

NOAA
National Satellite, and
Information Service

June 22, 2022

Preparing For the Future

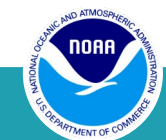
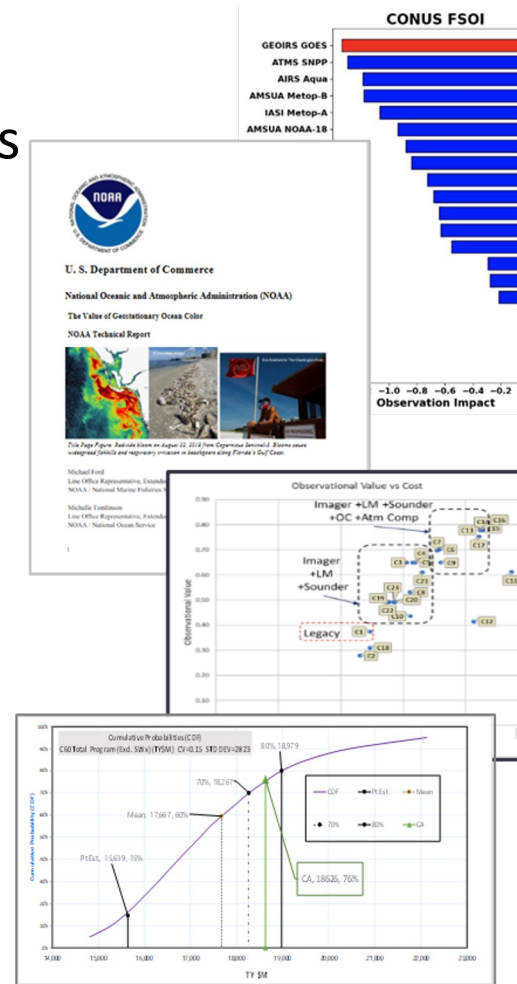
GeoXO User Readiness Plans

Katherine Hawley

Geostationary and Extended Observations (GeoXO)

GeoXO Completed “Pre-Formulation” in 2021

- **Determined GeoXO observational priorities, informed by:**
 - User needs assessments via workshops, surveys, conferences, town halls
 - Observational value assessments for proposed new instruments
 - Feedback from NOAA Observing System Council
- **Selected constellation to meet observing needs, informed by:**
 - Industry and Program studies of instruments and architecture options
 - Risk-informed cost estimates and affordability analysis
- **Completed Mission Concept Review and Key Decision Point A**
 - Documented and approved program level requirements
 - Demonstrated mission concept is feasible, meets defined requirements, and that planning is sufficient to enter Phase A/Formulation
- **Completed Milestone 1**
 - Officially initiating the program
- **Next step: Formulation**



GeoXO: Mission Needs Served

Ongoing Needs: Users require continuity of existing observations with improved performance

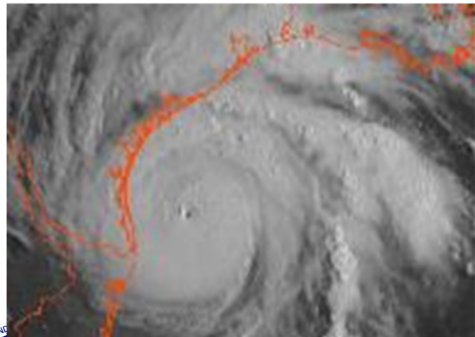
- **Data for short-range forecasting, severe weather watches and warnings, and monitoring hazardous environmental conditions** including tropical storms, severe storms with lightning and damaging winds, snow, ice, flooding, fog, fires, smoke, and volcanic ash.

Delivered by Imager and Lightning Mapper

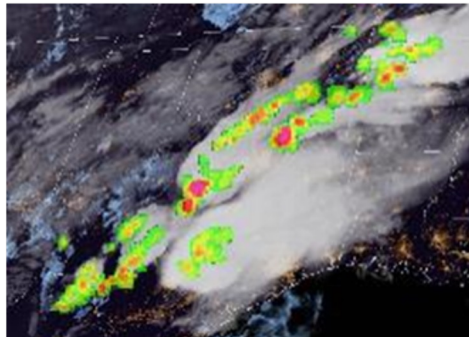
Growing Needs: Users expect NOAA to meet new requirements with new observations:

- **Improved numerical weather prediction and local nowcasting**
 - Delivered by Hyperspectral IR Sounder
- **Monitoring dynamic coast/ocean features, ecosystem change, water quality, and hazards**
 - Delivered by Ocean Color Instrument
- **Monitoring air quality and linkage with weather and climate**
 - Delivered by Atmospheric Composition Instrument

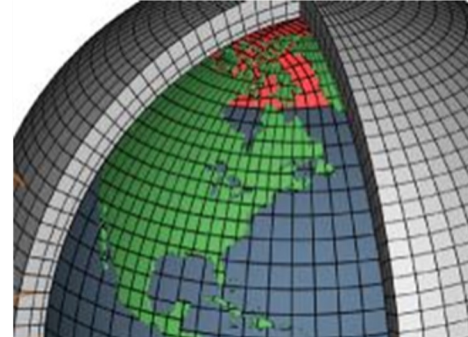
Vis/Near-IR Imagery
[Supporting NWS]



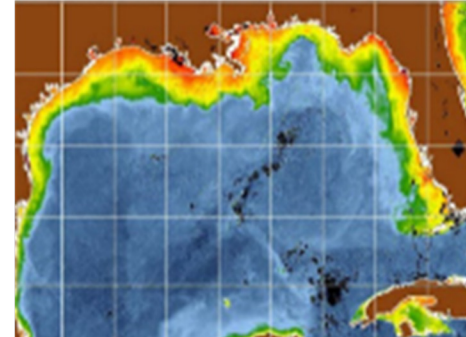
Lightning Mapping
[NWS]



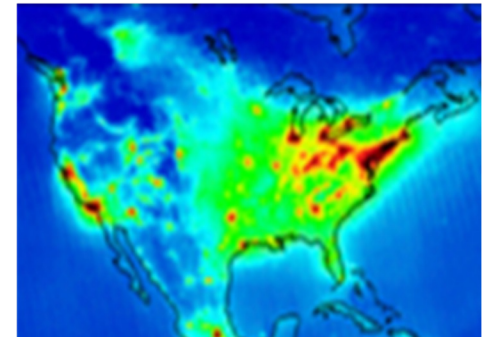
IR Sounding
[NWS]



Ocean Color
[NOS, NMFS]



Atmo. Composition
[OAR, NWS]



GeoXO Constellation

(Preliminary, pending program approval)



GEO-West

Visible/Infrared Imager
Lightning Mapper
Ocean Color



GEO-Central

Hyperspectral Infrared Sounder
Atmospheric Composition
Partner Payload



GEO-East

Visible/Infrared Imager
Lightning Mapper
Ocean Color

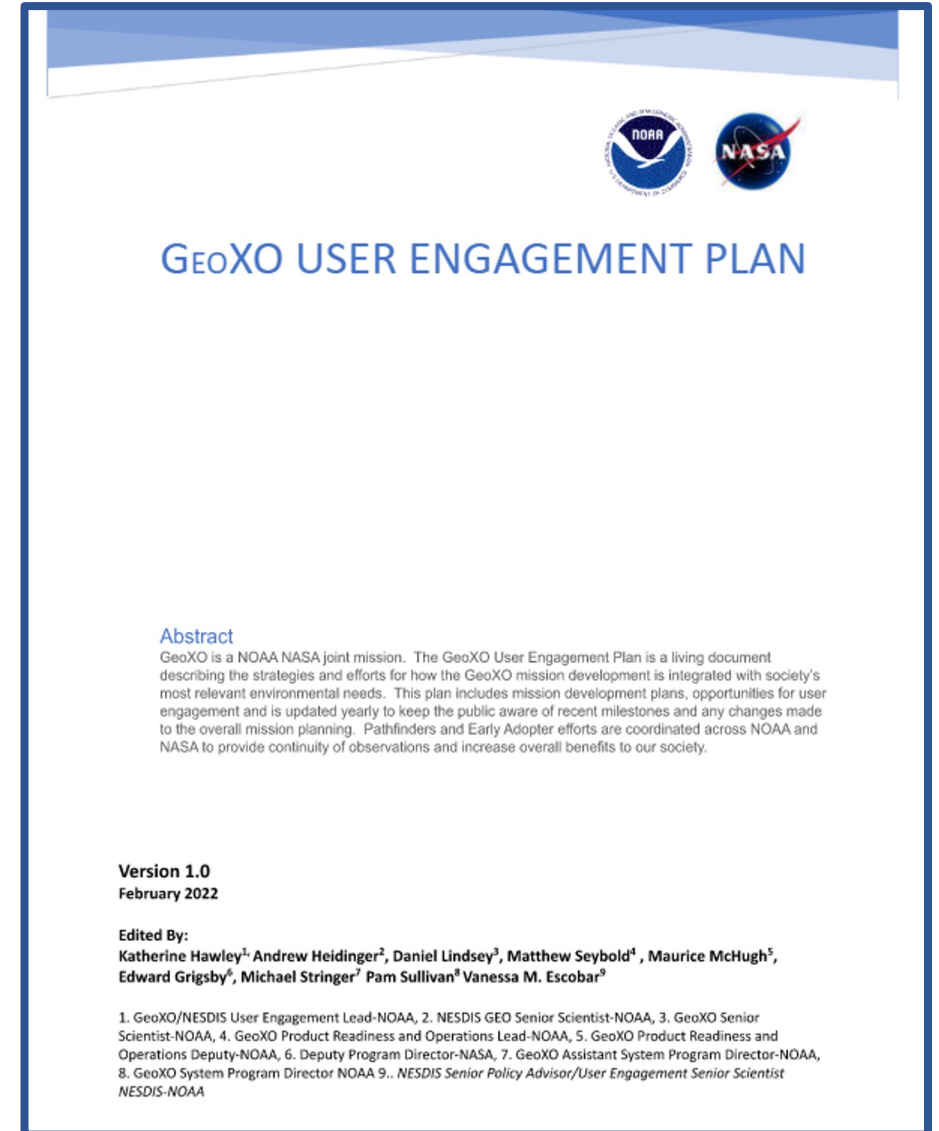


GeoXO User Engagement Plan

3 Phase Approach aligned with the mission life cycle:

- User Needs
- User Readiness
- User Sustainment

A living document that evolves with the mission goals and needs



GeoXO User Engagement Plan

3 Phase Approach aligned with the mission life cycle:

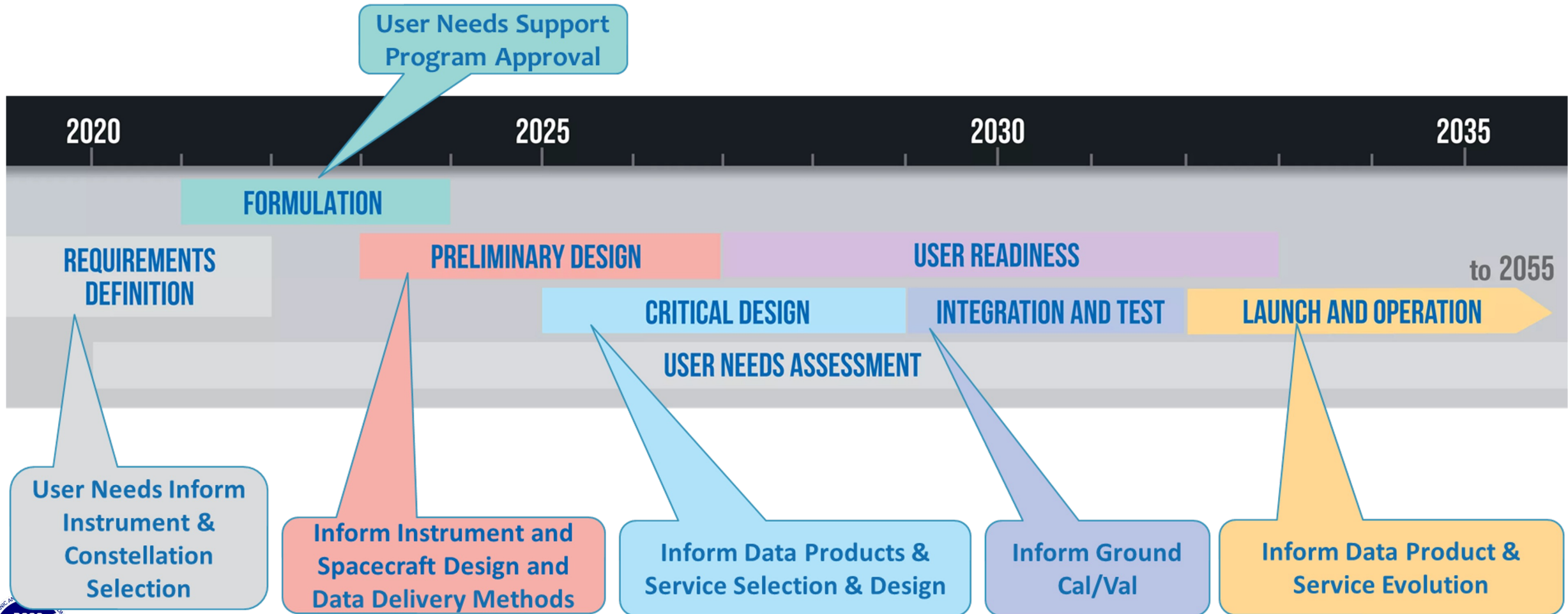
- **User Needs**
- User Readiness
- User Sustainment

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User Engagement Plan: User Needs

Collect, exchange, and assess user information where users identify needs and capabilities and use gaps in different areas of society



GeoXO: UE Example



Fire Workshop

Wednesday, June 3, 2020
11:30 AM – 12:30 PM EDT

Hosted by:
National Environmental Satellite, Data, and Information Service
National Oceanic and Atmospheric Administration

The banner features a collage of images related to wildfires, including a large fire, a person silhouetted against a fire, and a landscape with smoke.

Fire Workshop

June 3 – 5, 2020

178 Total Attendees



Weather Forecasting Workshop

Monday, July 20, 2020
11:00 AM – 12:00 PM EDT

Hosted by:
National Environmental Satellite, Data, and Information Service
National Oceanic and Atmospheric Administration

The banner features a collage of images related to weather forecasting, including a satellite image of a storm, a radar map, and a landscape with a storm cloud.

Weather Forecasting Workshop

July 20 – 24, 2020

233 Total Attendees



Human Health Workshop

Tuesday, July 28, 2020
11:00 AM – 12:00 PM EDT

Hosted by:
National Environmental Satellite, Data, and Information Service
National Oceanic and Atmospheric Administration

The banner features a collage of images related to human health, including a city skyline, a person, and a map of the United States with data points.

Human Health Workshop: July 28 – 31, 2020
207 Total Attendees



Agriculture Workshop

Tuesday, September 15, 2020
11:00 AM – 12:00 PM EDT

Hosted by:
National Environmental Satellite, Data, and Information Service
National Oceanic and Atmospheric Administration

The banner features a collage of images related to agriculture, including a field of crops, a tree, and a person working in a field.

Agriculture Workshop: September 15 – 18, 2020
152 Total Attendees



Oceans, Coastal and Inland Waterbodies Workshop

Tuesday, November 17-20, 2020

Hosted by:
National Environmental Satellite, Data, and Information Service
National Oceanic and Atmospheric Administration

The banner features a collage of images related to oceans and waterbodies, including a satellite map, a coastline, and a ship.

Oceans Workshop: November 17-20, 2020
142 Total Attendees

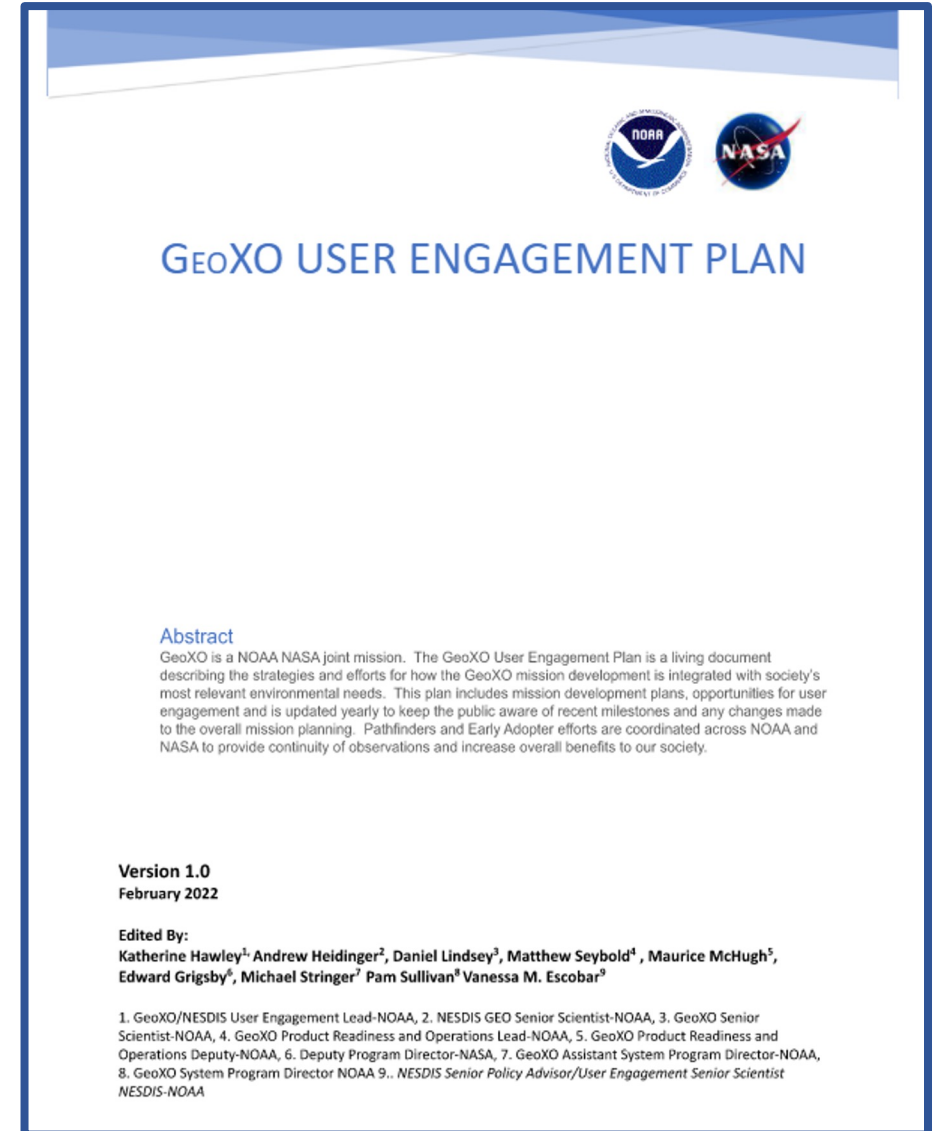


GeoXO User Engagement Plan

3 Phase Approach aligned with the mission life cycle:

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User Engagement Plan: User Readiness

Is a process to exchange information from a program to a user to expand existing knowledge of user-needs, to understand all dimensions of preparedness, and to develop a complete understanding of the intent and scope for the execution of readiness management.



Expand GeoXO's existing knowledge in identified gaps, and to understand deployment methods necessary to understand **process readiness, data readiness, organizational** and **cultural readiness**.

User Engagement Plan: User Readiness

- Strengthen and build relationships across user communities
- Develop personas to expand existing knowledge of identified user needs
- Implement scientific advancements centered around user-driven needs
- Communicate clear defined expectations for the end-user and feasibility of future solutions
- Conduct data readiness assessments and activities to understand all dimensions of readiness are considered and define acceptance criteria (for example, OSSEs)
- Conduct process readiness assessments and activities to uncover technical hurdles and constraints for successful service delivery
- Connect to NASA Missions - Early Adopter Programs
- Utilize NOAA Pathfinders to understand societal impacts



User Engagement Plan: User Readiness

- Inform NESDIS Enterprise Portfolio Management for the optimization of NRL and portfolio development
- Conduct Organizational and Cultural Readiness assessments and activities within user communities to ensure products are accessible in the user environment
- Inform NESDIS Innovation Portfolio
- Inform the NESDIS Enterprise Proving Ground and the NOAA Testbed & Providing Ground Program
- Prepare end-users for new technology to prevent end-users from becoming uninformed, unprepared, and resistant to change
- Inform the development of training materials and exercises which align with user culture and environments

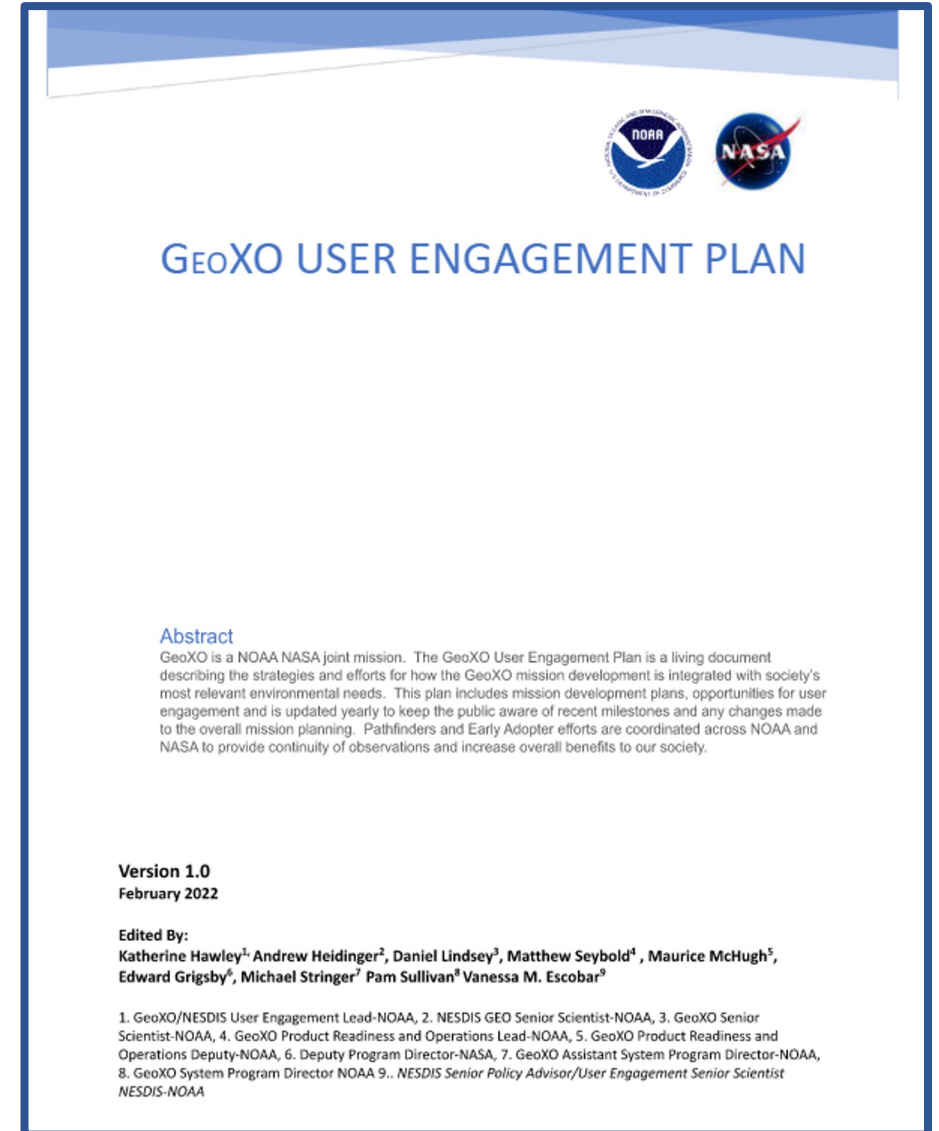


GeoXO User Engagement Plan

3 Phase Approach aligned with the mission life cycle:

- User Needs
- User Readiness
- **User Sustainment**

A living document that evolves with the mission goals and needs



User Engagement Plan: User Sustainment

A systematic process that incorporates user engagement activities to bridge user needs, products and services, during the operational life of a mission and into future missions.

Provides quantifiable ways in which products, data and services bring value to NOAA's mission.



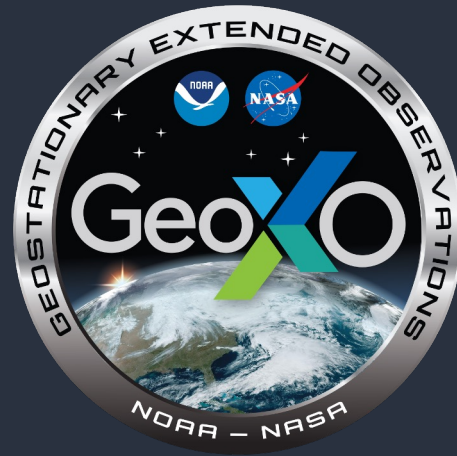


Your Voice Shapes the Future



Thank You!

Katherine Hawley



GeoXo Lead Scientist for User Engagement

Katherine.Hawley@noaa.gov

