



Coordinating and integrating state-of-the-art  
Earth Observation Activities in the regions of  
North Africa, Middle East and Balkans  
and Developing Links with GEO related initiatives  
toward GEOSS

## GEO-CRADLE:

Fostering regional cooperation  
and roadmap for GEO and  
Copernicus implementation in  
North Africa, Middle East and  
Balkans



<http://geocradle.eu/>

**Dr. Haris KONTOES**  
**Project Coordinator**  
**Research Director NOA**

... is a unique EU funded Coordination Action running at regional level;  
... is looking at the territories of North Africa, Middle East and Balkans;

It seeks to identify common needs, create synergies, and integrate capacities;

Fosters the regional cooperation and integration of monitoring capabilities and networks, as well as scientific skills;

Define and communicate goals that are clear and beneficial from societal and market wise point of view, and also realistic and in line with the domestic priorities and user needs;

Proposes/sets up large scale regional initiatives based on the Earth Observation (space based and in-situ) for capacity building and also addressing societal priorities in the thematic areas of the project such as Adaptation to Climate Change, Access to Raw Materials, better exploitation of the renewable Energy resources, and Food Security.

## Objectives

- ✓ Promote the uptake of EO services and data in response to regional needs.
- ✓ Support the effective integration of existing Earth Observation Capacities in the region.
- ✓ Facilitate the engagement of the complete ecosystem of EO stakeholders in the region.
- ✓ Enhance the participation in and contribution to the implementation of GEOSS and Copernicus in North Africa, Middle East and the Balkans.



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# Thematic Areas

linked with the UN SDGs



## *Adaptation to Climate Change (ACC)*



## *Improved Food Security – Water Extremes Management (IFS-WEM)*



## *Access to Raw Materials (ARM)*



## *Access to Energy (SENSE)*





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# GEO-CRADLE

... is a unique EU funded Coordination Action running at regional level.

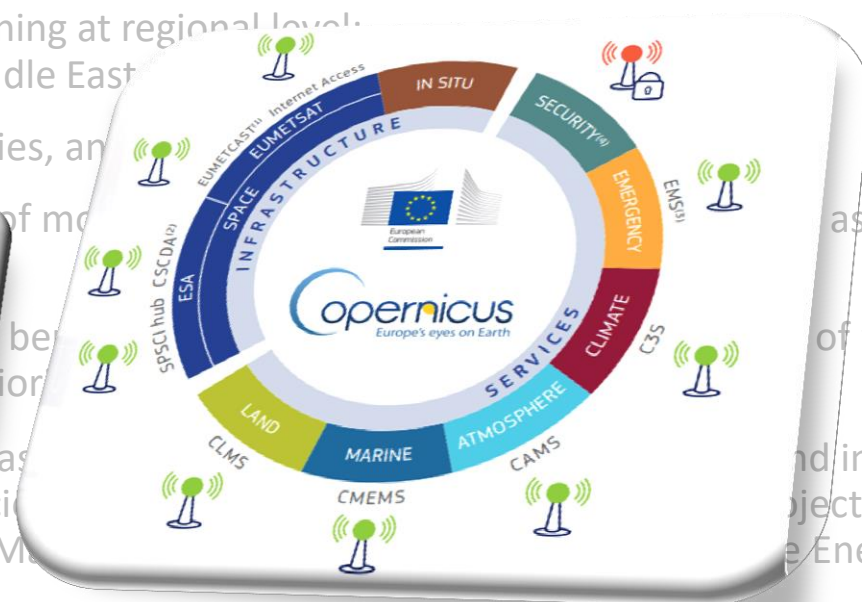
... is looking at the territories of North Africa, Middle East

It seeks to identify common needs, create synergies, and

Foster scientific cooperation of member states

Define a common vision and strategy for the region

Proposes/sets up large scale regional initiatives based on (in-situ) for capacity building and also addressing societal challenges such as Adaptation to Climate Change, Access to Raw Materials, Energy resources, and Food Security.



## Objectives

- ✓ **Promote** the uptake of EO services and data in response to regional needs.
- ✓ **Support** the effective integration of existing Earth Observation Capacities in the region.
- ✓ **Facilitate** the engagement of the complete ecosystem of EO stakeholders in the region.
- ✓ **Enhance** the participation in and contribution to the implementation of **GEOSS** and **Copernicus** in **North Africa, Middle East** and the **Balkans**.





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# 25 Partners, 3 Continents, 1 Team

► **GEO-CRADLE** brings together a highly-complementary team combining a strong background in GEO-related coordination activities with proven excellence in the field of Earth Observation:

- Leading research institutes and universities
- Highly-esteemed international associations
- Service Providers with strong regional presence



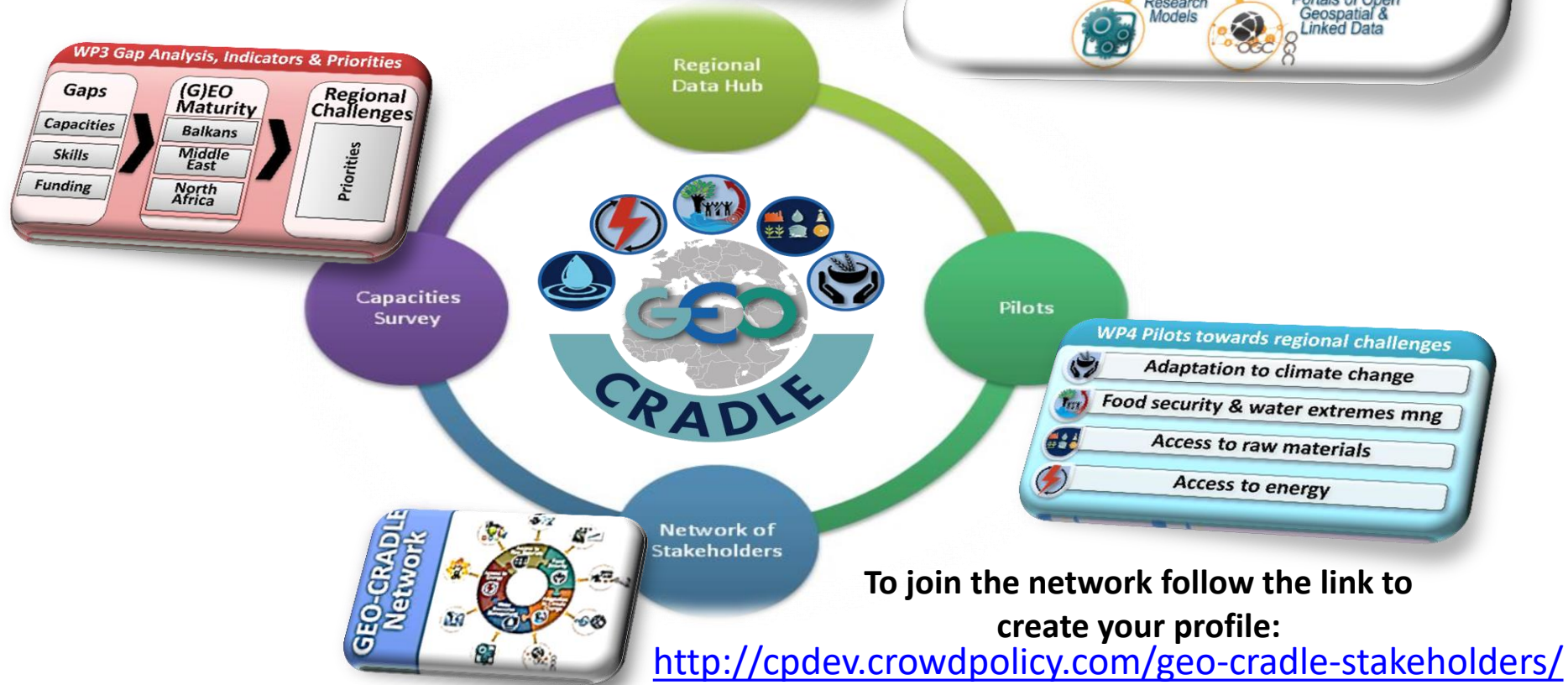
**NATIONAL  
OBSERVATORY OF  
ATHENS  
Coordinator**





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# The Project Pillars





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# To join & search the network follow the link

<http://cpdev.crowdpolicy.com/geo-cradle-stakeholders/>

The screenshot displays the GEO-CRADLE Networking Platform interface. The main map shows a wide view of Europe and North Africa, with numbered markers indicating stakeholder locations. A search bar at the top allows filtering by Location, Organisation Name, and Thematic Area. A zoom control is also present. An inset shows a detailed view of the Cairo area, highlighting specific locations and markers. The interface includes navigation links for HOME, PROFILES, and USER MANUAL.





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# The Project Pillars







# Regional Data Hub –



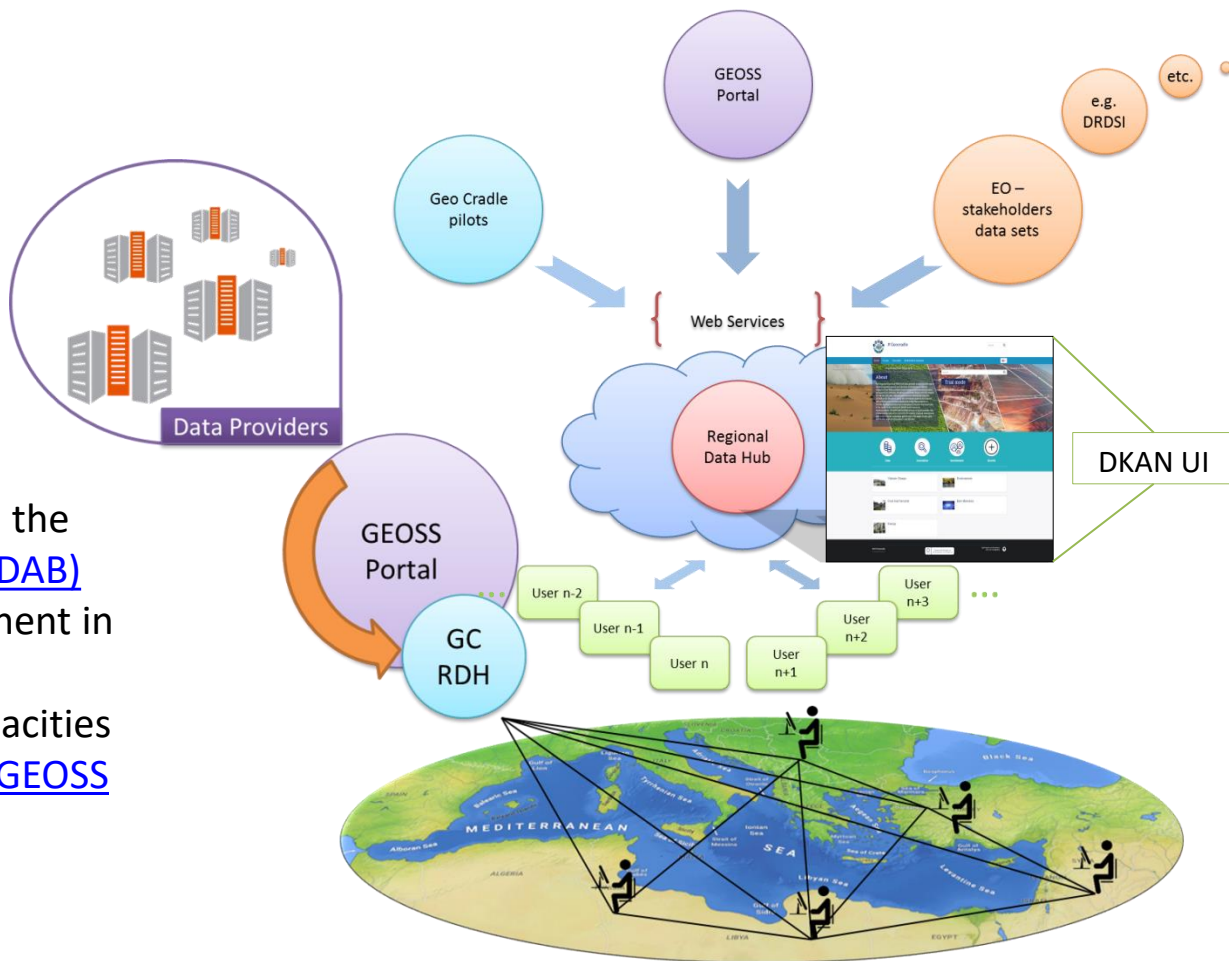



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# Regional Data Hub –

## Connection with GEOSS & Regional Portals


- The GEO CRADLE Regional Data Hub (GC-RDH) is going to provide its users with a transparent discovery and access mechanism of the [GEOSS portal](#)'s resources, and other regional portals!
- This mechanism will heavily rely on the [GEO Discovery and Access Broker \(DAB\) APIs](#) which is a middleware component in charge of interconnecting the heterogeneous and distributed capacities contributing to GEOSS; part of the [GEOSS Common Infrastructure \(GCI\)](#) since November 2011.





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Utilizing the GEO DAB APIs for easy access and discovery of regional EO data



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ  
ΥΠΟΥΡΓΕΙΟ ΠΕΡΙΒΑΛΛΟΝΤΟΣ, ΧΩΡΟΤΑΞΙΑΣ ΚΑΙ ΚΛΙΜΑΤΟΣ  
ΕΘΝΙΚΟ ΟΠΤΙΚΟΔΟΤΗΡΙΟ ΑΘΗΝΩΝ


IAASARS

HomeGroupsGeocradleStakeholder DatabaseDatasets

Log inRegister

Home / Groups


Groups



Global Earth Observation System of Systems (GEOSS)

A central part of GEO's Mission is to build the Global Earth Observation System of Systems (GEOSS).


25318292 datasets



PILOT 1: Adaptation to Climate Change (ACC)

The RoI has been recognised by the Intergovernmental Panel on Climate Change as one of the most sensitive and vulnerable to climate change regions


0 datasets



PILOT 2: Improved Food Security - Water Extremes Management (IFS)

Food security depends on many aspects such as water abundance and extremes (flooding and drought), vegetation stresses, yield monitoring, soil qual


0 datasets



PILOT 3: Access to Raw Materials (ARM)

For the first time, GEO-CRADLE will make available in the RoI the roadmap for long-term monitoring, mapping, and management of mineral deposits, al

0 datasets




PILOT 4: Access to Energy (SENSE)

GEO-CRADLE will lead a coordinated effort to support and improve the regional EO infrastructures through the Solar Energy Nowcasting System (SENSE)


0 datasets





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# Utilizing the GEO DAB APIs for easy access and discovery of regional EO data



IAASARS

HomeGroupsGeocradleStakeholder DatabaseDatasets

Home / climate / Dataset

Content Types

Dataset

Tags

NECLIME (160)

Neogene Climate Evolution in Eurasia (160)

ERA-CLIM (89)

European Reanalysis of Global Climate Observations (89)

Mediterranean Sea Acidification in a Changing Climate (68)

MedSea (68)

Abrupt Climate Changes and Environmental Responses (50)

ACER (50)

Climate - Biogeochemistry Interactions in the Tropical Ocean (50)

SFB754 (50)

Format

text/tab-separated-values (487)

application/zip (35)

text/html (15)

application/pdf (1)

PRN (1)

Publisher

8426 results

Search

climate


Sort by

Date changed

Order


Descending

Apply



### Mediterranean Sea Acidification in a changing climate

Increases of atmospheric CO2 and associated decreases in seawater pH and carbonate ion concentration this century and beyond are likely to have wide impacts on marine ecosystems including those of the Mediterranean Sea.



### PO-SPACC - Portuguese small pelagic fish and climate change programme: a comparative retrospective analysis

Fluctuations in small pelagic fish recruitment in the North-eastern Atlantic upwelling ecosystem have been observed, namely decreasing trends in the last decades. Sardine, horse mackerel and anchovy are




### Burkina Faso, Mali, Niger and Senegal: Agricultural Potential in Relation to Soils and Climate

This map shows the potential for agricultural development in different areas of Burkina Faso, Mali, Niger and Senegal based on the soils and climate of these areas.




### Climate Change Adaptation & Coastal Cities of North Africa Reports

These reports are parts of the deliverables produced by the "Climate Change Adaptation & Coastal Cities of North Africa Project".



### Calcareous plankton response to orbital and millennial-scale climate changes from ODP Leg 161-975

The paleoenvironmental conditions through MIS 15-9 at the Mediterranean Ocean Drilling Program (ODP) Site 975 were interpreted by high resolution study of calcareous plankton assemblages compared with available d18O and d13C records and high resol



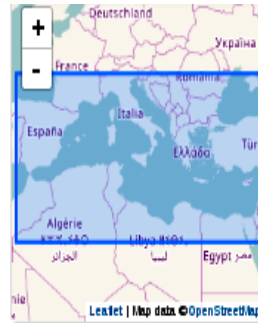
### Paleo-climate reconstruction on sediment core M72/5\_628-1 (25-GC-1), Black Sea

The Marine Isotope Stage (MIS) 3 stands out due to its abrupt changes from cold and dry stadials to warm and humid interstadials, the so-called Dansgaard-Oeschger cycles that also affected temperature and rainfall in the Black Sea region



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## License

License not specified

## Other Access

The information on this page  
(the dataset metadata) is also  
available in these formats.



via the [DKAN API](#)

## Social

[Twitter](#)

[LinkedIn](#)

[Reddit](#)

[Google+](#)

[Facebook](#)

Mediterranean acidification under the influence of climate change as well as associated economic impacts.

Projections will be based on new observations of chemical conditions as well as new observational and experimental data on the responses of key organisms and ecosystems to acidification, which will be fed into existing ocean models that have been improved to account for the Mediterranean's fine-scale features. These scientific advances will allow us to provide the best advice to policymakers who must develop regional strategies for adaptation and mitigation.

## Data and Resources

### Dataset Info

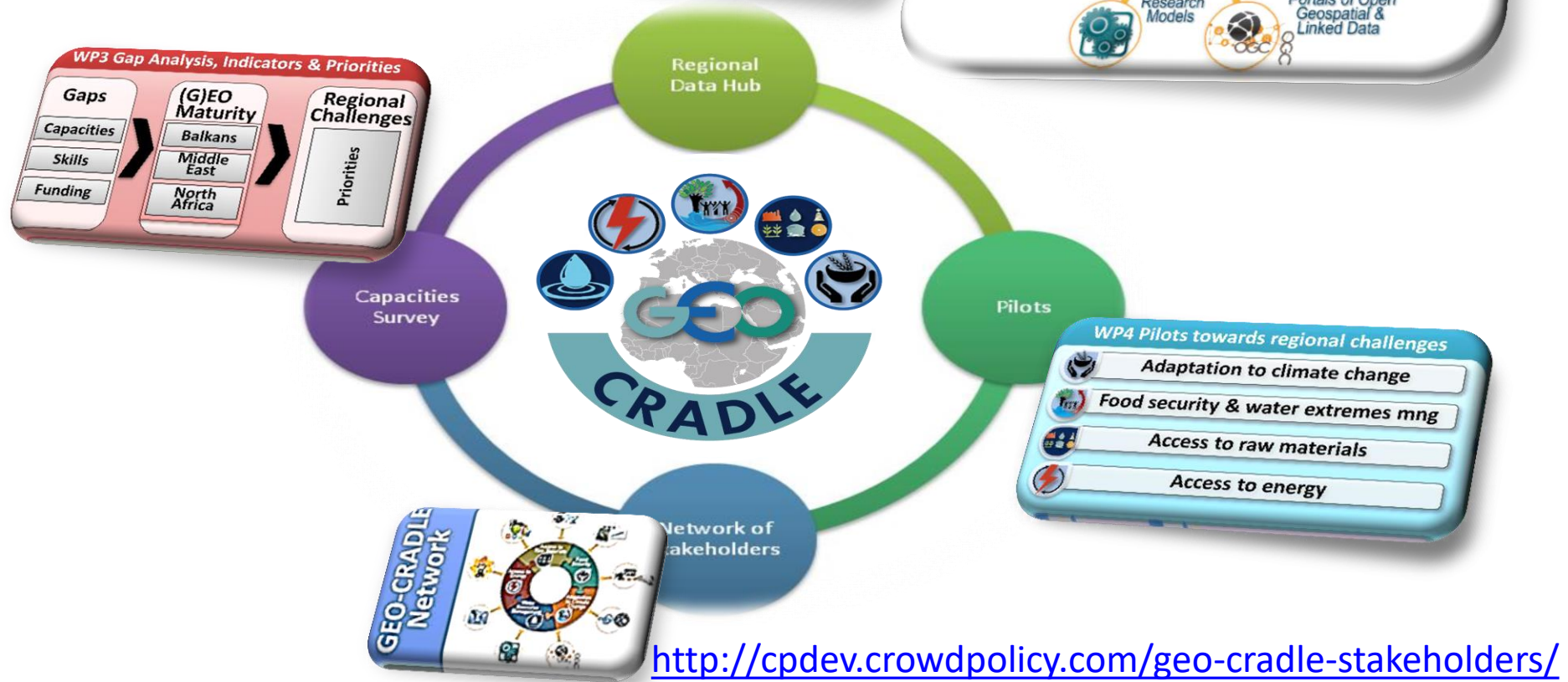
**i** These fields are compatible with [DCAT](#), an RDF vocabulary designed to facilitate interoperability between data catalogs published on the Web.

Field	Value
<b>Publisher</b>	<a href="#">Global Earth Observation System of Systems (GEOSS)</a>
<b>Modified Date</b>	2012-03-02
<b>Release Date</b>	2012-03-02
<b>Identifier</b>	C1214598306-SCIOPS
<b>Spatial / Geographical Coverage Area</b>	POLYGON ((-8 28, 36 28, 36 46, -8 46, -8 28))
<b>Temporal Coverage</b>	Tuesday, February 1, 2011 - 02:00 to Saturday, February 1, 2014 - 01:59



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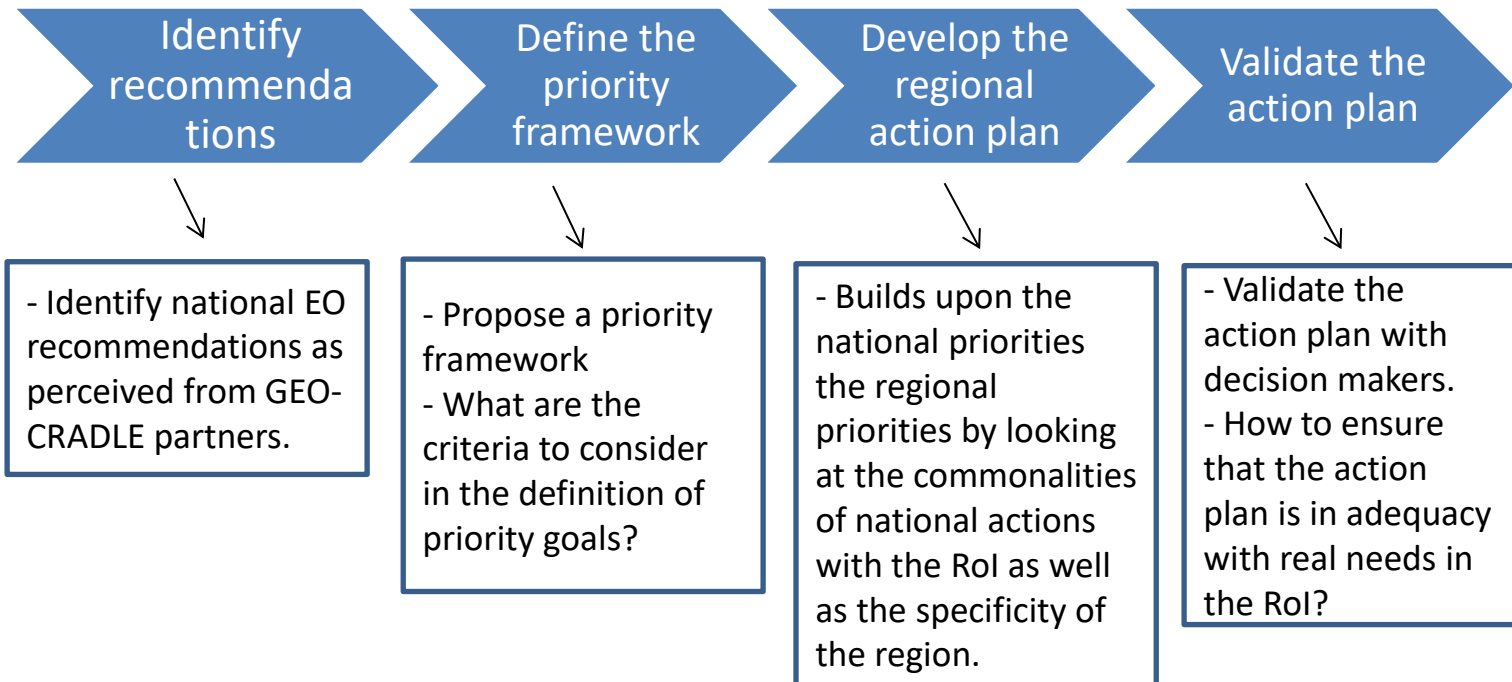
# The Project Pillars





# The Regional Priorities

## Priority Definition Workflow

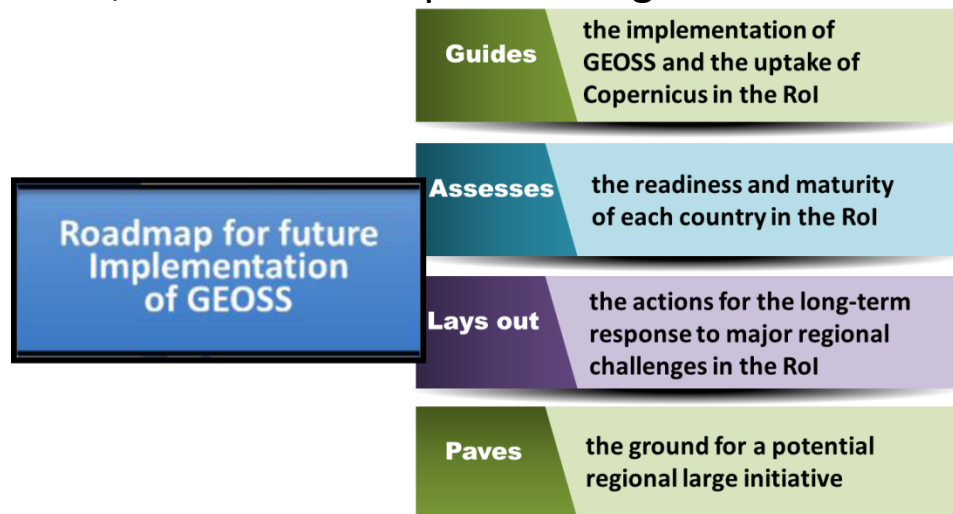




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# The GEO-CRADLE Contribution

1. **Submit to the EC a roadmap** with funding priorities in relation to capacity building, filling in gaps (networks, infrastructures, data sharing, skills), training, education, service provision, and business uptake at regional level



2. **Engage the countries and regional stakeholders** in the data sharing process, the use of open standards, and facilitate the access of the local actors to existing portals, web servers, data repositories, and satellite image archives through big infrastructures such as GEOSS, the European Data Portal, Copernicus data/service portals, and any existing regional Data Hubs (e.g. GEO-CRADLE RDH)



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# The GEO-CRADLE Contribution

3. **Generate and sustain a network stakeholders** to ensure visibility, and sharing of knowhow, excellence, and skills between the local actors and their counterparts worldwide
4. **Deliver a prototype methodology and a detailed assessment** on the nations' (market and science) maturity in relation to EO. Compare the regional capacity/state-of-the-art with the ones of developed countries in space, and find the complementary roles where they exist
5. **Support the EO market** uptake and internationalisation by,
  - ❖ Understanding the local market, and capacities
  - ❖ Mapping existing policies in sectors that may need support from EO
  - ❖ Facilitating access to open data
  - ❖ Mapping the local competitive landscape
  - ❖ Engaging the end-user community
  - ❖ Facilitating partnering with international interlocutors (companies, researchers, industries)
  - ❖ Building trust / Overcoming cultural and linguistic issues
6. **Advance the role of the countries in GEO, and Copernicus** by,
  - ❖ Setting up local GEO offices, Copernicus Relay Offices, and/or nominating official GEO representations at various levels
  - ❖ Strengthening the EO industrial/research dimension by using Copernicus & GEO as key drivers
  - ❖ Helping the stakeholders understand how they can benefit from and contribute to GEOSS





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# GEO-CRADLE website in english

[About GEO-CRADLE](#)[Team](#)[Activities](#)[Regional Capacities](#)[Outreach](#)[Resources](#)[Tools](#)[News & Events](#)[English](#)

## GEO-CRADLE Project

Coordinating and integrating Earth Observation activities



### Pilot Activities

Follow our pilot activities in four thematic areas:



### Survey & Networking Platform

Take part in our



### DataHub

Access, search and share Earth Observation Data for the three regions.



### Funding Opportunities

Explore the available funding opportunities and the benefit of



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# GEO-CRADLE website in arabic



بحث



العربية

الأخبار والتعليقات

الأنشطة

المصادر

التوعية

التقنيات الإلكترونية

التشغيل

قريب العمل

حول المهد الأرضي



## مشروع المهد الأرضي "جيوكاردل"

تنسيق ودمج أنشطة رصد الأرض



### الدراسة الاستقصائية

المشاركة في الاستطلاع المستمر  
لدينا في قدرات المراقبة الإقليمية  
للأرض



### أنشطة تجريبية

اتبع أنشطتنا التجريبية في أربعة  
مجالات موضوعية هي: التكيف  
مع تغير المناخ، تحسين الأمن  
الغذائي وإدارة المياه وتحسين  
فرص الحصول على المواد الخام  
والطاقة



### منصة الشبكات

كن جزءا من مجتمع المهندسين  
الأرضي GEO-CRADLE  
والفاعل مع أصحاب المصلحة  
في بلاد البلقان وشمال أفريقيا  
والشرق الأوسط



### مخزن البيانات

الوصول والبحث وتبادل بيانات  
رصد الأرض للمناطق الثلاث



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# GEO-CRADLE website in serbian

**Projekat GEO-CRADLE**  
Koordinacija i integracija aktivnosti osmatranja Zemlje

**Upitnik**  
Pridružite se našem  
tekućem istraživanju  
regionalnih kapaciteta  
za osmatranje Zemlje

**Pilot  
aktivnosti**  
Pratite naše pilot  
aktivnosti u okviru  
žatiri tematske oblasti

**Platforma  
za  
umrežavanje**  
Postanite deo

**Baza  
podataka**  
Pristup, pretraživanje i  
deljenje podataka o  
osmatranju Zemlje u





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thank you!