

GEO Knowledge Hub

Supporting knowledge sharing in the GEO
Community

GEO Knowledge Hub Team

Agenda

(1) **GEO Infrastructure - Capacity Development and National GEOs (7')** - Marie-Françoise Voidrot, OGC

(2) **Introduction to the GEO Knowledge Hub – Vision and short history (7')** - Paola de Salvo, GEO Secretariat

(3) **The GEO Knowledge Hub solution – Technical overview (10')** - Felipe Carlos, GEO Secretariat

(4) **The GEO Knowledge Hub content – What can I find in it (10')** - Kalamkas Yessimkhanova, GEO Secretariat

(5) **Examples from Knowledge Providers**

WaPOR (7') - Bert Coerver, FAO

Introduction of the current DMD Self-assessment tool (5') - Lionel Menard, Mines Paris Tech, GEO Data and Knowledge Working Group

Self-assessment tool and FAIR assessment tool (7') - Braulio Galicia, University of Geneva, GEO Data and Knowledge Working Group

In-situ FAIR approach (10') - Lionel Menard, Mines Paris Tech, GEO Data and Knowledge Working Group

(6) **Questions (15')**

(7) **User engagement and closing (5')** - Paola de Salvo, GEO Secretariat

The GKH Team

Paola de Salvo



**Kalamkas
Yessimkhanova**



Felipe Carlos



We are facing huge environmental and societal challenges



Climate change



Deforestation



Drought



Wildfires



Flood



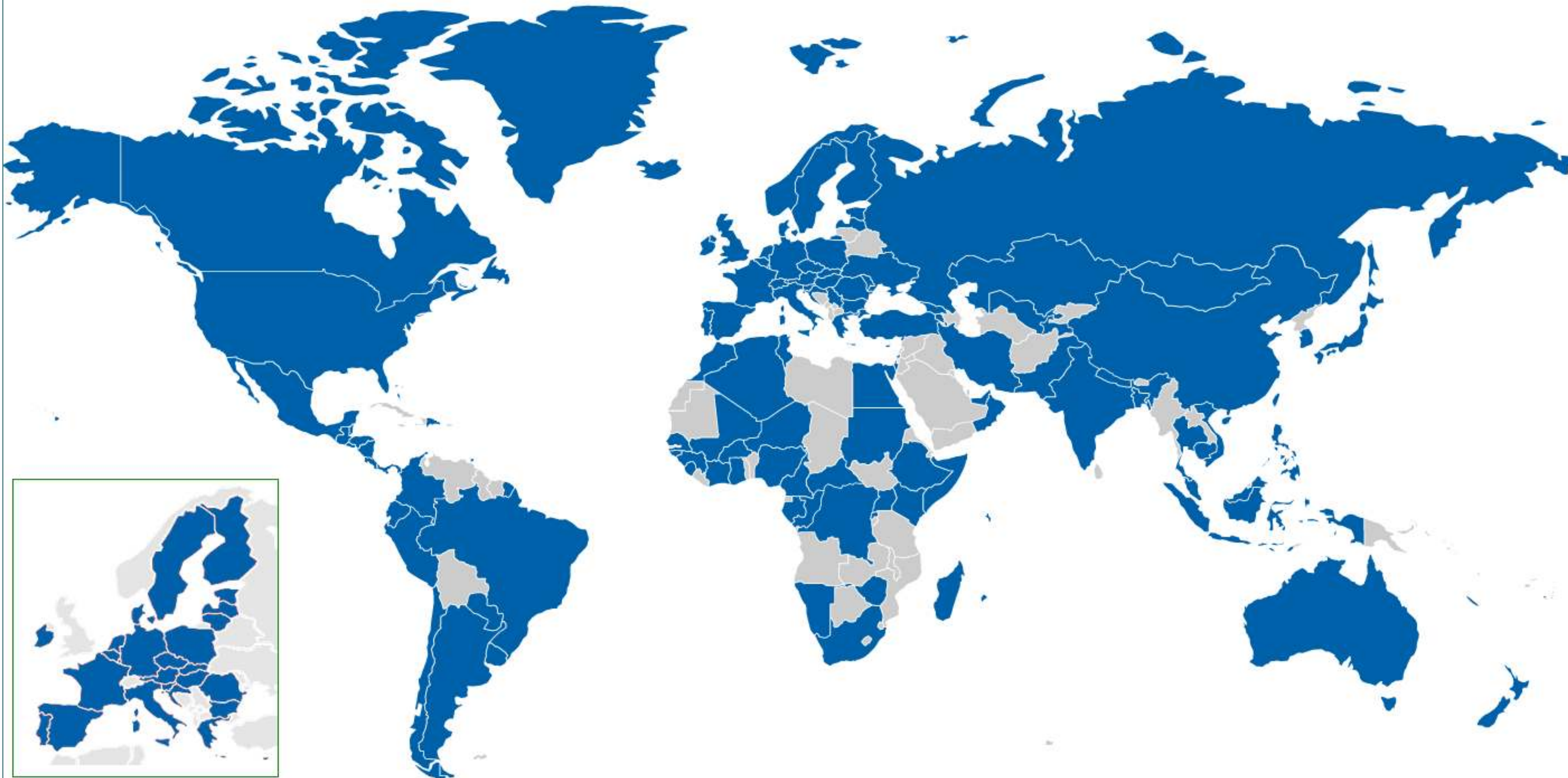
Food security

The logo for the Group on Earth Observations (GEO) features the letters 'GEO' in a stylized, overlapping font. The 'G' is light blue, the 'E' is dark blue, and the 'O' is green. To the right of the logo, the text 'GROUP ON EARTH OBSERVATIONS' is written in a bold, dark blue, sans-serif font, arranged in two lines.

**GROUP ON
EARTH OBSERVATIONS**

GEO Members

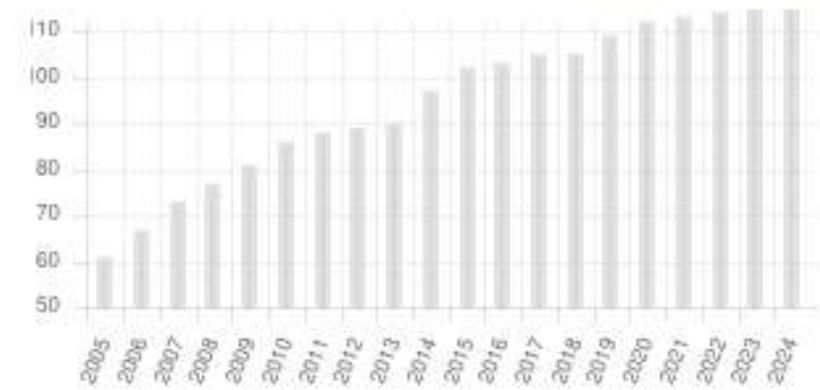
GEO Member Map for the year 2024
(Use slider under the map to change the year)



Number of Members (2024)

Africa:	31
Americas:	21
Asia/Oceania:	23
C.I.S.:	6
Europe:	35
Total:	116

Number of Members by year



GEO Work Programme







Foster Open Data



Foster Open Data

International Data Providers*

Environment

Disasters

Biodiversity

Energy

Health

Regional and National Providers*

Private Sector Providers

GEOSS Portal

GEOSS API GEOSS Widget GEOSS Like
 GEOSS Status Checker GEOSS View GEOSS Mirror GEOSS Yellow Pages



Open Data



Digital Earth



LAND
DEGRADATION
NEUTRALITY



GLAWS



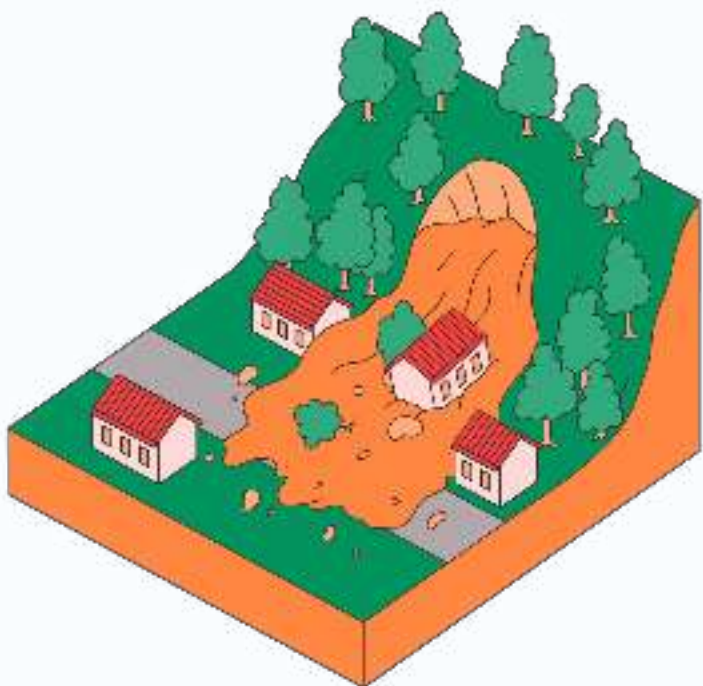
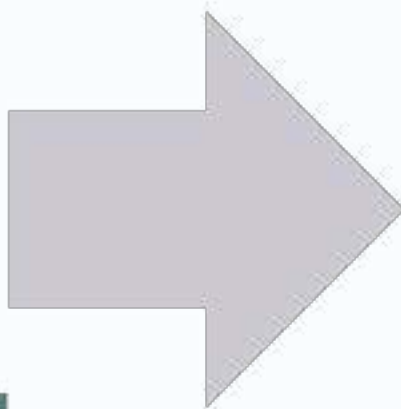
GOGLAM
GLOBAL AGRICULTURAL MONITORING



GROUP ON
EARTH OBSERVATIONS

Open Data

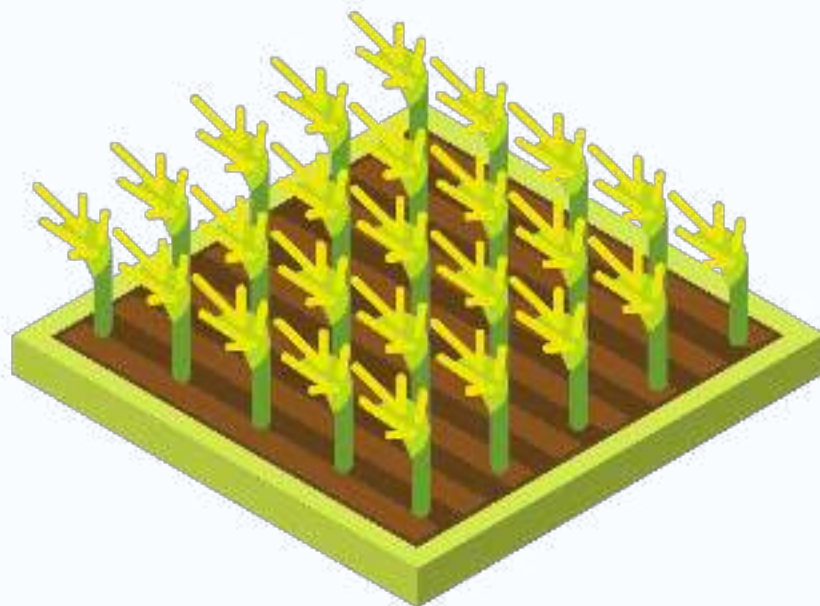
EO Applications



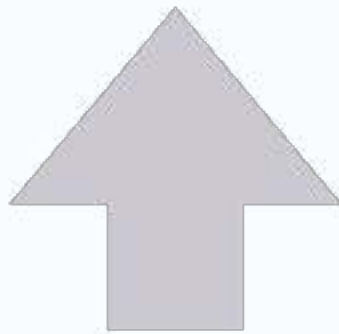
Disasters



Resilient cities

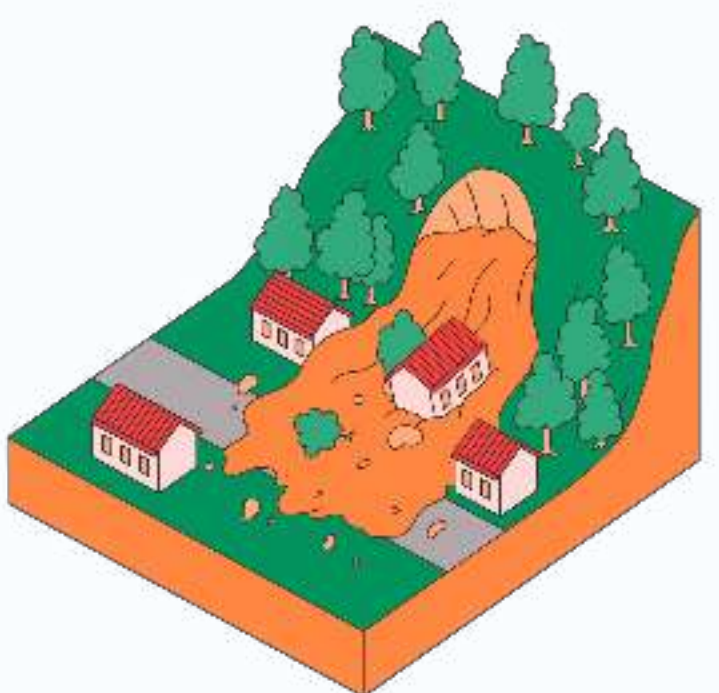
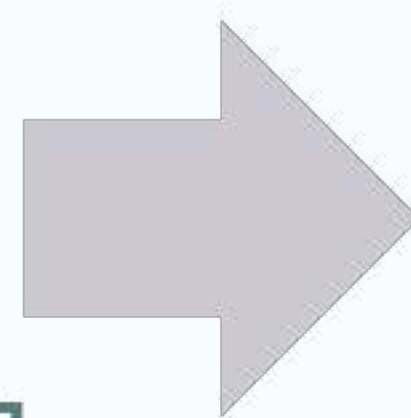
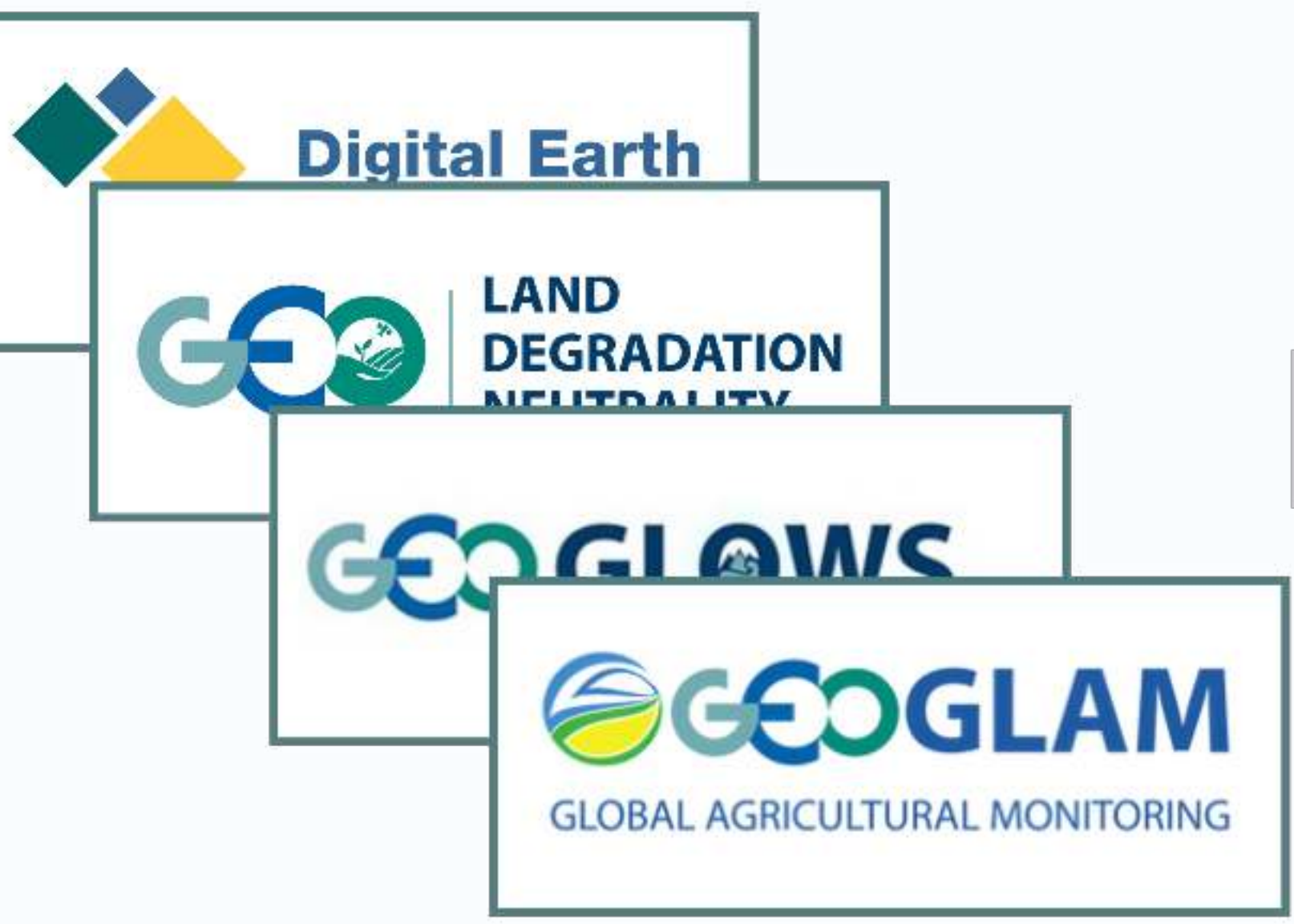


Food security



Open Data

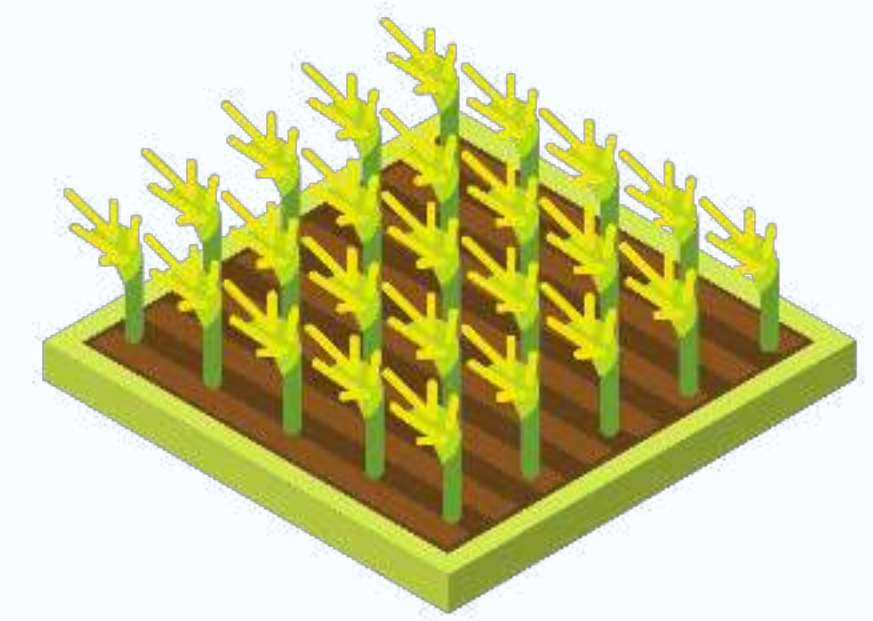
EO Applications



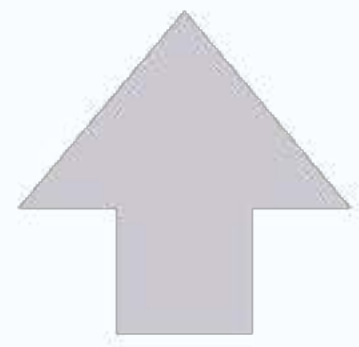
Disasters



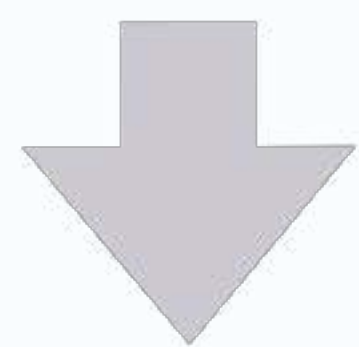
Resilient cities



Food security



Open Data



Software

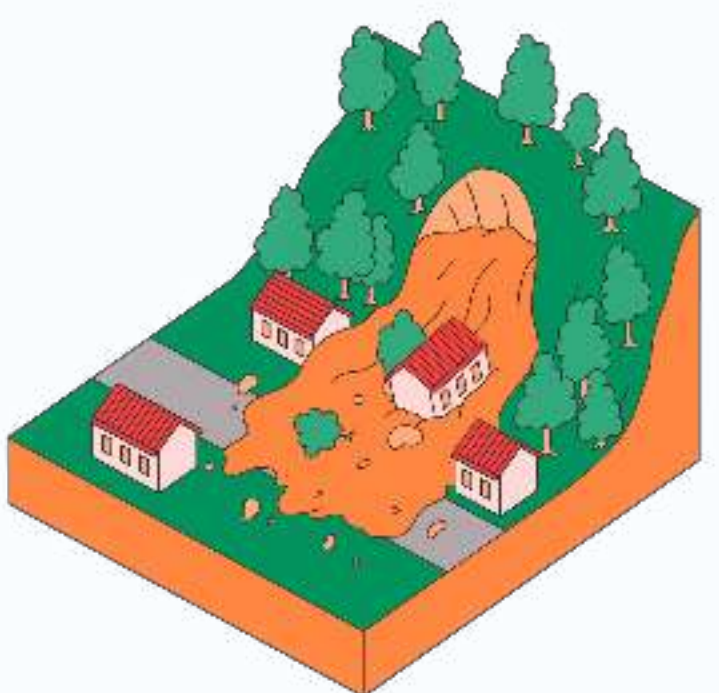
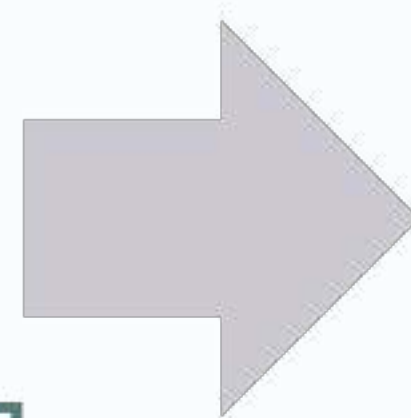
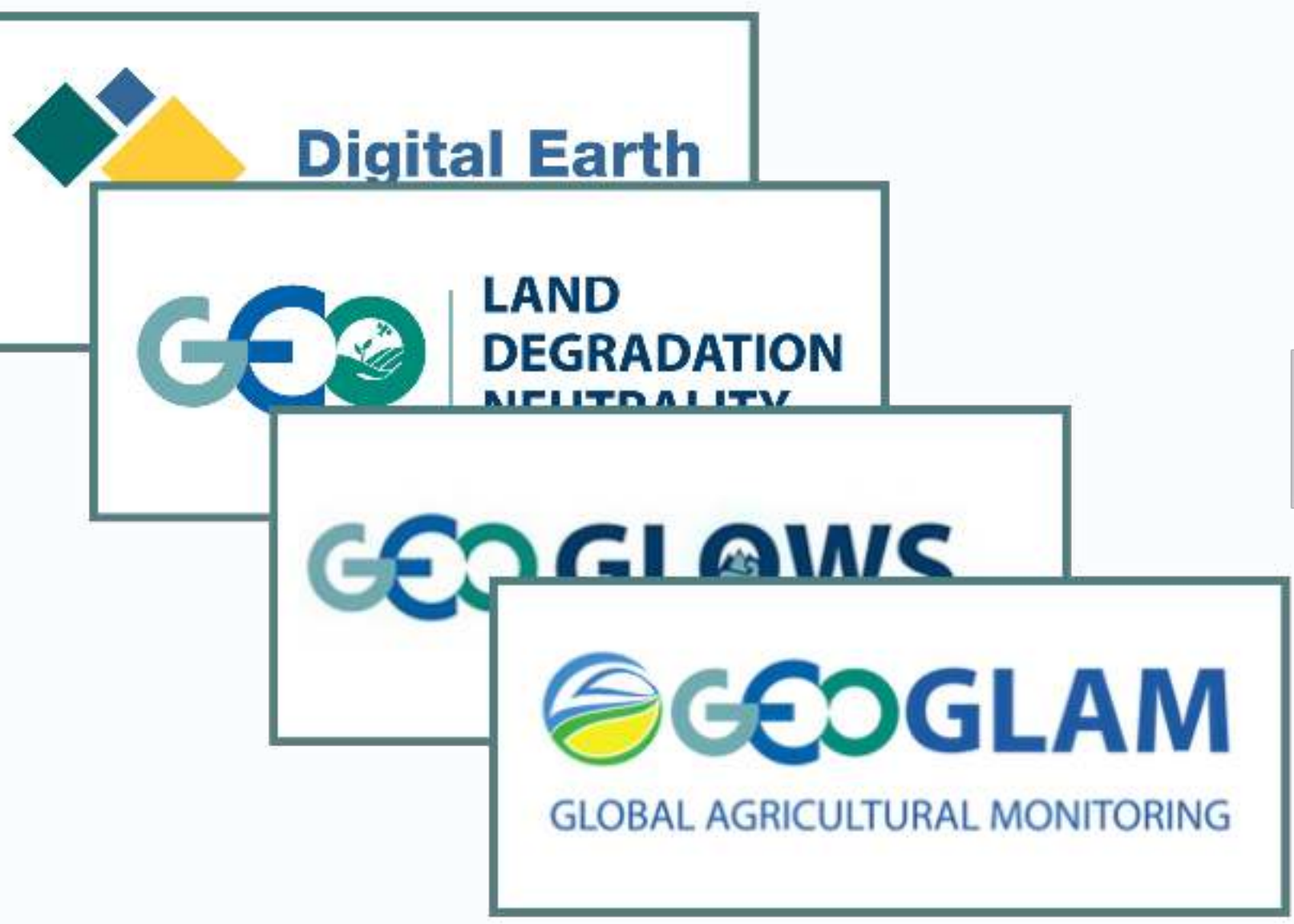


Documents



Data

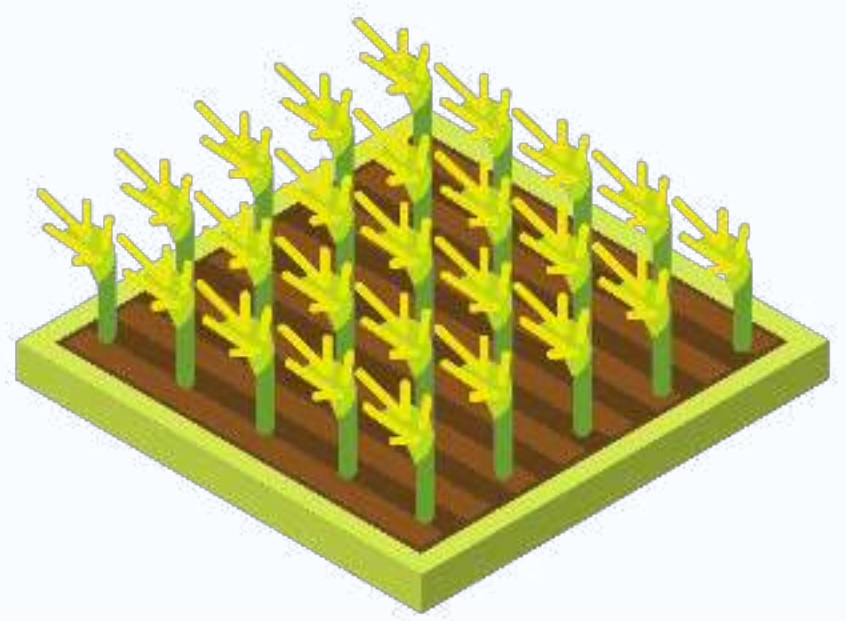
EO Applications



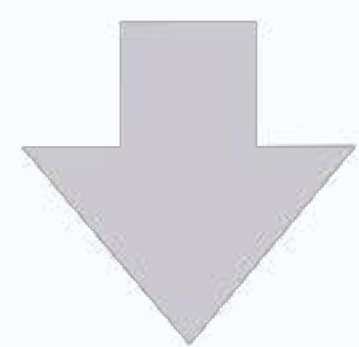
Disasters



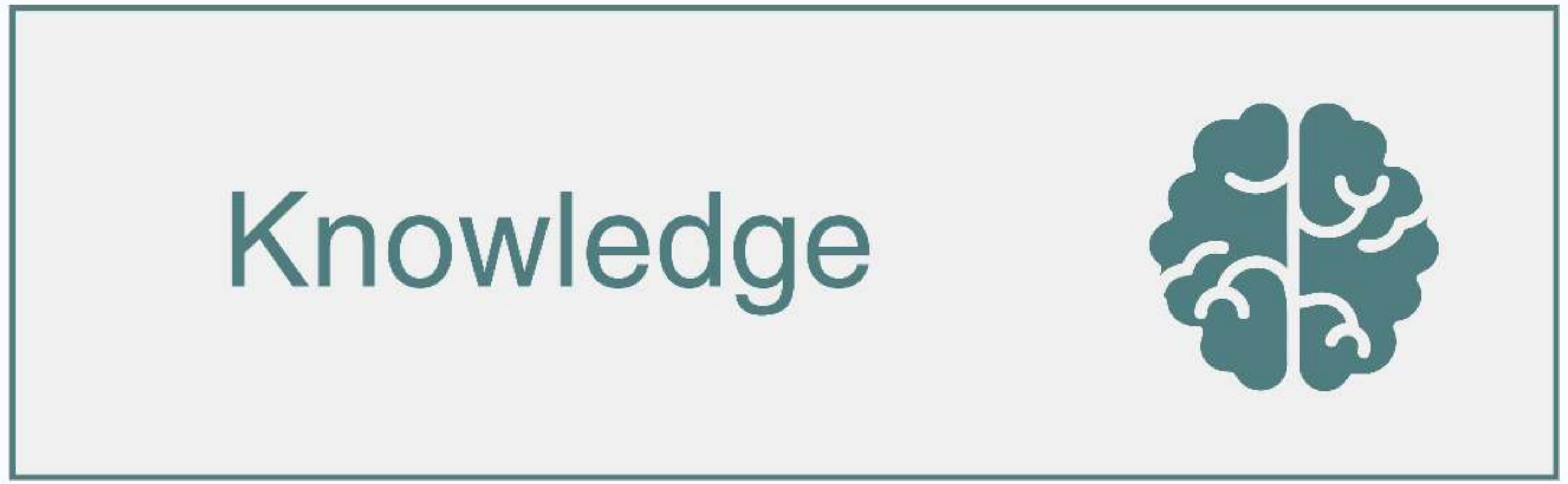
Resilient cities



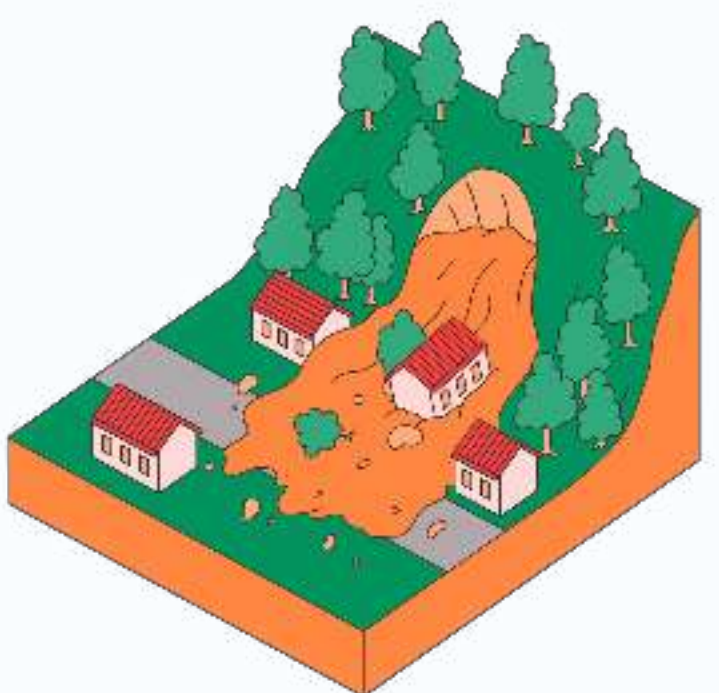
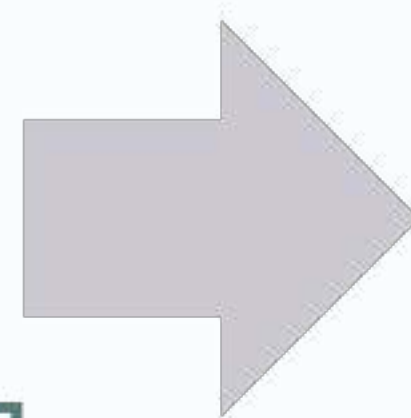
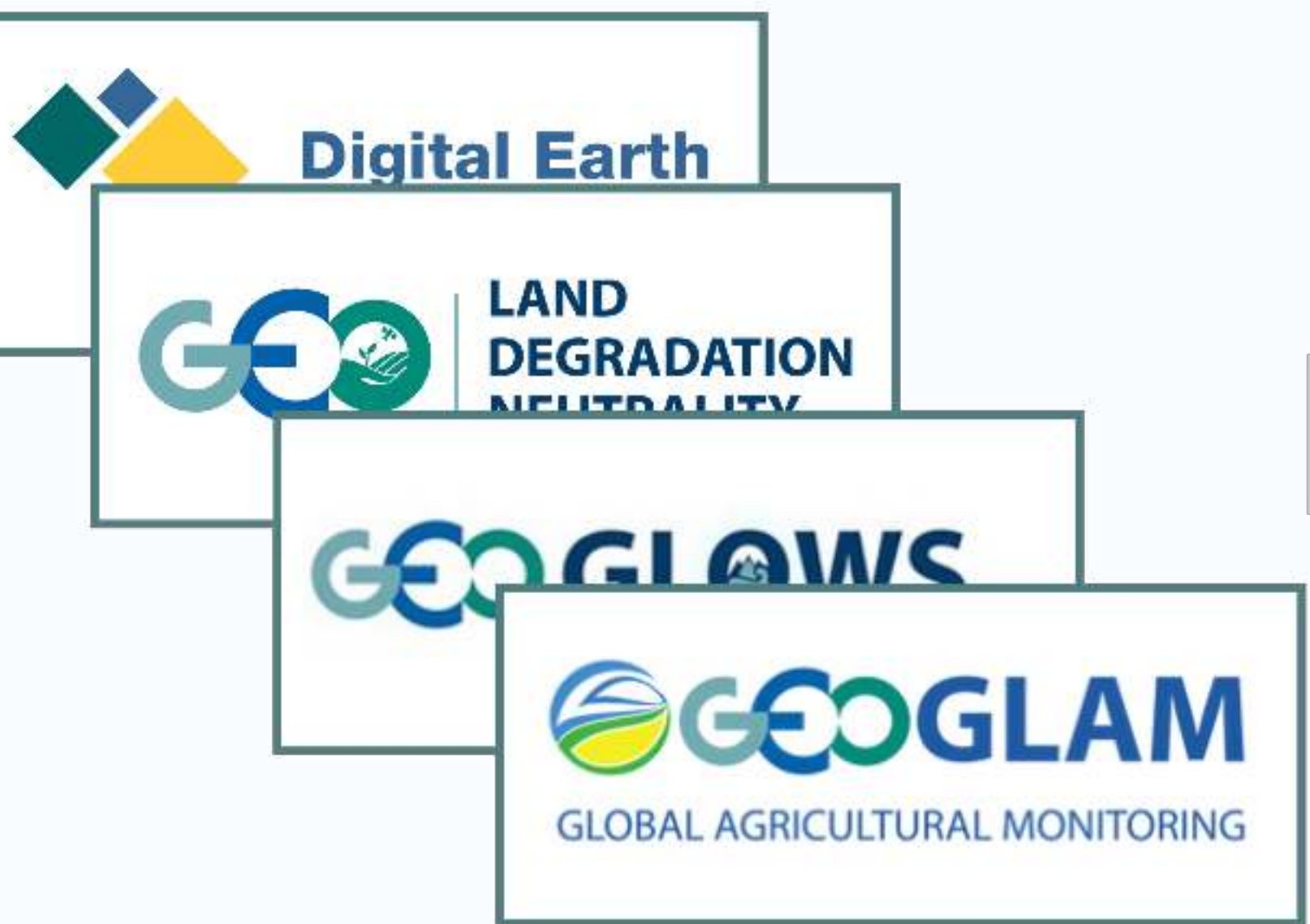
Food security



Open Data



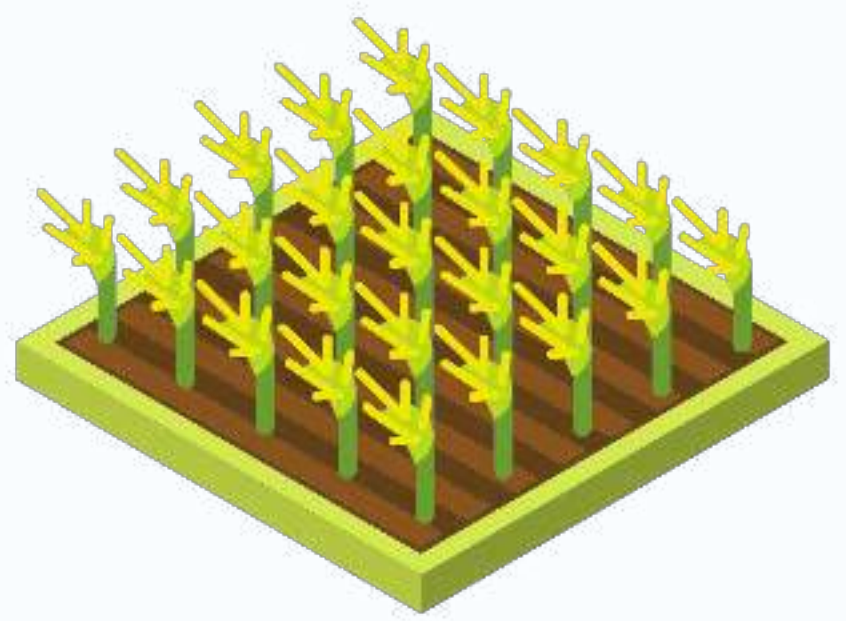
EO Applications



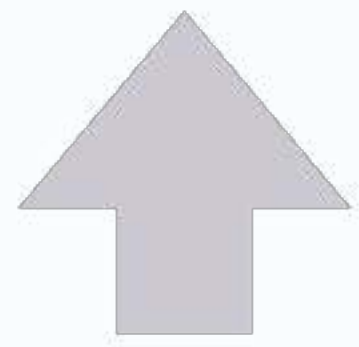
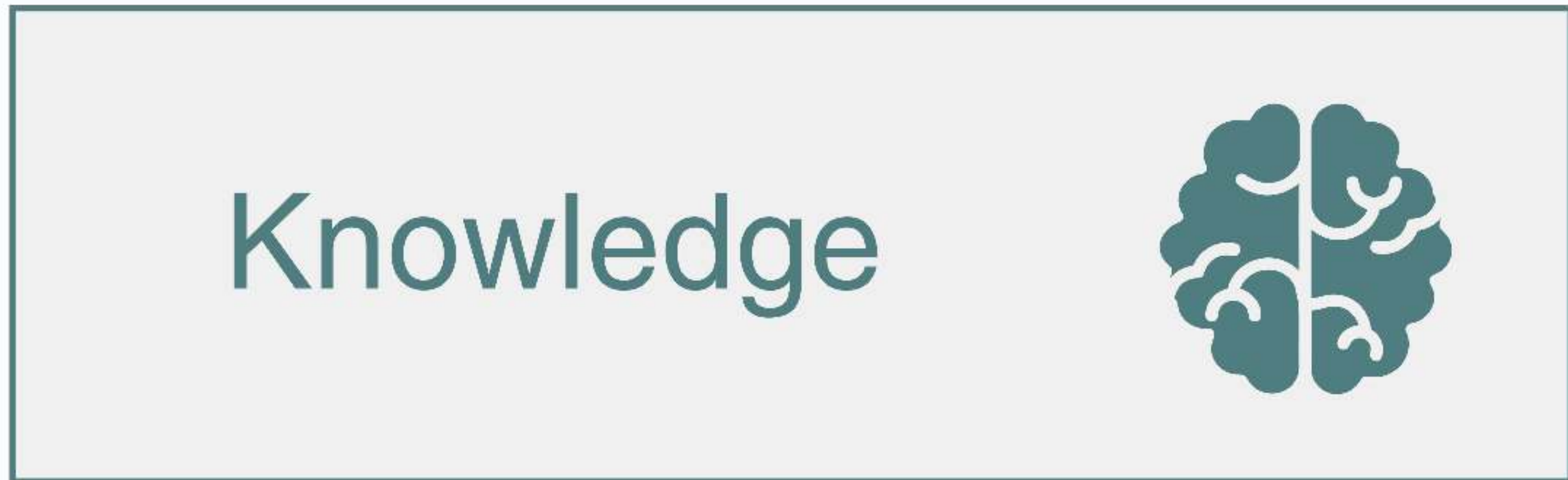
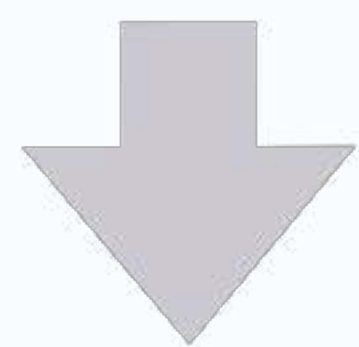
Disasters



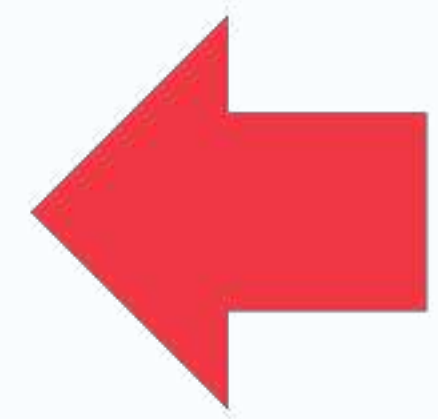
Resilient cities



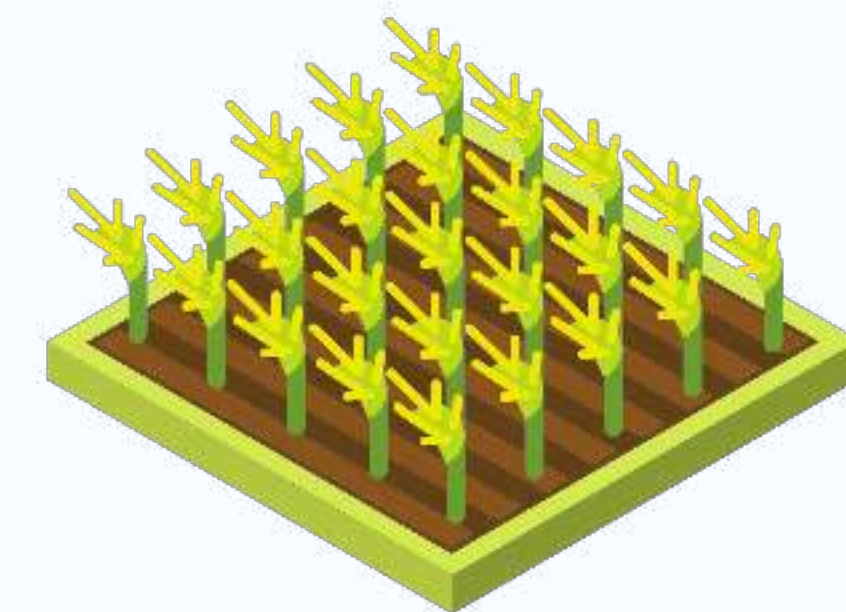
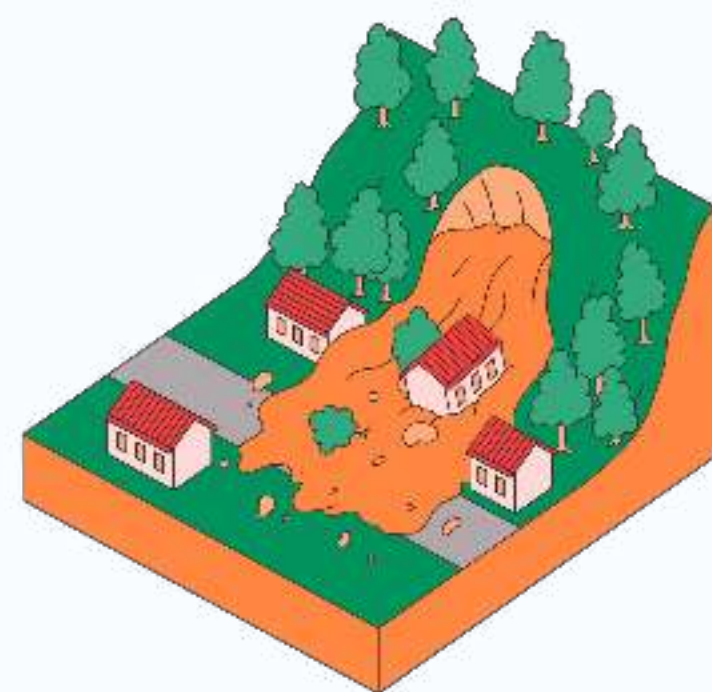
Food security



Open Data



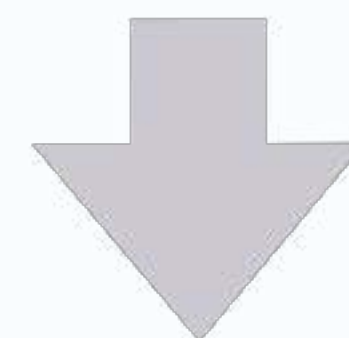
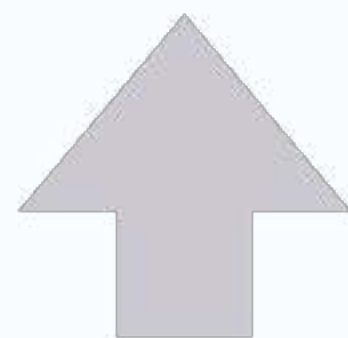
EO Applications



Disasters

Resilient cities

Food security



Community

Open Knowledge



Open Data and Open Knowledge



GEO-17 – 23-26 November 2021

GEO-17-4.1

GEO Statement on Open Knowledge

This document is submitted to the 17th Plenary for decision.

1 INTRODUCTION

This document presents the GEO Statement on Open Knowledge (Annex A). It proposes that the statement be reformulated to focus on “Open Knowledge”. This concept, while inclusive of Open Science, is considered to be more closely aligned with the GEO Mission and Vision, which aim to support decision making and not only or primarily science.

As GEO moves further down the path towards providing its Members and Participating Organizations with the best evidence-based information from Earth observations possible, an Open Knowledge approach supports this ambition and the GEO Vision. The Statement provides a rationale and impetus for the open context of activities of the GEO Work Programme. The GEO community, the results of which will in turn be rendered accessible through the GEO Knowledge Hub.

2 DEVELOPMENT OF THE ORIGINAL STATEMENT

FIRST GEO OPEN DATA OPEN KNOWLEDGE WORKSHOP

IMPACT REPORT

15-16 JUNE 2023

doi.org/10.60566/tmdyw-qqk49

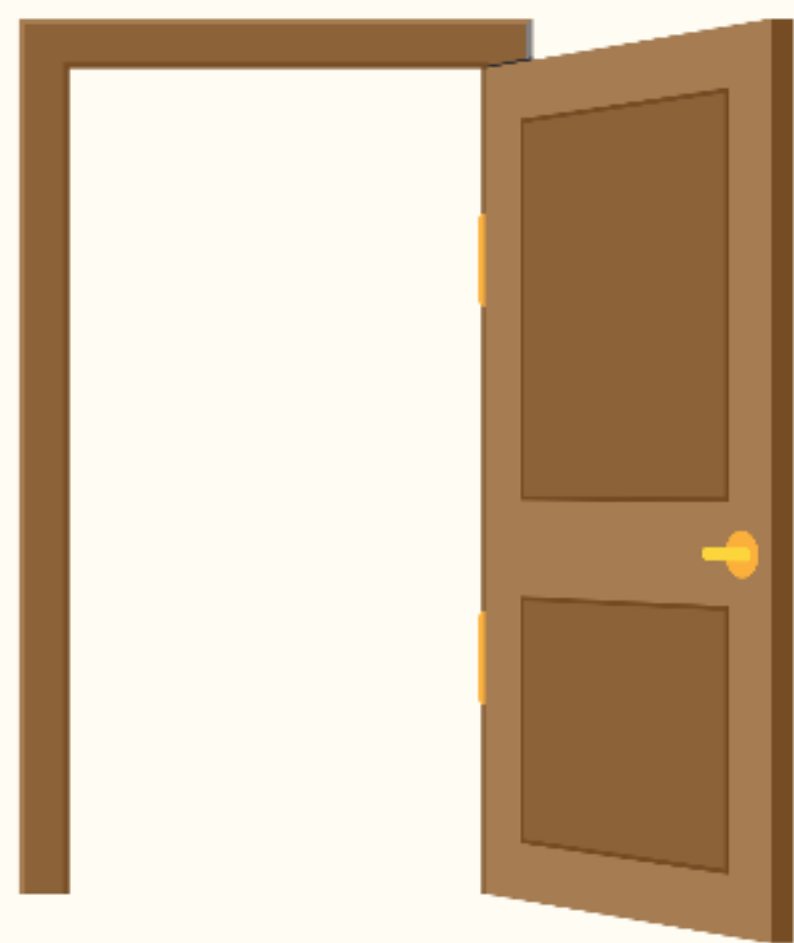
"Strengthen the capabilities of the GEO Community towards open and reproducible knowledge"



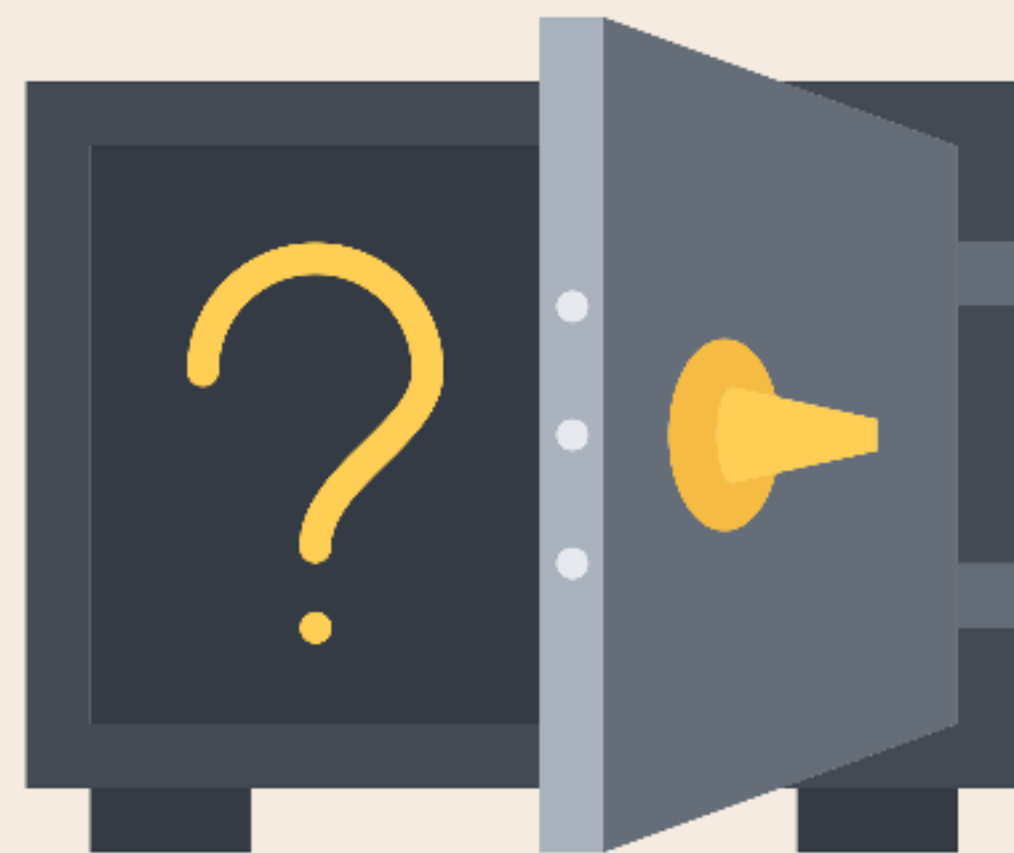


GEO Knowledge Hub

Open



Preserve



Use





Communities

Engage with open, reproducible sharing communities curated by Earth Observation experts



Spatial and Thematic search

Search for applications using spatial locations and Global framework like SDGs, Sendai Framework and Paris Agreement as criteria



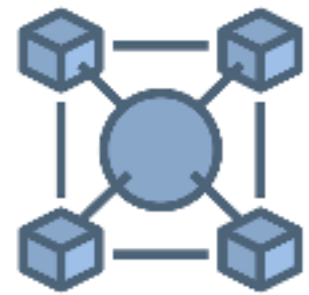
Application management

Manage content and users of EO Applications using Knowledge Packages and high-level dashboards



Real-time exchange

Share Knowledge with the GEO Community in real-time using interactive chat and feedback forms



Interoperability

Access the published materials using well-known standards such as OAI-PMH



Rest API

Access and ingest data using a rich Rest API



Preservation friendly

Persistent identifiers (DOI) by default and execution of continuous data consistency validation



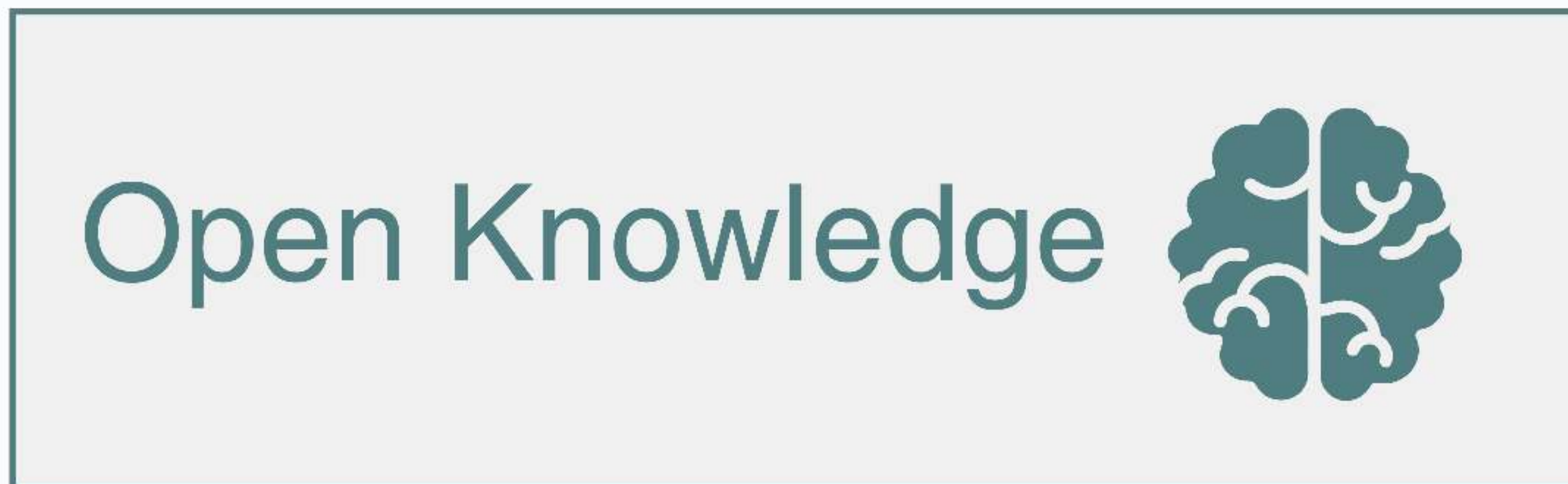
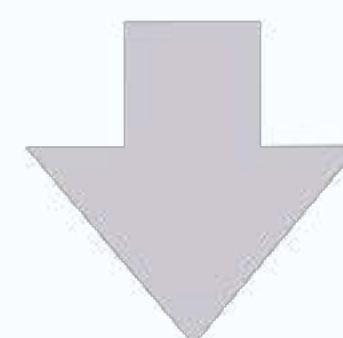
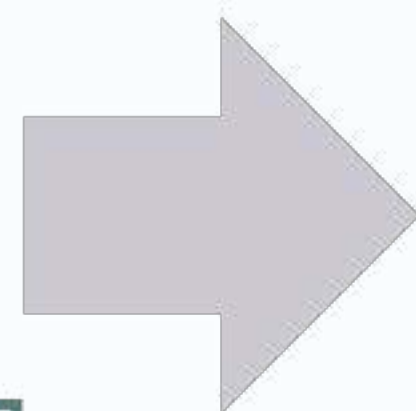
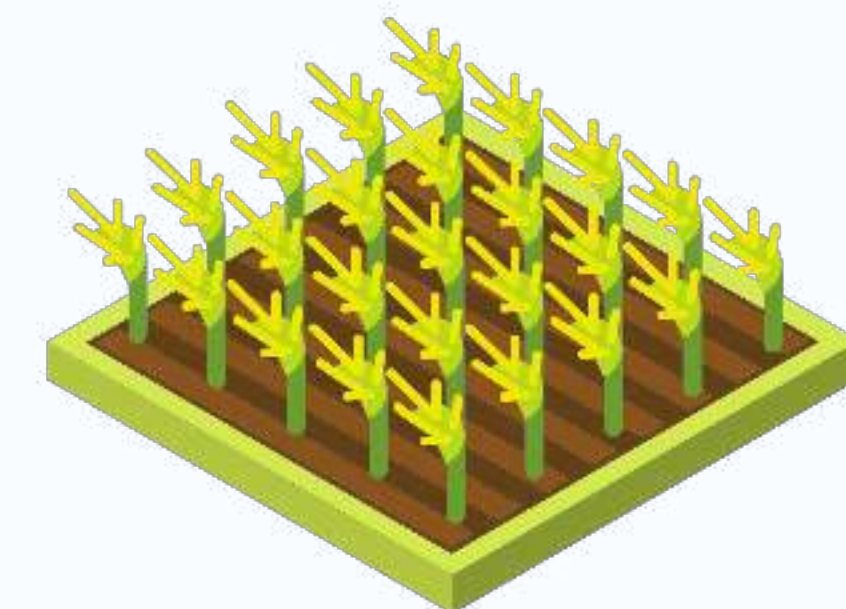
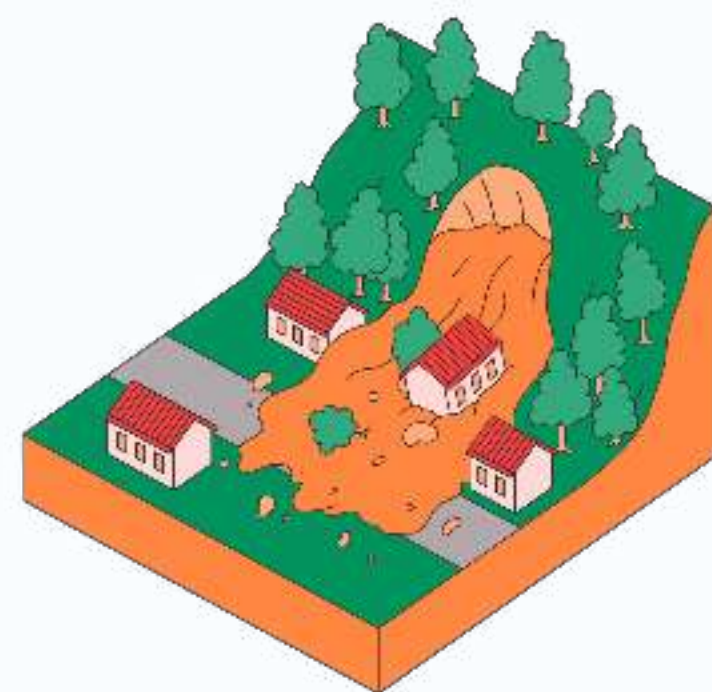
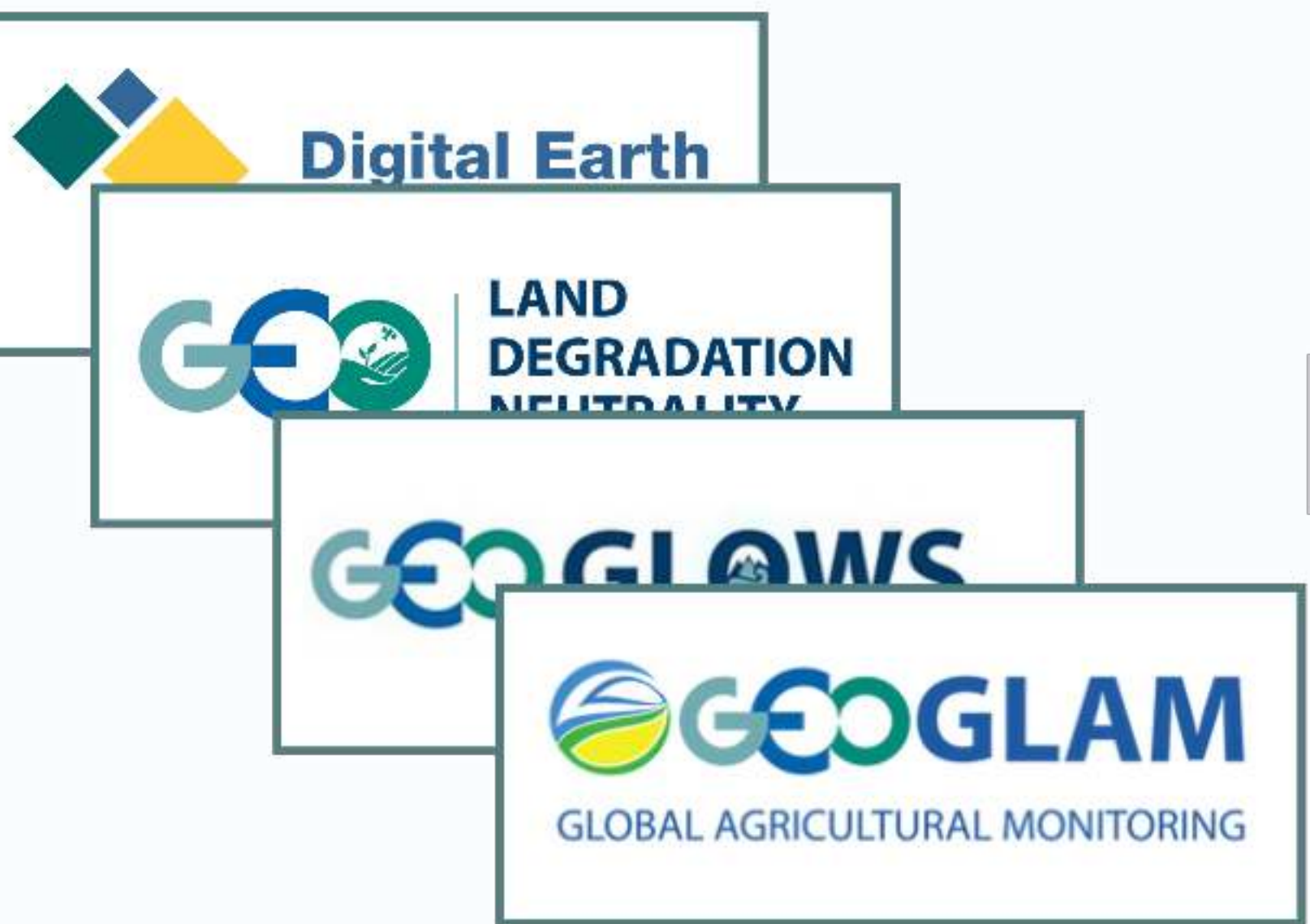
Based on GEO Principles

Created based on GEO Data Management and Sharing principles

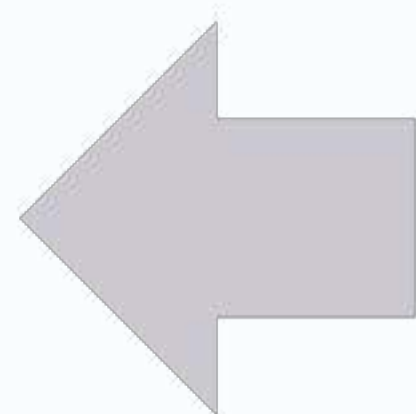
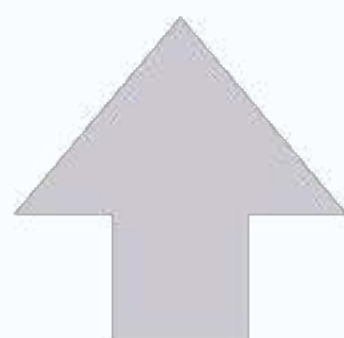


On the shoulders of giants

EO Applications



Community

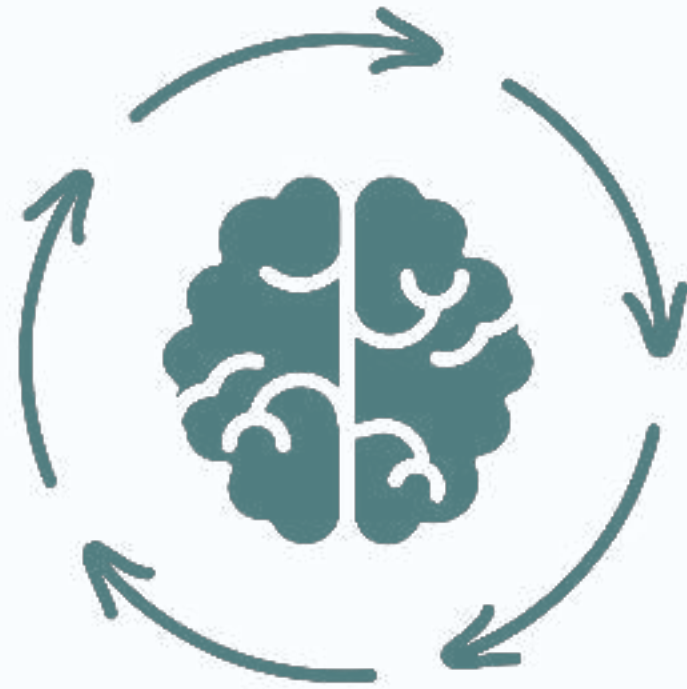


Your project / initiative / institution



Data

Context



Software



Software environment



Docs



Colleagues



Community



Software



Article / Report



Data



Platform A

Software



Platform B

Article / Report



Platform C

Data



Docs



Videos



Article / Report



Data



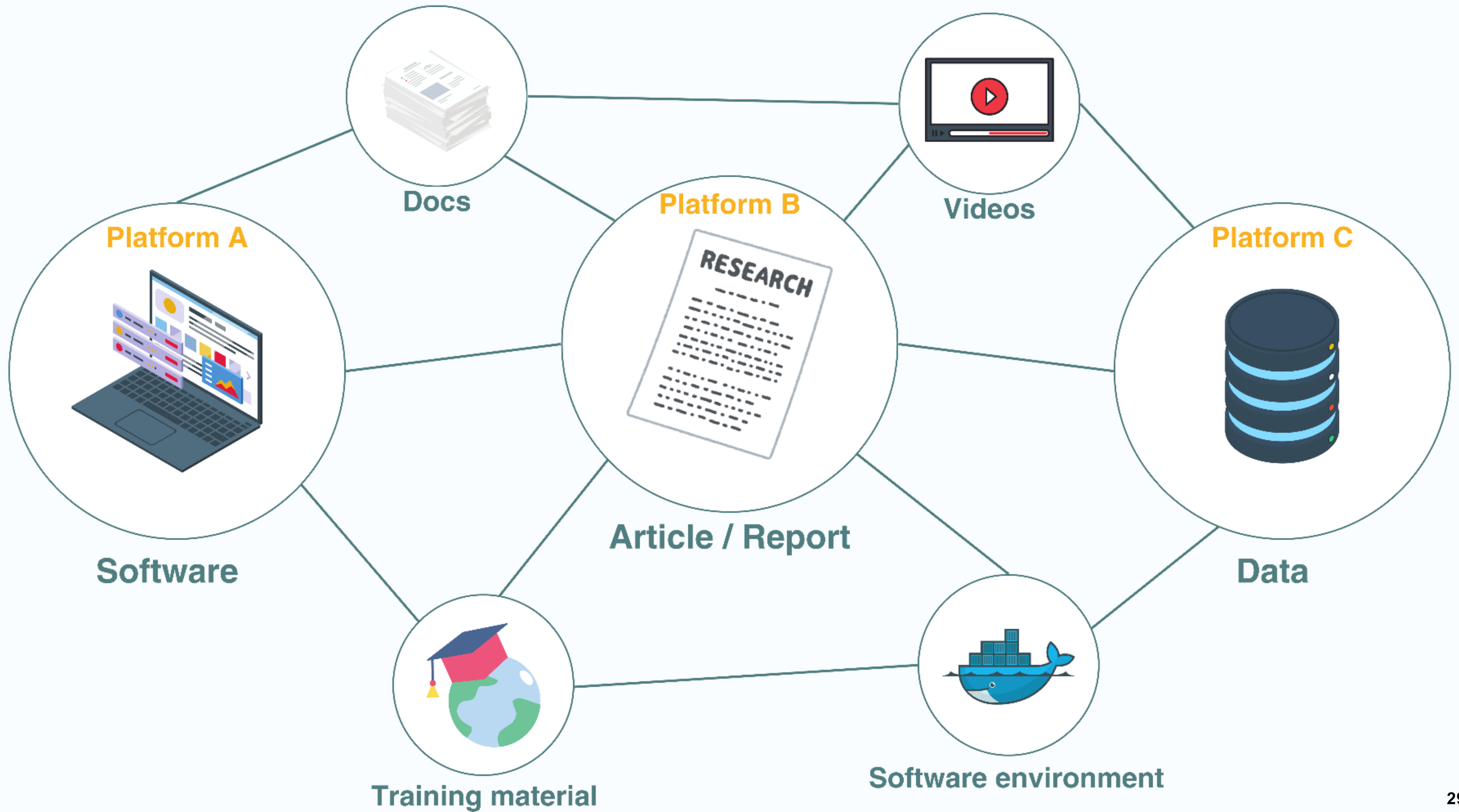
Software



Training material

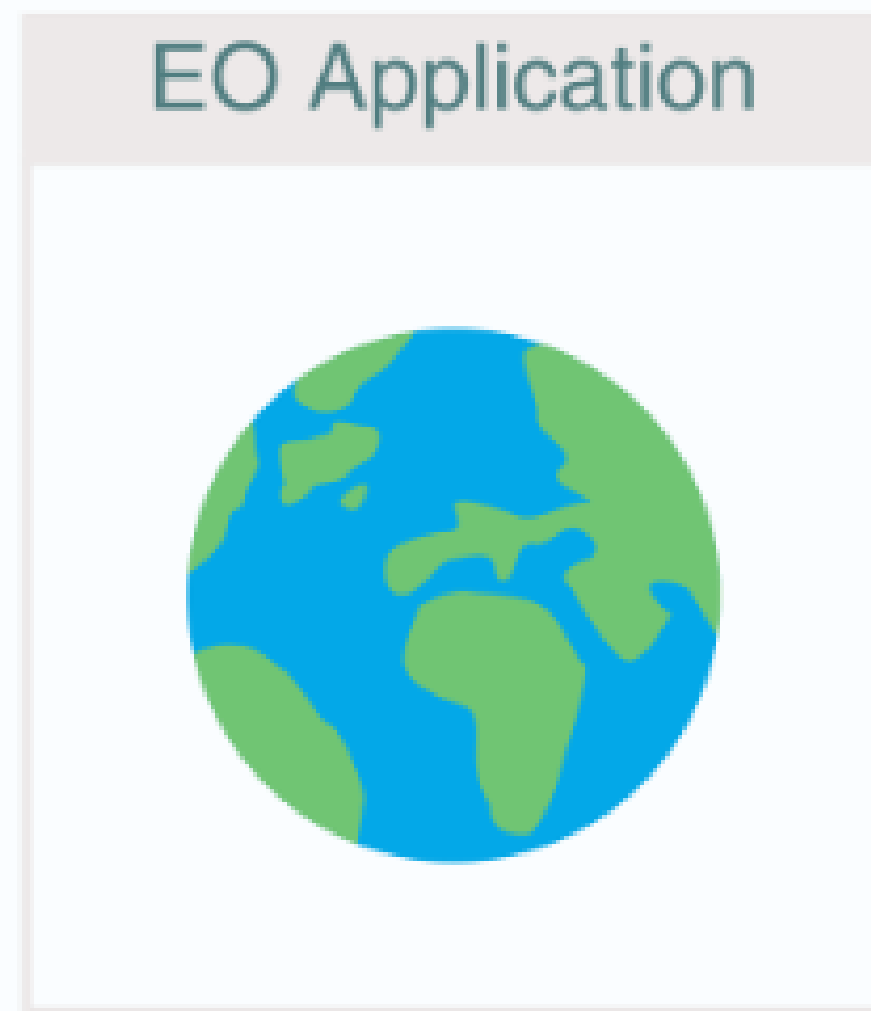


Software environment





Knowledge Package

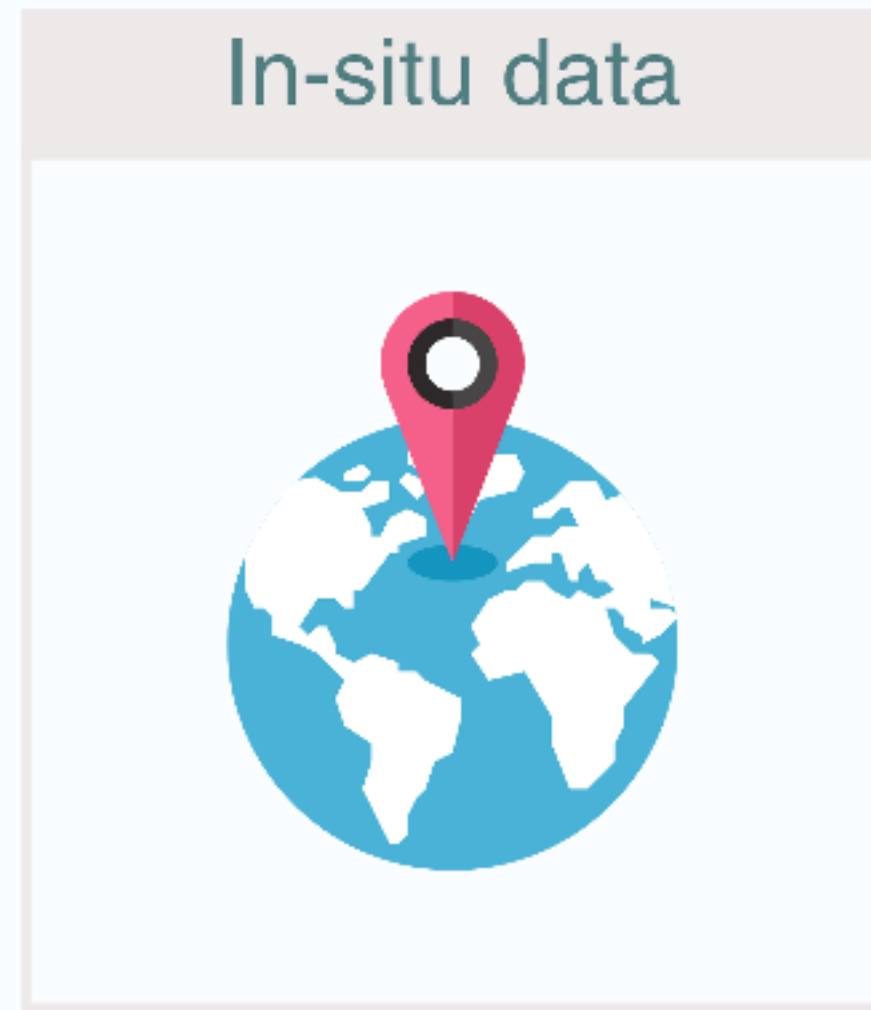


Knowledge Package

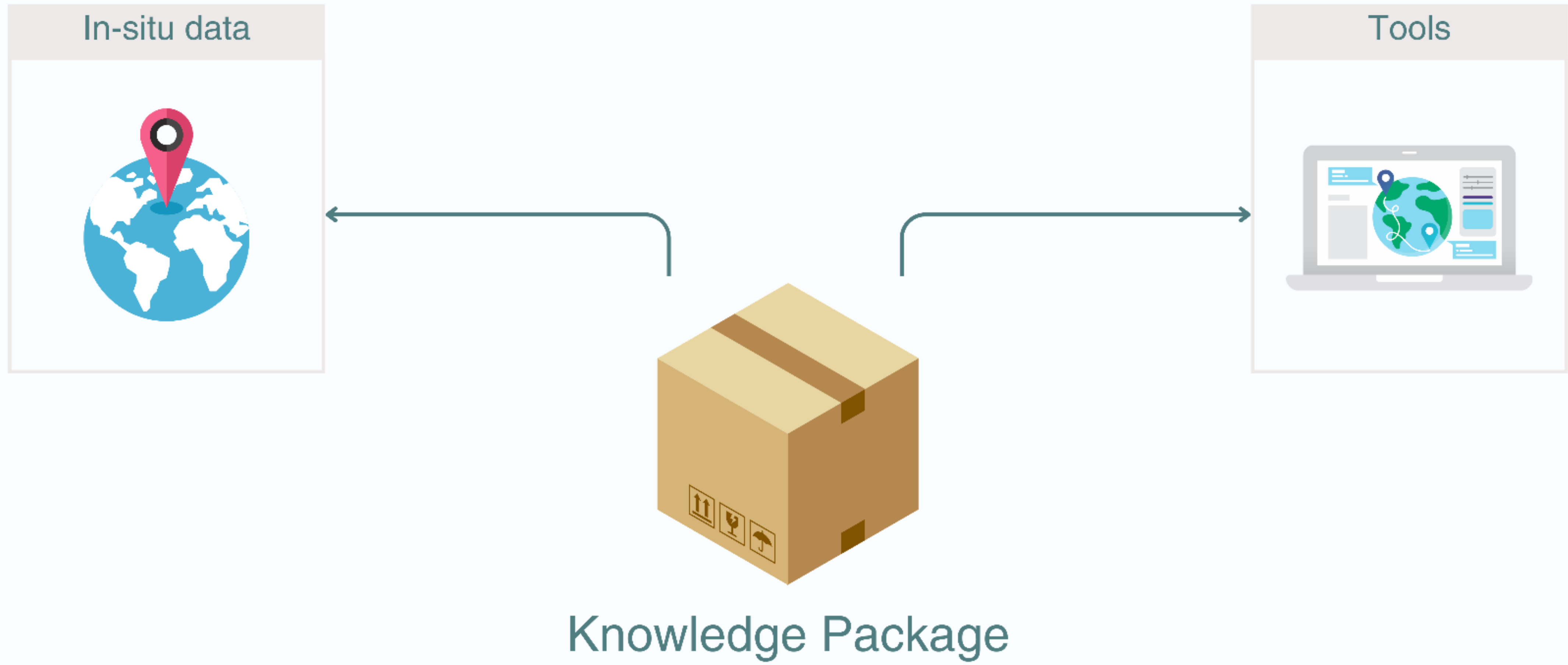




Knowledge Package



Knowledge Package









Knowledge Package



Knowledge Package



Metadata



Knowledge Package



Metadata



Files



Knowledge Package



Metadata



Files



DOI



Knowledge Package



Metadata



Files



DOI



Versions



Resources



Metadata



Files



DOI



Versions



Knowledge Package



Resources



Metadata



Files



DOI



Versions

152

Knowledge Packages

881

Knowledge Resources



EO4SENDAI
Monitoring

GWIS

GEO ECO



GEOMIN

GEO Value



Data and Knowledge
Working Group



Welcome to the GEO Knowledge Hub!

An open-source digital repository of open, authoritative and reproducible knowledge created by the [Group on Earth Observations](#)

Search for Earth Observations Applications



Featured communities



GEOGLAM

The purpose of Group on Earth Observations Global Agricultural Monitoring Initiative (GEOGLAM) is to increase market transparency and improve food security by producing and disseminating relevant, ...



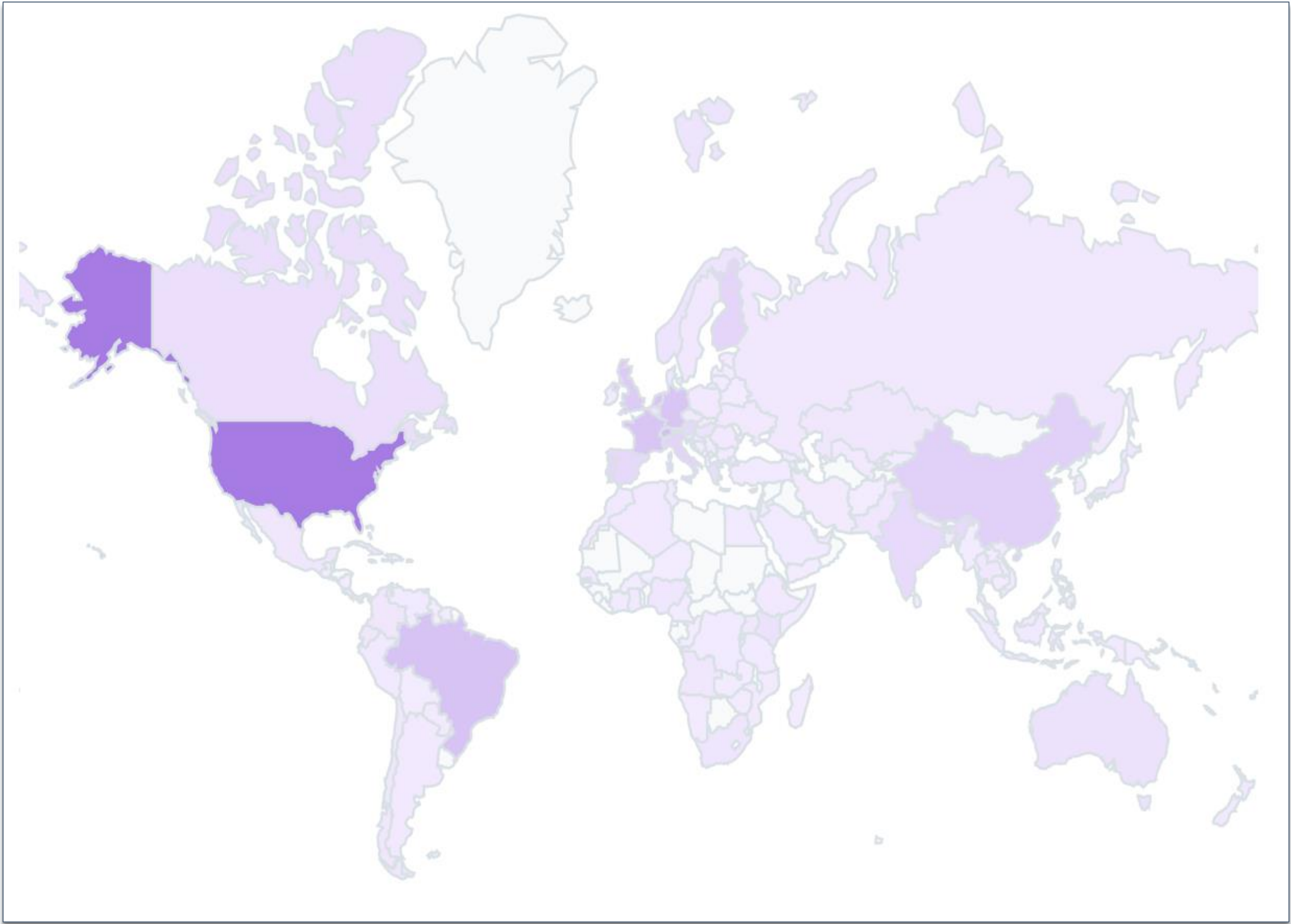
Practical demonstration

Questions ?

Enhancing the connection with the GEO Community

GEO Community access

~40.000 views
(in the last 12 months)



Visitors by country
(Stronger color means more visitors)

Note: Metrics are collected with Plausible, a privacy-friendly tool (GDPR, CCPA, PECR compliant tool)

GEOGLAM Webinar series

The collage shows four overlapping metadata cards for different webinars in the GEOGLAM series. Each card includes the title, date, version, authors, producers, and a description. The cards are: 1. 'Webinar - Focus on GEOGLAM Crop Monitor (October / 2023)' published October 26, 2023, Version v1. 2. 'Webinar - Focus on GEOGLAM ASAP (November / 2023)' published November 21, 2023, Version v1. 3. 'Webinar - Focus on GEOGLAM GLAM (January / 2024)' published January 26, 2024, Version v1. 4. 'Webinar - Focus on GEOGLAM CropWatch (January / 2024)' published January 31, 2024, Version v1.

Published January 31, 2024 | Version v4

GEOGLAM Knowledge Package Metadata-only

Open EO Applications for Food Security (Webinar series)

GEOGLAM Team; GEO Knowledge Hub team

Citation

Style

GEOGLAM Team, & GEO Knowledge Hub team. (2024). Open EO Applications for Food Security (Webinar series). GEO Knowledge Hub. <https://doi.org/10.60566/qb27f-93m16>

Description

The "Open EO Applications for Food Security" webinar series, organized by GEOGLAM in association with the GEO Knowledge Hub, will prominently feature four key applications: Crop Monitor, Crop Watch, ASAP, and GLAM. This series explores the utilization of open Earth Observations applications in supporting global food security initiatives. Participants will gain a comprehensive understanding of these advanced tools and their implications for sustainable

doi.org/10.60566/qb27f-93m16

GEOGLAM Webinar series (4 webinars)

Open EO Applications for Food Security - Webinar series



240
Attendees



61
Countries



150
Organizations

FAO WaPOR Webinar

Published February 22, 2024 | Version v1 Dataset Metadata-only

WaPOR data

Food and Agriculture Organization

Citation

Style APA

Food and Agriculture Organization. (2024). WaPOR data [Data set]. GEO Knowledge Hub. <https://doi.org/10.60566/3z50v-36464>

Published February 23, 2024 | Version v1 Source Code Metadata-only

pyWaPOR (Python package)

Food and Agriculture Organization

Citation

Style APA

Food and Agriculture Organization. (2024). pyWaPOR (Python package). GEO Knowledge Hub. <https://doi.org/10.60566/5zbgs-y4h11>

Description

PyWaPOR is a user-friendly Python package designed for generating detailed water productivity data using satellite imagery and local information. This tool extends the reach of the WaPOR database, enabling users to analyze water use and productivity in agriculture.

Key Features:

- **Data Sources:** PyWaPOR can automatically download remote-sensing data from various sources, including Landsat 5-9, Sentinel 2-3, MODIS, VIIRS, and more.
- **Data Pre-processing:** The package ensures consistency by pre-processing datasets, aligning projections and resolutions.

Published January 29, 2024 | Version WaPOR version 3 Knowledge Package Open

WaPOR (Water Productivity through Open access of Remotely sensed derived data)

Food and Agriculture Organization

Citation

Style APA

Food and Agriculture Organization. (2024). WaPOR (Water Productivity through Open access of Remotely sensed derived data) (WaPOR version 3). GEO Knowledge Hub. <https://doi.org/10.60566/f5p3z-wc915>

Description

WaPOR (Water Productivity through Open access of Remotely sensed derived data) is a portal by the Food and Agriculture Organization (FAO) that helps countries monitor water productivity using satellite data. In agriculture it helps identify areas where improved practices are needed, can inform the choice of solutions to boost agricultural output, and supports sustainable farming. The

doi.org/10.60566/f5p3z-wc915

FAO WaPOR Webinar (1 webinar)

FAO WaPOR - Webinar series



82
Attendees

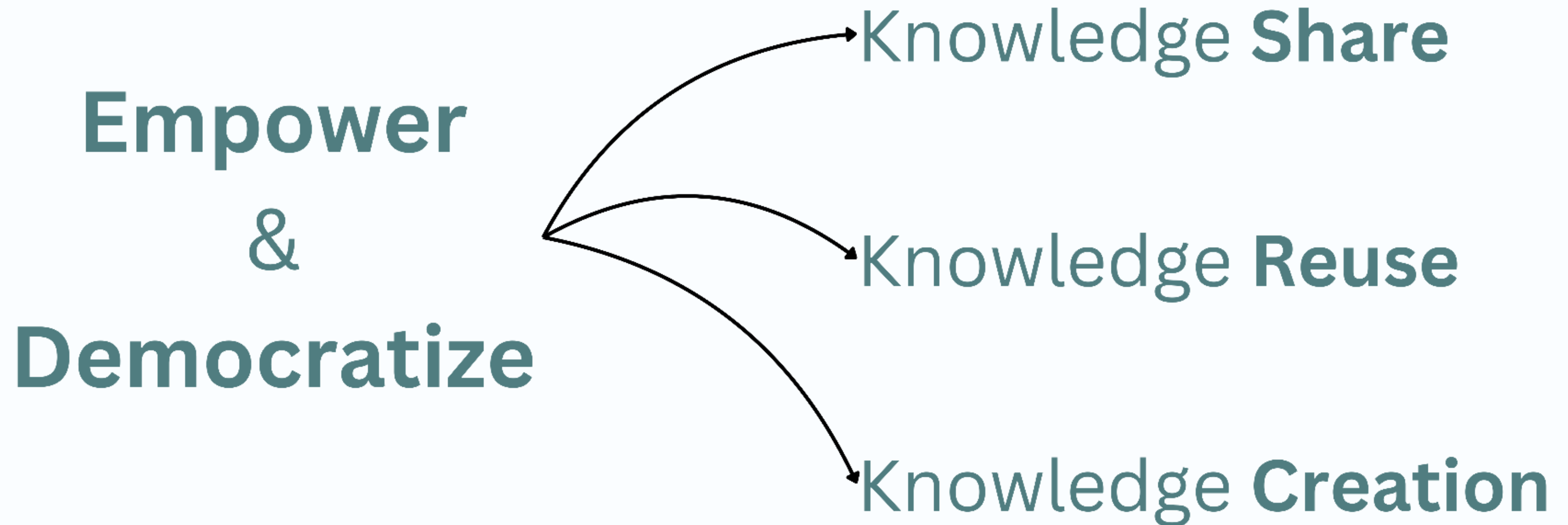


38
Countries



56
Organizations

Witnessing a paradigm shift in GEO supported by the GEO Knowledge Hub



We build with ❤️ **together** with the GEO Community

(1) Community effort

(2) On-demand approach

(3) Let's go together





**FROM VISION
TO ACTION**

Earth
intelligence
for all

GEO
Symposium
& ODOK
Workshop

#EarthIntelligenceForAll

23-26 SEP 2024
CHINA, Hangzhou

The Data Working Group, the GEOSS Platform, and the GEO Knowledge Hub teams are inviting you for the Open Data Open Knowledge workshop

The ODOK will take place in China from 24-25 September 2024

Registrations are open!

earthobservations.org/events/geo-symposium-and-odok-workshop

"Once you share bread, I have half, you have half. But once you share Knowledge, you and I have all of it"

Thank you!

Group on Earth Observations

7 bis, avenue de la Paix,
Case postale 2300
CH-1211 Geneva, Switzerland

Pdesalvo@geosec.org

