

**TIE Event, 06/08/2025: Advances and Applications in Earth Observation for SDGs.
Accelerating Earth Intelligence in the context of GEO**

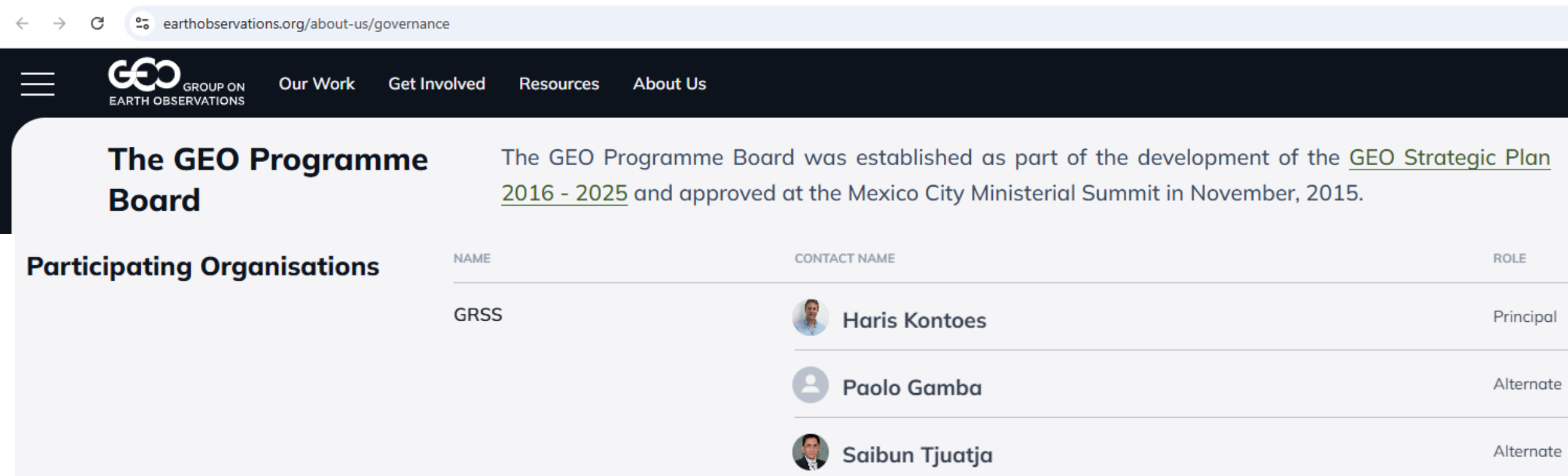
GRSS contribution in Education and Capacity Building for GEO: The GEO-CRADLE Enabling Mechanism.

Alexia Tsouni, National Observatory of Athens / IAASARS / BEYOND



GEO - GRSS Status

- GRSS is a **GEO Participating Organisation** and is represented in the **GEO Program Board**.
- GEO Participating Organisations do not pay a fee to GEO activities but are supposed to **contribute either in-kind or financially**.



GEO - GRSS Status: a win-win cooperation

- **GEO helps in the core scientific activities of GRSS** (publications, workshops & conferences, programmatic aspects).
- The **international and interdisciplinary GRSS community**, points to solid evidences that GEO's development in the era of "**Intelligence 4 All**" is realistic. **GRSS helps GEO in addressing its goals** (innovation uptake, capacity building, standardization of prototype R2Os and pilots, symposia, and GEO WP programmatic aspects):
 - Leveraging on GRSS's academic and professional capacity and TCs' know-how (e.g. REACT, IADF, etc) to build and deliver Intelligence 4 All, and assist capacity building, education and training of young scientists and stakeholders, including indigenous people, in support of GEO Focus Areas.
 - Exploiting science, research and academia of GRSS to improve efficiency, and usability of GEO's R2Os, Conveners/Enabling Mechanisms (e.g. exploring synergies with GEO-CRADLE & AI4EO).
 - Participating in the consultations at Regional (GEO) level and support in the implementation of GEO globally.
 - Exploiting funding opportunities from relevant actions and grants.



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GEO-CRADLE



GEO Enabling Mechanism

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GEO-CRADLE: The evolution



- **GEO-CRADLE** started as a **Coordination & Support Action project** funded by Horizon 2020 (2016-2018) and led by NOA/IAASARS/BEYOND, and it was upgraded first to a **GEO Community Activity**, then to a **GEO Initiative** (GEO Ministerial 2018 in Kyoto), and now to a **GEO Enabling Mechanism** (Post-2025 GEO Work Programme).
- It started integrating **state-of-the-art EO activities** in the regions of **Balkans, Middle East and North Africa**, and expanded first to the **Black Sea** and then to the **Sub-Saharan Africa** and the **Pacific Asia**.
- It implemented **4 Feasibility Studies / Pilots**: 1) Adaptation to Climate Change; 2) Improved Food Security – Water Extremes Management; 3) Access to Raw Materials; 4) Access to Energy.



GEO-CRADLE: The evolution

2016

H2020
Project

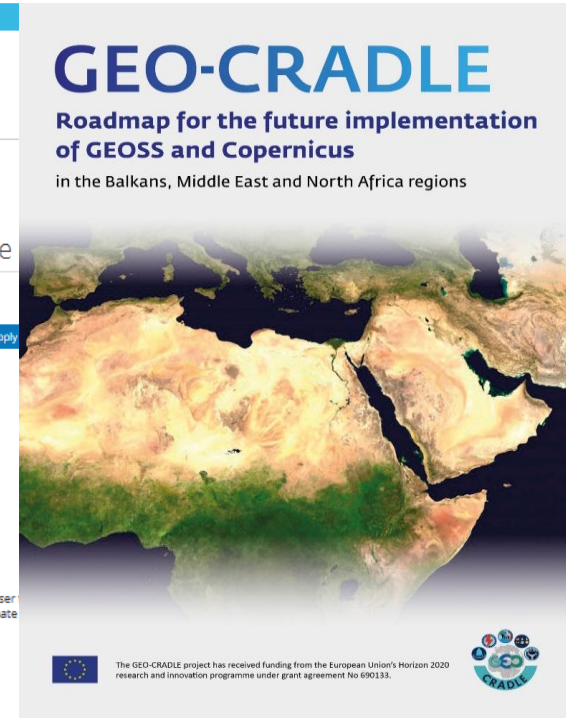
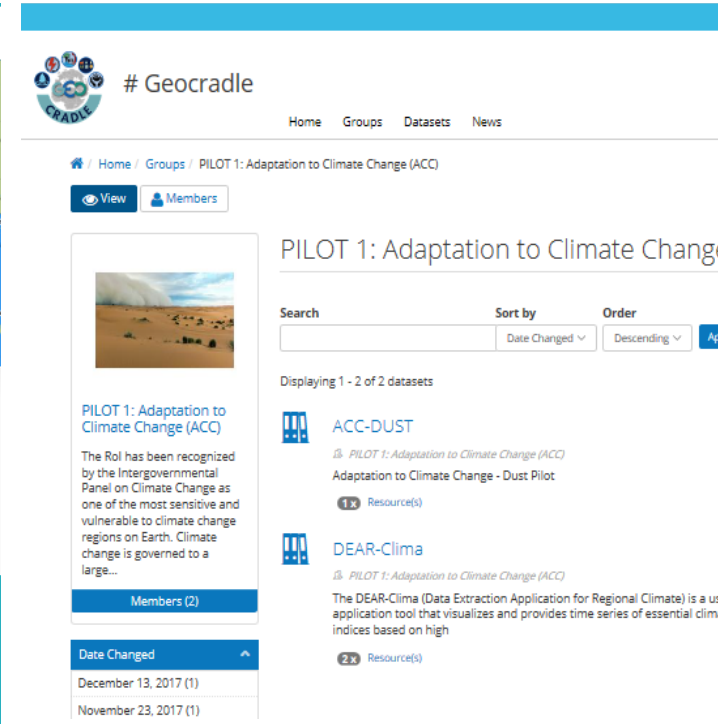
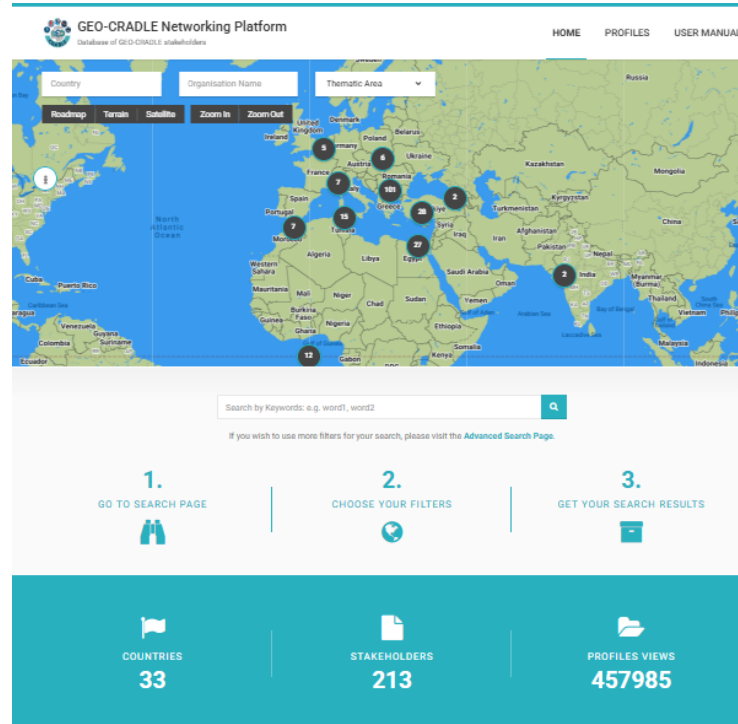
2018

GEO
Initiative

2025

GEO Enabling
Mechanism

- It extended in **thematic areas** (Weather, Hazard and Disaster Resilience & One Health) and **operational maturity** (Copernicus uptake).
- It developed and applied a novel methodology for **Earth Observation Maturity Assessment** based on EO Maturity Indicators, and produced country EO profiles.
- It created a **Networking Platform**, a **Regional Data Hub**, and a **Roadmap** for GEO & Copernicus.



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The stakeholders / end-users benefitting from GEO-CRADLE

INDICATIVE EXAMPLES of SUCCESS STORIES & KEY PROJECTS

- **Policy makers:** Ministry of Electricity & Renewable Energy (Egypt)
- **National governmental institutes:** Civil Protection Authority (Italy), Agricultural Payments Organisation (Cyprus)
- **Public utilities companies:** Power transmission operators and distributors (Greece)
- **Private companies:** Interamerican SA insurance company (Greece)
- **Cooperatives:** Farmers Cooperatives for Cotton and for Tomato (Greece)
- **Foundations:** Mahdi Yacoub Heart Foundation Center (Egypt)
- **Universities:** University of “Novi Sad”, Faculty of Agriculture, Laboratory for Medical and Veterinary Entomology (Serbia)
- **Research institutes:** Geological Survey Department (Cyprus)



e-shape



Disaster Resilience &
Health Action Group



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The demonstrated outputs & impact of GEO-CRADLE so far

- **Regional Coordination and Liaison** with Copernicus, EuroGEO, AfriGEO, ESA, GEO, UN-SPIDER, CEOS Working Group on Disaster Risk Reduction.
- **Capacity Building & Stakeholders' Engagement** through dedicated workshops.
- **Operationalisation of Pilots:** Upscale and exploitation of pilots services promoted through key initiatives and projects (e.g. e-shape, Excelsior).
- **Impact Maximisation:** Communication, dissemination and EO maturity assessment.



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Engagement of new, large and skilled EO communities

Post-2025
GEO WORK
PROGRAMME

- The scientific communities in cooperation with the **IEEE-GRSS**
- The indigenous communities in cooperation with the **GEO Indigenous Alliance**
- The volunteer and societal communities in cooperation with **Humanitarian OpenStreetMap Team (HOT)**
- **UN Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)**
- **Digital Earth Africa**
- **Digital Earth Pacific**
- **ERATOSTHENES Centre of Excellence**
- The private sector: **EARSC, EDGE, Healthsites**



INDIGENOUS ALLIANCE



Humanitarian
OpenStreetMap
Team



Digital Earth
AFRICA



Digital Earth
PACIFIC



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GEO-CRADLE GEO Enabling Mechanism leadership & funding

1) Haris Kontoes,
NOA/IAASARS/BEYOND



2) Saibun Tjuatja, **IEEE-GRSS**



3) Diana Mastracci, **GEO Indigenous Alliance**



4) Francesca Piatto, **EARSC**



5) Mohamet Lamine Ndiaye,
**Humanitarian
OpenStreetMap Team (HOT)**



Relevant calls for funding, such as:

- ❖ **Horizon Europe** funding
- ❖ **Interreg** EU programme / European Regional Development Fund
- ❖ **European Space Agency** and **International Financial Institutions** investments
- ❖ **Programmes** for funding education, training, youth, indigenous
- ❖ **IFIs and International Third Party** funding

GEO-CRADLE GEO Enabling Mechanism Objectives

Post-2025
GEO WORK
PROGRAMME

1

- Analysing the **EO needs and priorities** in the regions, and reporting on the existing **EO gaps**.

2

- Mapping the existing **EO maturity and capacities**.

3

- Identifying **stakeholder and decision-making communities and practitioners**; concluding on needed **training and curriculum support** locally in the specific GEO focus areas.

4

- **Training young professionals, users and practitioners on the use of EO**, focusing on GEO, EuroGEO and Copernicus, in combination with in-situ, crowdsourced and OpenStreetMap data.

5

- Increasing the **EO uptake** by raising awareness on GEO, EuroGEO and Copernicus solutions.

6

- Facilitating the **cooperation among three Regional GEOs**: EuroGEO, AfriGEO and AOGEO.

GEO - GRSS: a win-win cooperation through GEO-CRADLE

- **GEO-CRADLE and GRSS Education Director** explore together channels for **funding support** originated from European, Regional, and Entrusted Entity Funds, as well as IFIs and PDF support to sustain education purposes in the underrepresented regions of Asia, Africa and Pacific Islanding territories.
- **Submit proposals for ensuring the funds to run training seminars** under the auspices of GRSS, along with GEO and EuroGEO flags for the benefit of local users, students and stakeholders by engaging DE Africa, DE Pacific, and the GEO Indigenous Alliance.
- Build upon the GRSS experience in setting successful training workshops in Latin America for **creating syllabus and running similar programs in other regions of the world** leveraging GEO-CRADLE, DE Africa, DE Pacific, and OSM power in engaging the right audience.
- **Region-based GRSS Chapters** that have the capacity in delivering courses could examine collaborations with GRSS Education Director and GEO-CRADLE, and commit themselves to support training actions complementing any in kind and/or funded training programs.



THANK YOU!

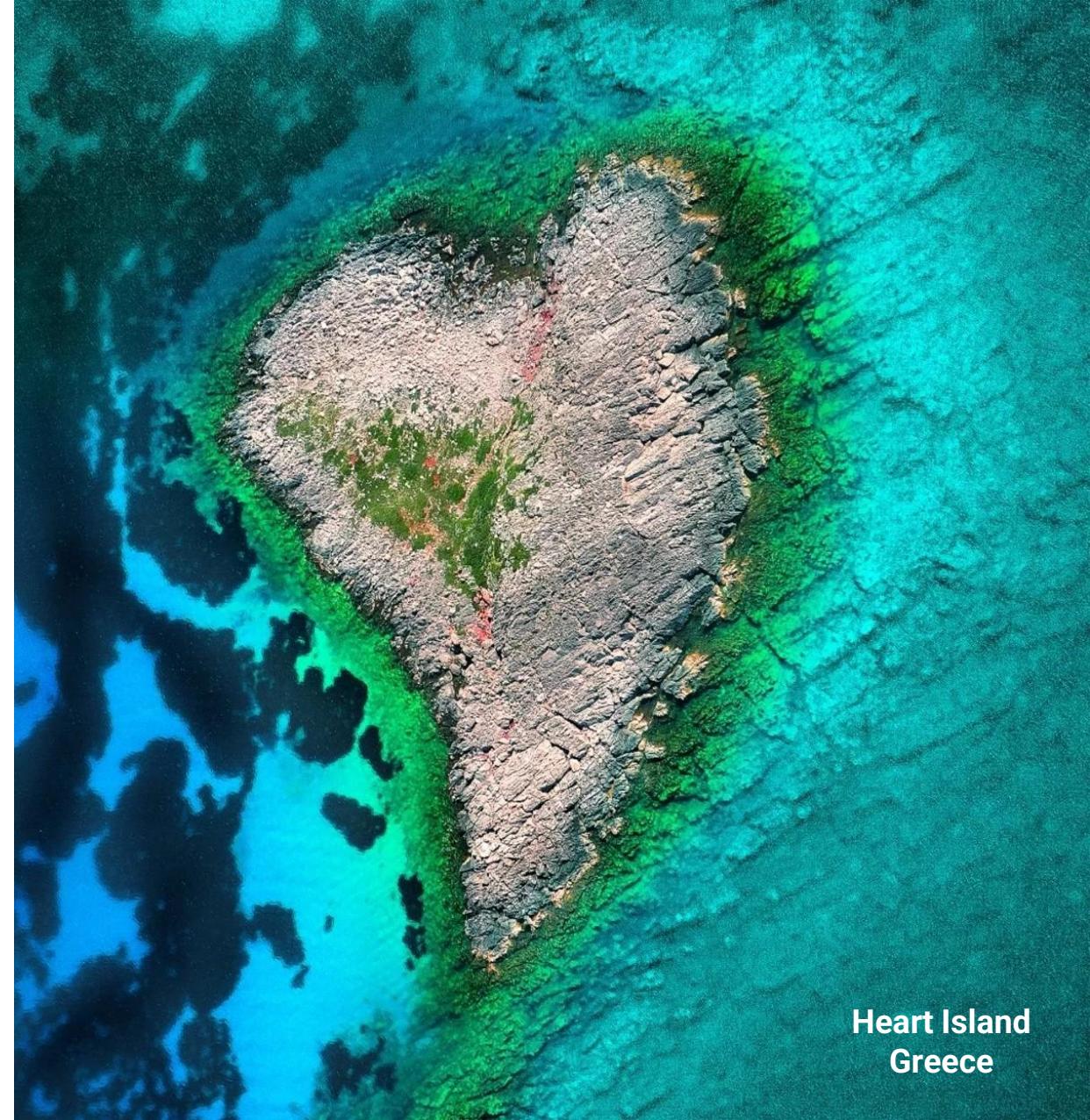
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Heart Island
Greece



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