

A background graphic on the left side of the slide shows a stylized globe with a network of lines representing satellite orbits and ground stations. Several satellite icons are positioned along the orbital paths.

# Connecting Federal Agencies to Satellite Earth Observations: NASA's Satellite Needs Working Group Assessment Process

9 January 2023

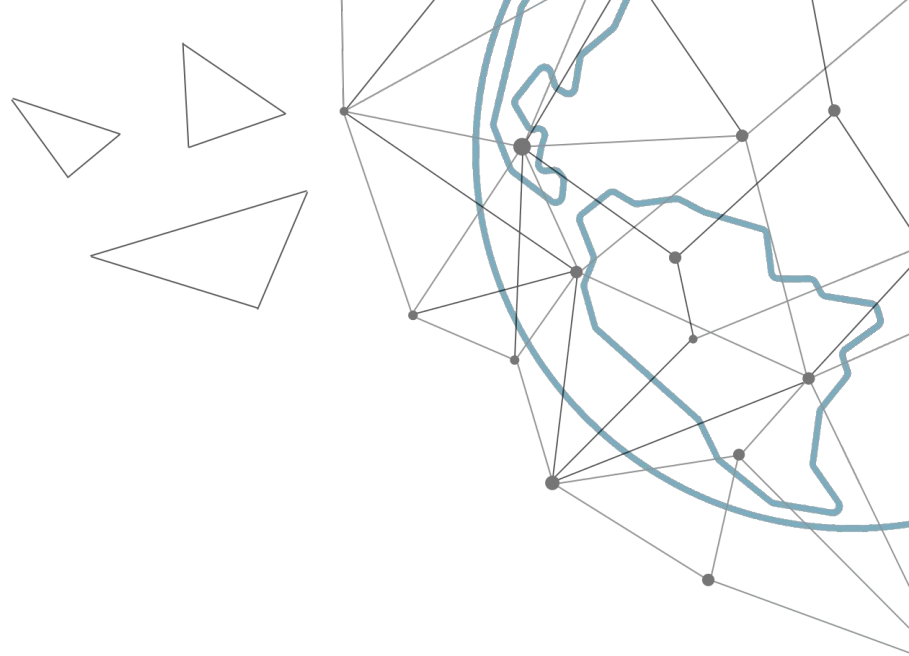
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<sup>1</sup>University of Alabama in Huntsville, <sup>2</sup>National Aeronautics  
and Space Administration (NASA) Headquarters

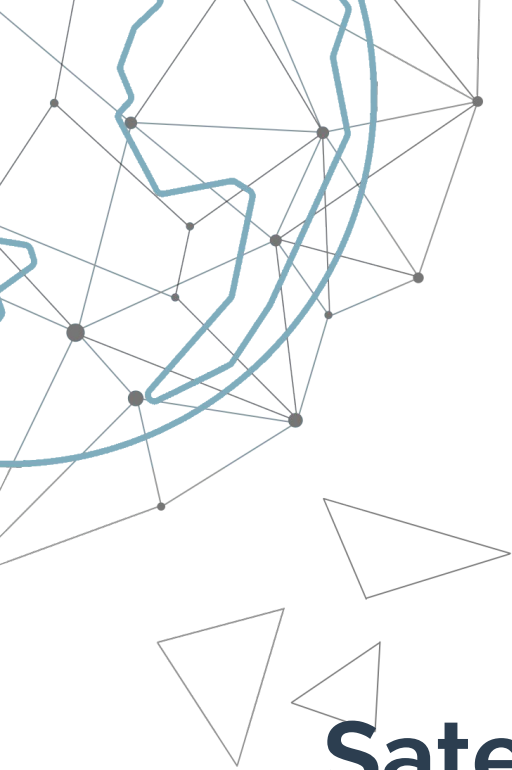
<sup>3</sup>NASA Marshall Space Flight Center

# Motivation

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# Satellite Needs Working Group

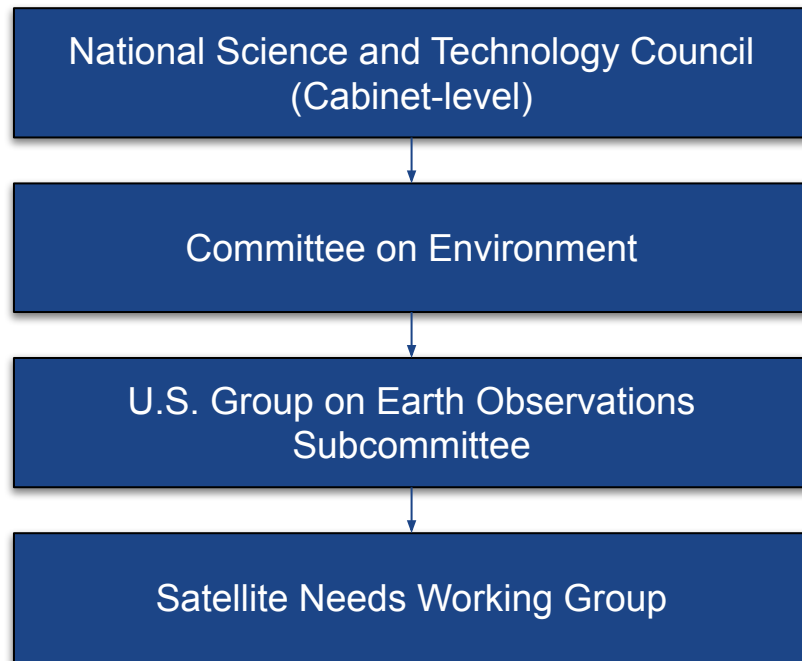
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# SNWG Background

The Satellite Needs Working Group process is for federal civilian Departments and Agencies to communicate their Earth observation measurement or product needs to NASA via the **SNWG agency survey**.

Agencies complete the SNWG survey every two years: 2016, 2018, 2020, and 2022

The **SNWG Management Office** at NASA IMPACT manages and coordinates the assessment of agency needs and the implementation of solutions to meet those needs

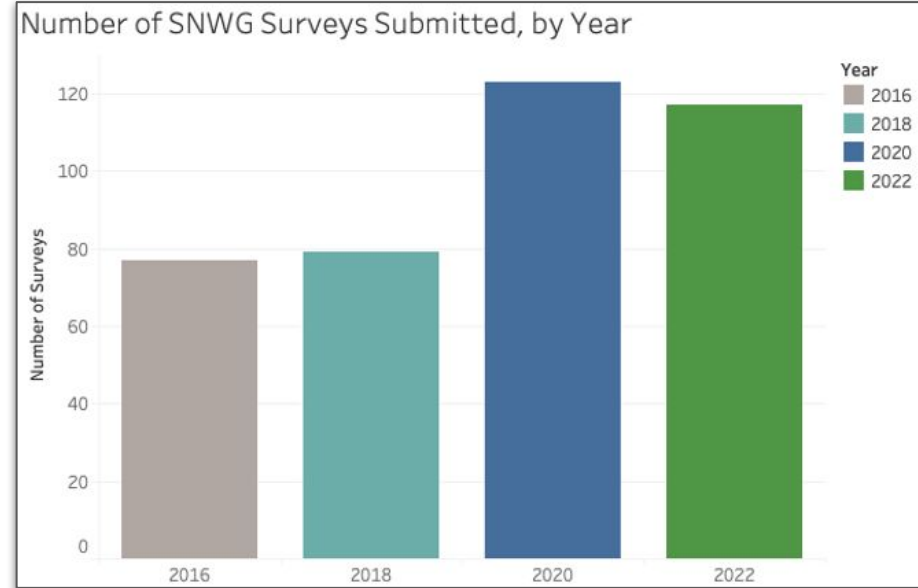


# SNWG Agency Survey

2022 SNWG survey: **116 satellite needs from >25 agencies**

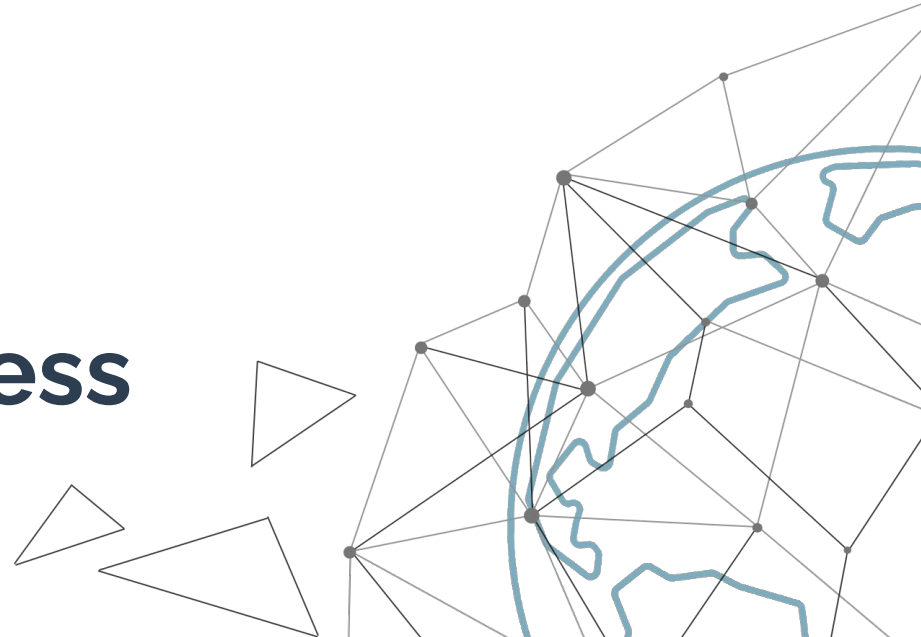
The survey demonstrates that:

- Federal agencies use satellite data for decision-making purposes as well as research, and the requested observables span Earth Science
- Continued growth in the need for high-resolution, optical data; both US and global data being requested
- Cloud-based access is the #1 requested access mechanism



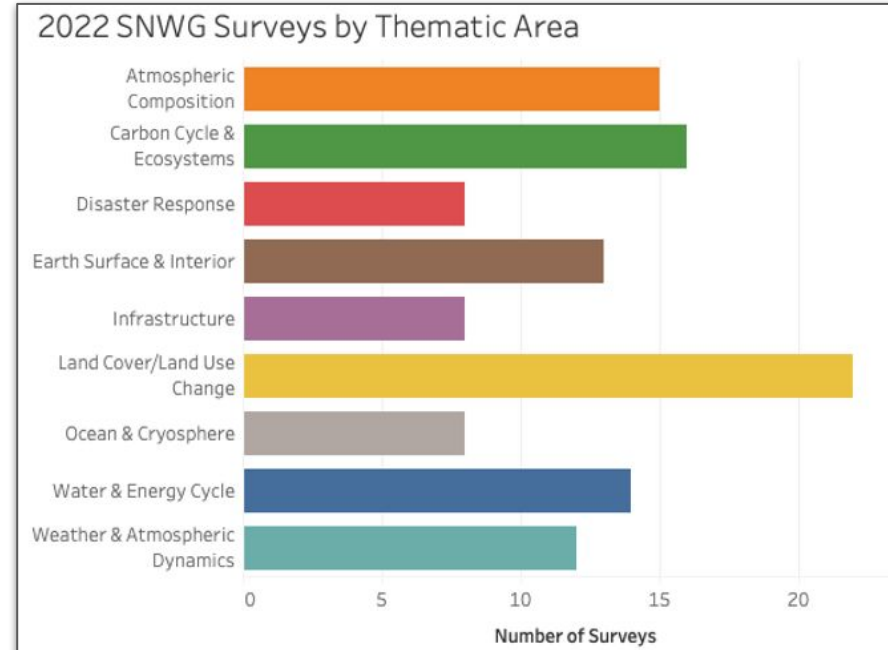
# NASA's SNWG Assessment Process

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# SNWG Assessment Process

- NASA leads a **tri-agency assessment** involving satellite data providers NOAA and USGS
- An 8-month assessment process involves **over 100 scientists**
- Surveys are assigned to thematic areas:
  - Atmospheric Composition
  - Carbon Cycle & Ecosystems
  - Disaster Response
  - Earth Surface & Interior
  - Infrastructure
  - Land Cover/Land Use Change
  - Ocean & Cryosphere
  - Water & Energy Cycle
  - Weather & Atmospheric Dynamics
- Each survey is assigned an assessment team with subject matter experts from NASA, NOAA, and USGS, who conduct an in-depth evaluation





# Step 1: Interview the Submitting Agency

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The NASA-led assessment team typically holds a 1-hour interview with the agency team who submitted the satellite need

Goals:

- Discovery of the need: What does the agency need to observe?
- Quantify unmet needs
- Discuss near- and long-term solutions that help meet the need:
  - Currently operating missions
  - Specific relevant data products or scientific approaches
  - Upcoming missions
  - New solutions/activities that could be undertaken

**Clear communication, engagement, and creativity are key aspects of a successful interview!**

## Step 2: Identify Solutions

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Solutions are **activities NASA, NOAA, and/or USGS could undertake** to meet the needs identified in each survey.

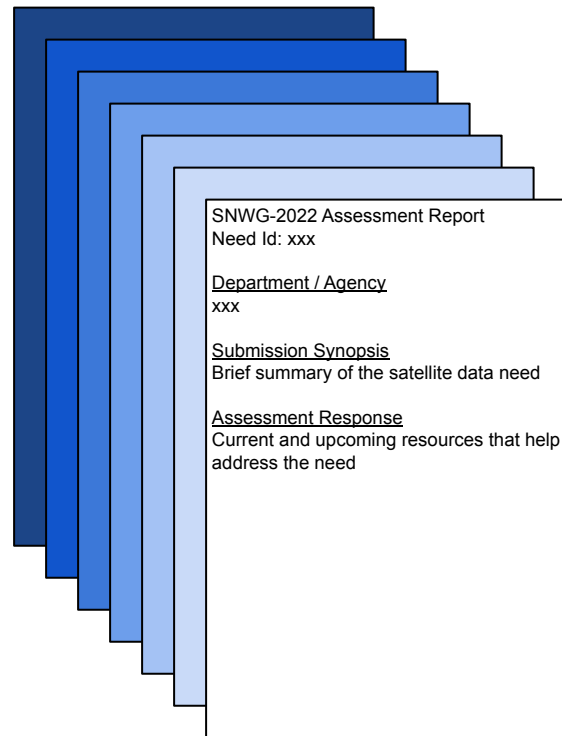
- New solutions could involve:
  - New product or infrastructure
  - Modification of an existing product, SNWG product, or infrastructure
  - An airborne or field campaign with NASA-specific platforms
  - On-demand processing or cloud capabilities
  - Training in data use
  - Commercial data access
  - Model development
- Each cycle, NASA proposes a subset of identified solutions that:
  - Have low-moderate cost
  - Are expected to produce a high level of agency satisfaction
  - Benefit multiple satellite needs from multiple agencies

## Step 3: Write Assessment Reports

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Each agency that submits an SNWG survey receives **an assessment report** containing:

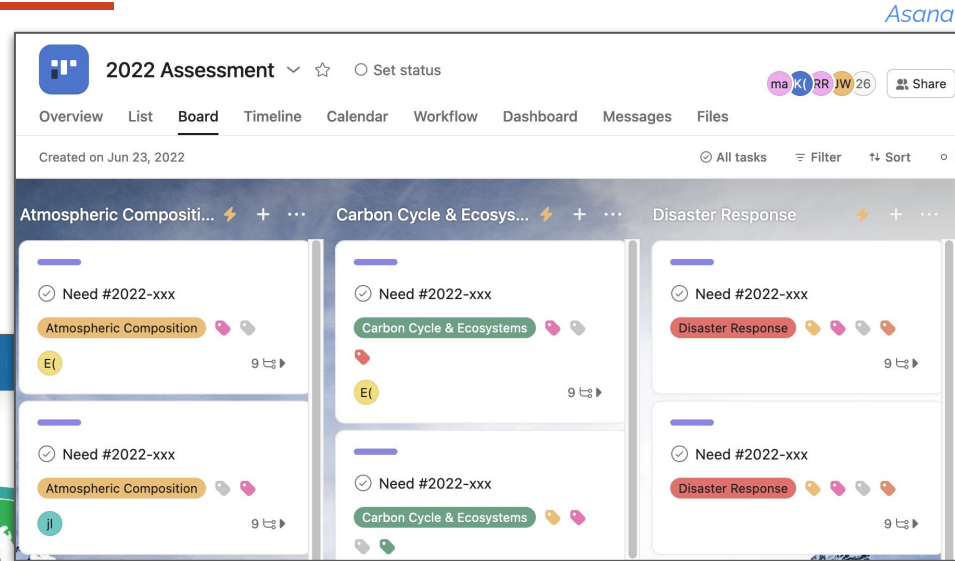
- A synopsis of the agency need as NASA understands it
- Discussion of technologies and resources that help meet the agency need, or challenges in meeting the need given current technologies
- Information about upcoming satellite missions or activities in NASA's future roadmap that may eventually meet the agency need
- Available training resources
- Tables and standardized text about relevant missions and data products



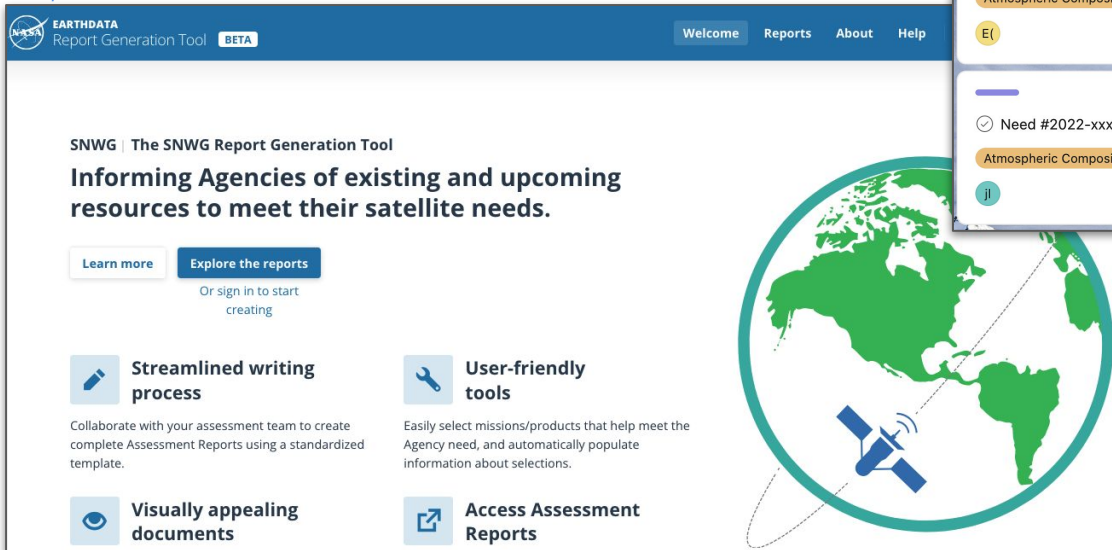
# Assessment Tools

The SNWG Management Office uses two tools to oversee and assist assessment participants: [Asana](#)

- Project and task management platform
- Provides next-step guidance and process tracking



## Report Generation Tool



## The Report Generation Tool

- Enables collaborative writing process
- Streamlines the writing process by providing a standardized template
- Enables management of standardized text relating to missions and solutions

# SNWG Outcomes

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- Past SNWG assessment cycles:
  - **NASA is implementing solutions to meet agency needs** expressed in previous SNWG surveys. Examples:
    - Harmonized Landsat Sentinel-2 (HLS) surface reflectance products
    - Catalog of Archived Suborbital Earth Science Investigations (CASEI)
    - Observation Products for End-Users for Remote Sensing Analysis (OPERA)
      - Surface water extent, land surface disturbance, land surface deformation
    - Near real-time products from the upcoming TEMPO mission (in collaboration with NOAA)
    - Enhanced access to commercial data products purchased and evaluated by NASA
- Current SNWG assessment cycle:
  - NASA, USGS, and NOAA are currently conducting follow up interviews for 2022 agency surveys
  - **The SNWG-2022 assessment will wrap up by June 1, 2023**
- For more information:
  - SNWG Management Office website: <https://www.earthdata.nasa.gov/esds/impact/snwg>
  - Overview of SNWG solutions: <https://www.earthdata.nasa.gov/esds/impact/snwg/solutions>
  - AMS presentation 6B.3: Making Better Use of Satellite Data: The Satellite Needs Working Group  
**Tuesday, January 10, 11:15-11:30am**

# Thank you!

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Questions? Contact me at [katrina.virts@uah.edu](mailto:katrina.virts@uah.edu)

<https://www.earthdata.nasa.gov/esds/impact/snwg>

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