, and Amanda.
- Reminder: All publications must be approved by NPO and NASA's Export Control process **before** submission! This means **before** you ever send a draft to the publisher!

By The Way

DEVELOP publishes in both peer-reviewed venues and in "gray literature" venues! You can see all of the publications on the DEVELOP website's Media Page.



Publication Process

By The Way

You might be interested in publishing as soon as week 1 of the term! However, we recommend waiting to see the project results before deciding if your outcomes are fit for publication!

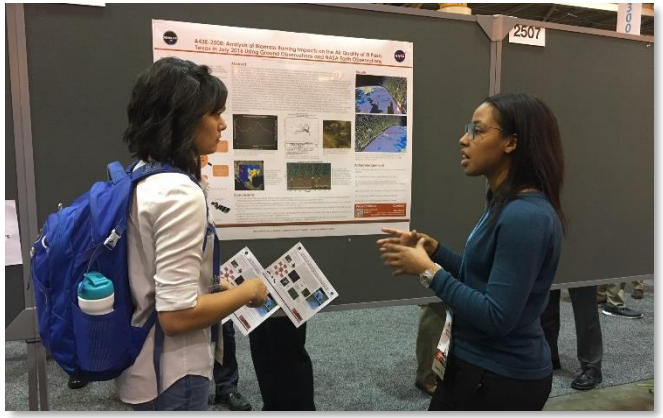
1. Discuss with your Lead and Science Advisor
2. Select publication venue
3. Contact Amanda Clayton (Amanda.L.Clayton@nasa.gov) for NPO pre-approval
4. Draft the manuscript
5. Submit draft to NPO for review
6. NPO and project team go back-and-forth with edits to create a final version – this process is likely to take months!
7. NPO submits this pre-print version into NASA export control
8. Once approved, the content can be submitted to the publication venue
9. Keep Amanda in the loop with any and all edits from the publisher
10. The final-final version must be resubmitted to NASA Export control

Conferences

- DEVELOP presents projects at over 30 conferences each year.
- If you have an idea for a conference you'd like to attend (virtual or in-person), discuss with your Lead and together reach out to NPO.
- There is a small travel pot provided to each node to support some travel, however those funds may already be accounted for at any specific time.
- Ways to attend cost-effectively:
  - Choose a conference that is virtual or local
  - Present DEVELOP work at a conference you already are planning to attend either for school or personally.
  - Pursue school-funding opportunities.
  - Apply for travel grants offered by professional societies.
  - Look for opportunities to volunteer in exchange for registration or travel costs.
  - Look for competitions like the AGU Michael Freilich Data Visualization & Storytelling Contest.

By The Way

Many virtual conferences are **free to attend – take advantage** of this! Look at opportunities like: AmeriGEO Week, Society for Conservation GIS, Esri User Conference (plenary is free), etc.



Thank You.

Explore all of the resources available to you! And if you find helpful resources, share them!

EARTH
ACTION