# A few observations

## Steven Ramage, GEO Secretariat,
## Prague, Czech Republic, 7 June 2018

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# Coordinating In Situ Observations

## GEO's Role

**What is GEO doing terms of coordinating in-situ observations globally?**

GEO is addressing the terrestrial domain since this is perceived to be the least coordinated area, numerous activities in atmospheric and ocean observations.

GCOS has identified this area in their Implementation Plan, which can guide the GEO community.

Need to resource GEO in situ task.

graphic: ENVRI

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# Group on Earth Observations

## An overview

**What is GEO?**

GEO is an intergovernmental partnership working to improve the availability, access and use of open Earth observation data and information for the benefit of society globally.


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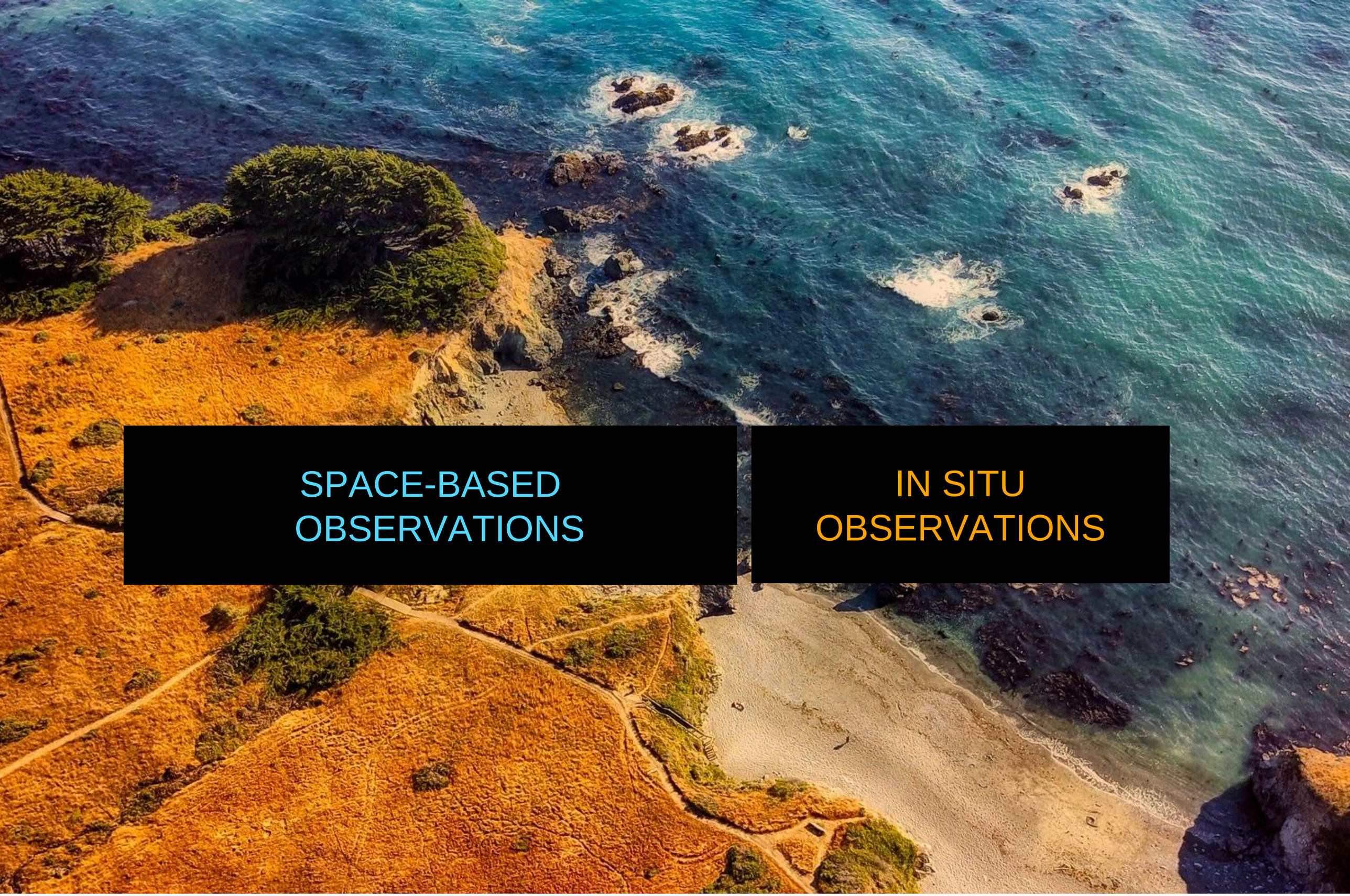


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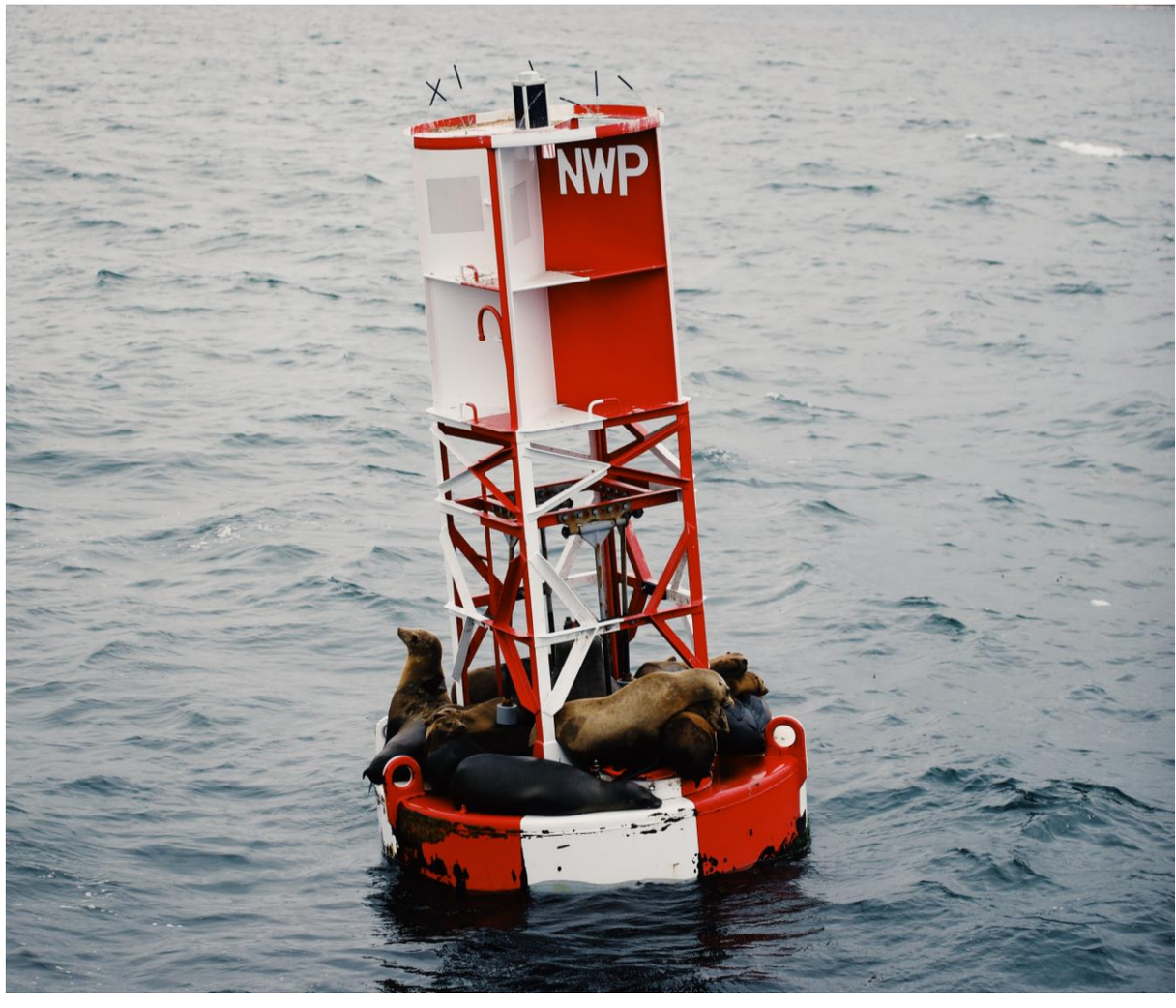
# In Situ and Remote Sensing

**How do situ observations compare to space-based observations?**

In situ observations are important for validating remotely-sensed information.

Agencies and others rely on "ground truth" data to be able to provide accuracy estimates.

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# Coordinating In Situ Observations

## What's needed

**What is needed in terms of coordinating in-situ observations globally?**

There is no shortage of observations or in situ observation networks. This diversity of networks can be beneficial, however the spatial, temporal and thematic coverage is uneven, and coordination and interoperability of the existing networks is limited.


graphic: ENVRI

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# Societal Benefit Areas

**GEO works across 8 Societal Benefit Areas to find solutions for global challenges.**

Climate change and its impacts cut across all areas.

- Biodiversity and Ecosystem Sustainability
- Disaster Resilience
- Energy and Mineral Resource Management
- Food Security and Sustainable Agriculture
- Public Health Surveillance
- Transport
- Sustainable Urban Development
- Water Resources Management

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# GEO IN NUMBERS

**7** continents

**8** societal benefit areas

**12** years

**73** work programme activities

**105** member governments

**126** participating organizations

**5,000** data providers

**400,000,000** Earth observations

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# GEOSS

**What is GEOSS?**
GEOSS is a set of coordinated, independent and open Earth observation collection, information and processing systems.

**What does GEOSS do?**
GEOSS links observing systems to strengthen monitoring of the state of the Earth, ensuring that data is accessible and interoperable.

**Why does GEOSS matter?**
GEOSS increases our understanding of Earth processes, and enhances predictive capabilities that underpin sound decision-making.


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# GEOSS Platform

## Global Earth Observation System of Systems

**What is GEOSS?**

GEOSS is a set of coordinated, independent and open Earth observation collection, information and processing systems.

**It links observing systems to strengthen monitoring of the Earth, ensuring data is accessible and interoperable.**

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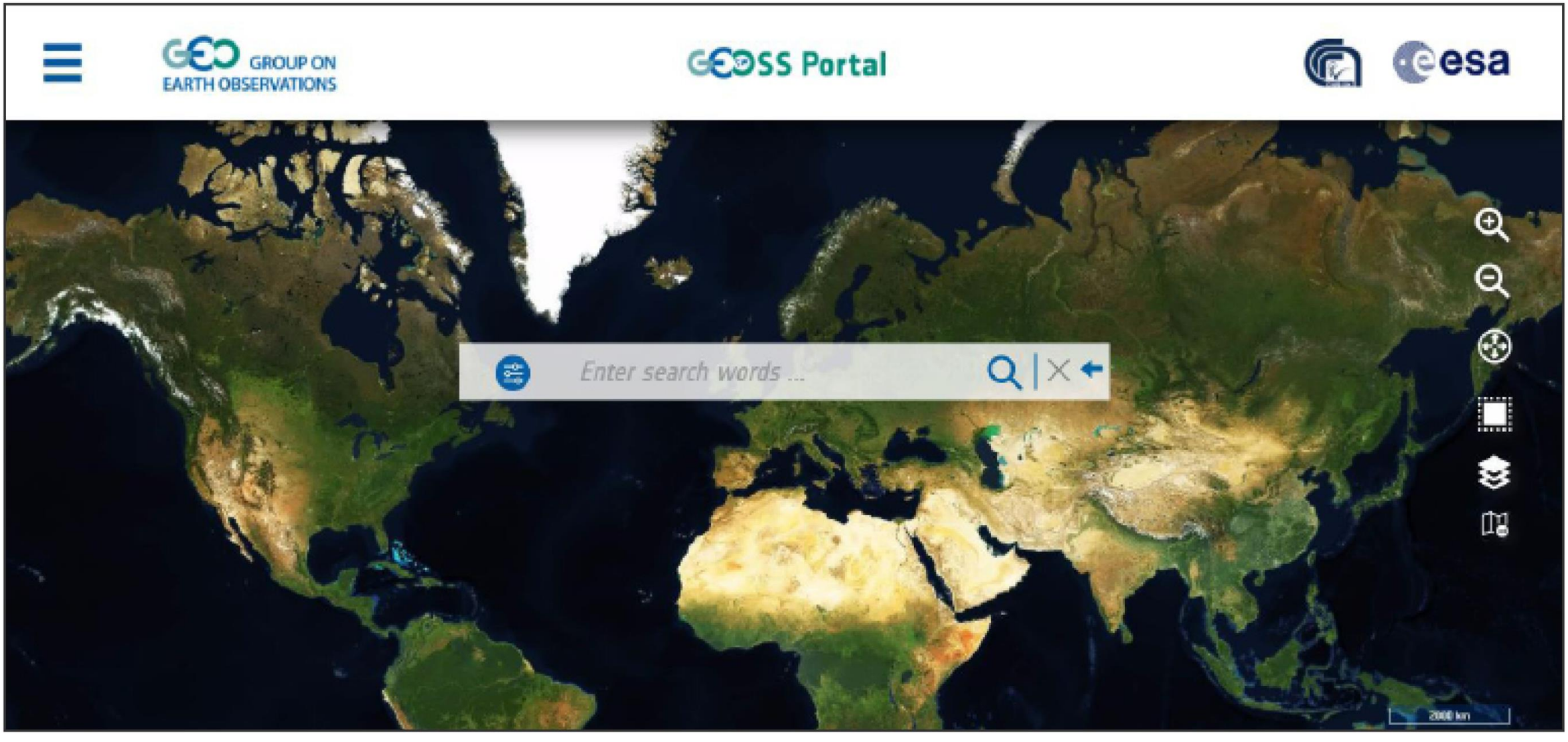
# GEOSS

## Global Earth Observation System of Systems




www.geoportal.org

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# GEOSS Portal

## Global Earth Observation System of Systems

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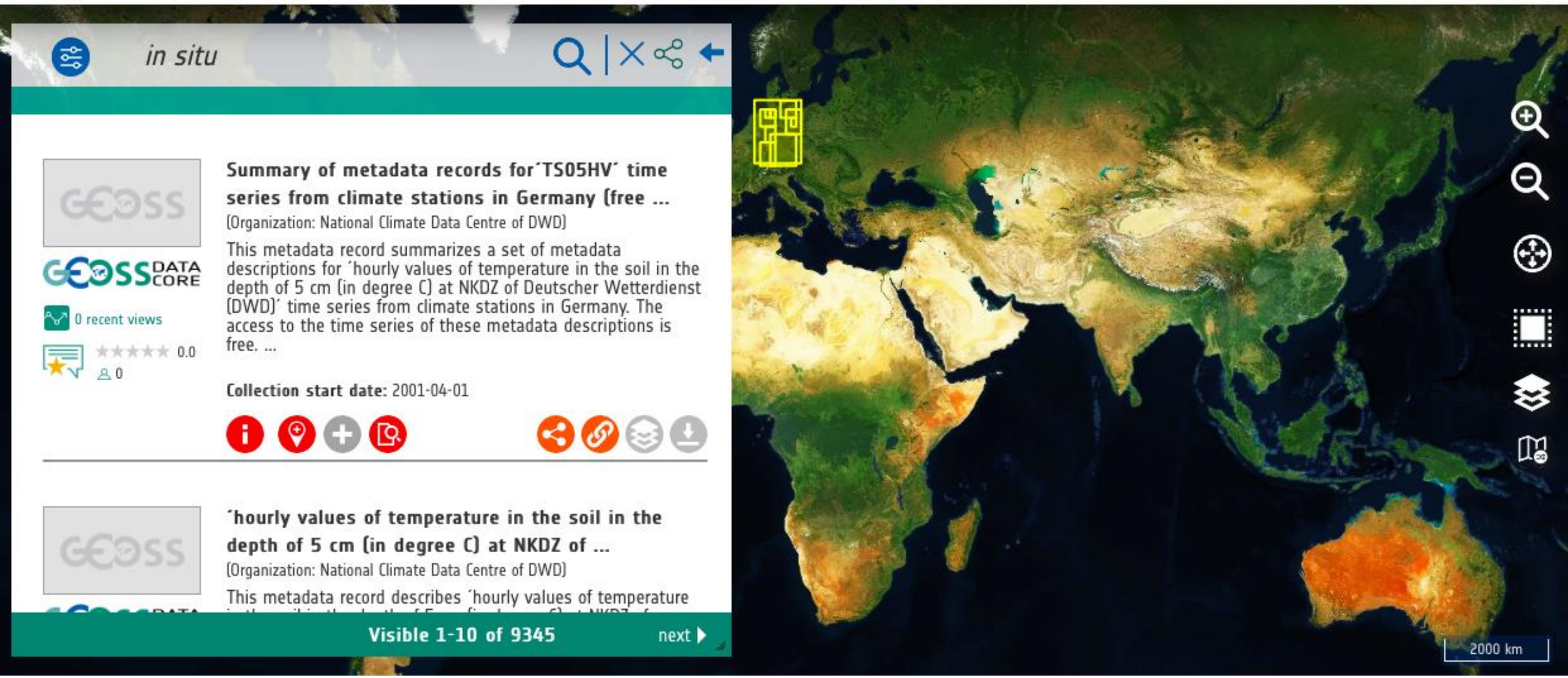
GEOSS Portal

esa

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# Group on Earth Observations

## Engagement priorities

**What are GEO's priorities?**

GEO's global priorities include supporting the UN 2030 Agenda for Sustainable Development, the Paris Climate Agreement and the Sendai Framework for Disaster Risk Reduction.

SUSTAINABLE DEVELOPMENT GOALS

UN World Conference on Disaster Risk Reduction
2015 Sendai Japan

PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

# GEO WORK PROGRAMME
## 2017-2019

70+:FLAGSHIPS, INITIATIVES & COMMUNITY ACTIVITIES

SCORES OF COUNTRIES
THOUSANDS OF COLLABORATORS
HUNDREDS OF MILLIONS INVESTED
IMPACT ON BILLIONS OF LIVES

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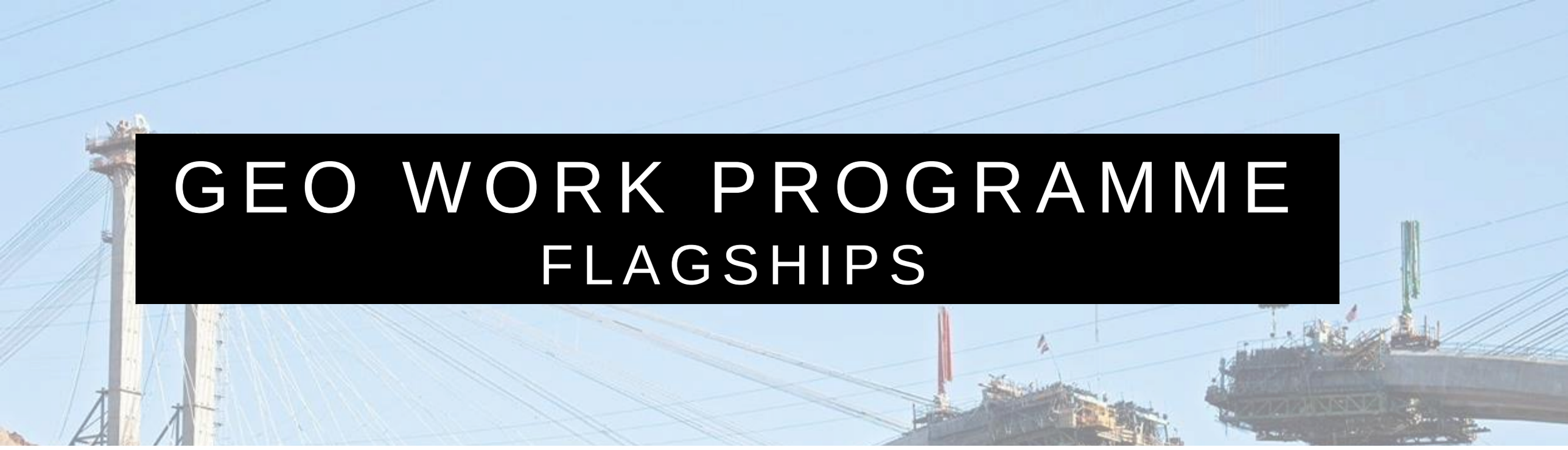

# GEO WORK PROGRAMME
## FLAGSHIPS

GEO BON

GEOGLAM
Global Agricultural Monitoring

GFOI
Global Forest Observations Initiative

GOS4M

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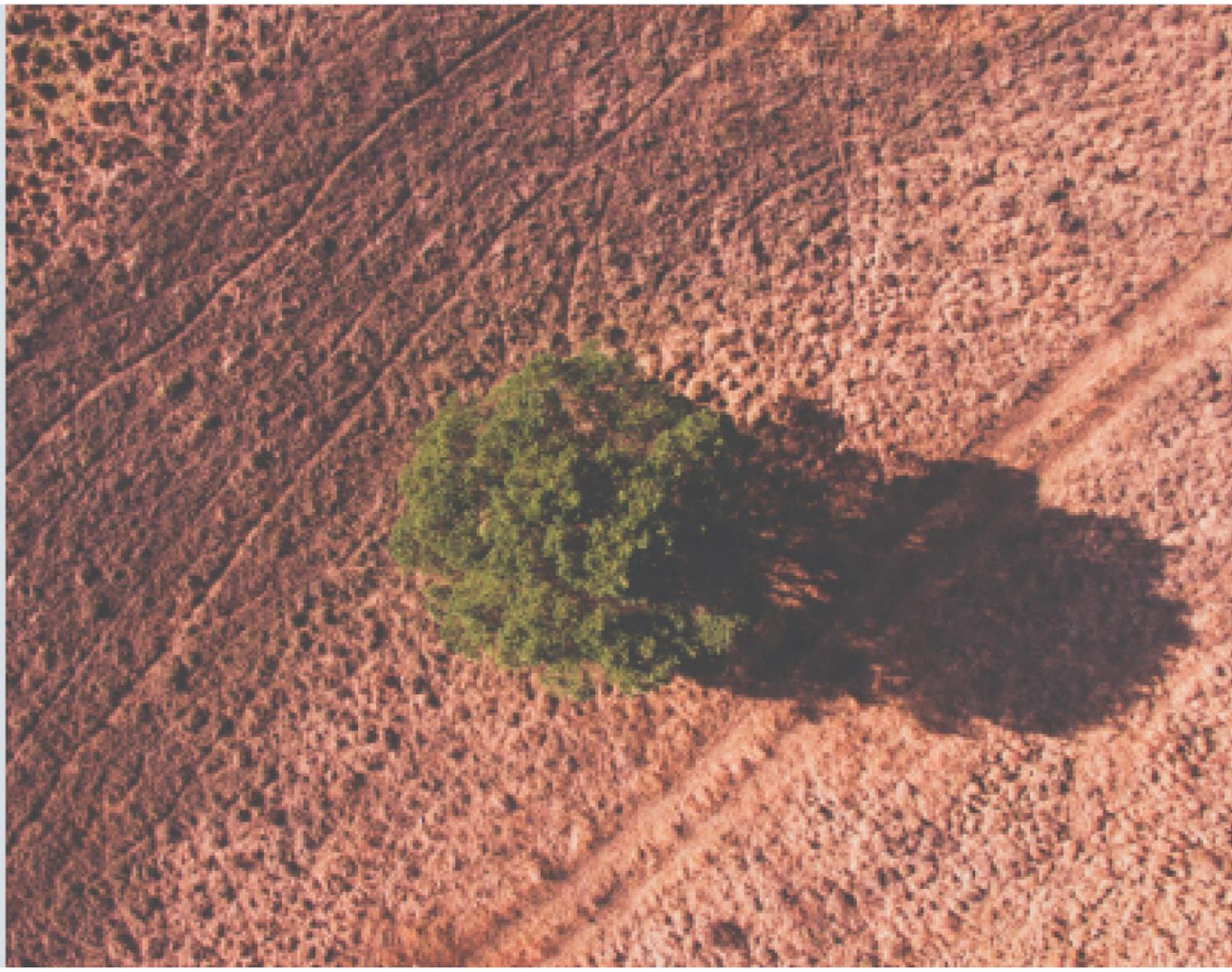
# GEO Flagships

## GEO Global Agricultural Monitoring Initiative (GEOGLAM)

### GEOGLAM is working to fight food insecurity.

By using Earth observations, GEOGLAM reinforces the international community's capacity to produce and disseminate relevant, timely and accurate projections of agricultural production at national, regional and global scales.

GEOGLAM
Global Agricultural Monitoring



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# GEO Flagships

## GEO Biodiversity Observation Network (GEO BON)

**GEO BON contributes to effective management of the world's biodiversity and ecosystem services.**

Over 100 governments and organizations are collaborating through GEO  BON to organize and improve terrestrial, freshwater and marine biodiversity observations globally.

GEO BON

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# GEO Flagships

## Global Forest Observation Initiative (GFOI)

### GFOI helps countries measure and monitor forests for REDD+.

GFOI supports REDD+ countries to develop their national forest monitoring systems and associated emissions measurement, reporting and verification procedures.

GFOI
Global Forest Observations Initiative

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# GEO Flagships

## Global Observation System for Mercury (GOS4M)

### GOS4M contributes to the tracking of mercury released in the environment.

GOS4M facilitates cooperation of governments and institutions tracking chemical pollutants and fosters the adoption of advanced sensors in monitoring mercury and its compounds.

GOS4M

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# GEO Work Programme

## GEO Blue Planet

BLUE PLANET Oceans and Society a GEO Initiative

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### Observation programmes

| Programme Name | Acronym | Geographic Region | Satellite | In situ |
|---|---|---|---|---|
| Argo | Argo | Global | | X |
| AtlantOS | AtlantOS | Regional (Atlantic Ocean) | X | X |
| California Cooperative Oceanic Fisheries Investigations | CalCOFI | Regional (California) | | X |
| Chlorophyll Globally Integrated Network | ChloroGIN | Global | X | X |

# GEO Work Programme

## GEO Blue Planet

| | | | | |
|---|---|---|---|---|
| Copernicus Marine Environment Monitoring Service | CMEMS | Regional (Europe) | X | X |
| European Multidisciplinary Seafloor and Water Column Observatory | EMSO | Regional (Europe) | | X |
| European Global Ocean Observing System | EuroGOOS | Regional (Europe) | | X |
| Global Climate Observing System | GCOS | Global | X | X |
| Global Ocean Acidification Observing Network | GOA-ON | Global | | X |
| Global Ocean Ship-based Hydrographic Investigations Program | GO-SHIP | Global | | X |
| Integrated Marine Observing System | IMOS | Regional (Australia) | | X |
| International Ocean Carbon Coordination Project | IOCCP | Global | | X |

# GEO Work Programme

## In-Situ Observation Resources

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GEOSS Portal

Who we are | What we do | News & Blog | Get Involved | Library | Events | Get Data Now

GEO 2017-2019 Work Programme

## GEOSS In-Situ Earth Observation Resources

**Overview**

Activity ID: 134

This task will analyze the current state, trends, needs, and assess gaps (geographical coverage, temporal and spatial resolution, etc.) for in-situ observing systems and networks, as they constitute a key element of GEO/GEOSS. The task will put particular focus on coordination and access to data and will provide various coordination opportunities in order to sustain and strengthen existing and planned ones, to advocate for new systems, and to encourage integration and linkages to meet user requirements which will be strongly linked with the GEO User Needs and Gaps Foundational Task and build on other on-going requirements processes outside of GEO.

# GEO Secretariat

## In-Situ Project Officer

### Terms of Reference: Project Officer for In-Situ Earth Observations Coordination

The In-Situ Earth Observation Coordination Foundational Task brings together the international, regional and national entities to promote and coordinate in-situ observing systems with the aim of supporting the GEO mission, with a particular emphasis on GEO's engagement priorities that support global efforts on Sustainable Development Goals, the Paris Agreement on Climate Change, and the Sendai Agreement for Disaster Risk Reduction. The work of the Foundational Task is led by a Task Team comprised of representatives from those GEO Members and Participating Organizations that have agreed to contribute to this Task.

# GEO REGIONAL INITIATIVES

AfriGEOSS

AmeriGEOSS

AsiaGEOSS

EuroGEOSS
A EUROPEAN APPROACH TO GEOSS

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# PRIVATE SECTOR ROLES

## Data providers

## Value added providers


## Downstream users

Earth Observations for Impact

# GEO SYMPOSIUM 2018

#EO4IMPACT18

11-12 June 2018 / Geneva, Switzerland


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# Thank You

## Communicate and Collaborate with GEO:

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