The goal of this workshop is to advance valuation of the benefits from EO through case studies* and through cross-fertilization with researchers, practitioners and managers from different disciplines.

*Such as the ones from the GeoValue community and from the Copernicus Sentinels study.

Objectives

The European Space Agency (ESA) co-organises the Workshop and hosts it at its premises in the ESRIN centre located in Frascati (Italy). ESRIN is ESA’s centre for Earth Observations.

Target Audience

- Analysts with experience or interest in the valuation of benefits derived from EO
- Analysts from other communities facing similar challenges (particularly, with respect to traceability of impacts from open data)
- Economists and environmental assessment experts not familiar with the space domain but interested to explore the challenges posed by the estimation of EO benefits
- Policy officers interested to understand how to approach the measurement of value in setting EO space policies and in developing natural resource, environmental, and natural hazard decisions.

Workshop

Advancing the understanding and measurement of the societal benefits of Earth Observations

July 1-3, 2019

ESA-ESRIN

Lgo G. Galilei 1, Frascati, Italy
WORKSHOP PROGRAMME

July 1: SETTING THE FRAME: ABOUT THE MOTIVATION AND THE CHALLENGES OF VALUING EO

14h00  Registration and coffee

14h30  Welcome and Workshop Goals

14h40  Keynotes: Visions and Perspectives
  - Josef Aschbacher (ESA, Director of the Earth Observation Programmes)
  - Cynthia Lodge (USGS, Deputy Director) TBC
  - Kamil Kiljanski (European Commission DG-GROW, Unit head of Space Data for Societal Challenges and Growth)

15:30  Opening session: Motivations, Approaches, and Practice for valuing EO
  Moderator: Rudy Aernaudt (EC)
  - Claire Jolly (OECD, Head of Unit, Directorate for Science, Technology and Innovation)
  - Steven Ramage (GEO Secretariat, Head of External Relations)
  - Carl Shapiro (USGS, Science and Decisions Center Director and Senior Economist)
  - Mary Ann Kutny (NOAA, Satellite and Information Service International and Interagency Affairs Division, Deputy Director)
  - Charlotte Mathieu (ESA, Head of the Industrial Policy and Economic Analysis Section) and Mark Doherty (ESA, EOP Senior Advisor)
  - Open discussion with the audience

17h00  Round Table: Measuring impacts: experiences from different domains
  Moderator: Jay Pearlman (FourBridges)
  - Michael Obersteiner (IIASA) – The measurement of environmental impacts: examples from IIASA
  - Jakob Mudesir Seid (Office of the Chief Statistician, UN Food and Agriculture Organisation) – Use of Geospatial Data at FAO
  - David Haight (Canadian Space Agency) – The socio-economic benefits of space utilization in Canada
  - Open discussion with the audience

18h00  Networking Cocktail on the terrace

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Background

Government geospatial environmental information brings tremendous benefits to the economy, the environment and society. Understanding and quantifying these benefits is critical to programme planning, prioritization and product development but rigorous, quantitative assessments can be extremely challenging. This is certainly the case for satellite-based, Earth Observation (EO) data made available freely and openly in support to environmental monitoring and disaster management such as those from the European Copernicus Sentinels and the USGS Landsat missions. Since these data can be exploited in many domains and generate different types of impacts (e.g. on the environment, on economy and even on policies and regulations), their demonstration can require multiple competences and practitioners can greatly benefit from cross-fertilization with other fields.

The Copernicus Sentinels Benefits Study

This is a study aimed at gathering quantitative evidence about the benefits brought by the usage of Copernicus Sentinel data through a set of use cases and dedicated analyses. The study is carried out by the EARSC, The Greenland and IIASA under an assignment from the European Space Agency (ESA). The study is funded by the European Union in the frame of the Copernicus programme. The project mid-term review provides the occasion for the workshop.

Discover all Sentinel Benefits Study Reports and cases: http://earsc.org/sebs
Discover the Copernicus Programme www.copernicus.eu

The GEOValue Community

GEOValue is an international community with focus on the value and socioeconomic impacts of geospatial information for decision-making. Main activities address:
- Fostering collaboration across specialties and building communication and trust across social, economic and natural sciences.
- Developing a shared database of experiences and lessons learned,
- Offering a glossary of terms and reference material and list of experts;
- Creating fora for community interactions, workshops and publications.
- Assembling a compendium of case studies and analysis methodologies
- New methods for qualitative and quantitative analyses.

Discover the community: www.geovalue.org
Discover the last meeting report: https://pubs.er.usgs.gov/publication/ofr20191033
### July 2 – INTO THE FIELD: EXAMPLES OF IMPACTS MEASUREMENTS THROUGH SHOWCASES FROM THE SENTINELS BENEFITS STUDY AND OTHER PROGRAMMES

**09h00** Overview of the day
- Alessandra Tassa (ESA)

**09h05** Round Table I: Measuring socio-economic impacts
**Moderator:** David Haight (CSA)
- Geoff Sawyer (EARSC) – Outputs from the Sentinels’ benefits study and the example Sea Ice Navigation in Greenland
- Martina Sindelar (EC DG-GROW) - The Copernicus studies
- Alan Smart (Acil Allen Consulting) - Economic Perspectives
- Crista Straub (USGS National Land Imaging and the Fort Collins Science Center) – Using Contingent Valuation Methodology to Measure the Value of Landsat Imagery: 2018 User Survey
- Open discussion with the audience

**10h20** Coffee Break

**10h35** Round Table II: Measuring socio-environmental impacts
**Moderator:** Michael Obersteiner (IIASA)
- Lef Mamais (EARSC) and Steven Krekels (VITO) - Outputs from the Sentinels’ benefits study and the example of potatoes growing in Belgium
- Joe Silke (Irish Marine Institute) - An example of measuring impacts in a case of harmful algal blooms detection in Ireland
- Andrus Meiner (European Environment Agency) - Role of Earth Observation in current state of environment reporting
- Sarah Ryker (USGS) – Use of valuation to prioritize future Earth Observations
- Open discussion with the audience

**11h50** Round Table III (continued)
- Jason Gallo (Institute for Defense Analysis) – Importance of Attribution for Assessing the Policy and Regulatory Impact of Earth Observations
- Glenn Vancauwenberghe (KU Leuven) - Uptake of EO/Copernicus data for improving the performance of work processes
- Open discussion with the audience

**13h00** Lunch in the ESRIN canteen

**14h00** Round Table IV: Measuring impacts on innovation & entrepreneurship
**Moderator:** Massimo Florio (Università Statale di Milano)
- Dimitri Papadakis (EARSC) and Stefan Józefowicz (SatAgro) - Outputs from the Sentinels’ benefits study and the example of Farming in Poland
- Andy Coote (ConsultingWhere) - The UK location industry - a market survey
- Amanda Regan (ESA) - Impact of EO on innovation and entrepreneurship at ESA
- Open discussion with the audience

**15h30** Coffee Break

**15h45** Round Table V: Measuring impacts on advancements in understanding (in science and technology)
**Moderator:** Alessandra Tassa (ESA)
- Dimitri Papadakis (EARSC) – Outputs from the Sentinels’ benefits study
- Stijn Vermoote (European Centre for Medium-Range Weather Forecasts ECMWF) - EO data and its impacts on operational weather and climate services
- Karl Benedict (Earth Science Information Partners ESIP) - Assessing community impact: a sample of ESIP’s activities
- Imraan Saloojee (South Africa Space Agency)
- Open discussion with the audience

**17h00** Tying it all together: open discussion looking across the Roundtables
**Moderator:** Cynthia Lodge (USGS) TBC

**18h00** Close of 2nd Day
July 3 – THE WAY AHEAD: AREAS FOR IMPROVEMENT AND RECOMMENDATIONS FOR NEXT STEPS

09h00 Overview of the day
  • Carl Shapiro (USGS)

09h15 Splinter Sessions Part A

Splinter Sessions Part A
  ▪ Session 1: Understanding the Context
    – Moderator: Mary Ann Kutny | Rapporteur: Bob Downs
  ▪ Session 2: Enhancing Measurement Methods and Practices
    – Moderator: Nikolai Khabarov | Rapporteur: Chady Jabbour
  ▪ Session 3: Addressing Next Steps
    – Moderator: Steve Ramage | Rapporteur: Crista Straub (TBC)
  ▪ Session 4: Geovalue community: developing a Cohesive Strategy to Advance Measurement Methods and Practice; expanding the community and plans for next meeting
    – Moderator: Jay Pearlman

10h45 Coffee Break

11h15 Splinter Sessions Part B

12h30 Lunch in the ESRIN canteen

13h30 Round Table: summary areas for improvements
  Moderators: Stephen Coulson (ESA) and Sarah Ryker (USGS)

15h00 Round Table: conclusions and recommendations for next steps
  Moderators: Geoff Sawyer (EARSC) and Francoise Pearlman (FourBridges)

16h10 Conclusive remarks
  ▪ Alessandra Tassa (ESA), Carl Shapiro (USGS) and Martina Sindelar (EC)

16h30 End of workshop

PRACTICAL INFORMATION

How to get to ESRIN: Visit ESA/ESRIN site at https://www.esa.int/About_Us/ESRIN/Getting_to_ESRIN

Courtesy Shuttle Bus
  – July 1, h19h30 - Departure from ESRIN to Frascati
  – July 2, h08:15 – Departure from Frascati to ESRIN
  – July 2, h18:30 – Departure from ESRIN to Frascati
  – July 3, h08:15 – Departure from Frascati to ESRIN
  – July 3, h16:30 – Departure from ESRIN to Fiumicino Airport

*The bus stop in Frascati is in Piazza Roma for those staying in the following hotels: Hotel Bellavista, Hotel Cacciani, Hotel Flora, Hotel Colonna. Special to stop to Hotel Villa Mercede if needed

Train schedule Tor Vergata Train Station to/from Rome is at walking distance outside from ESRIN. Timetable available on the Trenitalia website: http://www.trenitalia.com/tcom-en

An ATM Cash Machine available on site from 8:30 to 13:30 (Building 1, Ground Floor)

A Travel Office is available on site Office tel: + 39 06 941 80 240/241  fax: +39 06 941 80 242 Email: esrintravel.office@esa.int

Wifi: wireless internet access is available in all the conference rooms. Access codes will be distributed by the secretariat.

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