What the GEO Knowledge Hub can do for you ?

GEO Knowledge Hub team

Date: 9th of March from 14 to 16 (Geneva time)

Where: Online

GEO Knowledge Hub team

Paola de Salvo

Felipe Carlos

Florian Franziskakis

Hendrik Baeyens

Technicalities

Questions, comments and suggestions

Please, use the chat to share your thoughts. During the presentation we will pause to discuss them.

Session video record

This presentation will be recorded, and it will be made available in the GEO website GEO (earthobservations.org).

Material availability

All the materials used during this workshop are available in the following GitHub repository (e.g., Knowledge Package metadata, presentations):

geo-knowledge-hub/geo-knowledge-hub-workshop

Material availability

geo-knowledge-hub/geo-knowledge-hub-workshop

GEO Knowledge Hub Workshop

The GEO Knowledge Hub (GKH) is a central cloud-based digital library providing access to Earth Observations applications developed by GEO Work Programme Activities, It includes applications that help users working on agriculture, disaster risk reduction, urban planning and more.

To learn more about the new features available in the GEO Knowledge Hub and how you can start using it, join the workshop "What the GEO Knowledge Hub can do for you ?". The workshop has been designed for existing knowledge providers and new and potential users.

This repository stores the auxiliary materials (e.g., Presentation, Knowledge Packages resources) for the workshop.

Workshop presentation

To access the presentations of the workflow, please, use the following links:

- 1. Introduction to the Open Knowledge and the GEO Knowledge Hub concepts
- 2. Tour session in the GEO Knowledge Hub

Agenda

Part 1: Context and concepts (~50 minutes)

- GEO and the Open Knowledge
- GEO Knowledge Hub
- Concepts

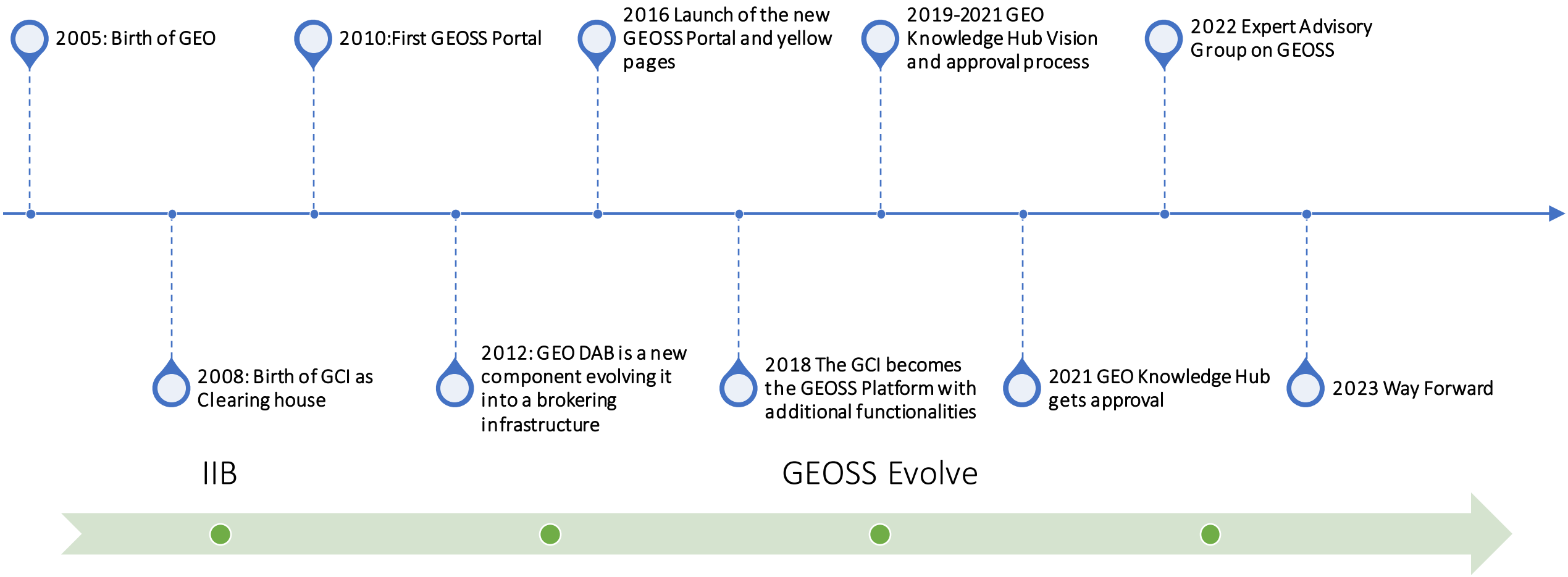
Part 2: Tour session (~70 minutes)

- User tour
- Knowledge Provider tour
- Communities tour

GEO and the Open Knowledge practices

History: GEO Infrastructure Journey since GEO's Birth

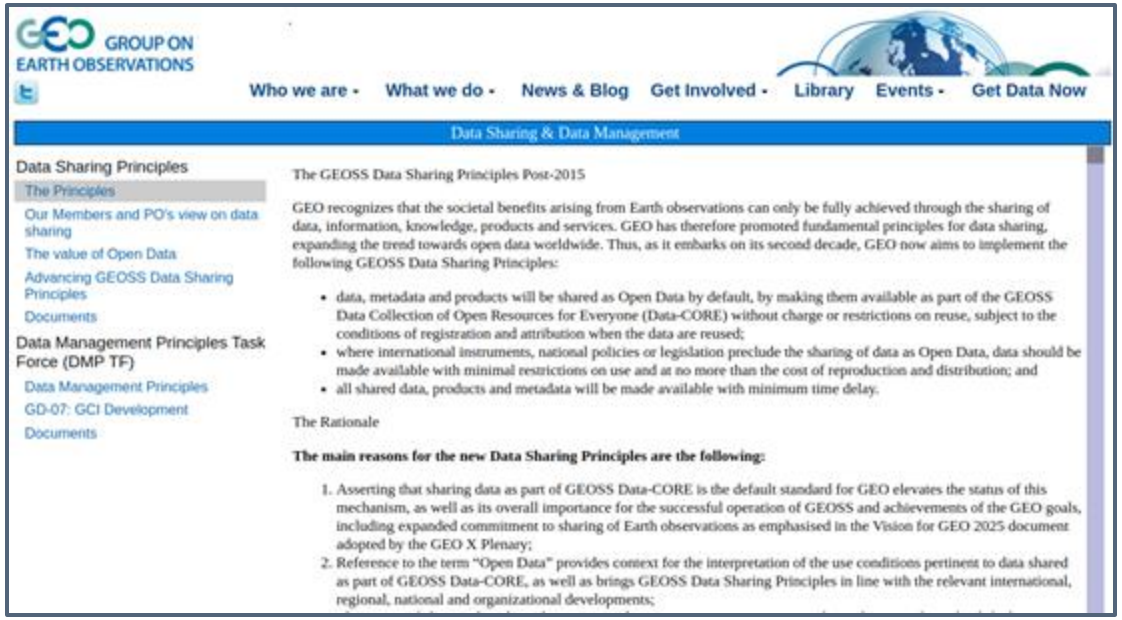
…..Together, the GEO community is creating a Global Earth Observation System of Systems (GEOSS) to better integrate observing systems and share data by connecting existing infrastructures using common standards. There are more than 400 million open data resources in GEOSS from more than 190 national and regional providers such as NASA and ESA; international organizations such as WMO and the commercial sector such as Digital Globe.(About us (earthobservations.org)



Some history

GEO Data Sharing Principles

Data Sharing is a pre-requisite for building an effective Global Earth Observation System of Systems. It is the backbone of the abiding GEO vision "a future wherein decisions and actions for the benefit of humankind are informed by coordinated, comprehensive and sustained Earth observations and information."



Open Knowledge Statement (GEO week 2021)

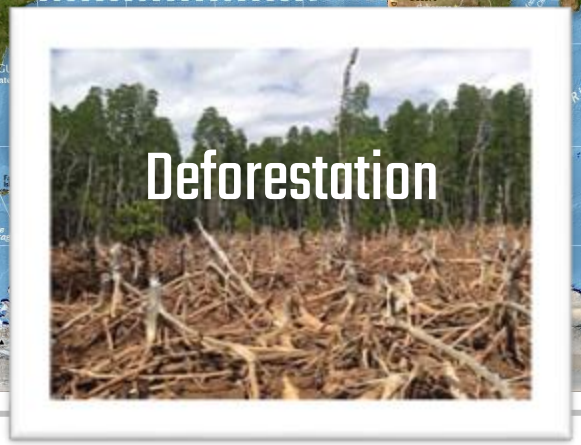
(earthobservations.org)

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 and the GEO community, the results of which will in turn be rendered accessible through the GEO Knowledge Hub

The mind shift to open knowledge

- Open Access
- Open Data
- Open Software
- Open Infrastructure
- Open Education

Our Only Planet



How to accelerate impact?

How to empower countries to prevent, face and respond to major environmental and societal challenges?

Where is the knowledge?

Download the GEO Work Programme 2023-2025 Summary Document, which contains short descriptions of each of the GEO Flagships, Initiatives, Pilot Initiatives and Regional GEOs that comprise the GEO Work Programme.

Collective intelligence through open science to address societal and environmental challenges

GEO Knowledge Hub Users Outreach & Uptake

Target audience:
technical staff

Youth COP &
Universities

National
Institutions

International Org.
Humanitarian/NGOs

The GEO Knowledge Hub

GEO Knowledge Hub

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The GKH It is part of the GEO Infrastructure and helps the GEO to advance Open Knowledge.

The GEO Knowledge Hub: we have asked the ChatGPT

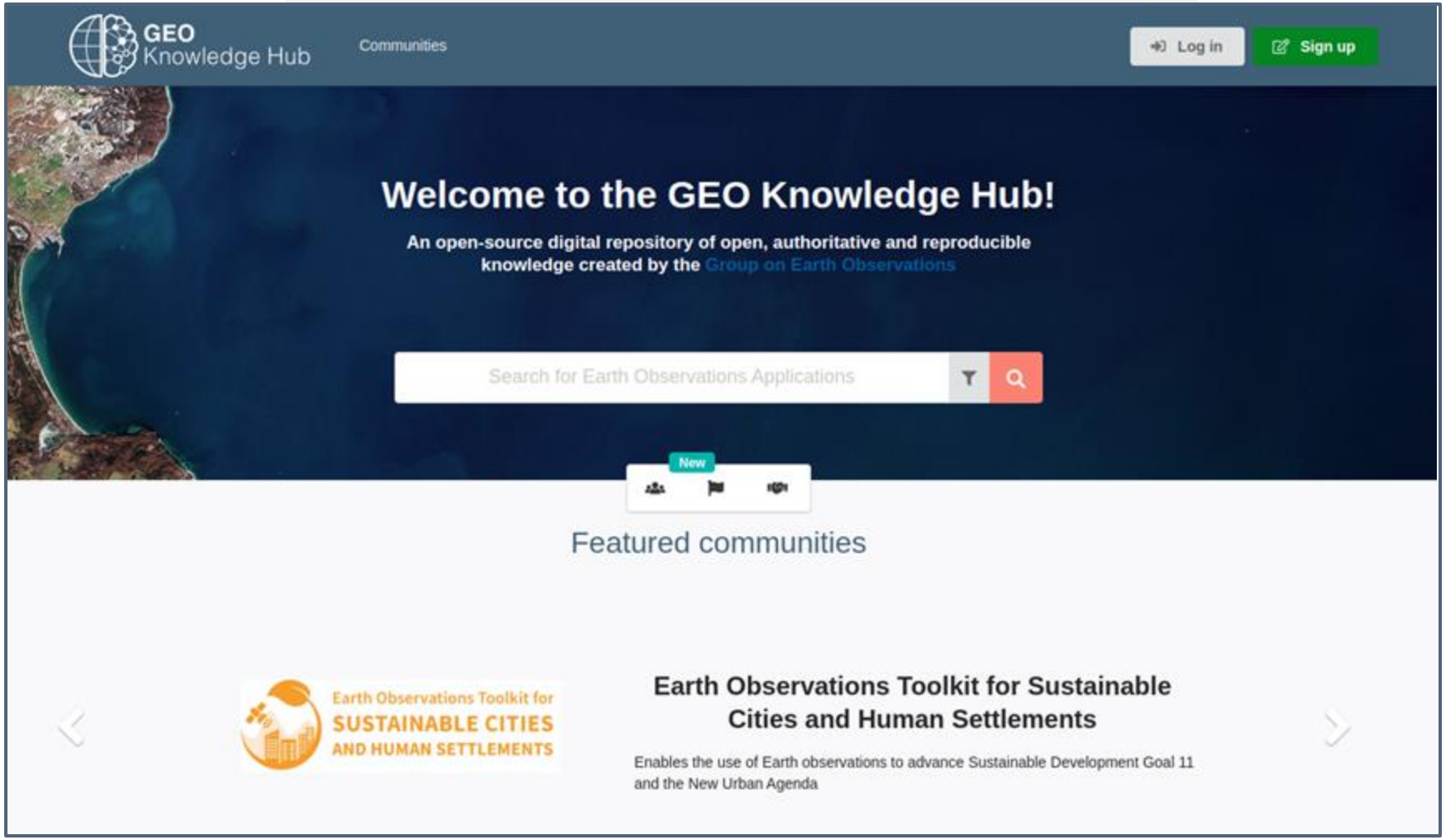
The GEO Knowledge Hub plays an important role in the work of the Group on Earth Observations (GEO). The GEO Knowledge Hub serves as a platform for sharing information, knowledge, and best practices related to Earth observations and their use in decision-making and policy development.

By providing a space for collaboration, learning, and innovation, the GEO Knowledge Hub supports the GEO community in their efforts to effectively use Earth observations for sustainable development, disaster risk reduction, and other critical initiatives.

The GEO Knowledge Hub also helps to **connect people**, **institutions**, and **organizations** working in the field of **Earth observations**, and **provides access to data, information, and other resources**.

GEO Knowledge Hub

gkhub.earthobservations.org



Scalable building

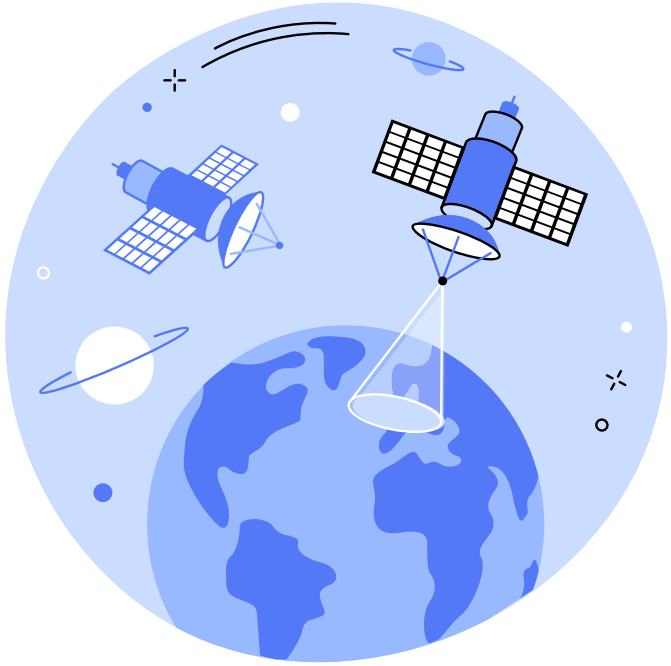
To create consistent features and make the GEO Knowledge Hub scalable, it is developed on top of InvenioRDM.

GEO Knowledge Hub concepts

Knowledge Packages and resources

Sharing EO applications

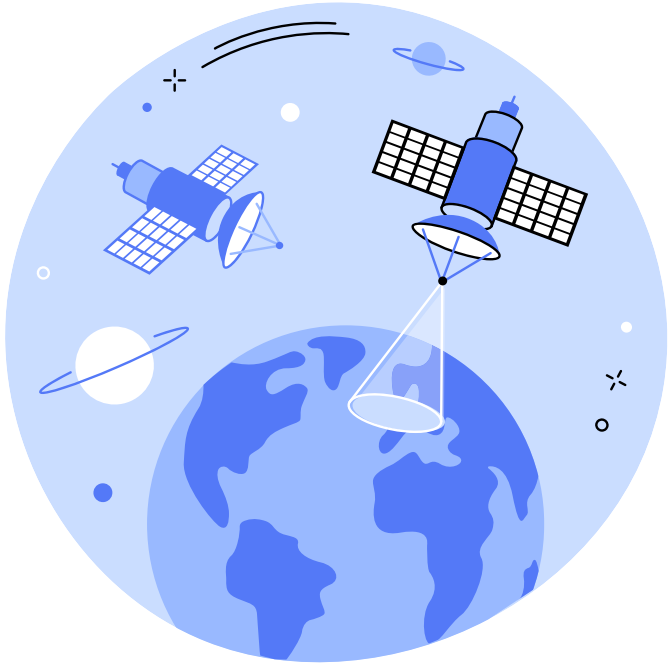
EO Application



Sharing EO applications

Satellite imagery

EO Application



Sharing EO applications

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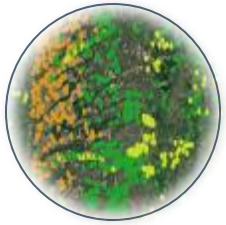
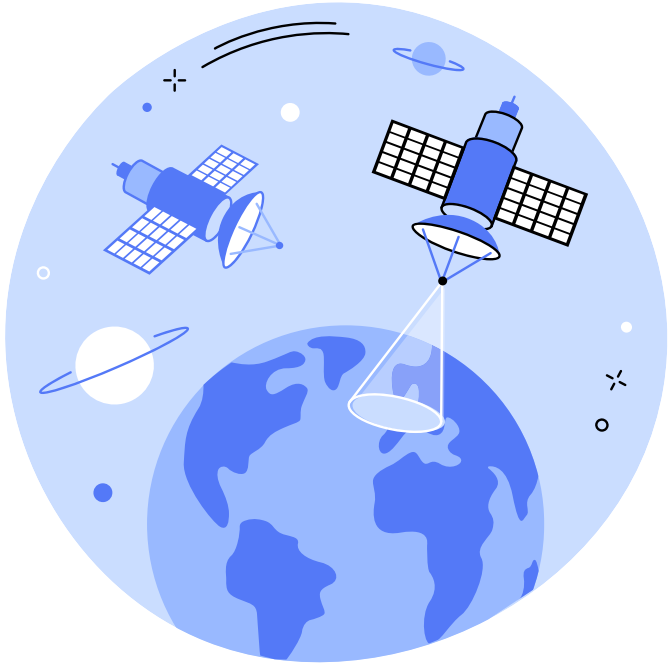


In-situ data

EO Application



Sharing EO applications

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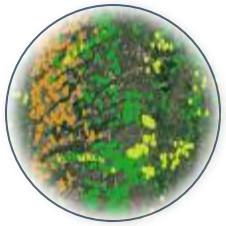
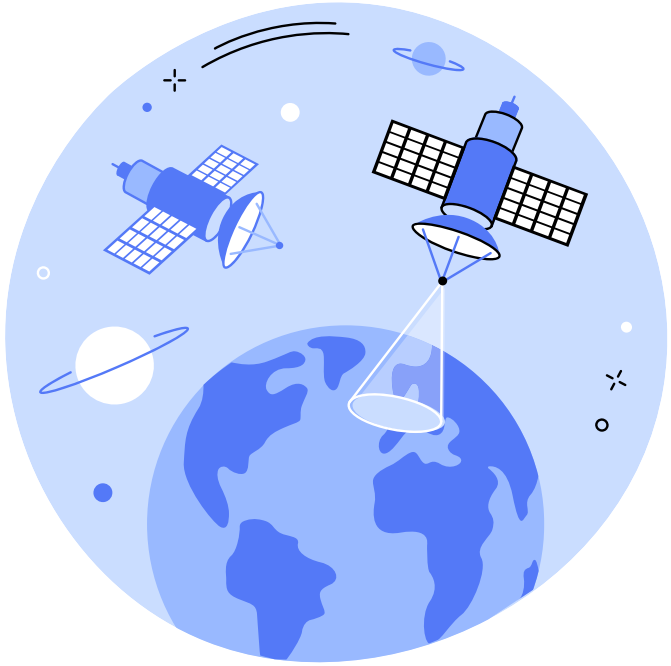


In-situ data

Processing scripts

EO Application



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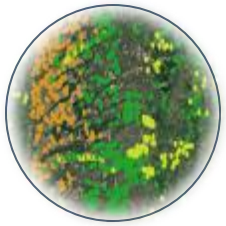

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Processing scripts

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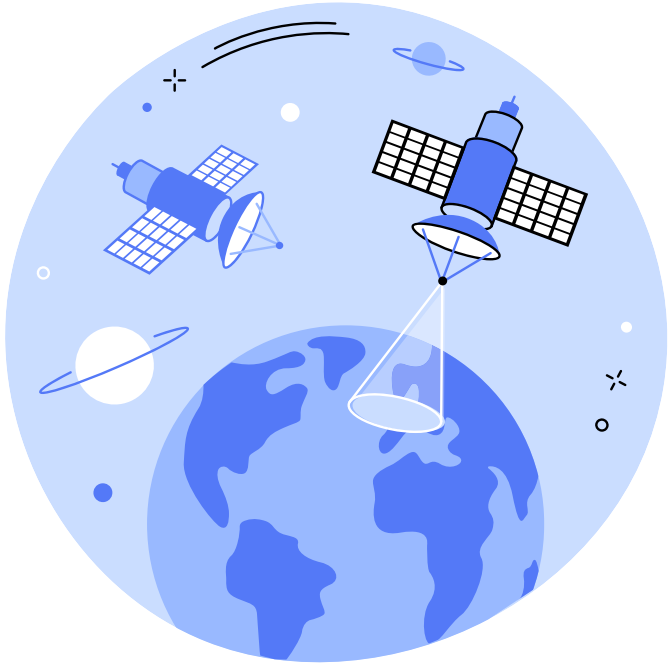
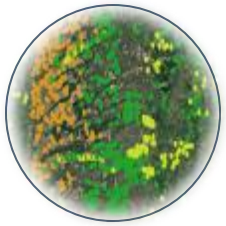


Workflow

Sharing EO applications

Satellite imagery



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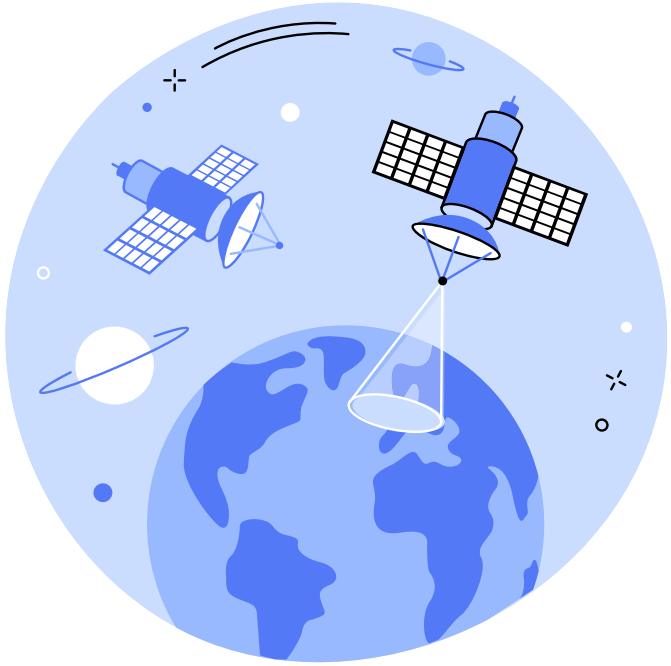
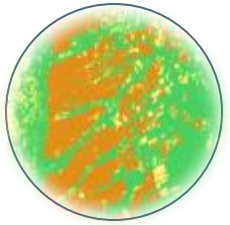


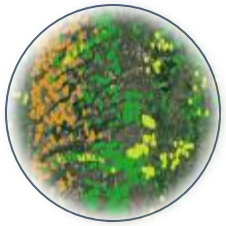
Workflow



Data results

Sharing EO applications

Satellite imagery



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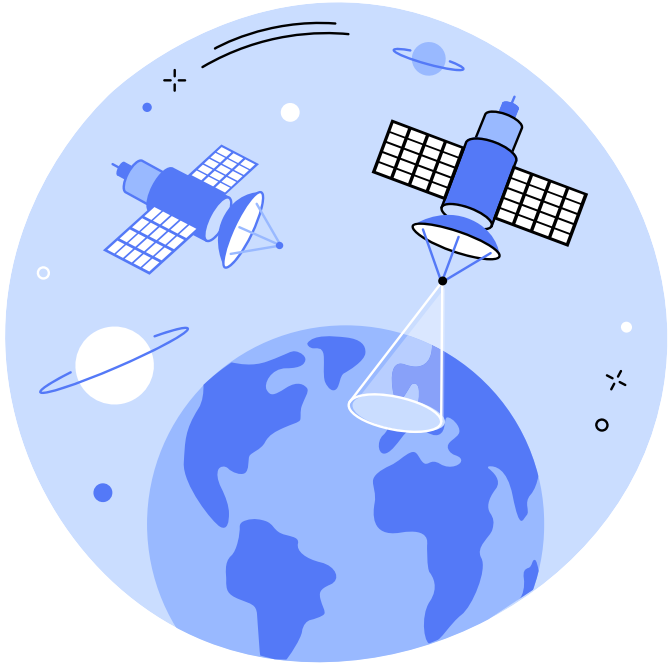

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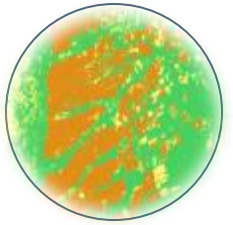
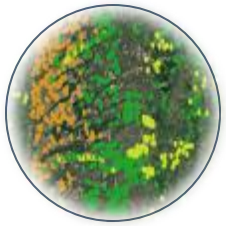


Data results

Articles & notes

Sharing EO applications

Satellite imagery

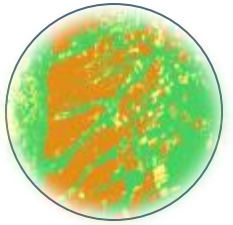


In-situ data

Processing scripts

Resource content

Workflow



Data results

Articles & notes

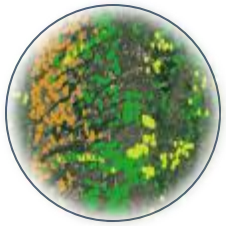
Sharing EO applications

Satellite imagery

Metadata

(title, description and others)

Workflow



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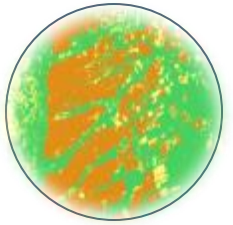

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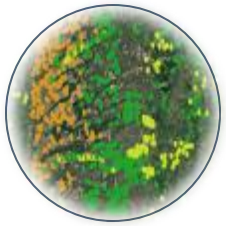


In-situ data

Processing scripts

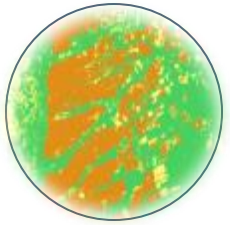
Metadata

(title, description and others)

Files

(Resource file itself or auxiliary ones)

Workflow



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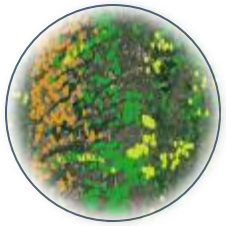


In-situ data

Processing scripts

Metadata

(title, description and others)

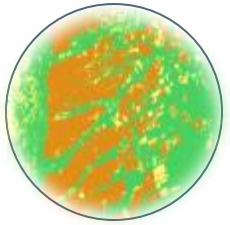
Files

(Resource file itself or auxiliary ones)

Auxiliary resources

(Documentation, articles and others)

Workflow



Data results

Articles & notes

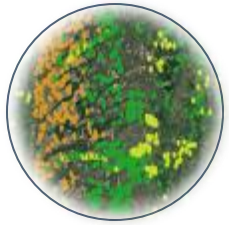
How can we consolidate important information about the resources of our EO Application to make their **knowledge** more **accessible** and **reusable** ?

Knowledge Package and resources

Knowledge Package

Knowledge Package and resources

Satellite imagery



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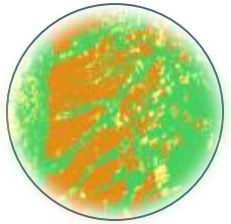
Knowledge Package

Workflow



Data results

Articles & notes

Knowledge Package and resources

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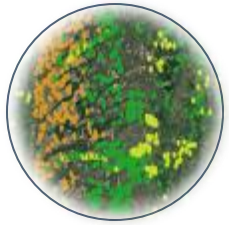

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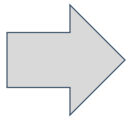
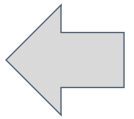
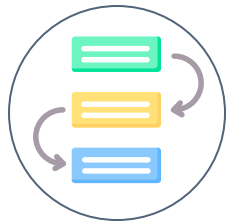
Processing scripts

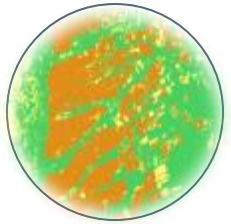


Knowledge Package





Workflow

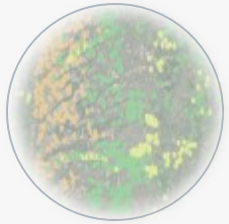


Data results

Articles & notes

Knowledge Package and resources

Satellite imagery



In-situ data

Processing scripts

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Data results

Articles & notes

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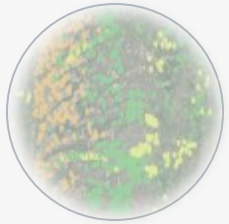
Metadata

Files

Aux resources

Satellite imagery



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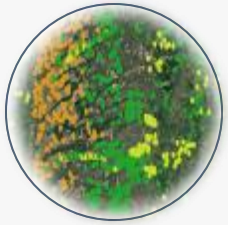

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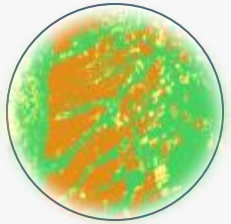

Data results

Articles & notes

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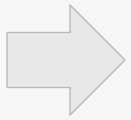

Knowledge Package

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Articles & notes

Knowledge Package and resources

Knowledge Package

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Knowledge Package

In-situ data

Knowledge Package and resources

Knowledge Package

In-situ data

Satellite imagery

STAC
SpatioTemporal
Asset Catalog

Knowledge Package and resources

Knowledge Package

- In-situ data
- Satellite imagery
- Scripts and workflow

STAC
SpatioTemporal
Asset Catalog

GitHub

Knowledge Package and resources

97	463	3.063
Knowledge Packages	Resources	Page views

(February / 2023)

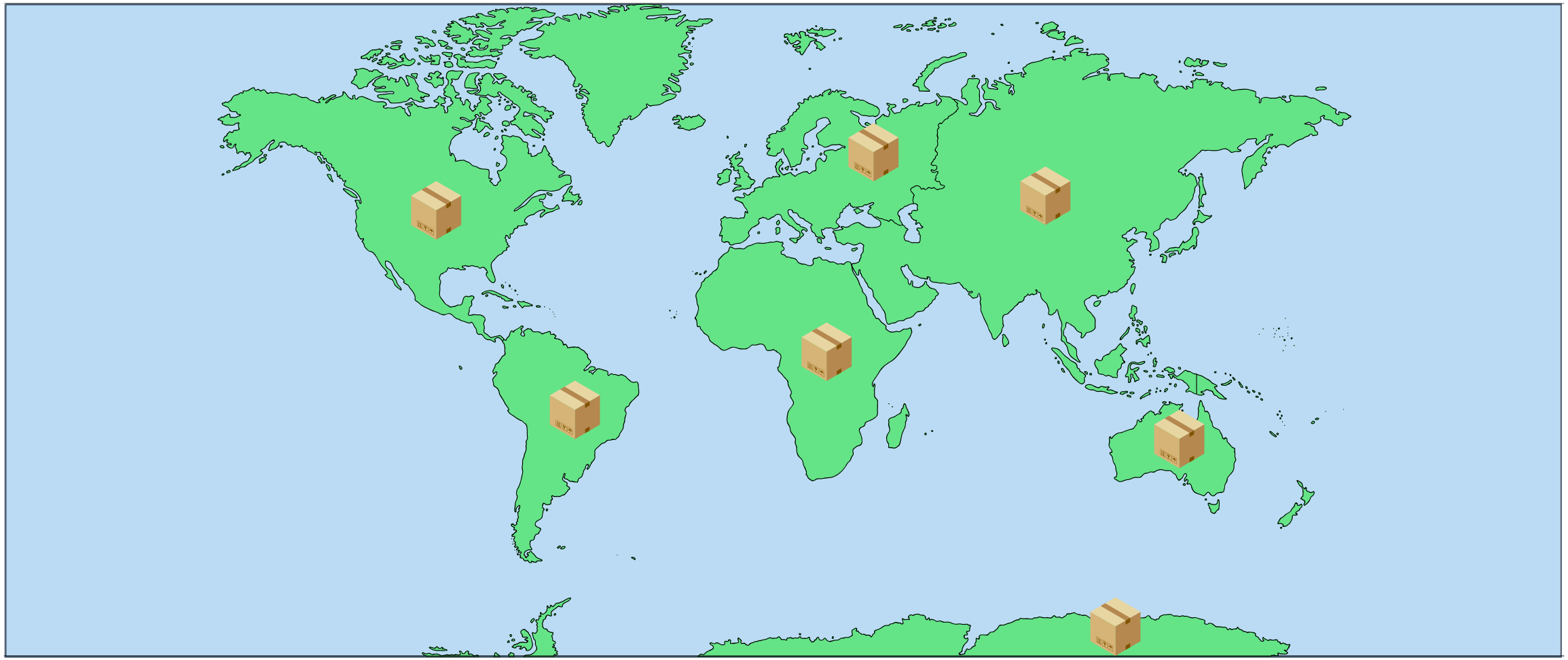
Knowledge Package and resources

14

GEO Work Programme activities

Data Working Group	DE-AFRICA	GEOGLOWS
EO4SENDAI-MONITORING	GEOGLAM	HUMAN-PLANET
GEOMIN	GEO-VENER	EO4SDG
GEO-MOUNTAINS	OEA	GOS4M
GEO-ECO	GWIS	

Knowledge Package and resources

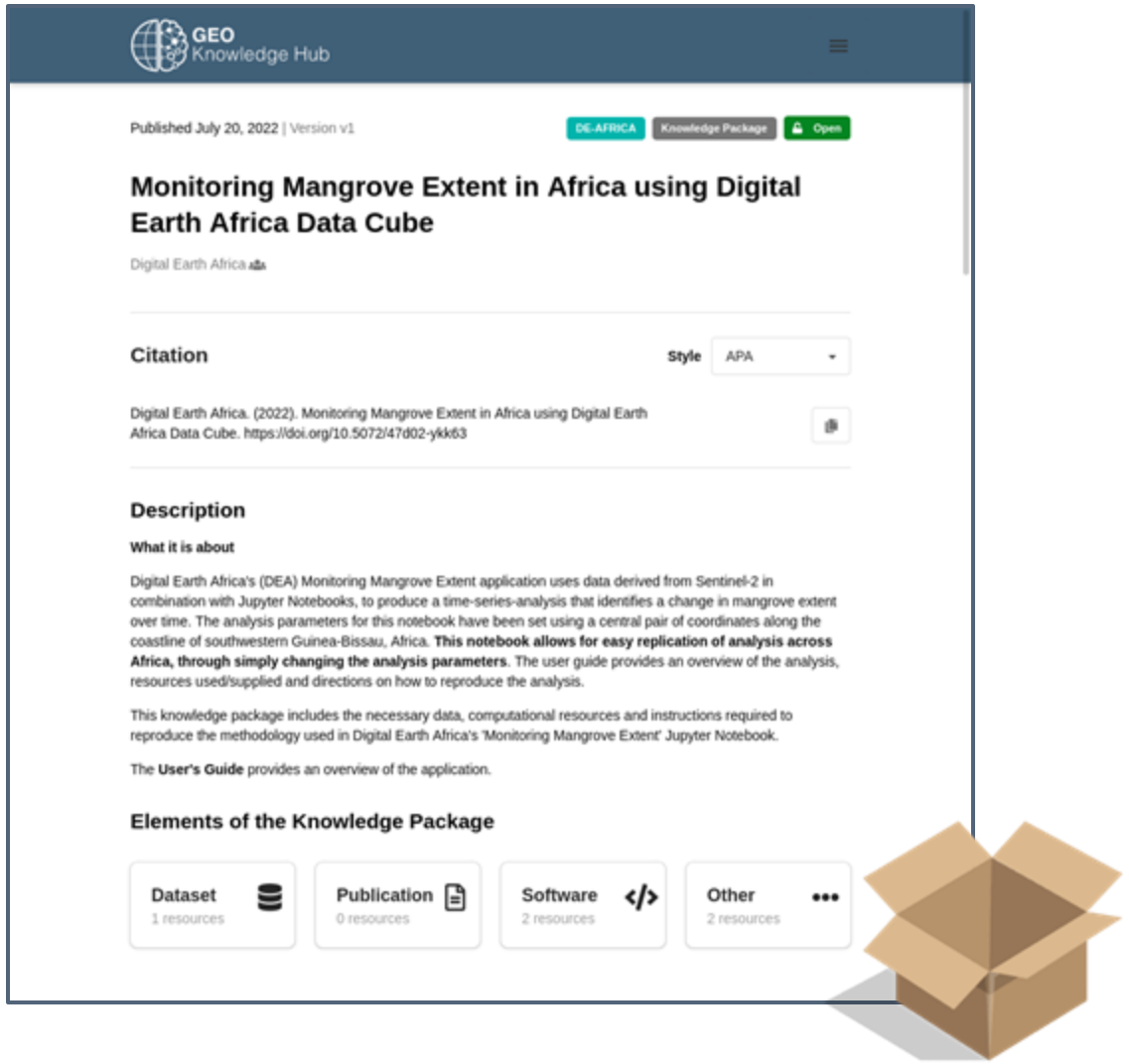


Knowledge Package cases

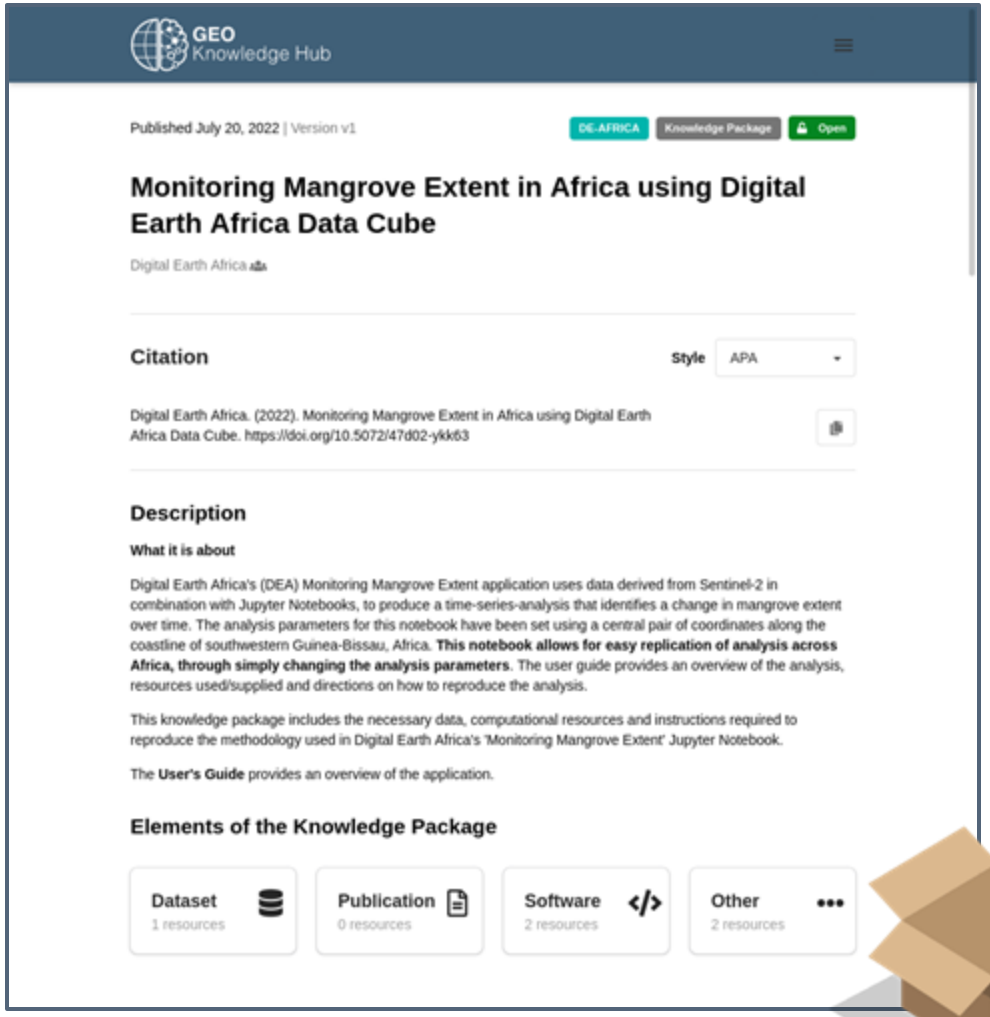
Digital Earth
AFRICA

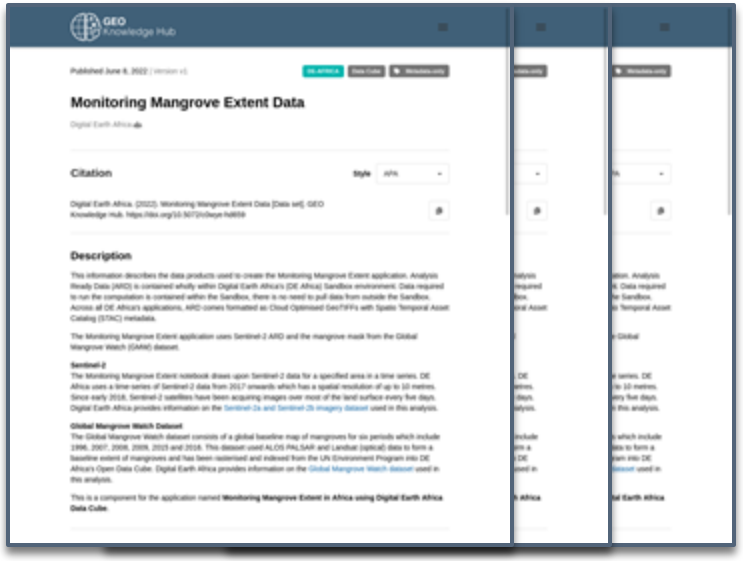
Monitoring Mangrove Extent in Africa using Digital Earth Africa Data Cube

Monitoring Mangrove Extent in Africa using Digital Earth Africa Data Cube



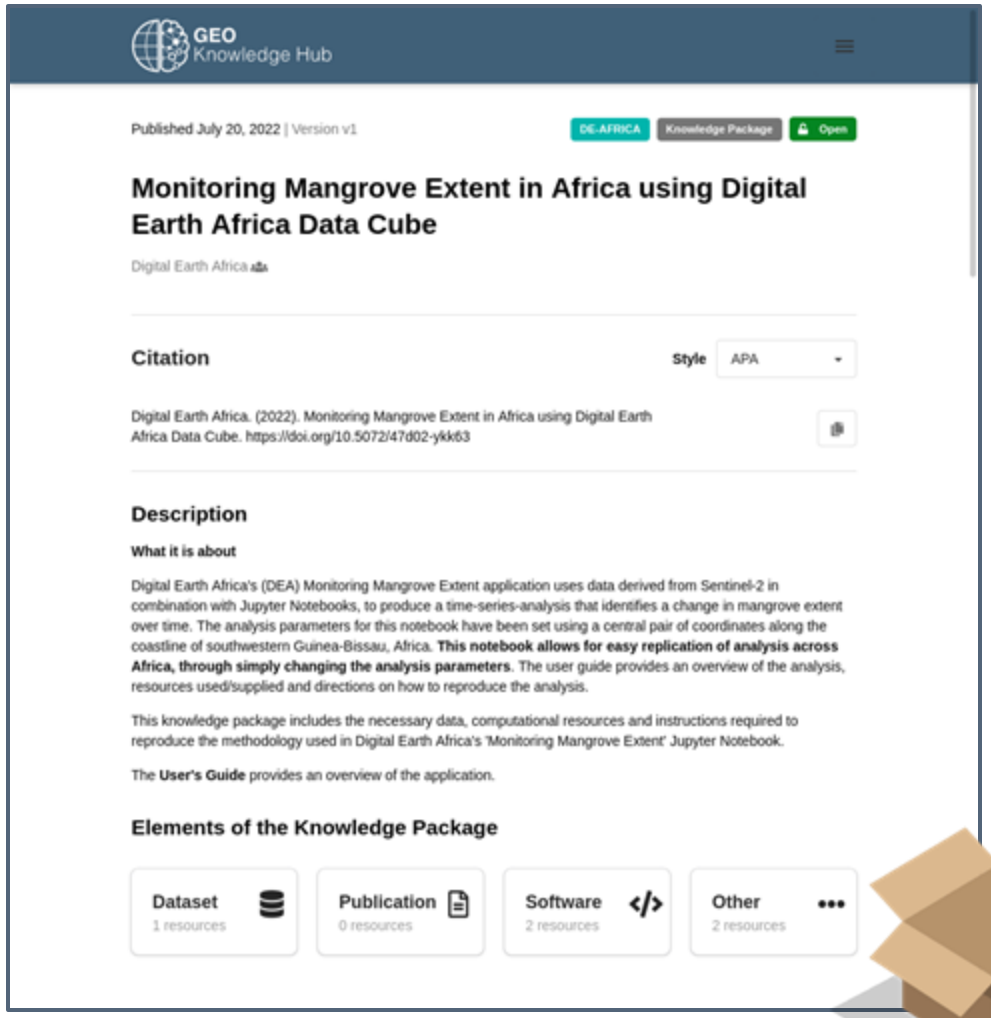
Monitoring Mangrove Extent in Africa using Digital Earth Africa Data Cube

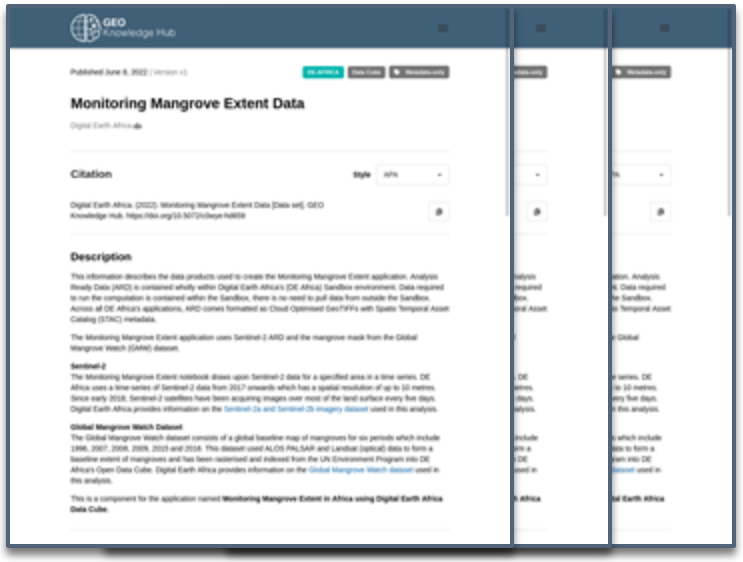




Knowledge Resources

Monitoring Mangrove Extent in Africa using Digital Earth Africa Data Cube





Knowledge Resources

Resources content

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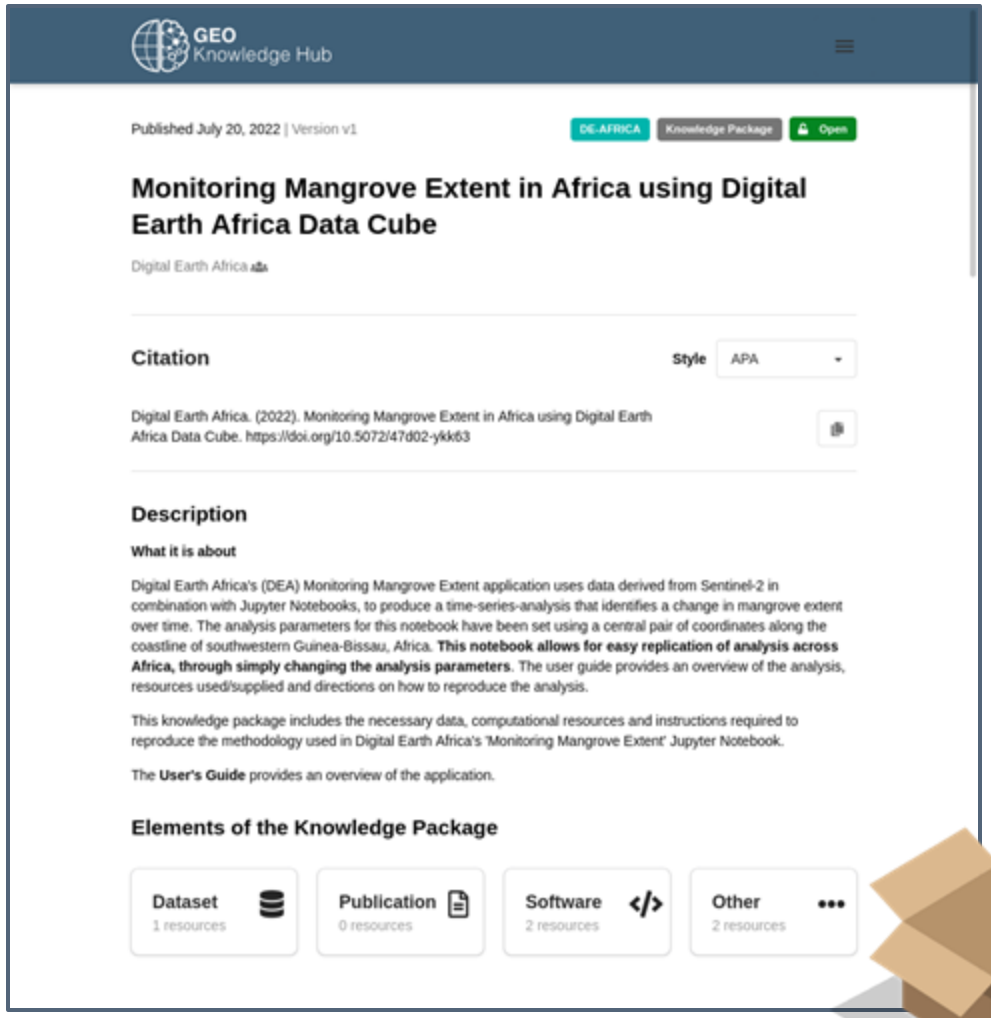

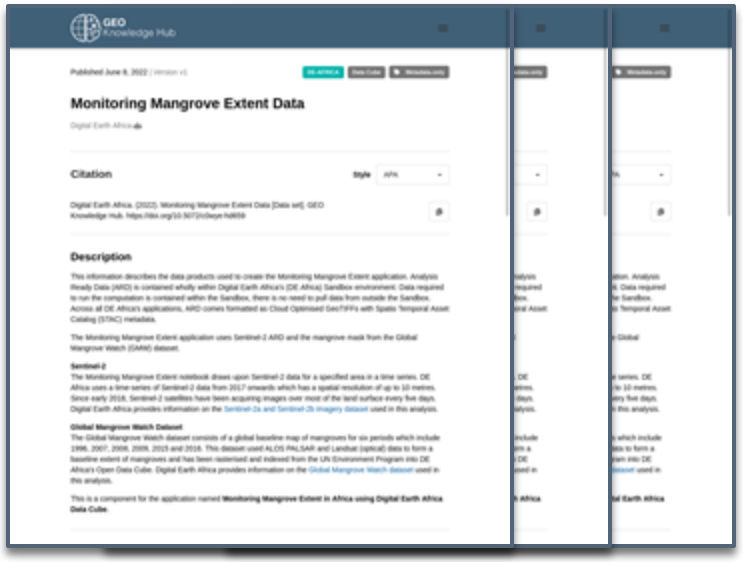

Knowledge Resources

Resources content

Executable Notebook

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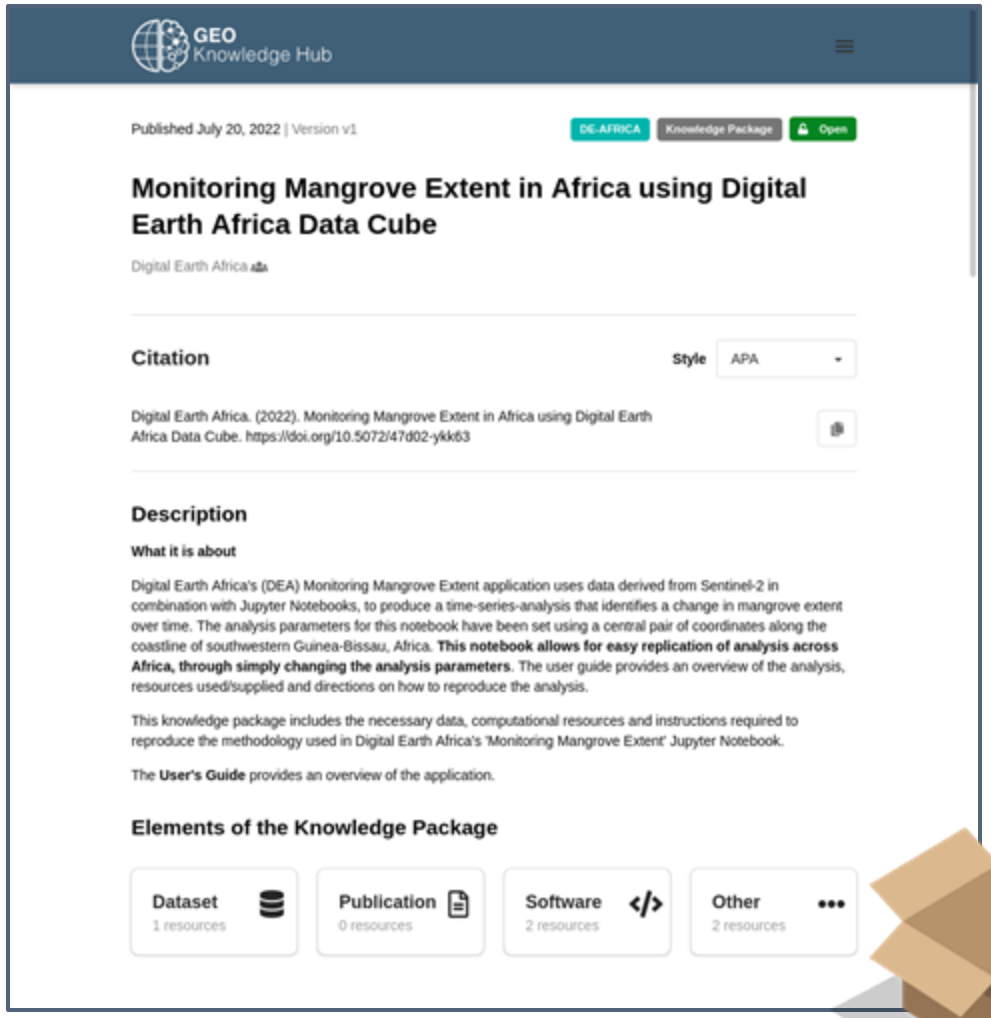
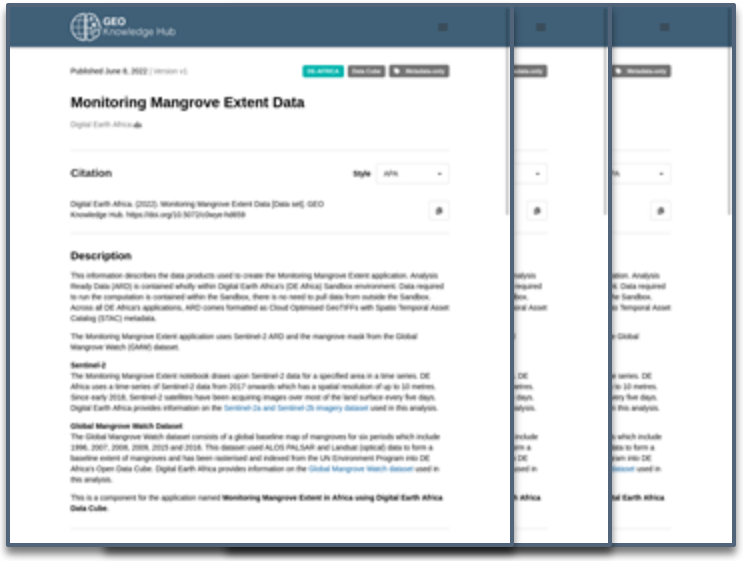


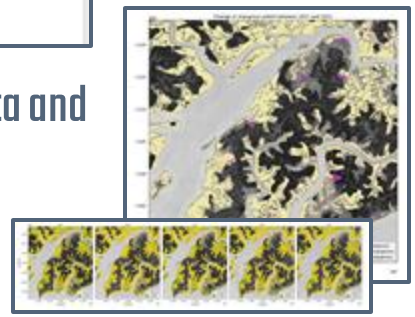


Knowledge Resources

Resources content

Executable Notebook

Auxiliary data and files



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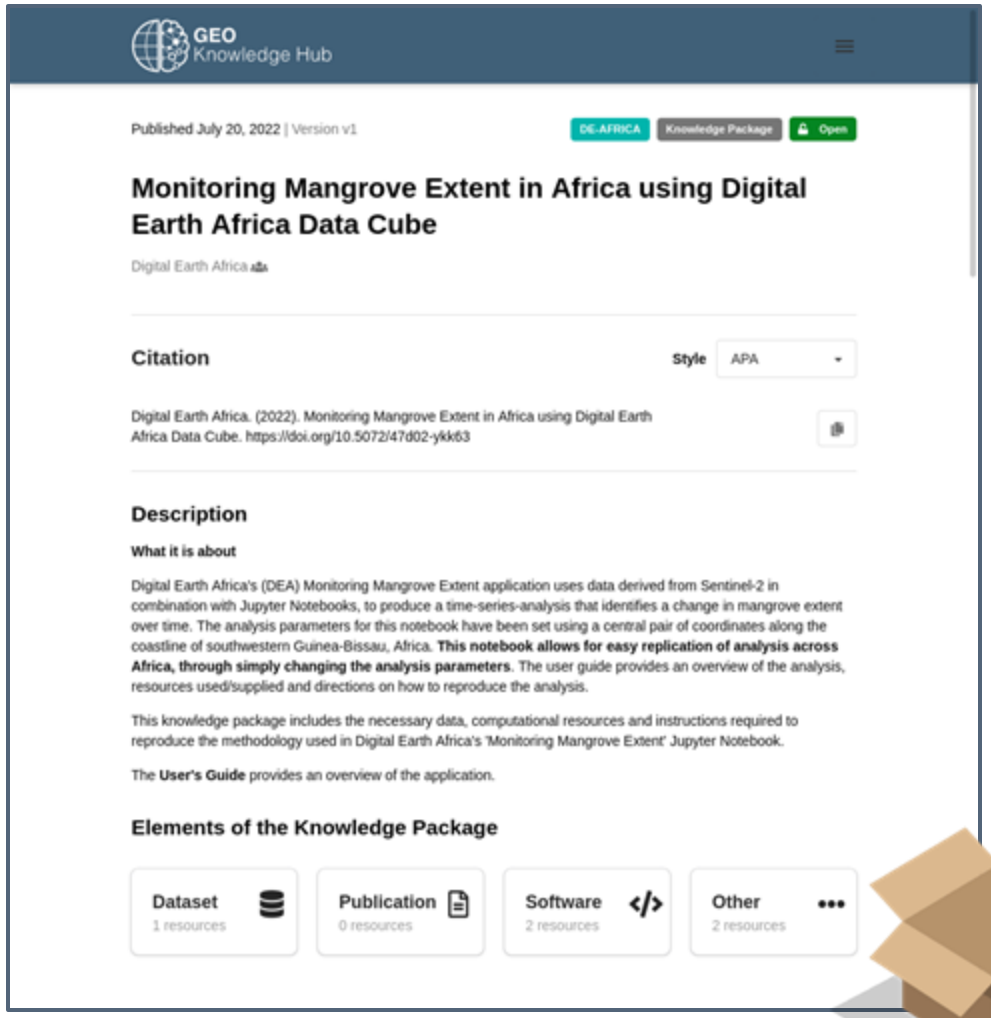

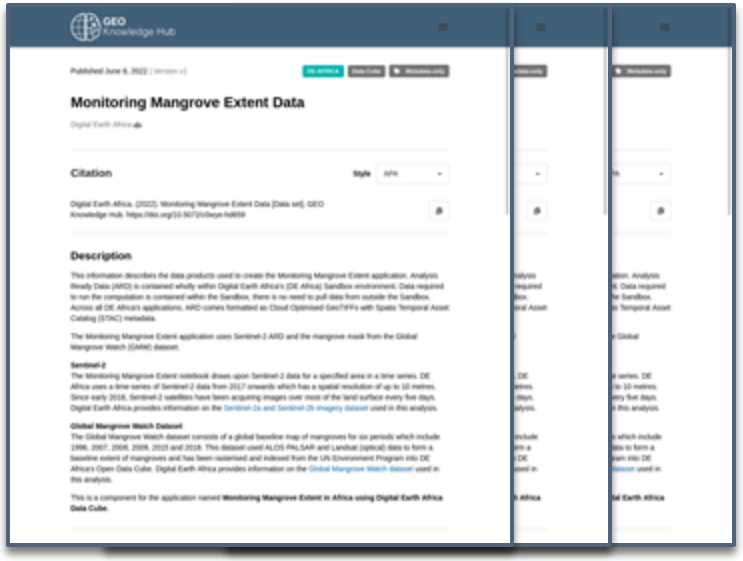

Knowledge Resources

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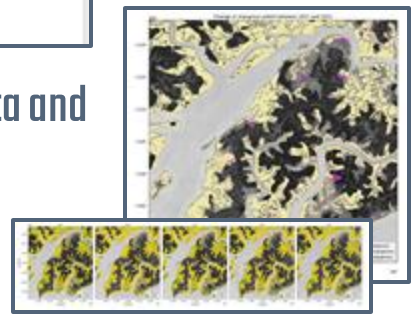
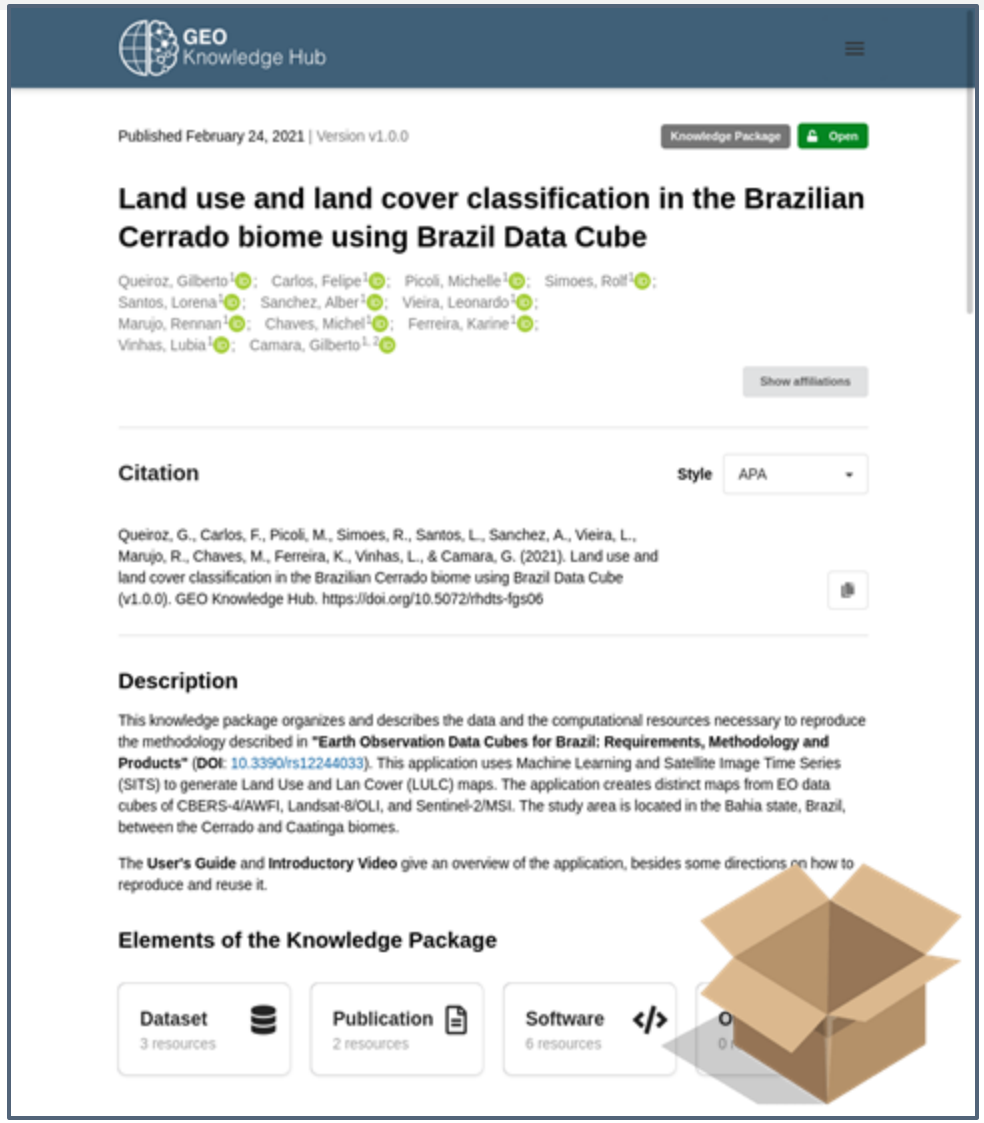


Description documents

BRAZIL
DATA CUBE

Land use and land cover classification in the Brazilian Cerrado biome using Brazil Data Cube

Land use and land cover classification in the Brazilian Cerrado biome using Brazil Data Cube



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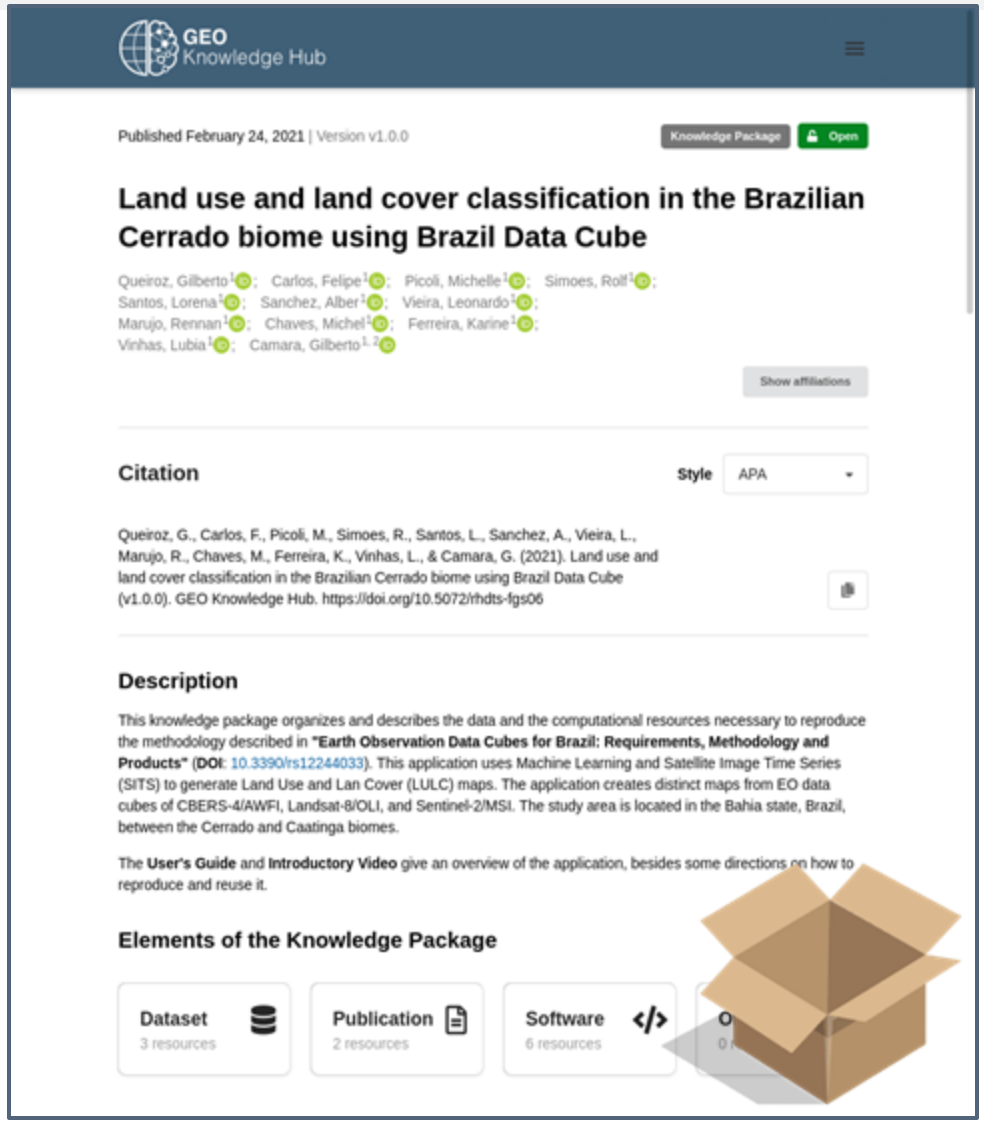

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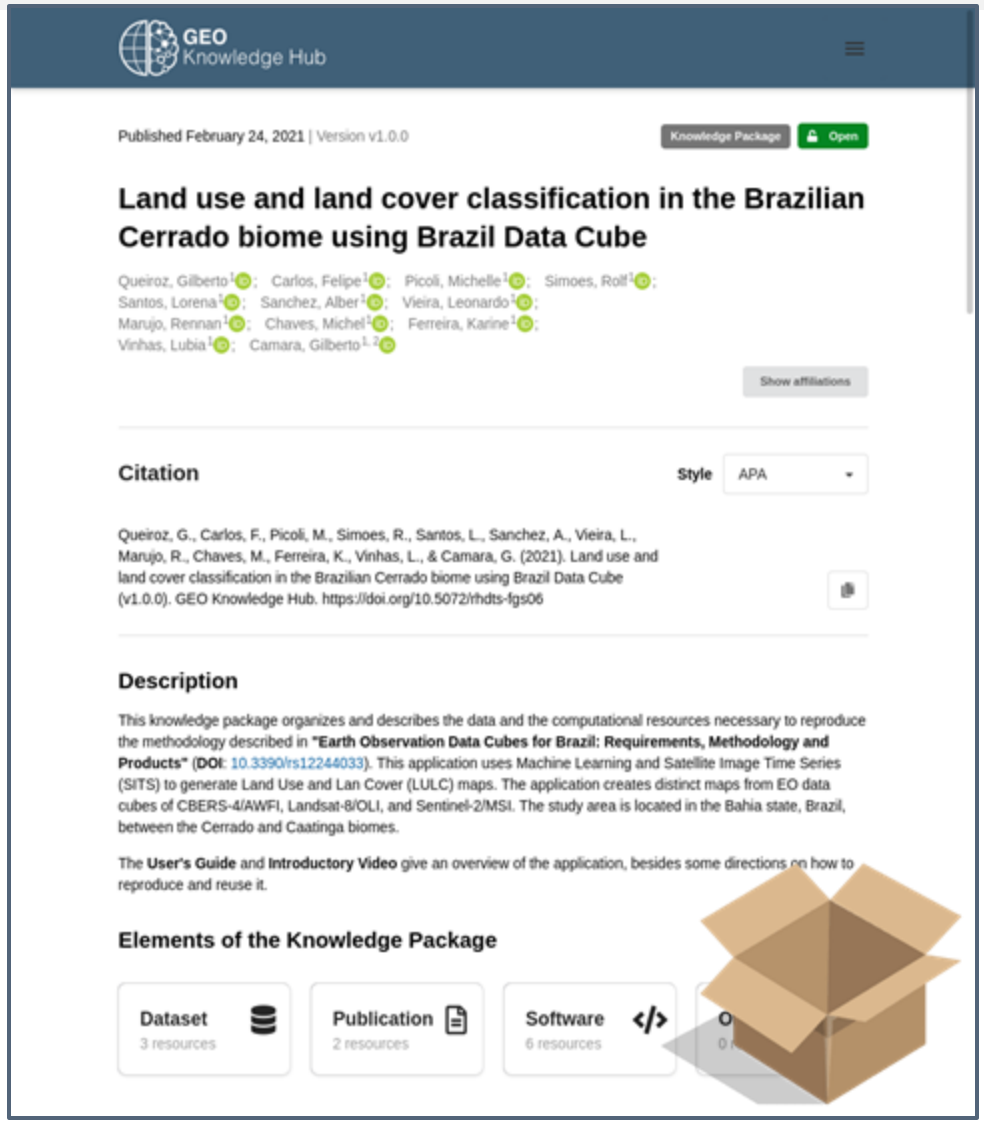

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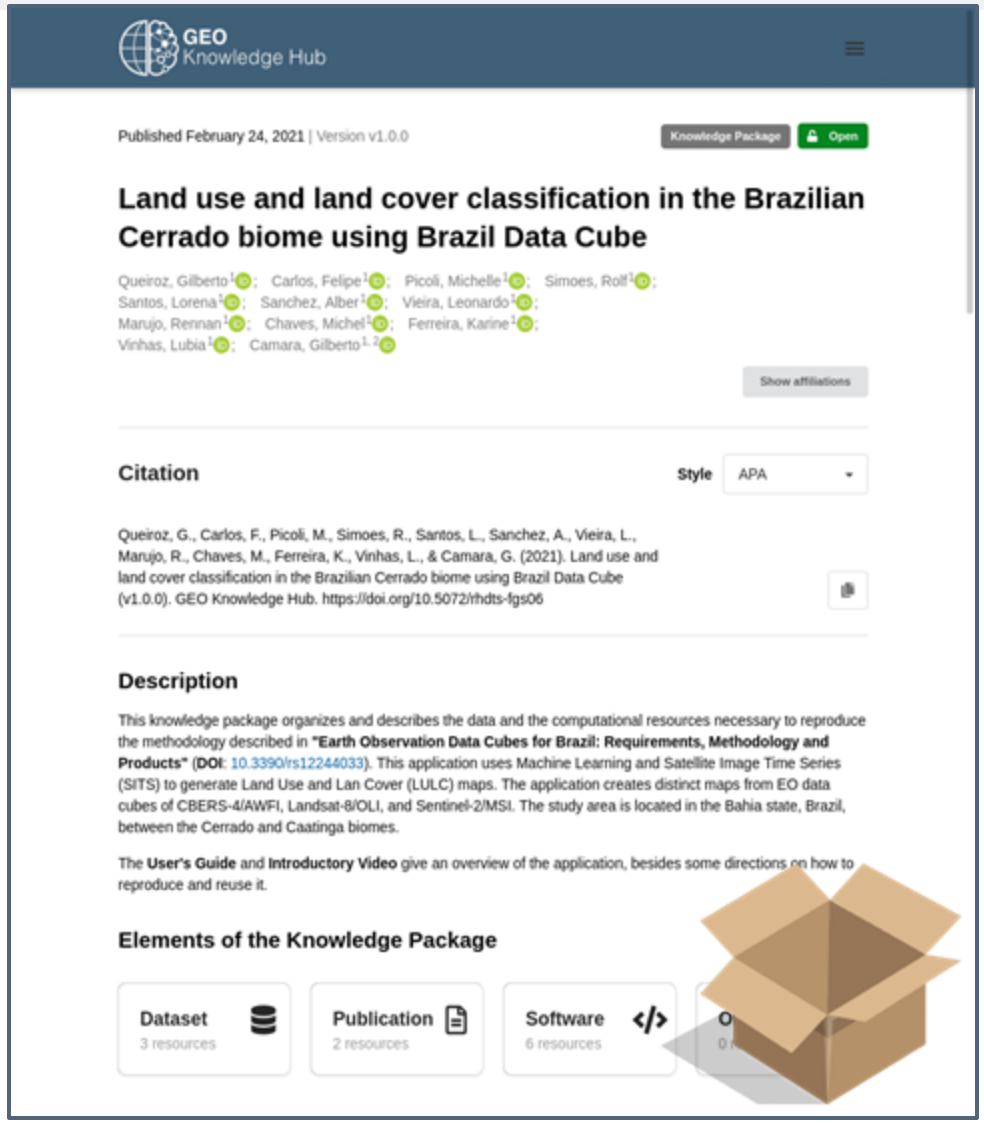

Knowledge Resources

Resources content

Executable notebooks

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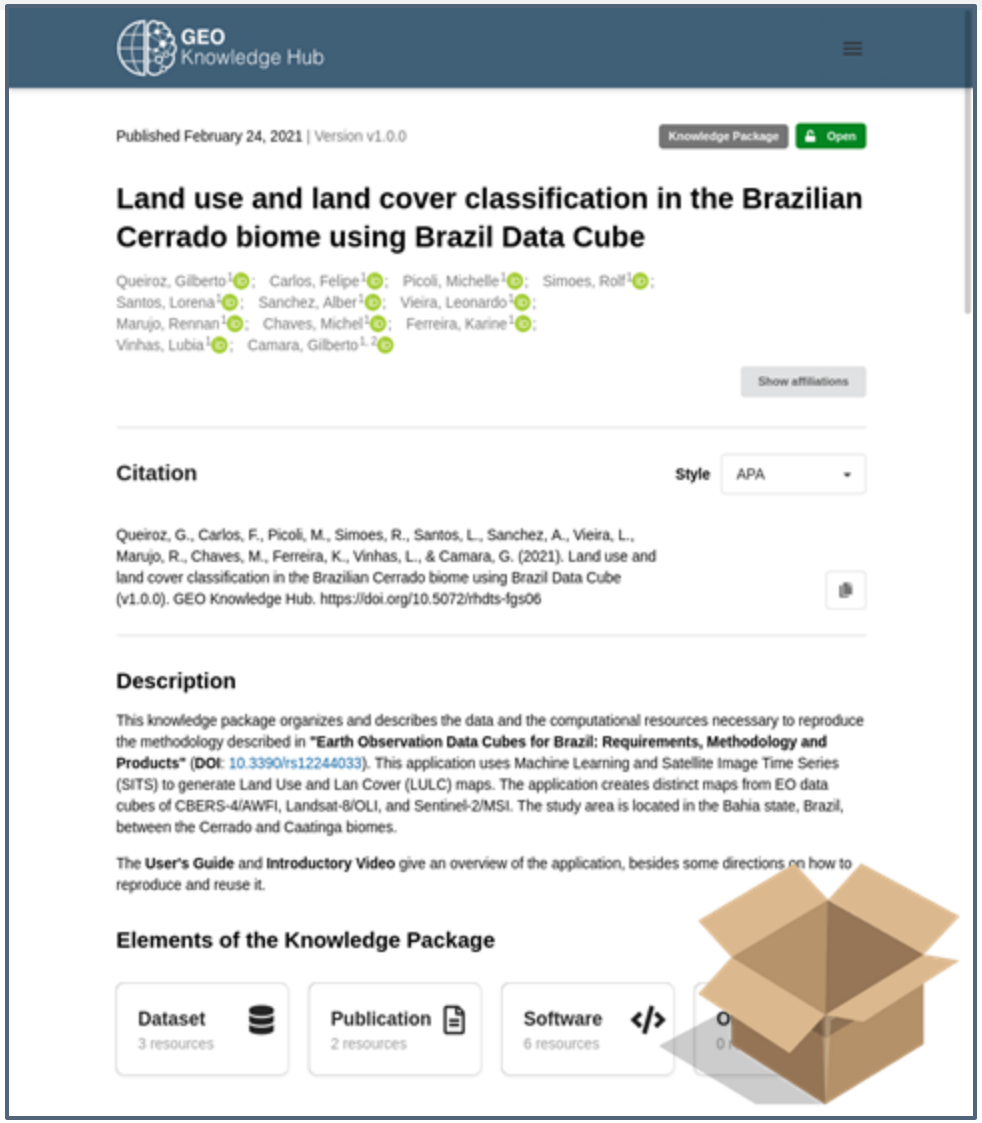
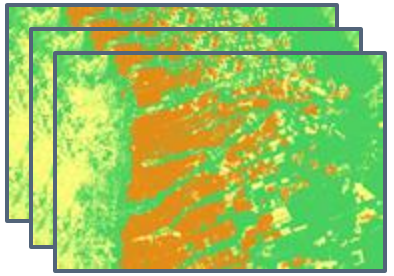


Knowledge Resources

Resources content

Executable notebooks

Results



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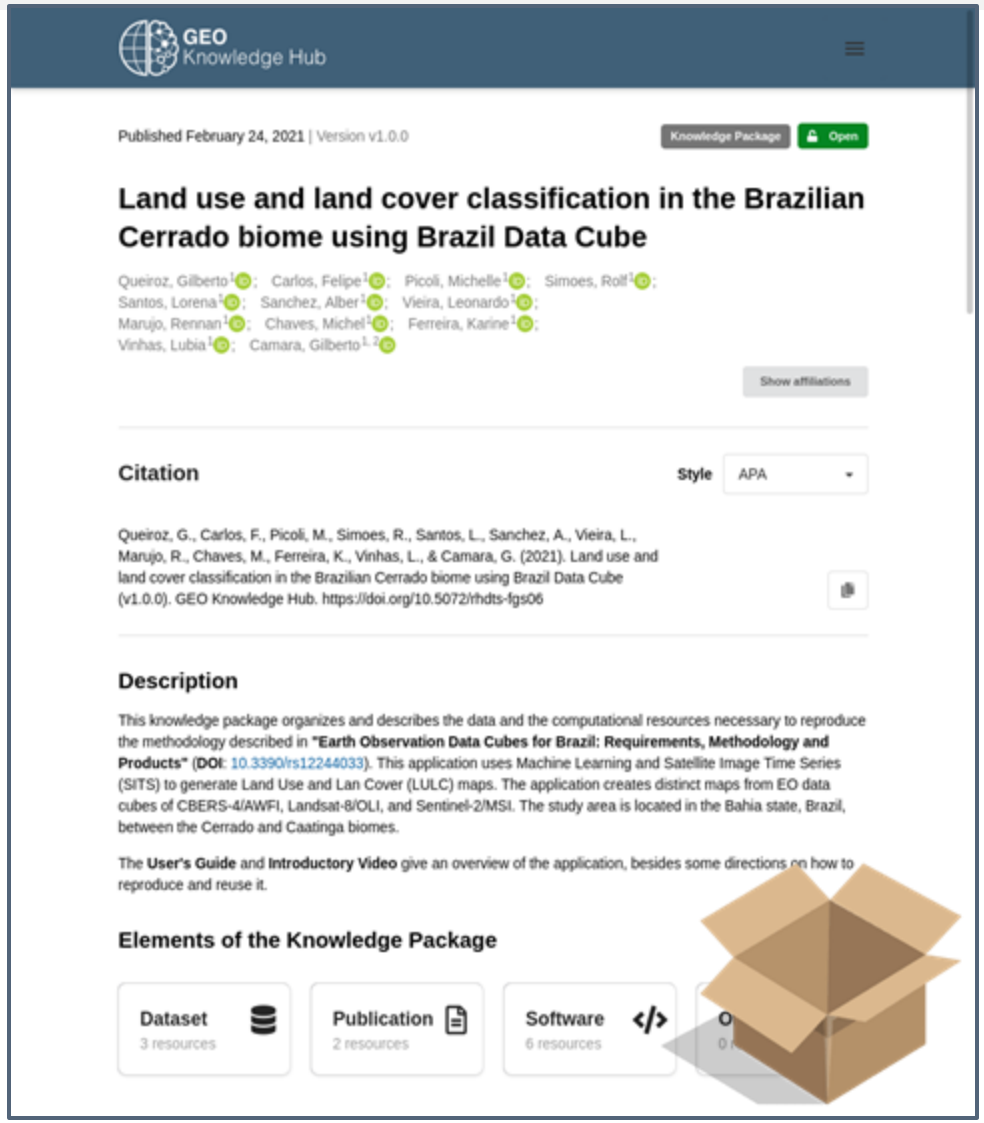
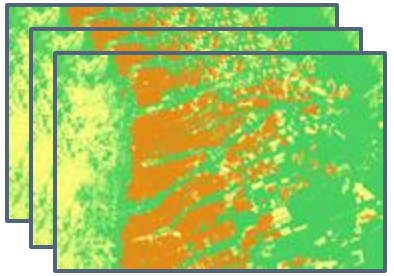


Knowledge Resources

Resources content

Executable notebooks

Results



Processing environment

docker

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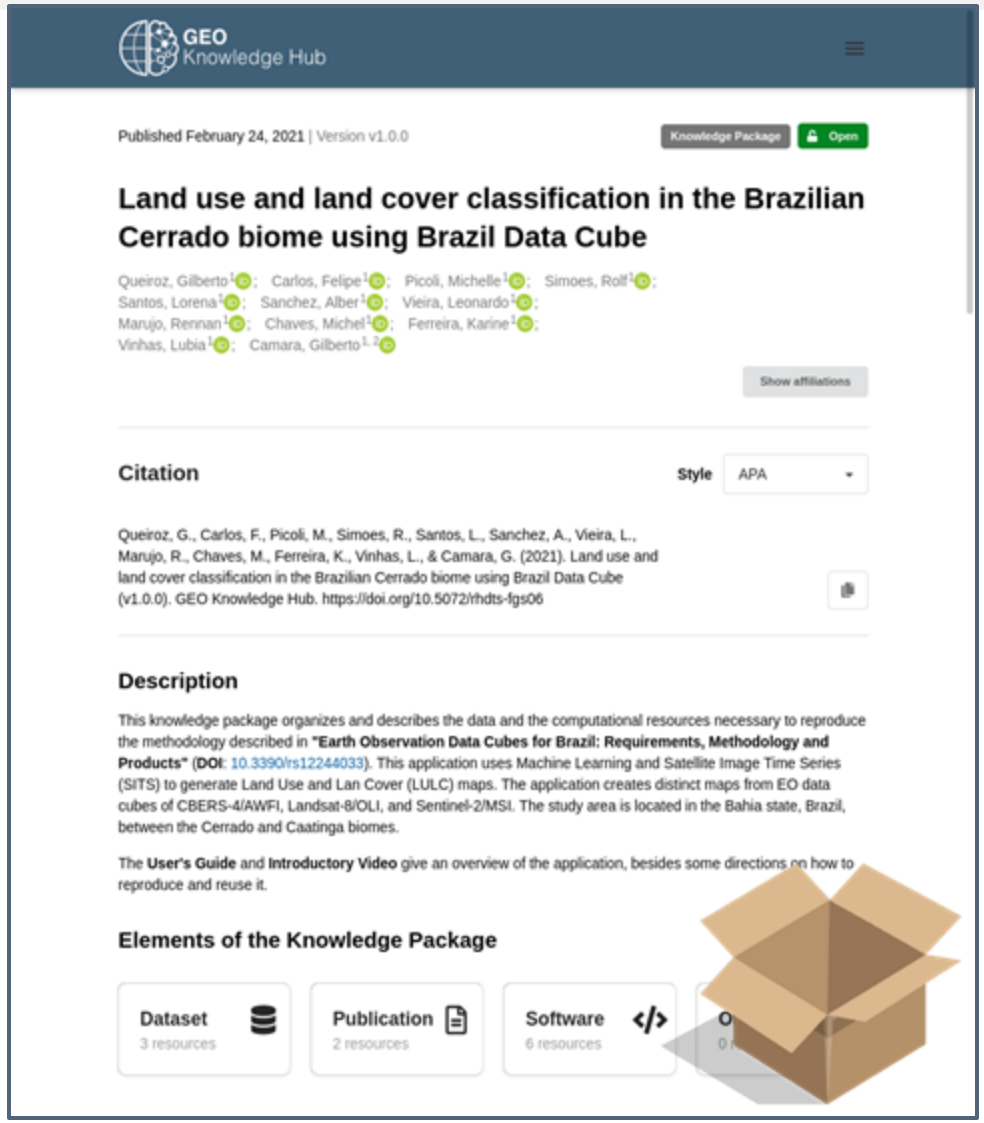

Knowledge Resources

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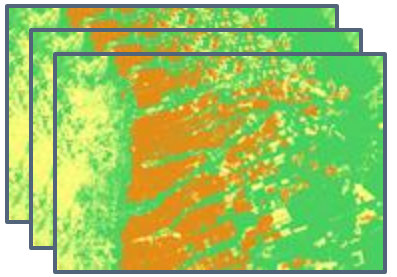


Description document

Processing environment

docker

GEO Knowledge Hub concepts

Communities

Event

Event

Research Project

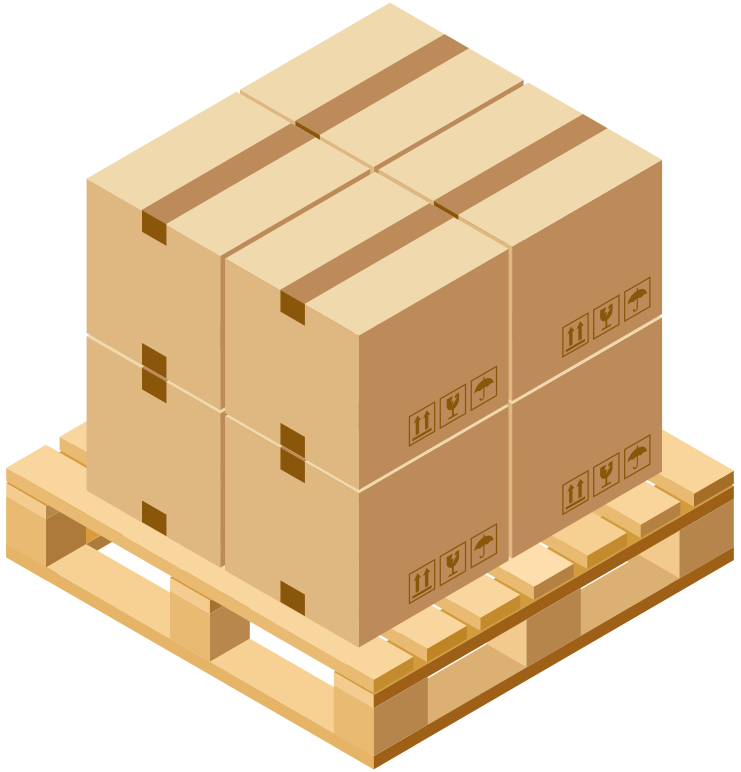
Event

Research Project

Theme

Community

A **community** is where users can share Knowledge Packages and resources around a specific topic.



Community

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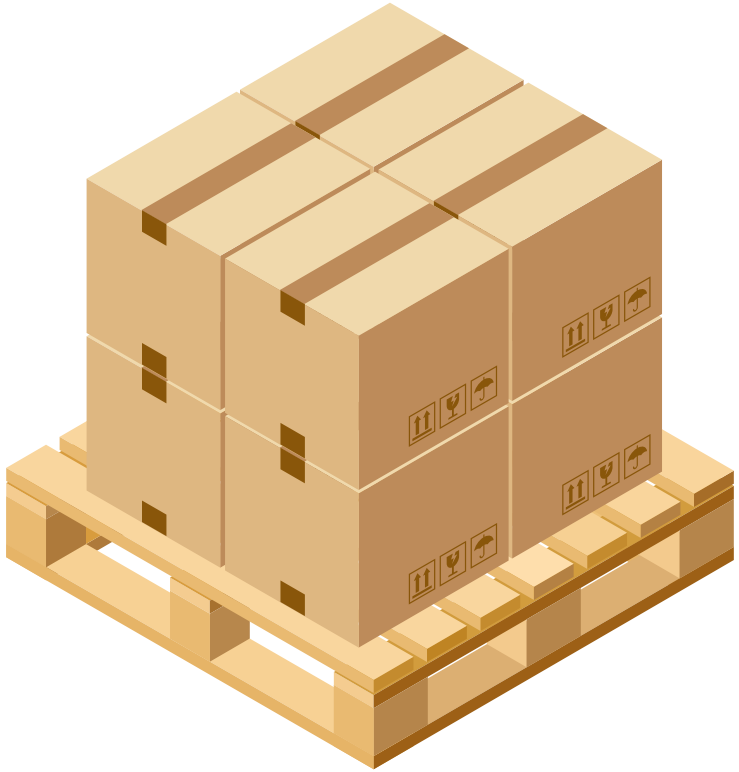
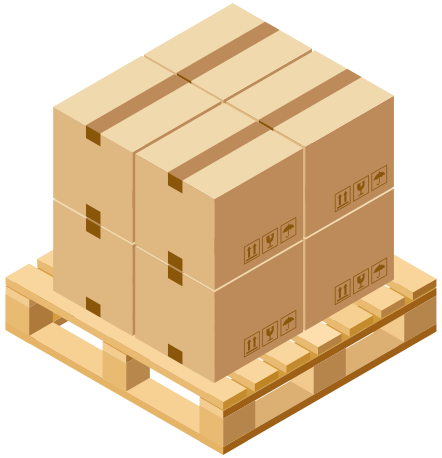
Communities support

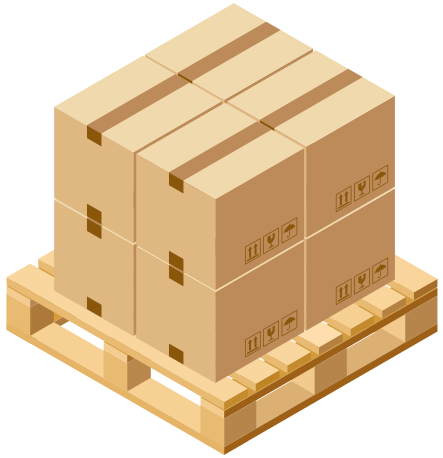
- Collaborators
- Review process
- Community private packages



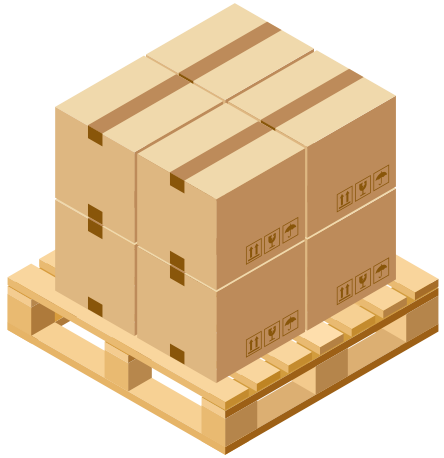
Community



Event



Research Project



Theme

Community

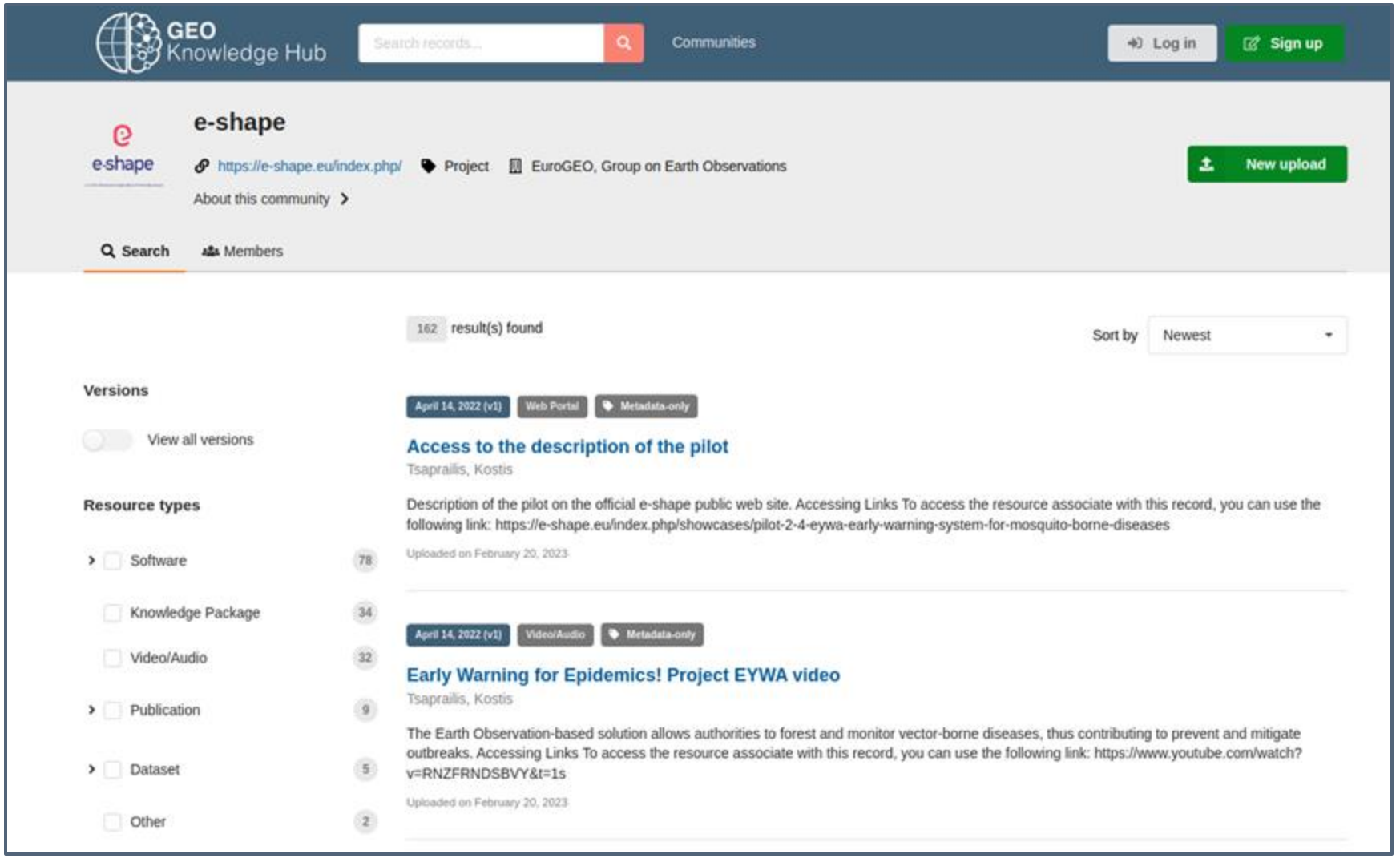
Examples of communities available in the GEO Knowledge Hub

Digital Earth Africa

e-shape

EO Toolkit

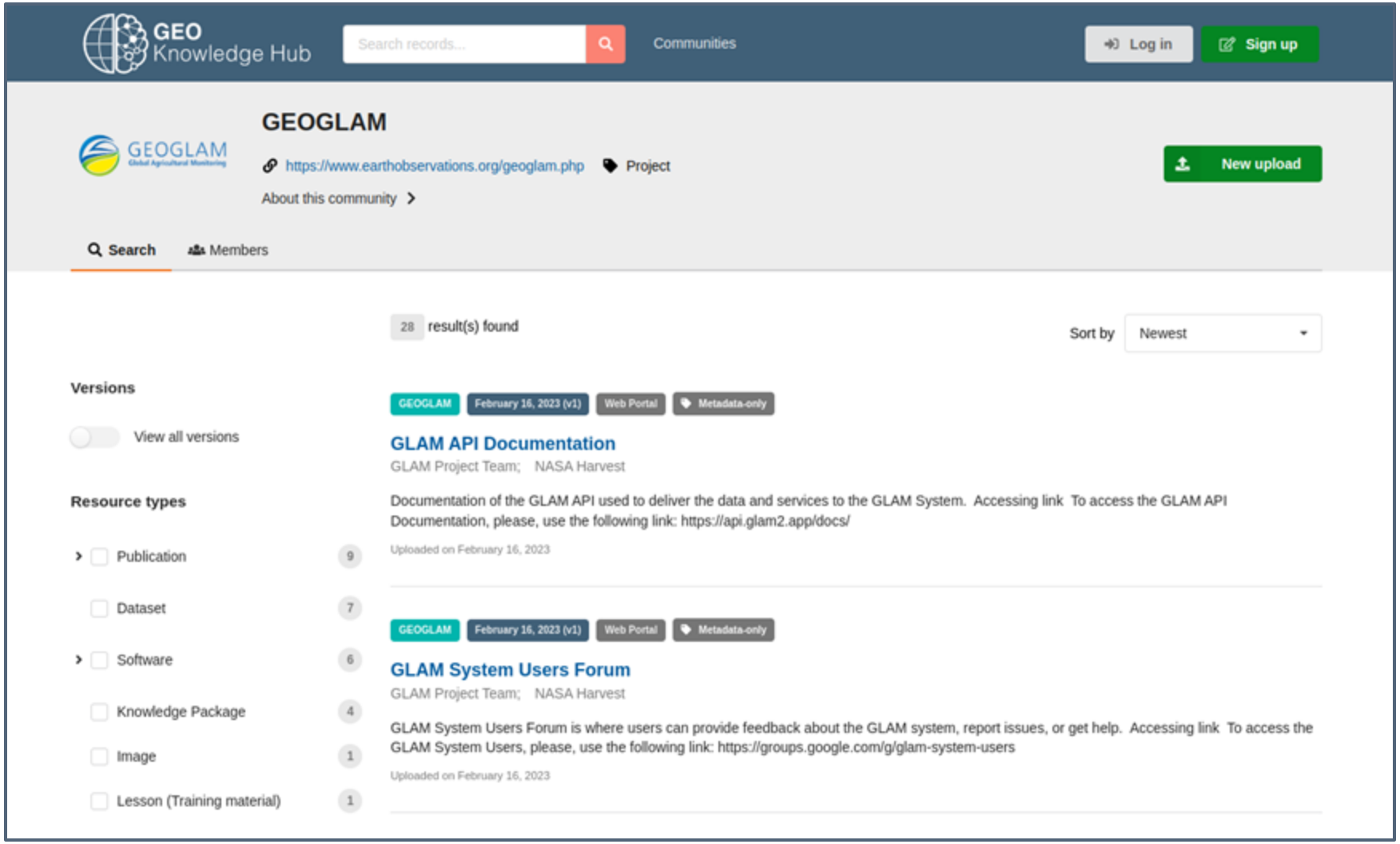
Community



e-shape

EuroGEO Showcases: Applications Powered by Europe

Community



GEOGLAM
Global Agricultural Monitoring

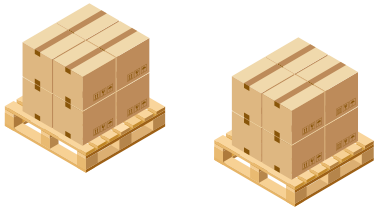
GEO Knowledge Hub concepts

Roles

User

User

Knowledge Packages

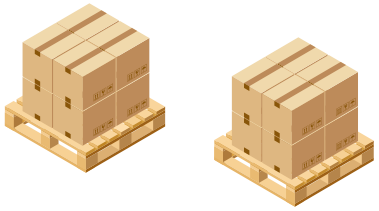


Communities

A **User** is someone who goes into the digital library to discover and learn from EO Applications.

User

Knowledge Packages



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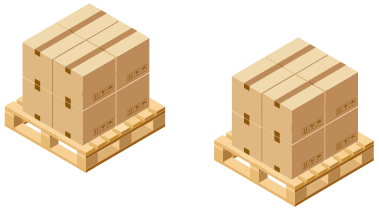
Search and access content

User

Knowledge Packages



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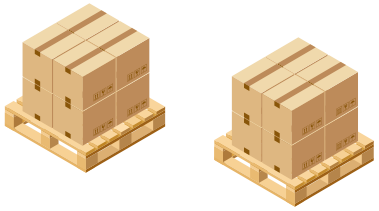
Search and access content

Interact with the community

User

Knowledge Packages



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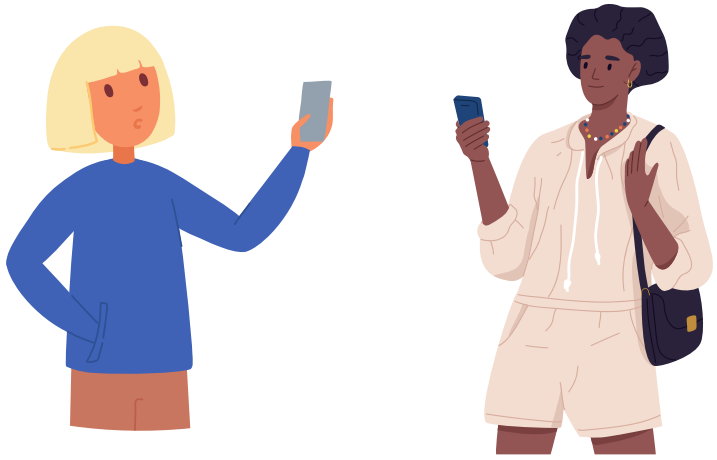
Search and access content

Interact with the community

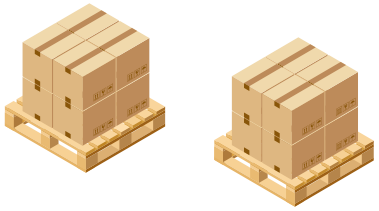
Help in the content improvement

Knowledge Provider



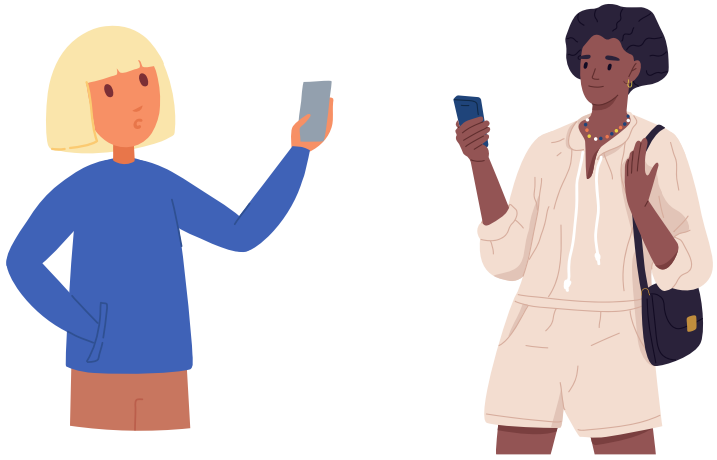
Knowledge Provider

Knowledge Packages



Communities

A **Knowledge Provider** is a special kind of User that can share content in the GEO Knowledge Hub.



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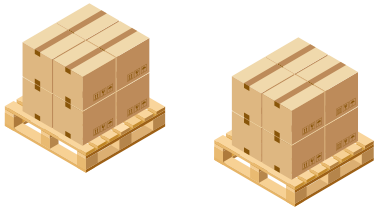
Knowledge Packages



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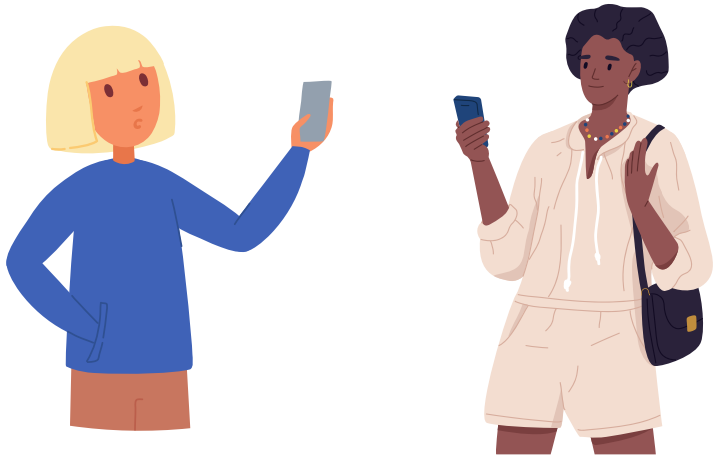
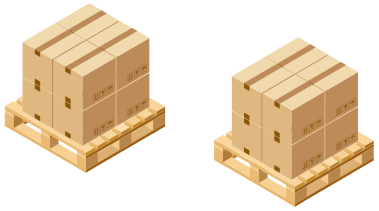


Same possibilities as a User

Knowledge Provider

Knowledge Packages



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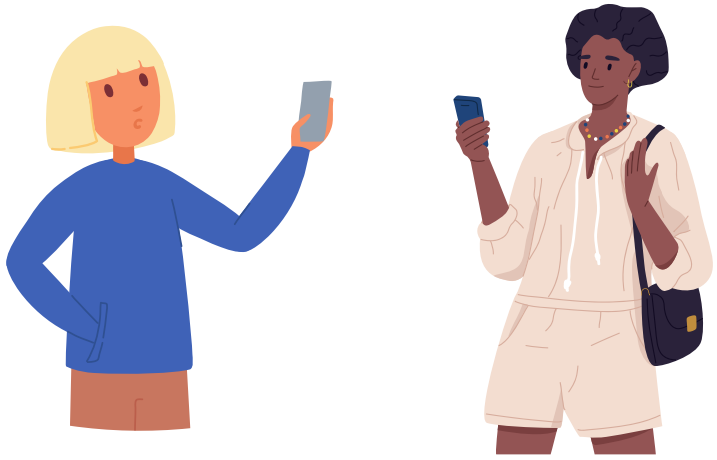

Same possibilities as a User

Create and manage Packages and resources

Questions ?