Promoting Collaborative Open Science through the Stakeholder Engagement Program

IMPACT
Interagency Implementation and Advanced Concepts Team

Satellite Needs Working Group (SNWG)

- SNWG surveys federal agencies biennially to identify satellite Earth observation needs
- NASA-led assessment teams then work to identify solutions for each expressed need
- The **Stakeholder Engagement Program (SEP)** was established to enhance community engagement with new data products and technologies formulated from the solution process. Refer to Figure 1.

SNWG Process

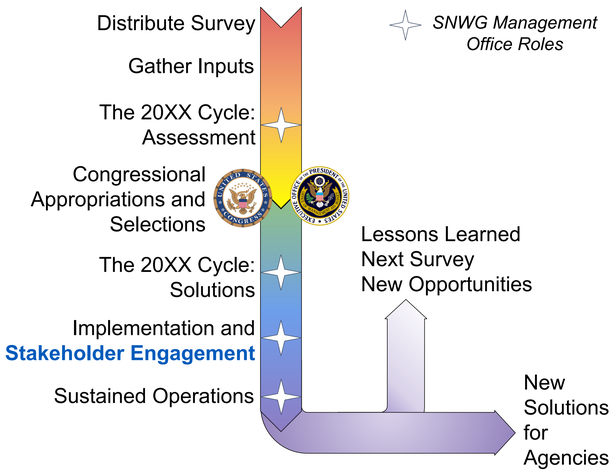

Figure 1: This timeline displays SNWG's process and identifies the stages where SEP support is involved.

Goals of the Stakeholder Engagement Program (SEP)

1. Increase awareness of the SNWG survey and its outcomes
2. Coordinate training and outreach efforts to support use of SNWG solutions
3. Collaborate with solution development teams, NASA DAACs, SNWG stakeholders, and end user communities

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SEP fosters NASA's Open Source Science Initiative

Goals of NASA's Open Source Science Initiative (OSSI)	How SEP Aligns with OSSI Goals
ACCESSIBLE "Scientific process and results should be visible, accessible, and understandable" - Bolles, 2022	• Developing a central location where SNWG solutions are described and accessible through the Earthdata interface • Providing numerous training resources including data access tools, documentation, and publications on the SEP Earthdata page
REPRODUCIBLE "Scientific process and results should be open such that they are reproducible by members of the community" - Bolles, 2022	• Creating a standard template for training materials that others can emulate. Categories are as follows: ○ Fundamentals of Remote Sensing ○ Missions and Instruments ○ Data Products and Descriptions ○ Data Access and Code Examples ○ Use Case and Application Examples
INCLUSIVE "Process and participants should welcome participation by and collaboration with diverse people and organizations" - Bolles, 2022	• Coordinating with solution development teams to leverage existing training materials • Identifying training needs of end user communities and attempting to fill any gaps ○ Refer to Figure 3
TRANSPARENT "Scientific process and results should be visible, accessible, and understandable" - Bolles, 2022	• Publicizing the outcomes of the SNWG survey on SEP's Earthdata page • Curating training resources for both first-time users and those more experienced to enhance understanding

Figure 2: This table illustrates NASA's goals for Open Science and SEP's strides to meet these goals.

Polling Responses

- In October 2022, SEP polled stakeholders for the new Harmonized Landsat Sentinel-2 (HLS) vegetation indices to gain an understanding of their training needs. 17 stakeholders representing 6 different agencies responded. Figure 3 shows the stakeholders' responses when asked to rank their training needs.

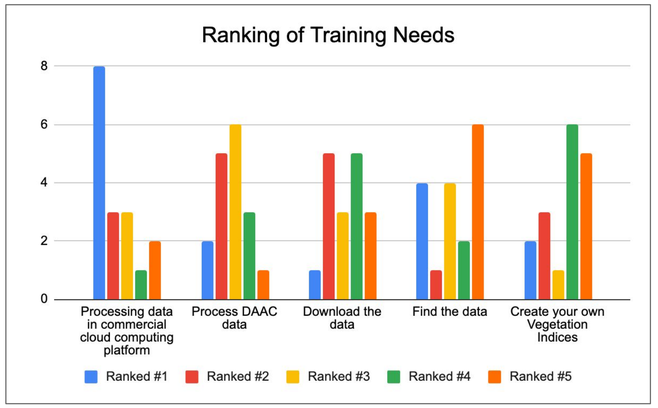

Figure 3: This chart shows the stakeholders' rank of training needs from 1-5, 1 being the most important and 5 being the least important.

- The range of stakeholders' training needs vary:
  - Many stakeholders expressed that their greatest training need is processing in cloud computing platforms and DAACs.
  - 5 stakeholders expressed that no training is needed, while 7 stakeholders expressed the need for basic training (e.g. background information on developed products)
  - NDWI is being added to the suite of VIs per request of stakeholders

Next Steps

- Poll other user groups to gain a greater sense of training needs and gaps that SEP can fill.
- Coordinate with solution development teams to develop training that meets these needs as close to the start of formulation activities as possible.
- Publicize training materials to stakeholders to further scientific research and to promote open science.

References:
Albers, C. (2022, February 25). *Open Science*. Earthdata. https://www.earthdata.nasa.gov/esds/open-science
Bolles, D. (2022, November 14). *Open-Source Science Initiative*. NASA SCIENCE. https://science.nasa.gov/open-science-overview

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