





GEO-CRADLE in support to capacity building, stakeholder engagement, data sharing, and the Copernicus and GEO opportunities for Tunisia and the region

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National Observatory of Athens











Regional Workshops



13 Regional Workshops have taken place so far:

- supporting knowledge sharing capacity building
- providing participants with a unique cross-sector networking opportunity (e.g. an enhanced cooperation between academia and industry)
- identifying the potential local challenges and needs that can be addressed by Earth Observation
- enhancing growth and innovation in the geo-information sector
- enabling more informed decision making

Date	Location
27/04/2016	Cairo, Egypt
14/07/2016	Novi Sad, Serbia
26/09/2016	Tirana, Albania
17-18/10/2016	Rabat, Morocco
19/10/2016	Timimoun, Algeria
16/11/2016	Limassol, Cyprus
03/01/2017	Chişinău, Moldova
02/02/2017	Abu Dhabi, United Arab Emirates
24/03/2017	Sofia, Bulgaria
26/04/2017	Brussels, Belgium (Industrial market)
09/05/2017	Magurele, Romania
25/05/2017	Cairo, Egypt
14/09/2017	Tel Aviv, Israel







Regional Workshops



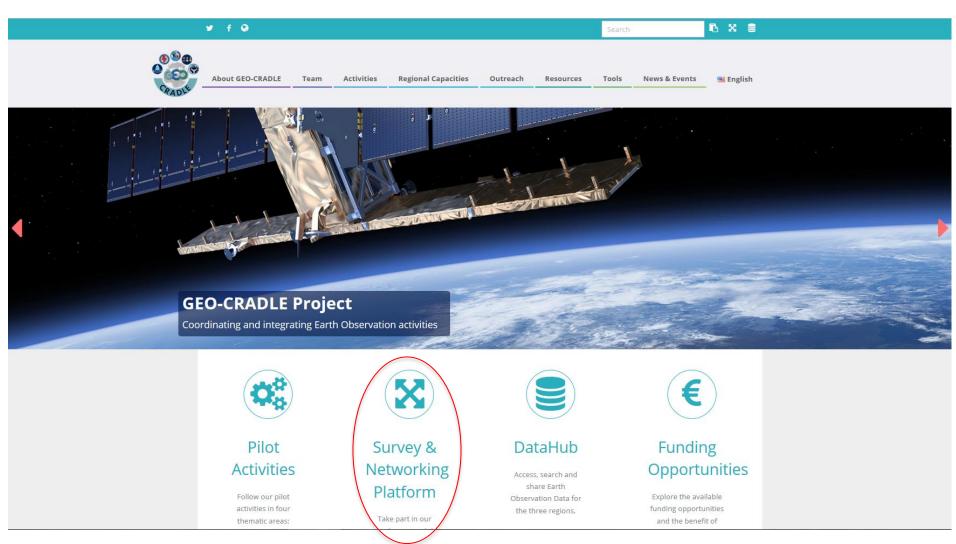








Portal: Home page





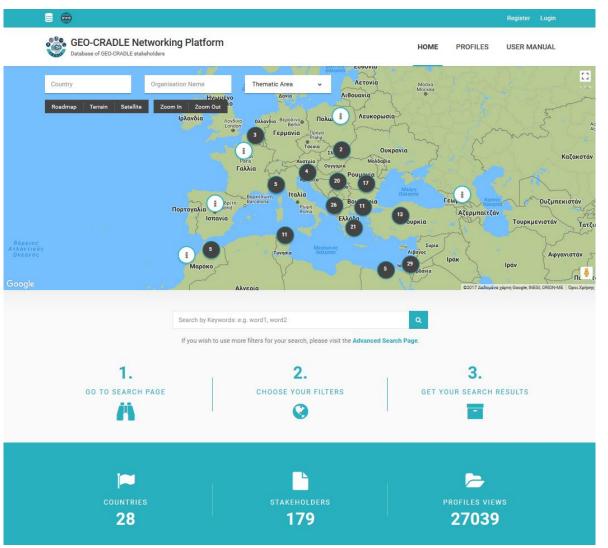
http://geocradle.eu/





CPADLE

Networking platform: Home page (1/2)



http://geocradle.eu/platform/

Available for the first time in the Rol:

- inventory of regional capacities
- profiles of stakeholders
- assessment of country maturity
- potential partnerships

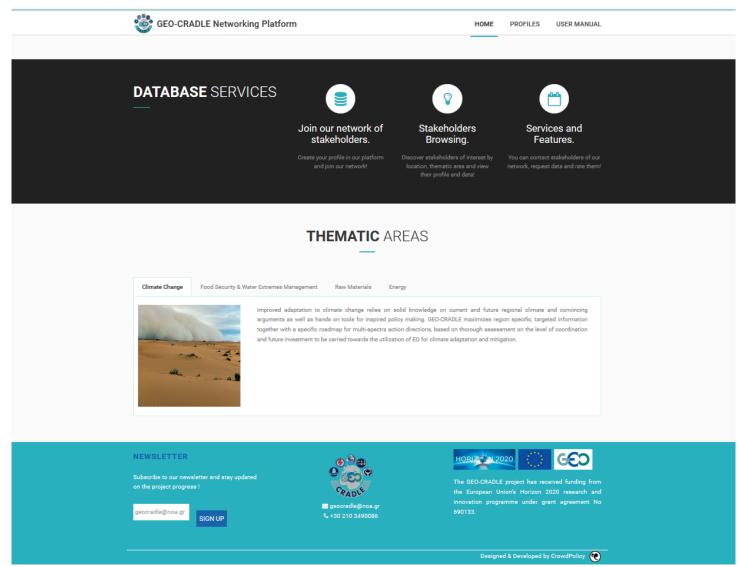








Networking platform: Home page (2/2)







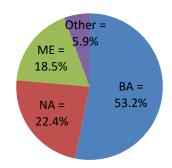


Networking platform: Stakeholders statistics

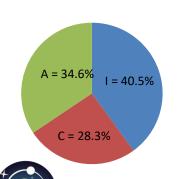


Total responses: 254

STAKEHOLDERS PER REGION BA=Balkans; NA= North Africa; ME=Middle East

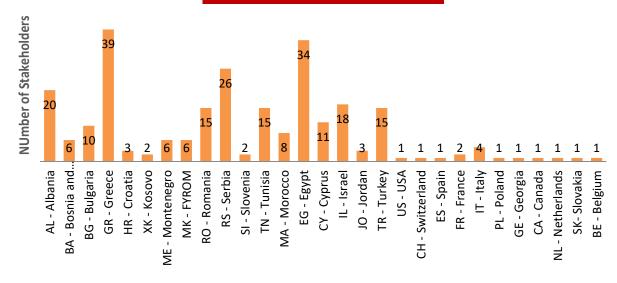


STAKEHOLDERS PER TYPE
I=institutional; C=Commercial;
A= Academic & Research



IAASARS

STAKEHOLDERS PER COUNTRY



Balkans: 135, North Africa: 57, Middle East: 47, Other: 15

STAKEHOLDERS PER VALUE CHAIN ROLE		
Raw data/provider	48.4%	
Value-adder(data process-modelling)	63.7%	
GIS/mapping service provider	44.9%	
End User or End User with in house GIS/ mapping capabilities	50.8%	





Networking platform: Features



- Software: Wordpress.
- Access: Open access to all.
- Profiles: The profiles include exclusive and specific information collected by the GEO-CRADLE Survey.
- Validation: The profiles are validated by an administrator before publishing.
- **Filtering / search**: Three different mechanisms for filtering / search:
 - ✓ Map search: 3 filters to search the database & displays results on the map;
 - ✓ Keywords search: search by one or more keywords;
 - ✓ Advanced search page: 10 filters combined with "search by keywords" option.

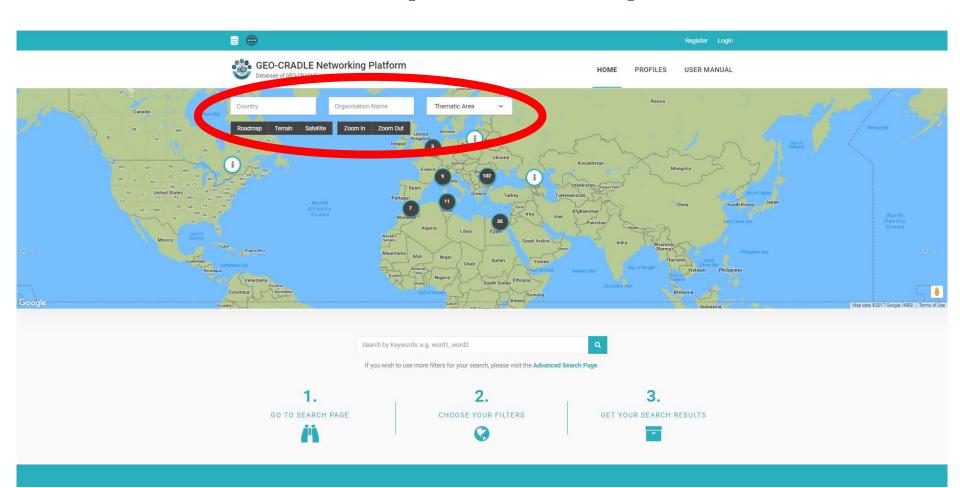








Search option 1: Map view









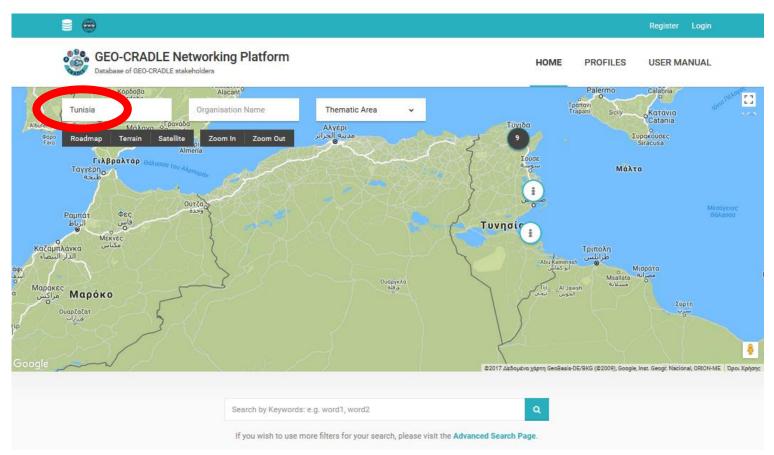


Networking platform: Search option 1

Filters:

Country: Tunisia

Results on the map: 11











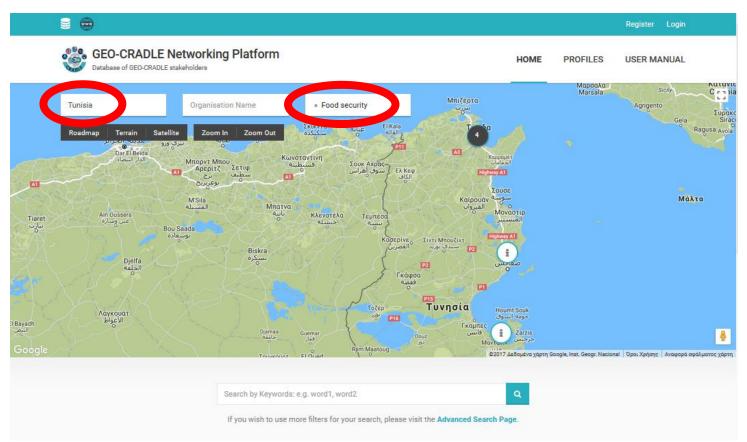
Networking platform: Search option 1

Filters:

Country: Tunisia

Thematic Area: Food security

Results on the map: 6



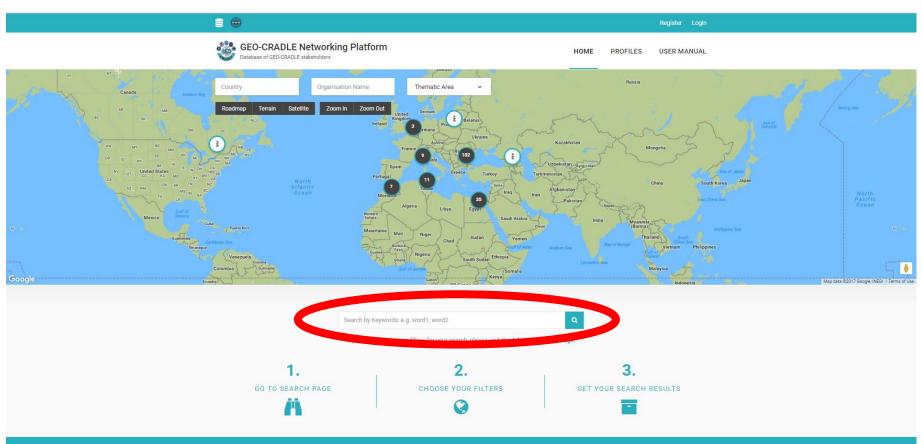








Search option 2: Search by keywords (for quick search)







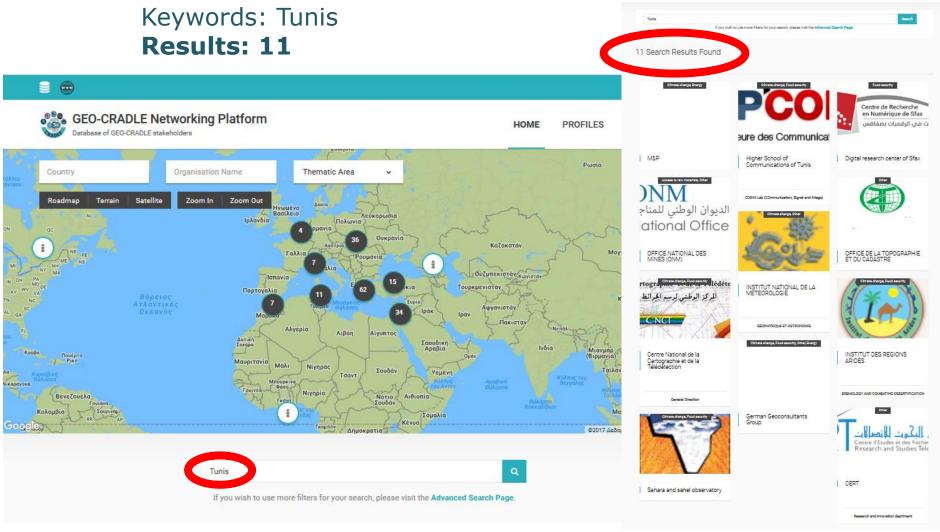




Networking platform: Search option 2

GEO-CRADLE Networking Platform

Filters:



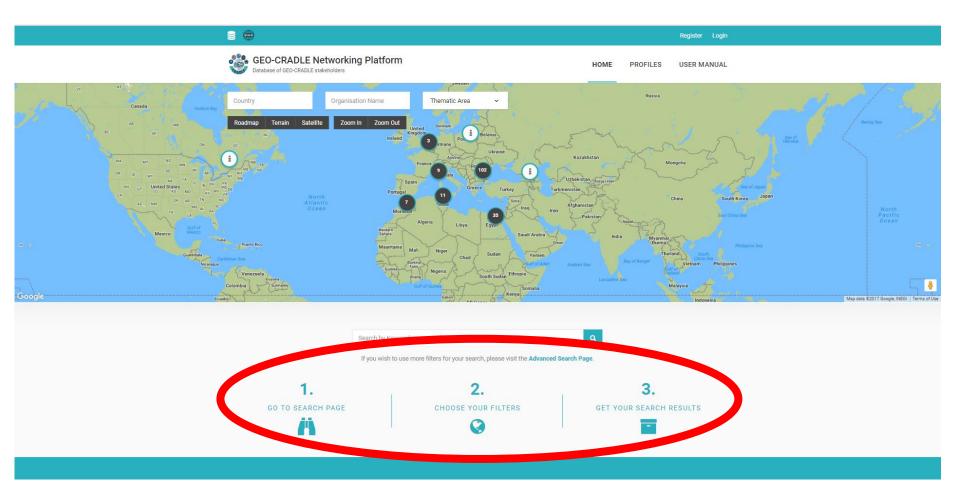








Search option 3: Advanced search page











Networking platform: Search option 3

		The source of EO data used in the model.		
earch by Keywords: e.g. word1, word2	Search	Geospatial data (e.g. DTM) Remote sensing data (e.g raw satellite high-level images)		
Thematic Areas		In situ data (e.g. temperature-pressure-humidity)		
Access to raw materials Climate change Energy	Space-borne capacities	Organisation has sufficient available computing resources for the processing and exploitation of EO data and the models running		
Food security Other	Do you own/operate EO satellite systems? e.g. Sentinel 1, RASAT Do you own/operate EO Ground Segment facilities, for reception storage and redistribution of satellite data? e.g. ESA Mirror Site	Server Clusters HPC Clusters		
Role in the value chain	Ground-based/In-situ monitoring networks/facilities	Cloud Infrastructure Virtualization Infrastructure Processing Power Capacity (CPU-RAM-Storage Capacity) Other		
Raw data/provider Value-adder(data process-modelling) GIS/mapping service provider End User with in house GIS/ mapping capabilities		EO data exploitation for the provision of value-adding services and products		
□ End User Region	☐ Energy/Radiation ☐ Other (e.g. Earthquake/Landslide)	Ecosystems(desertification-environmental impact- pollution) Land Motion/Ground Movement Inland Water (rivers and lakes)		
O Balkans O North Africa	Modelling and computing processing capacities	Land Use/Cover & Change (classified activities and statistics) Metocean (wind-waves) Geology		
Middle East Other	☐ Meteorological/Climatic ☐ Atmospheric Composition/Profiling	☐ Urban Areas ☐ Infrastructure (buildings-telecommunications and energy supply) ☐ Forest ☐ Snow@lice		
Organization type	☐ Hydrometric/Water Quality ☐ Soil attributes/Spectra ☐ Energy/Radiation	☐ Snowlide ☐ Air Quality ☐ Climate		
Institutional Research & Academic Commercial	☐ Energy/Radiation ☐ Other (e.g. Earthquake/Landslide)	Marine Ecosystems (including pollution-oil spills) Weather Floods Fires		
		Agriculture (farming-crops-yield-etc) Other (e.a. landslide-earthquakes-etc)		







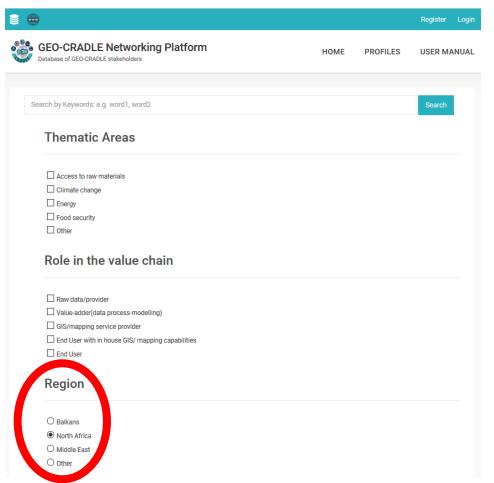


Networking platform: Search option 3

Filters:

Region: North Africa

Results: 26













IAASARS

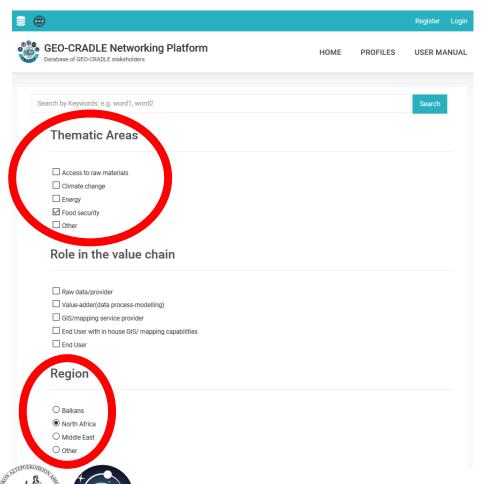
Networking platform: Search option 3

Filters:

Region: North Africa

Thematic area: Food security

Results: 12











Networking platform: Search option 3

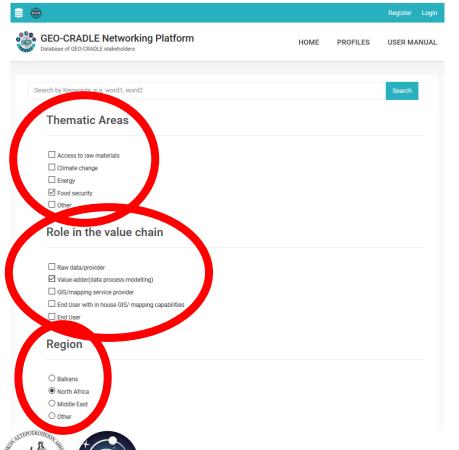
Filters:

Region: North Africa

Thematic Area: Food security

Role: Value-adder

Results: 11



IAASARS









Example Profile:

Centre National de la Cartographie et de la Télédétection



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Activity Focus Capacities	National Activities Engagement in GEO-CRADLE Location		
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Activity Focus Capacities	THE STATE OF THE S		Contact Person
Activity Focus Capacities Details	National Activities Engagement in GEO-CRADLE Location		
Activity Focus Capacities Details First Name	National Activities Engagement in GEO-CRADLE Location Adel		Adel Jehane
Activity Focus Capacities Details First Name Last Name	National Activities Engagement in GEO-CRADLE Location Adel Jehane		
Activity Focus Capacities Details First Name Last Name Title	National Activities Engagement in GEO-CRADLE Location Adel Jehane Mr		Adel Jehane ■ cnct@defense.tn
Details Details First Name Last Name Title Position	National Activities Engagement in GEO-CRADLE Location Adel Jehane Mr General Director		Adel Jehane significant and control of the second of the
Details First Name Last Name Title Position Email 1	National Activities Engagement in GEO-CRADLE Location Adel Jehane Mr General Director cnot@defense.tn		Adel Jehane significant and control of the second of the





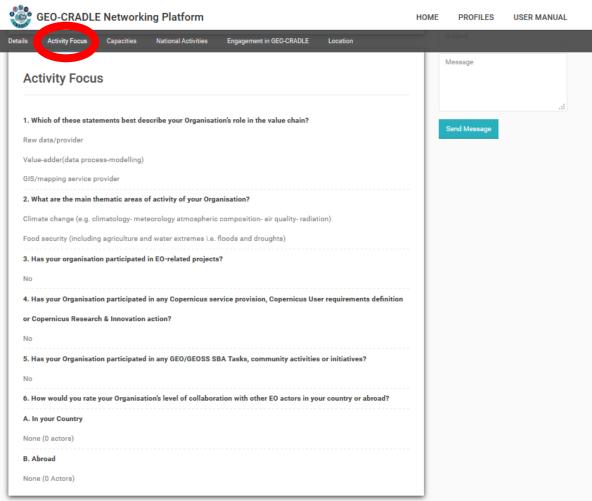




Example Profile:

Centre National de la Cartographie et de la Télédétection

Section: Activity Focus







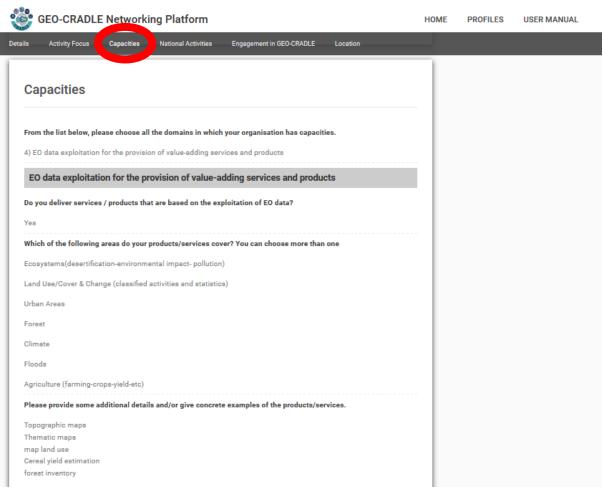




Example Profile:

Centre National de la Cartographie et de la Télédétection

Section: Capacities









CPADLE

Example Profile:

Centre National de la Cartographie et de la Télédétection

Section: National Activities

GEO-CRADLE Networking Platform	HOME	PROFILES	USER MANU
ls Activity Focus Capacities National Activities Engagement in GEO-CRADLE Location			
National Activities			
1. Is there funding for EO activities available in your country?			
No			
2. Is there a National Space Policy/Strategy?			
Yes			
3. Is there a Space Agency in your country?			
No			
4. Which of the following best describes the level of coordination of EO activities in your country?			
None			
5. Which of the following best describes the level of interaction between the EO community and decision make	ers in		
your country?			
None			





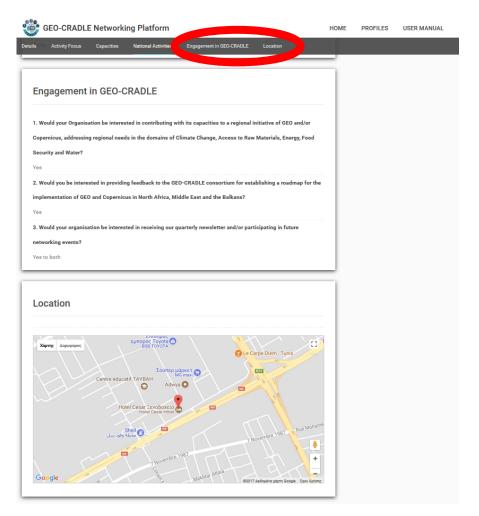






Example Profile:

Sections: Engagement in Centre National de la Cartographie et de la Télédétection GEO-CRADLE & Location

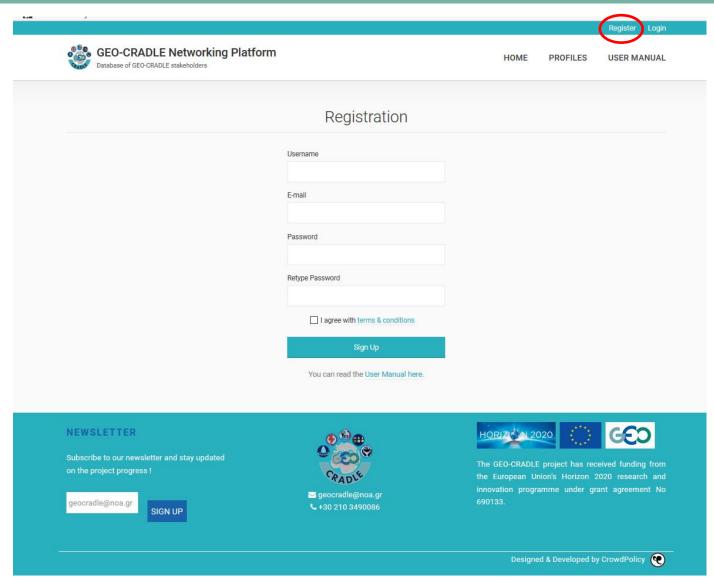










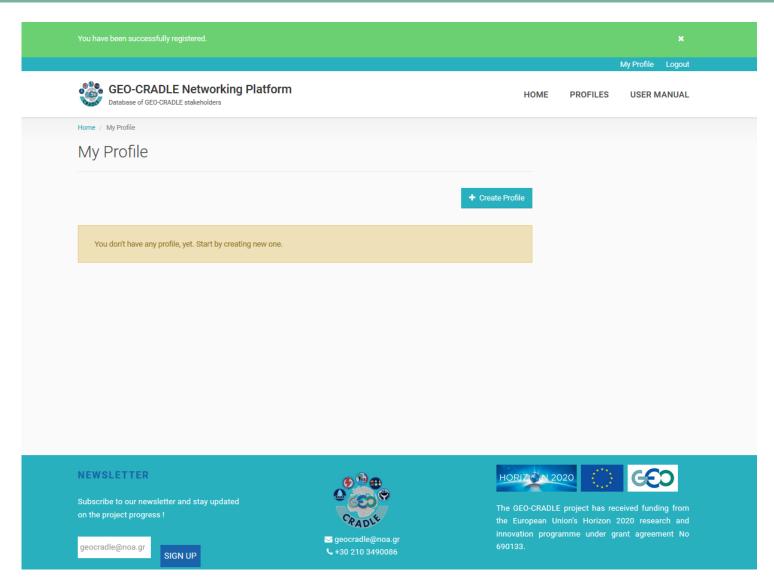










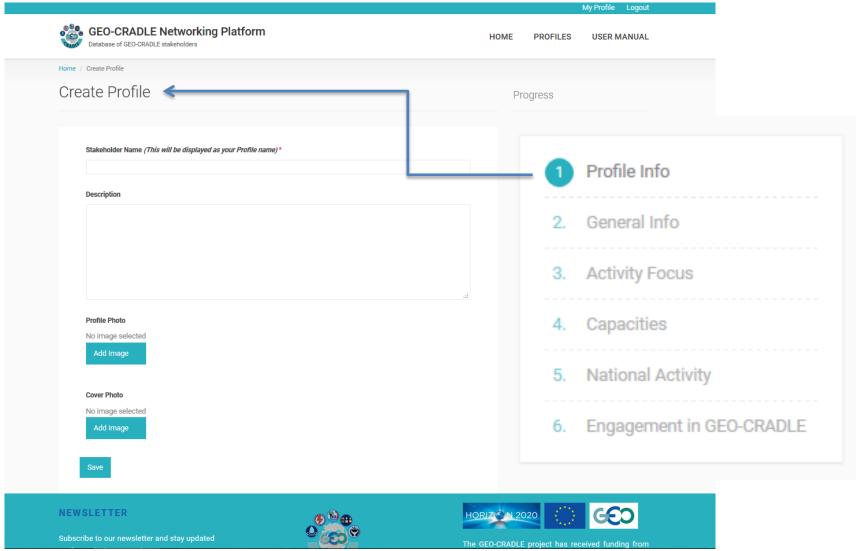






















General info Personal Information Your Organization Profile Info **Activity Focus** General Info Your Organisation's role in the value chain Main thematic areas of activity Activity Focus Participation in EO-related projects Capacities Participation in Copernicus Participation in GEO/GEOSS SBA Tasks National Activity Collaboration with other EO actors Engagement in GEO-CRADLE **Capacities**

Ground-based/In-situ monitoring networks/facilities

Space-borne capacities

- Modelling and computing processing capacities
- EO data exploitation









National Activities

- National funding for EO activities
- National Space Policy/Strategy
- Existence of National Space Agency
- Coordination of EO activities in the country
- Interaction between the EO community and decision makers in the country
- Organisation of EO dedicated workshops in the country

Profile Info

- General Info
- Activity Focus
- Capacities
- National Activity
- Engagement in GEO-CRADLE

Engagement in GEO-CRADLE

- Contribute with your capacities to a regional initiative of GEO and/or Copernicus?
- Provide feedback for establishing a roadmap for the implementation of GEO and Copernicus in the region?
- Participate in future GEO-CRADLE networking events and portal?



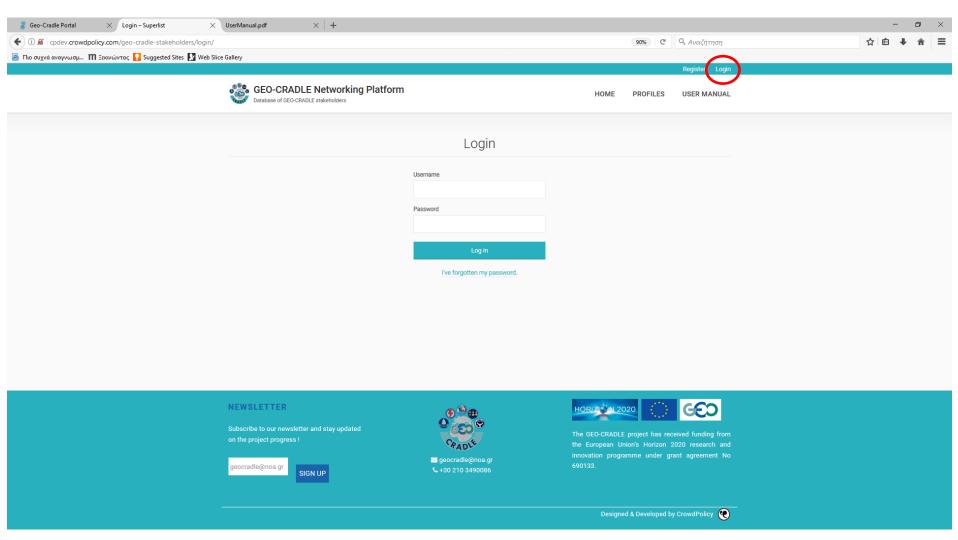








Networking platform: Login



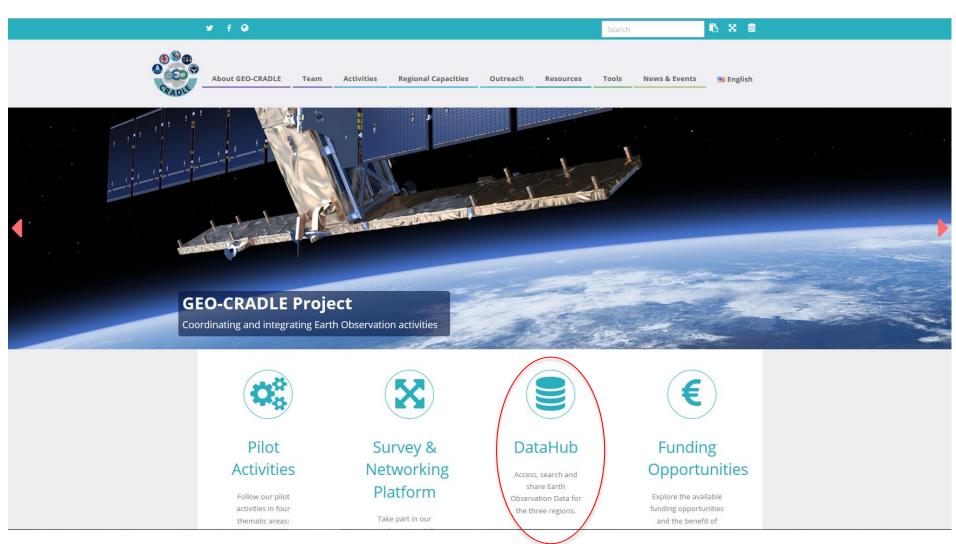








Portal: Home page





http://geocradle.eu/

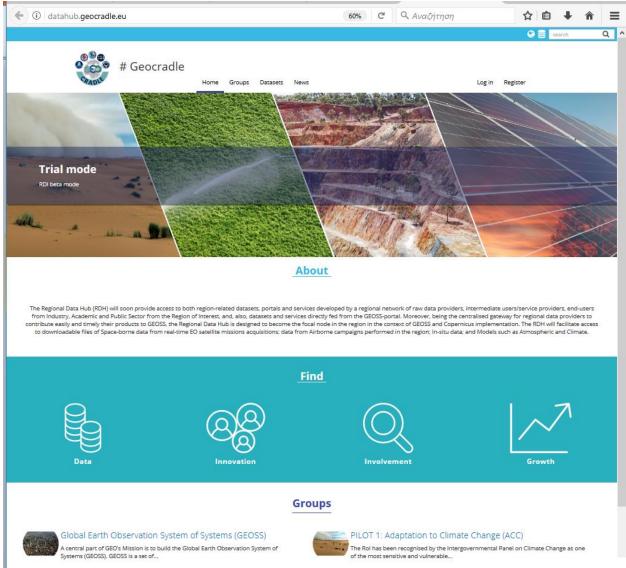






Regional Data Hub: Home page

http://datahub.geocradle.eu/



The TRIAL **MODE - RDI** beta version has been released providing a more stable service and full interoperability with GCI and GEO DAB APIS, as well as a first level connection with data available through the project pilots.







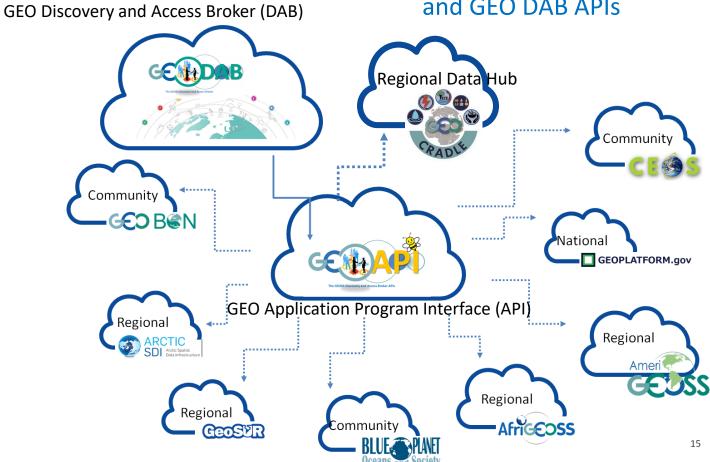






Users/GEO Portals

National, regional or thematic community portals, leveraging GEOSS Common Infrastructure (GCI) resources and GEO DAB APIs



Regional Data Hub



- ✓ RDH is designed to become the focal node in the region in the context of GEOSS and Copernicus implementation.
- It is an open data web management tool / portal (developed using web technologies such as PHP, HTML5, JavaScript, CSS, etc.) that provides access to region-related datasets and services, directly fed from GCI, and at the same time being the central gateway for regional data providers to contribute easily and timely their products to GEOSS.
- It advances the current state of the art by integrating DKAN, which is a complementary implementation of CKAN (Comprehensive Knowledge Archive Network) over Drupal/PHP, with the GEO DAB APIs. DKAN CMS (Content Management System) is an open-source data management platform that treats data as content, facilitating the subsequent publication, management, and maintenance of these, no matter the administration team, its size and level of technical expertise.

Regional Data Hub



Several **achievements** were accomplished for the RDH to be able to provide its users the functionalities described above:

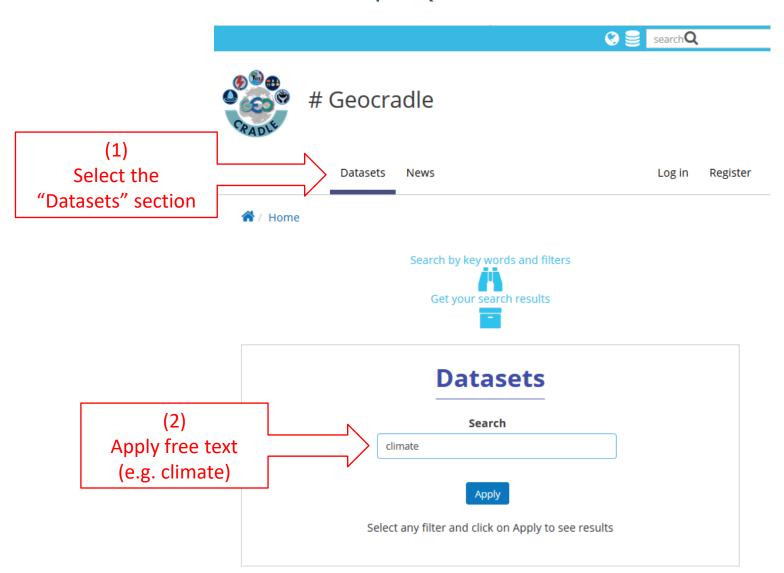
- Search in multiple sources (although by default DKAN looks up for datasets and resources in a single local database).
- Search for datasets in remote resources (integration of the GEO DAB APIs in the DKAN environment).
- Display the remote datasets and resources on-the-fly and with high performance (using a rendering cache mechanism which also implements an Adaptive Time-to-Live consistency mechanism to periodically check the consistency of the cached rendering structures with the original data to assure that users do not receive stale data).
- Cleaning data mechanism (cleans identical or duplicate data, discovers missing information for data, discovers URL that have changed or that are not working anymore, discards data with invalid URL schemes, etc.)
- Preview mechanism (to preview data of various formats and services, such as CSV files, Web Map Services, Zip files, etc.)

An integrated Search and Display mechanism that offers the users unified, centralized and user-friendly interface.



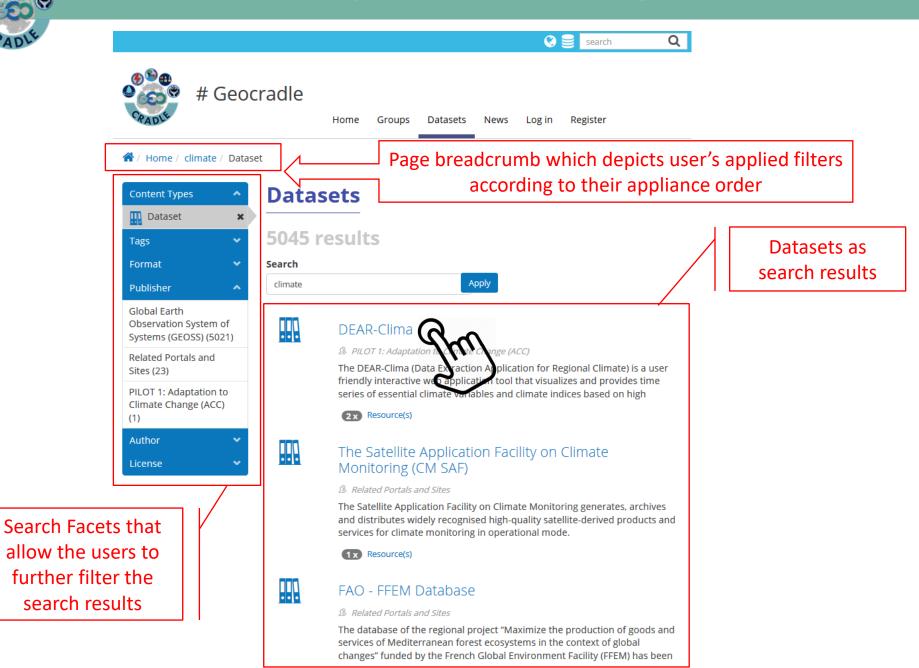
Regional Data Hub: Example

A First Search Example (that returns datasets local to RDH)





Regional Data Hub: Example





Regional Data Hub: Example



Geocradle

Full Page View of the Dataset

> Dataset's Data Extent

Dataset's License widget

Other Access widget (Provides JSON & RDF view of the Dataset)

Social widget (The user can instantly share the dataset through various social media platforms)

/ Home / Datasets / DEAR-Clima Revisions



PILOT 1: Adaptation to Climate Change (ACC)

The Rol has been recognized by the Intergovernmental Panel on Climate Change as one of the most sensitive and vulnerable to climate change regions on Earth. Climate change is governed to a large...



Open Data Commons Open Database License (ODbL)

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

via the DKAN API



DEAR-Clima

Home Groups Datasets News

The DEAR-Clima (Data Extraction Application for Regional Climate) is a user friendly interactive web application tool that visualizes and provides time series of essential climate variables and climate indices based on high horizontal resolution Regional Climate Model (RCM) simulations from the Coordinated Regional Downscaling Experiment (CORDEX) research program. Reliable and user friendly open access of future climate change data from high resolution RCM projections is essential to support decision makers, stakeholders, intermediary users and end-users for climate change impacts, mitigation and adaptation. The RCM data processed in this web application tool have a high spatial resolution (0.11°) over the european doamin and cover a time period from 1950 to 2100. The historical period of each experiment refers to 1950-2004, while the future period is 2006-2100 under the influence of three Representative Concentration Pathways (RCPs) adopted by the IPCC for its fifth Assessment Report (ARS); rcp26, rcp45 and rcp85. The simulation experiments are a product of various RCMs driven by several Global Climate Models (GCMs)

Dataset's Title

Data and Resources

DEAR-Clima Application Resource The development of this web application tool was funded by the GEO-

FURO-CORDEX DATA The CORDEX regional climate model (RCM) simulations for the European

Dataset Info

These fields are compatible with DCAT, an RDF vocabulary designed to facilitate interoperability between data catalogs published on the Web.

Field	Value
Publisher	PILOT 1: Adaptation to Climate Change (ACC)
Modified Date	2017-11-23
Release Date	2017-11-23
Frequency	Daily
Identifier	d64ab8ed-f37f-4158-aff5-3ed4def9cdd3
Homepage URL	http://meteo.geo.auth.gr:3838/
Spatial / Geographical Coverage Area	POLYGON ((-22 27, -22 72, 45 72, 45 27))
Spatial / Geographical Coverage Location	The domain covers the greater area of Europe including the Mediterranean and a part of N.Africa.
Temporal Coverage	Sunday, January 1, 1950 - 00:00 to Thursday, December 31, 2099 - 00:00
Language	English (United Kingdom)
License	Open Data Commons Open Database License (ODbL)
Author	Athanasios Tsikerdekis, Dimitris Akritidis, Prodromos Zanis
Contact Name	Athanasios Tsikerdekis
Contact Email	ClimateProjectionApp@gmail.com
Public Access Level	Public

Related Content:

CORDEX: Coordinated Regional Downscaling Experiment

Dataset's Description

Dataset's

Links to its Resources

Log in Register

Dataset's tags (Provide links that initiate searches

with these tags)

Dataset's Additional Information



Regional Data Hub: Example

Full Page View of the Dataset's Resource

Welcome

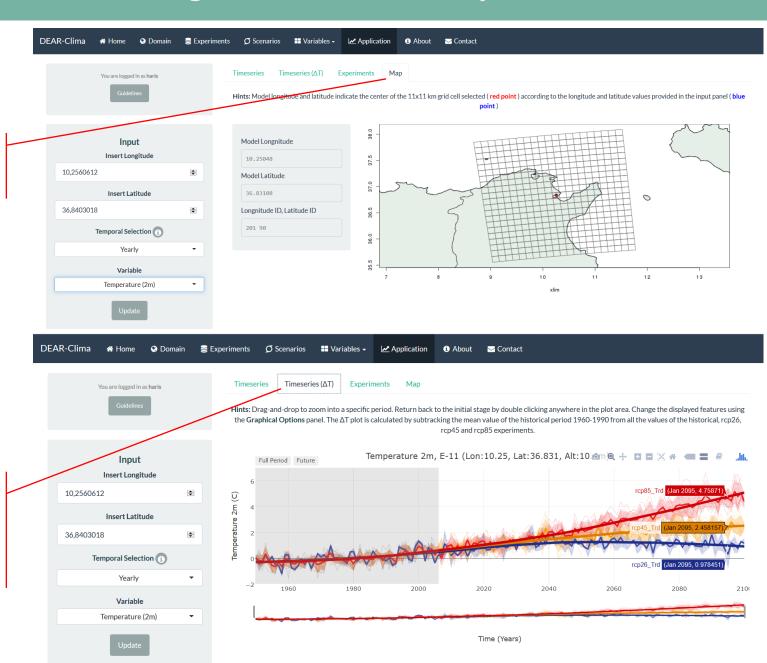
The Data Extraction Application for Regional Climate (DEAR-Clima) is a user friendly interactive web application tool that visualizes and provides time series of essential climate variables and climate indices based on high horizontal resolution Regional Climate Model (RCM) simulations from the Coordinated Regional Downscaling Experiment (CORDEX) research program. Reliable and user friendly open access of future climate change data from high resolution RCM projections is essential to support decision makers, stakeholders, intermediary users and end-users for climate change impacts, mitigation and adaptation. The RCM data processed in this web application tool have a high spatial resolution (0.11°) over the european doamin and cover a time period from 1950 to 2100. The historical period of each experiment refers to 1950-2004, while the future period is 2006-2100 under the influence of three Representative Concentration Pathways (RCPs) adopted by the IPCC for its fifth Assessment Report (AR5); rcp26, rcp45 and rcp85. The simulation experiments are a product of various RCMs driven by several Global Climate Models (GCMs).

The development of this web application tool was funded by the GEO-CRADLE project that aims to coordinate and integrate state-of-the-art Earth Observation activities in the regions of North Africa, Middle East, and Balkans and develop links with GEO related initiatives towards GEOSS. The server is located at the Department of Meteorology and Climatology , School of Geology, Aristotle University of Thessaloniki, Greece.





Regional Data Hub: Example

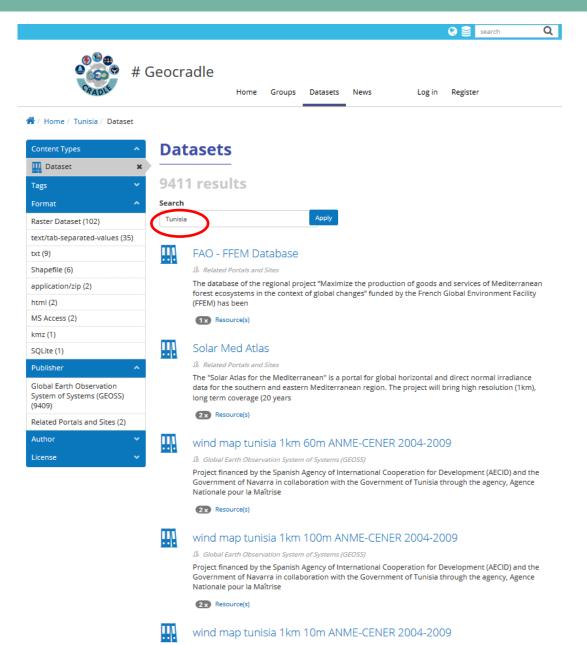


MAP: Tunis

TIMESERIES
(ΔT):
Temperature
2m (°C)



Regional Data Hub: Tunisia



Global Earth Observation System of Systems (GEOSS)



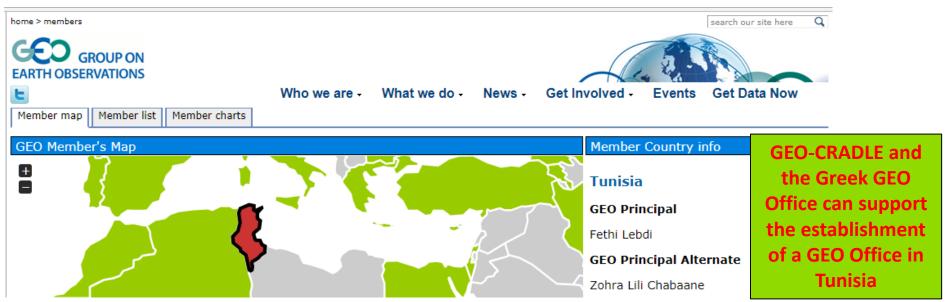
GEO and Copernicus for Tunisia

GEO: a unique global partnership of more than 100 national governments and in excess of 100 Participating Organizations.

VISION: a future where decisions and actions, for the benefit of humankind, are informed by coordinated, comprehensive and sustained Earth observation information and services.

MISSION: A central part is to build the Global Earth Observation System of Systems (GEOSS). GEOSS is a set of coordinated, independent Earth observation information and processing systems, aiming to link these systems together to strengthen the monitoring of the Earth (more than 200 million open data resources).

INITIATIVES: AfriGEOSS (Africa), AmeriGEOSS (Americas), AOGEOSS (Asia & Oceania), EuroGEOSS (Europe).







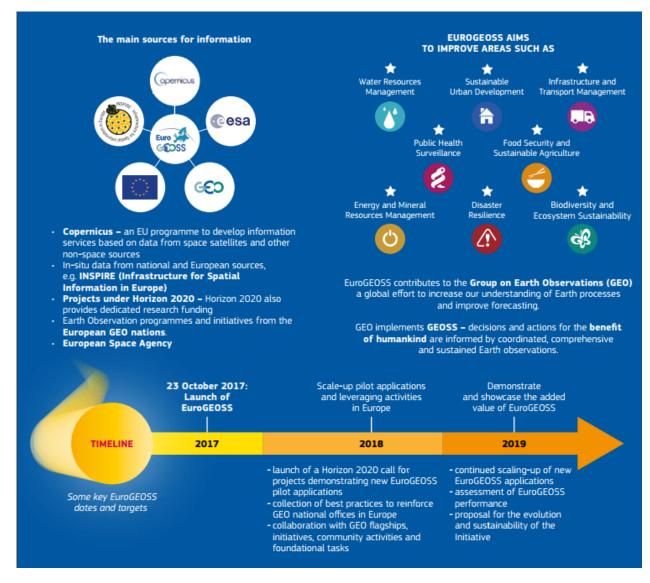




GEO and Copernicus for Tunisia



- Focus on coordination and scaling-up of userdriven applications being developed in Europe using Earth Observation data.
- Includes GEO-CRADLE applications from its pilots, e.g. solar energy (high resolution solar atlas for Egypt - already delivered).





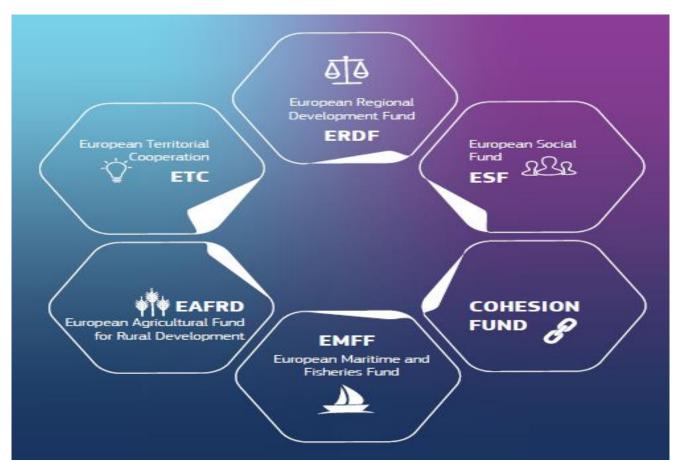








European Structural and Investment Funds (ESIF) 2014-2020



- European Regional Development Fund (ERDF)*
- European Social Fund (ESF)
- 3) Cohesion Fund (CF)
- 4) European Maritime and Fisheries Fund (EMFF)
- 5) European Agricultural Fund for Rural Development (EAFRD)
- * including European
 Territorial Cooperation (ETC)
 / INTERREG

https://ec.europa.eu/info/funding-tenders/european-structural-and-investment-funds_en



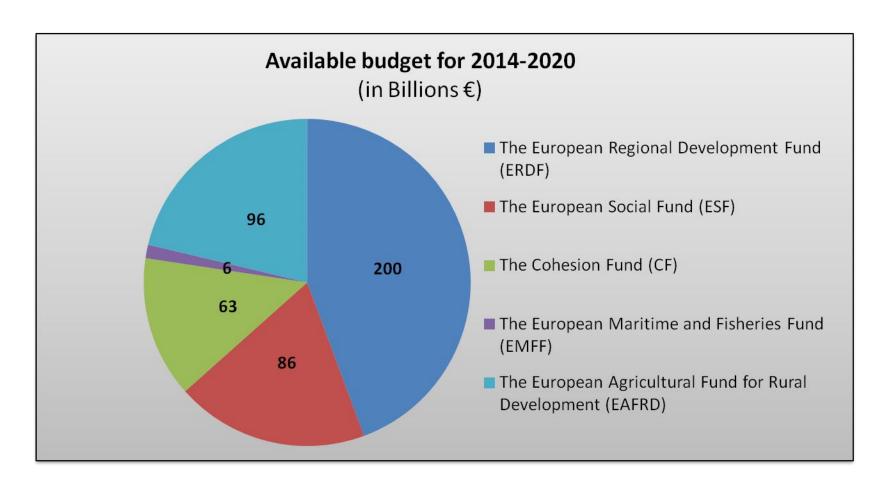








European Structural and Investment Funds (ESIF) 2014-2020





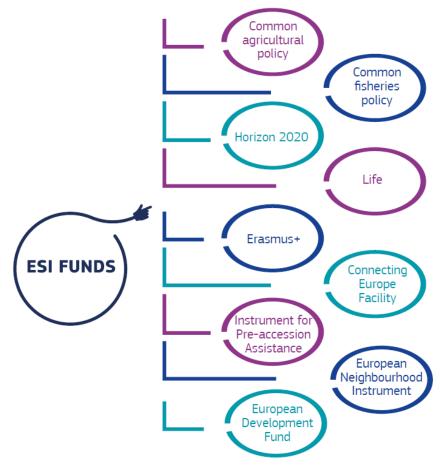






European Structural and Investment Funds (ESIF) 2014-2020

The Common Strategic Framework also sets out practical ways to build synergies between the ESI Funds and other EU policies and instruments:





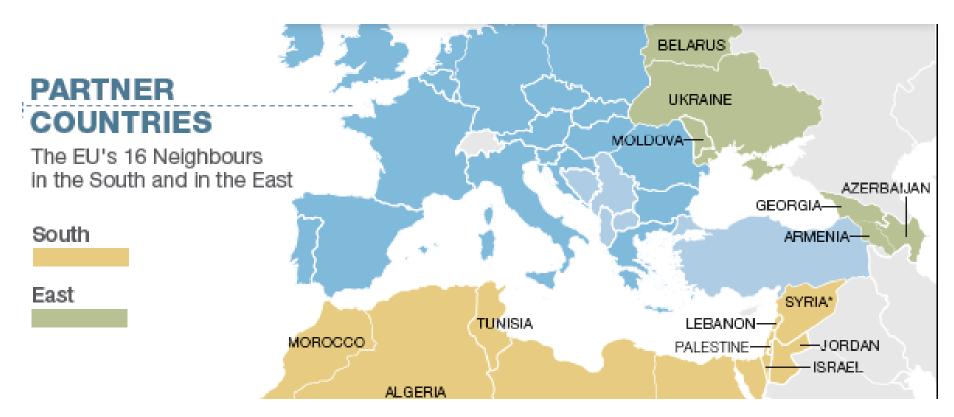








The **European Neighbourhood Instrument (ENI)** is the main EU financial instrument during the financial period 2014-2020, funding the European Neighbourhood Policy (ENP) which covers cooperation with EU's 16 Neighbours.











European Neighbourhood Instrument (ENI)

Budget of ENI for 2014-2020: € 15.4 billion.



http://www.enpi-info.eu/files/publications/ENI.pdf



http://geocradle.eu/







The DCI covers all the developing countries except the countries eligible for the Pre-Accession Instrument.
There are 3 specific components covered:

Geographic programmes

Thematic programmes

Pan-African Programme

Development Cooperation Instrument (DCI)

Thematic programmes benefit all developing countries (including those covered by the ENPI and the EDF). These programmes add value, complementarity and coherence to the geographical programmes. There are 2 categories:

- ✓ 'Global public good and challenges': this programme addresses climate change, environment, energy, human development, food security and migration while ensuring coherence with the poverty reduction objective. No less than 27% of this programme is spent on climate change and environment objectives. At least 25% of the programme is used to support social inclusion and human development.
- ✓ 'Civil society organisations and local authorities': this programme provides greater support to civil society and local authorities to encourage them to play a bigger role in development strategies.

 Highly relevant to





GEO-CRADLE





The DCI covers all the developing countries except the countries eligible for the Pre-Accession Instrument.
There are 3 specific components covered:

Geographic programmes

Thematic programmes

Pan-African Programme

Development Cooperation Instrument (DCI)

Global Monitoring for Environment and Security in Africa (GMES & Africa)

Budget €29.5 million distributed as follows: €17.5 million for Grants, €6 million for capacity development, outreach and awareness creation, PMU staff salaries, programme management and coordination, etc. , €6 million for the technical support, including the technical assistance.

The African Union Commission (AUC) officially awarded grants to 13 successful consortia of institutions that will serve as Regional Implementing Centres for the GMES & Africa Support Programme, following a Call for Proposals in May 2017.

Selection from **North Africa**: National Authority for Remote Sensing & Space Sciences (**NARSS**) for marine and coastal area service; Observatoire du Sahara et du Sahel (**OSS**) for water and natural resources service.

https://au.int/web/en/GMESAfrica/2017call









The PRIMA initiative

The European Commission has agreed on a proposal for a Partnership for Research and Innovation in the Mediterranean Area (PRIMA), which is set to develop muchneeded novel solutions for sustainable water management and food production, within the framework of a reinforced Euro-Mediterranean co-operation.

Highly relevant

Funding for the €400 million partnership will come from the participating countries (currently around €200 million), matched by a €200 million contribution from the EU through its current research framework programme Horizon 2020. The partnership will run for 10 years, starting in 2018.

The PRIMA Joint Programme involves **19 countries**:

- 11 Member States: Croatia, Cyprus, the Czech Republic, France, Greece, Italy, Luxembourg, Malta, Portugal, Slovenia and Spain;
- 8 third countries: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, **Tunisia** and Turkey.

Of these, 14 countries (Cyprus, the Czech Republic, Egypt, France, Greece, Israel, Italy, Lebanon, Luxembourg, Malta, Morocco, Portugal, Spain and **Tunisia**) have agreed to jointly undertake the PRIMA initiative.

The participation of Germany is currently under negotiation. As the initiative is evolving over time, more participants are expected to follow, both EU and non-EU countries.

http://ec.europa.eu/research/environment/index.cfm?pg=prima

to GEO-CRADLE!









