



SNWG 2024 Assessment Discovery Interview Training

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Purpose of Discovery Interview Training

*To share knowledge from experienced SNWG-ers and reduce **anxiety** ambiguity in the areas that are somewhat uncertain and challenging*



Overview

- Understanding the bigger picture of what we are trying to accomplish with the interviews
- Understanding the Discovery Interview Process
- Understanding brainstorming solutions with agencies
- Understanding the goals of the assessment process
- Challenges and good practices when preparing for interviews

What's the Big Picture?

What are we trying to accomplish?



GERALD BAWDEN NASA HQ
PREVIOUS SNWG PRINCIPAL, CONDUCTED 100+ INTERVIEWS

[Video link](#)



The Discovery Interview Process

SNWG Supporting Materials: Discovery Interview Blueprint

Are Discovery Interviews Important to Understanding an Agency's Need?



KEVIN REATH, NASA HQ
EARTH SURFACE & INTERIOR THEMATIC LEAD, SINCE 2020

[Video Link](#)

How well can we understand the need from the survey?

*The survey is
the starting
point*



KEVIN REATH, NASA HQ
EARTH SURFACE & INTERIOR THEMATIC LEAD, SINCE 2020

[Video Link](#)

Discovery Interview Blueprint

- o. Arrive with a Discovery Mindset
1. Host a Welcoming and Open Space
2. Start with the Purpose
3. Open the Discussion
4. **Explore All Aspects and Edges of the Need**
5. When to Stop Exploring and transition
6. Brainstorm Possible Solution Options for Validation
7. Wrap up, Next Steps, and Express Gratitude

Waypoints 0-7

SNWG Discovery Interview Blueprint¶

The Interview Blueprint and its companion, [Preparing for Discovery Interviews](#), have been designed to take some of the mystery out of conducting discovery-led interviews. While it has been created to support assessment team members who are new to SNWG, it can also be a good refresher for members with prior experience. ¶

This Interview Blueprint has been redesigned for the 2024 cycle. The guidance and tips offered are based on the experiences of SNWG interview veterans, Gerald [Bawden](#) and Kevin [Reath](#), and team members who were new to SNWG in the 2022 cycle, Pontus [Olofsson](#) and Jordan Bell. Between the four of them, this blueprint distills interviews from over 200 agency needs into a few waypoints. ¶

The goal of blueprinting the interviews is to provide just the right amount of structure and guidance for everyone to relax into easy-flowing conversations with agencies. See it as a navigational aid rather than a prescription. ¶

0. → Arrive with a Discovery Mindset¶

Before you join the meeting, you will want to take a moment to actively shift out of a mindset that has been highly tuned for solving problems and making decisions. We invite you to engage in these interviews from a place of discovery. A discovery mindset subtly shifts the kinds of questions we ask, the way we listen for information, what we are listening for, and the way we interact with others. ¶

Discovery asks that we hold what we think we know about the agency's need very loosely because the survey only provides one aspect/edge/layer of what they are trying to solve with remote observations. ¶

Just arriving with a discovery mindset can soften the intimidation factor of being **interrogated** interviewed by a room of experts. Curiosity conveys a message that we're all here to explore your needs and determine if we can improve things, even incrementally. ¶

1. → Host a Welcoming and Open Space¶

Help everyone feel connected by inviting them to introduce themselves. Begin with the agency's representatives, followed by the team, and ending with the primary lead. ¶

Tip: If you and anyone on the team can share an experience that relates to their work, a shared connection forms and may help agency representatives more quickly "warm" into the discussion. ¶

Supporting Video¶

2. → Start with the Purpose¶

Take a moment to focus everyone's attention on why SNWG asked for this interview, and what we hope to accomplish. In your own words, share that we want to have a conversation with them so that we can understand the breadth of what they want to do

Waypoint Tips

Waypoint Videos

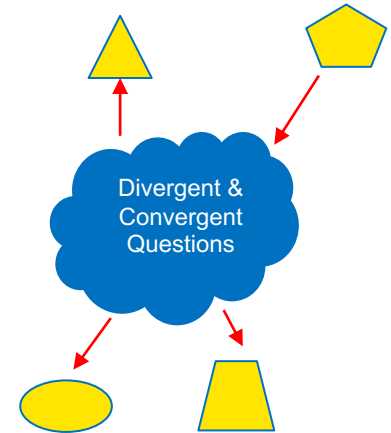
Understand the Key Parts of the Need



[Video Link](#)

4. Explore All Aspects and Edges of the Need

- Explore **whole range of their observational needs**
- Explore the **kinds of decisions** they want to make using the observations
- Ask about what they are **currently using** to measure the geophysical observation
- Find out what all of their **dependencies** are



Explore Any Dependencies that Could Shape Solution Options



GERALD BAWDEN NASA HQ
PREVIOUS SNWG PRINCIPAL, CONDUCTED 100+ INTERVIEWS

[Video Link](#)

Explore Dependencies

(Optimal as well as Suboptimal)

- Timing
- Data Latency
- Data Location
- Data Format
- Resolution
- Wavelength & Frequencies
- Training Needs

Dependency Video

Dependency
Tip & Video

Example: in an interview, the USDA Foreign Agriculture Service (FAS) said they needed hyperspectral data to be able to do crop identification, but as we explored the various conditions and decisions, they shared that they needed to know the best times for planting and harvesting crops. They needed to do crop identification but there were other things they needed to know that SNWG could potentially help them solve.

Tip: It's rare to discover that what an agency needs to solve can be addressed by a single satellite solution. It often takes multiple satellite data products (or a wide variety of solutions combined) to satisfy a unique need because the product they need has not been developed yet.

[Supporting Video](#)

Explore the range of dependencies (optimal AND suboptimal):

- **Timing:** i.e., when are conditions good to plant crops, or looking at seasonal migrations, where is the population at certain times of year or day?
- **Data Latency:** How quickly do they need the data? What is ideal? How much delay is acceptable? What is the cut-off point, when the data loses its value?
- **Data Location:** Where do they need to work with and analyze the data, in the Cloud, on local computers, ...?
- **Data Format:** What formats do they need to get the data? Many agencies don't have the budget/personnel to do conversions. A data solution product should consider dependencies like the ease of use or ability to use data.
- **Resolution:** Explore the edges. What is ideal? What would be an improvement? Do they need a 1-meter resolution, or will a 10-meter solve their needs?
- **Wavelengths & Frequencies:** Consider multiple ways of seeing the same thing on the ground using different wavelengths and frequencies that the agency may not know about, i.e., radar can be paired with Landsat (radar + optical) to penetrate cloud cover to observe flooded areas.
- **Training Needs:** What training do they need to use the data?
- **Any Other Dependencies:** Explore any other dependency that could shape your understanding of their need or open/close solution options.

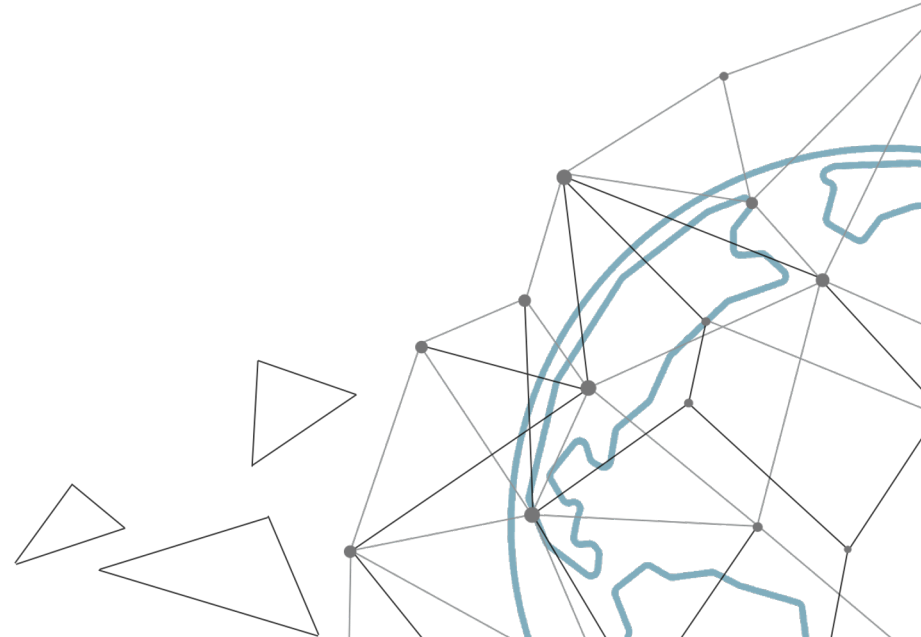
[Supporting Video 1](#) [Supporting Video 2](#)

Tip: What if what the agency needs would require a new mission or developing new technology? While this is not within the scope of the SNWG's mission, understanding their need and reporting on it allows NASA HQ, ESTO, and Program Scientist to understand community needs that may be worth exploring in the future.

[Supporting Video](#)

Brainstorm Solutions with the Agency During the Interview

SNWG Supporting Materials: Discovery Interview Blueprint



How important is it to brainstorm solutions with the agency?



KEVIN REATH, NASA HQ
EARTH SURFACE & INTERIOR THEMATIC LEAD, SINCE 2020

[Video Link](#)

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Solution Tips

6. → Brainstorm Possible Solution Options for Validation ¶

You want to make sure you have time in the interview to brainstorm solution options with them. This serves several purposes. It allows you to validate that you have understood all aspects of their need. If a proposed solution doesn't improve things, then there may be something you don't understand yet. Exploring solutions together gives you real-time feedback about the level of improvement, gives you a head start on what you will put in your report, and prepares the representatives for what they will see when they get their report. They should understand why the solutions they see in the report have been recommended and not be surprised by them. ¶

Tip: Be prepared to iterate on the solutions and to modulate the level of detail you discuss to match their level of experience with remote sensing capabilities. Some representatives have literally written books on remote sensing while others know much less. Meet them where they are. ¶

¶ When you are brainstorming solutions with the agency representatives, remember the goal is to explore possible solutions that can solve or improve their needs. Solutions are likely to be a combination of geophysical observations and could come from NASA, NOAA, USGS, CSDA, or other existing data sources. All brainstormed options are fair game and should be explored with the agency representatives. ¶

Solution Videos

[Supporting Video 1](#) [Supporting Video 2](#) [Supporting Video 3](#) ¶

¶ Solutions that don't currently exist and would need to be developed, could come from three main categories: ¶

1. → **Modify or enhance** something existing ¶
2. → **Create** something new ¶
3. → **Access** a product, tool, or dataset ¶

Across these categories, specific solution types could include: ¶

- → Developing a new mission* (also *see out-of-scope tip*) ¶
- → Developing a new technology ¶
- → Developing a new data product ¶
- → Developing new services (supporting data discovery, access, distribution, and application) ¶
- → Creating new infrastructure ¶
- → Modifying an existing data product ¶
- → Modifying an in-development SNWG data product ¶
- → Modifying existing infrastructure ¶
- → An airborne/field campaign with NASA-specific platforms ¶
- → On-demand processing capability ¶
- → Training in data access, use, and/or application ¶

Guidance

What does brainstorming solutions with an Agency look like?



[Video Link](#)

What is the range of solutions that can be brainstormed?

- Any **existing solution** from (NASA, NOAA, USGS, plus others)
- **SNWG solutions from previous cycles** that are currently in the pipeline (see end of Discovery Interview Blueprint)
- **New solutions** (see SNWG Guidelines)
- **Solutions currently being suggested** for a different agency's needs (*Cross-Pollination*)

All solutions are fair game!



Scope of New Solution Options

Comes from 3 categories:

1. **Modify** or **enhance** something existing
2. **Create** something new
3. **Access** a product, tool, or dataset

- Developing a **new mission*** (also see *out-of-scope tip*)
- Developing a **new technology**
- Developing a **new data product**
- Developing **new services** (supporting data discovery, access, distribution, and application)
- Creating **new infrastructure**
- Modifying an **existing data product**
- Modifying an **in-development SNWG data product**
- Modifying **existing infrastructure**
- An **airborne/field campaign** with NASA-specific platforms
- **On-demand processing** capability
- **Training** in data access, use, and/or application
- **Commercial data access**
- **Model development**
- **Increased cloud capability**



Let's Explore Cross-Pollinating Solutions

Understanding the goal of the assessments process

Preparing for milestone 4: Solution Prioritization



Understanding the goal of the assessment process



KEVIN REATH, NASA HQ
EARTH SURFACE & INTERIOR THEMATIC LEAD, SINCE 2020

[Video Link](#)



Discovery Interviews

SNWG Thematic Assessment Team

Maximize agency's ability
to use observations to
improve their need(s)



Discovery Interviews

**SNWG
Thematic
Assessment
Team**

Maximize agency's ability
to use observations to
improve their need(s)

Brainstorm range
of solutions



Discovery Interviews

**SNWG
Thematic
Assessment
Team**

Maximize agency's ability
to use observations to
improve their need(s)

Maximize solutions ability
to meet multiple needs
across agencies

Range of possible
solutions



Discovery Interviews

Solution Prioritization

**SNWG
Thematic
Assessment
Team**

Maximize agency's ability
to use observations to
improve their need(s)

Maximize solutions ability
to meet multiple needs
across agencies

Discover range of
possible solutions
for each agency

Discovery Interviews

Solution Prioritization

Discover/Co-shape
solutions to have
broader impact

SNWG
Thematic
Assessment
Team

Discovery Interview Challenges & Good Practices

SNWG Support Materials: Discovery Interview Blueprint +
Preparing for Discovery Interviews



Challenges

- *Discovering all aspects of their need(s)*
- ***Gaining trust of agency representative*** so you can step into an easeful flowing conversation

0. Arrive with a Discovery Mindset

1. Host a Welcoming and Open Space

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Video

¶ [Supporting Video¶](#)

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Good Practices

- Work Together as an Assessment Team Across Milestones
 - *(Optional) Pre-Interview Huddle*
- Look for ways this experience benefits you and your work

Huddle Videos

SNWG Scheduling

■ Working Together as an Assessment Team Across Milestones¶

Each survey helps us identify the group of subject matter experts (SME) that will be valuable to have as a part of the discovery process and identification of solution options. Your team may likely be with peers from NASA, NOAA, USGS, and NASA's CSDA program. You will be able to tap into a wide range of experiences to help you understand each need when brainstorming solutions during the interview and into the next SNWG milestone (Identifying Solutions). That milestone invites thematic teams to look across all proposed solutions to find the ones that meet the needs of multiple agencies.¶

Because each team will have leads and members with different levels of experience with SNWG

(Optional) Pre-Interview Huddle (to huddle or not)

A huddle is a meeting with the assessment team before the interview where the team:



- **Reviews the survey together and creates a shared baseline understanding** of what the agency shared in the survey and what this may imply about what they need and want to do with observational data
- **Shares SME-specific questions and information** about needs or possible solution options that may only be known by a SME
- **Discusses the previous cycle reports** if they exist
- **Discusses the interview strategy:**
 - How everyone contributes (this is not a hierarchy)
 - Review the interview goals and process (see the [Discovery Interview Blueprint](#))
 - Discuss how to create an open easy connection and dialogue with the agency's representatives

Even when the interview process or survey seems clear and straightforward, everyone hears and interprets things differently. Huddles can reduce ambiguity and foster a shared sense of contribution and connection.

[Supporting Video 1](#) [Supporting Video 2](#) [Support Video 3](#)

A huddle may not be necessary when:

- The Thematic Lead or Assessment Team Lead or Assessment Team is conducting all or multiple interviews together, then one huddle may suffice for all interviews and pair with email communications for questions.
- The interview lead and the Assessment Team have experience conducting SNWG interviews and have already established a connection. *Be mindful of leaving any new SNWG member(s) out if most of the team has a previous connection.*

Scheduling a Huddle:

Every Thematic Team and Assessment Team will have different organizing needs around huddles. SNWG MO leaves this decision up to each team. If you decide to huddle, [contact the SNWG MO](#) to assist with scheduling and or help to facilitate a huddle.

What advice would you give to assessment teams?



PONTUS OLOFSSON, SNWG PROJECT SCIENTIST
ATTENDED ALMOST ALL CYCLE 2022 INTERVIEWS

[Video link](#)

*Don't hesitate to reach out
with questions and for
support.*

Discovery Interview Support Materials:

- SNWG Assessment->Tools/Training->Agency Interviews
 - Interview Blueprint
 - Preparing for Discovery Interviews
 - Slides
 - Recording
 - Check out even more video clips on YouTube playlist
-

