GEO Value

Connecting Observations to Societal Impact: An Introduction to **GEOValue**

Copernicus Sentinel data (2020)

Sentinel Benefits Study Workshop
Session 3: The International Perspective
June 13, 2024

Presented by: A.Tassa (ESA), C.Straub (USGS), G.Sawyer (EARSC), *J.Conran (NOAA), L.St.Onge (CSA), M. Garcia (USGS)

NOAA Chief Economist Portfolio

Socioeconomic Impact Studies of EO Systems:

- GeoXO Next-Generation Geostationary Satellite Program
- Space Weather Next Satellite Constellation
- Low-Earth/Near Earth Orbiting Network
- National Weather Service Radar Next
- Recapitalization of NOAA Ship Rainier
- G550 Hurricane Hunter Aircraft Study
- Value of Remote-sensing for Harmful Algal Bloom (LEO and GEO)
- Value of Ocean-based Observations (Economist Intelligence Unit)

Impact Evaluation of Climate-Resilience Grant Awards

- Fish passage, marine debris removal, coastal resilience

Marine Economy Statistics and Natural Capital Accounting (UN SEEA)

- Accounting for ecosystem services and flows to and from economies

Social Justice and Climate Resilience (Heat Focus)

Defining Value

Socioeconomic Value, Societal Benefit, Societal Impacts:

- The measure of welfare provided by information or a service to a recipient (public sector):
  - Economy: Reduction of costs
  - Efficiency: Optimally allocating resources
  - Effectiveness: Spending on worthwhile endeavors (public benefit)
  - Equity: Reductions in disparities among beneficiaries

Vs Economic Impact Analysis

- Changes in revenue, profits, wages, spending patterns, and jobs

Monetary value allows for easy comparison across public investments, but many values exist (health outcomes, happiness, cultural, nature)

GEO Value

Why Value Earth Observations?

- Align operations and investments with societal needs
- Improve service delivery and ensure information supports society equitably
- Support budget justification and future investments
- Understand impact of past investments
- Understand and convey the value of a program's services

GEOValue long-term vision

GEO Value

Investigating the Value of EO to Society

Our long-term vision is to establish a widely accepted and broadly-adopted capacity for the assessment of Earth observations impacts, based on technically-valid methods and resources.

What is GEOValue?

Who

GEOValue is a multi-disciplinary international community pursuing evidence-based methodologies to assess the use and value of Earth Observations (EO). GEOValue is a Community Activity under the GEO Work Programme.

GROUP ON EARTH OBSERVATIONS

Why

EO contributes to the evidence-base for decisions by public sector, business leaders and individuals. Expanding our understanding of the socio-economic benefits of EO will lead to more effective use and promotion of this information.

How

GEOValue furthers the use of socio-economic evidence through working groups, case studies, sharing best practices in methodology, peer-reviewed publications and a structured repository to guide practitioners in the assessment of Earth Observation impacts.

GEOValue Membership

- **Participants** - Anyone who would like to attend an event held by GEOValue or access our research. All are welcome!
- **Members** - Organizations or individuals with an interest to be involved in GEOValue activities, sometimes as presenters/writers/organizers through targeted workshops, working groups or other activities.
- **Planning Committee** - Core members that meet regularly (e.g. monthly) and plan for the overall direction of GEOValue.
  - Currently includes representatives from:
    - Canadian Space Agency
    - European Space Agency
    - FourBridges and European Association of Remote Sensing Companies
    - National Aeronautics and Space Administration
    - National Oceanic and Atmospheric Administration
    - United States Geological Survey

Recent Accomplishments

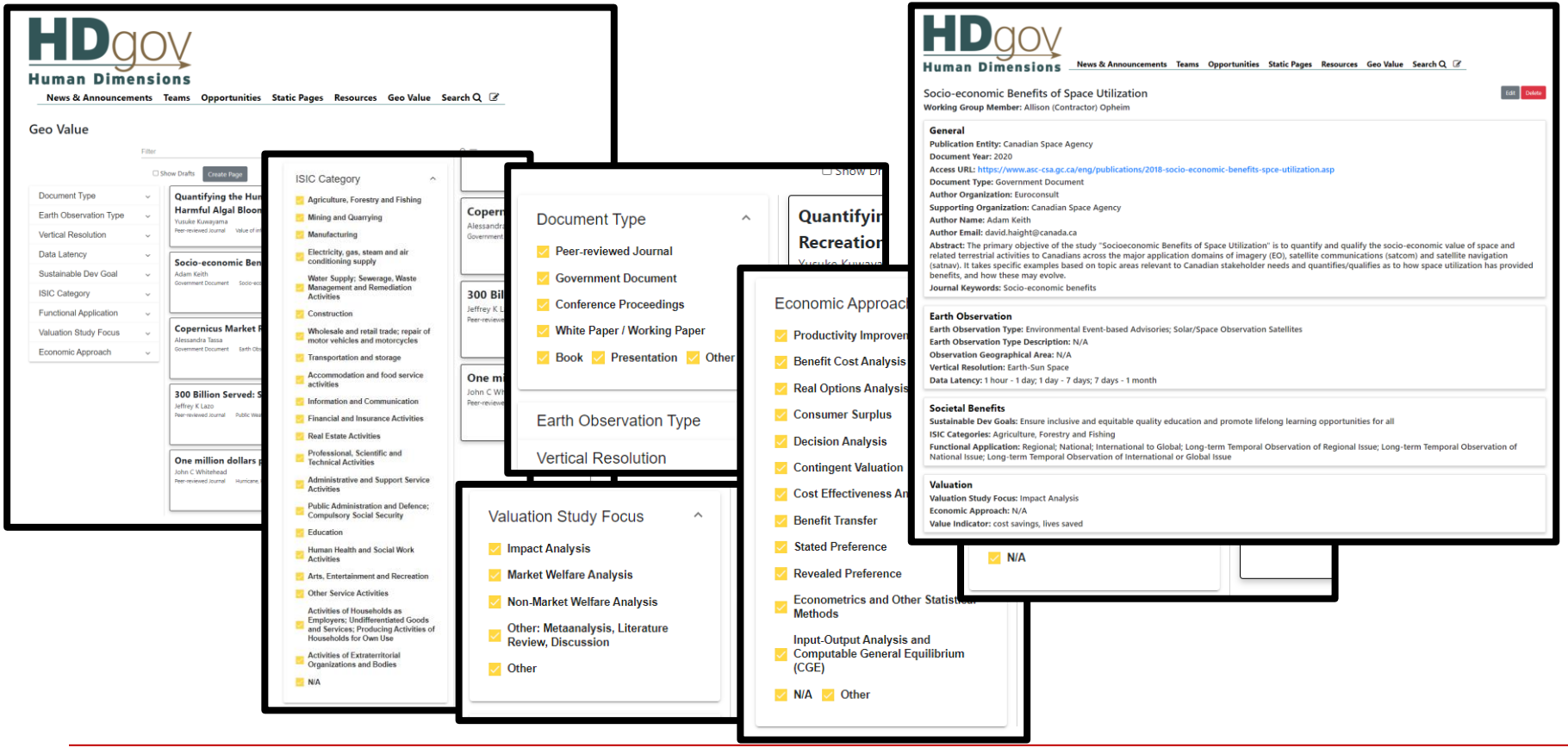
- Beta Launch of Societal Benefits of EO Digital Library
- Incorporation of GEOValue as GEO Community Activity
- AGU 2023: Understanding the Societal Value and Use of Earth Science Information
- GEO Week 2023: Assessing the Societal Impacts and Use of EO Data
- Pecora 2022: Space Agency Exec & Diverse Perspectives on Value of EO
- GEO Week 2022: The Value of Valuing Earth Observations
- Frontiers in Environmental Science (2021):
  - Valuing Earth and Environmental Science Special Issue

How GEOValue Supports NOAA

- Sharing of knowledge across experts
- Ensures consistency and robustness in valuation approaches
- Advancement in capacity and methods to conduct research
- International network of public and private sector contacts
- Improved coordination between GEO and USGEO objectives
- Pooling of resources to support global initiatives

GEO Value

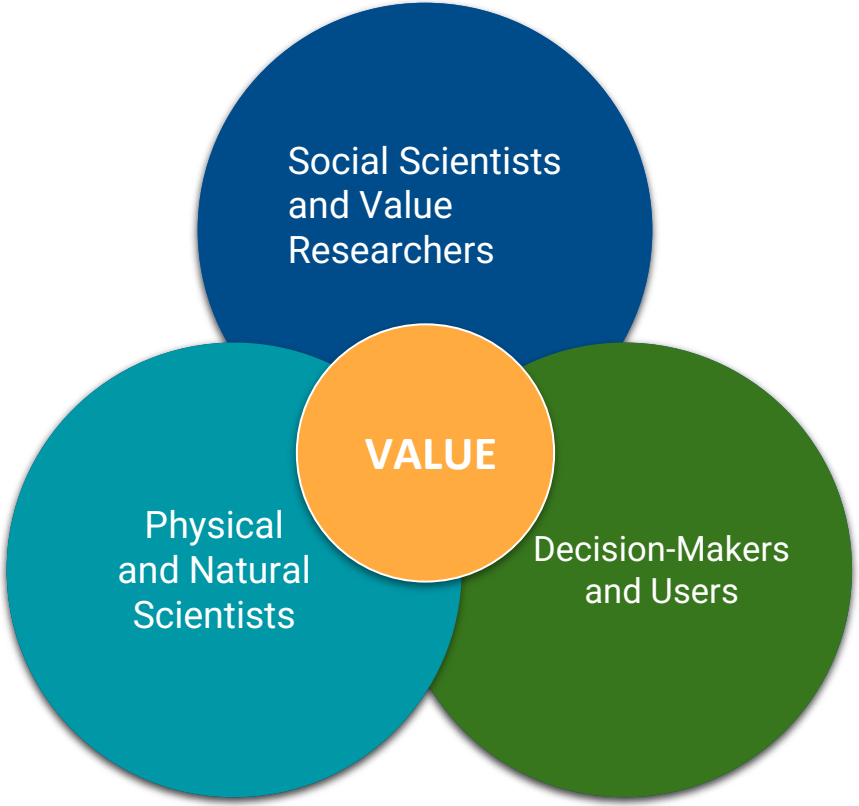
Repository



Looking Forward

- GEO Earth Observation Impact Assessment Toolkit
  - Development of valuation guide for assessing the societal impact of Earth observations and derived information
  - **Upcoming GEO Workshop: June 21, 3-4PM CEST**
  - Seeking qualitative discussions with GEO initiatives to better understand needs and uses of valuation toolkit
  - Alignment with GEO Post 25 Strategy
    - Coproduction with social scientists and connections to societal policy decisions
    - Improved data access and focus on global equity
    - Integration of new methods and approaches for valuation
    - Incorporation of early career scientists and young stakeholders
    - Provide materials for advocacy and resource mobilization

Coordination is Needed



Thank You!

Resources:

Joint Societal Benefits of Earth Observation Digital Library (BETA)
https://doi.sciencebase.gov/hd/#/geo-value

Frontiers Special Issue Valuing Earth and Environmental Science
https://www.frontiersin.org/research-topics/13883/valuing-earth-and-environmental-science

Reach out to GEOValue:

geoff.sawyer@earsc.org
alessandra.tassa@esa.int
joseph.conran@noaa.gov