

Interoperable Citizen Science in GEOSS

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MYGEOSS apps for your environment

MYGEOSS: Innovative Apps in the environmental and social domains

- MYGEOSS is a two-year project (2015-2016) by the European Commission to develop smart e-services applications informing European citizens on the changes affecting their local environment.
- MYGEOSS aims to involve more European SMEs in harnessing the opportunities from using full and open access data contained in the Global Earth Information System of Systems (GEOSS). It also aims to stimulate demand by involving citizen science projects, citizen observatories, and the public at large via mobile applications based on earth observation products and services.
- MYGEOSS launched three open calls for ideas to develop innovative applications (in mobile or web-based) using openly available or crowd-generated data in different domains addressing citizens' needs. Over 100 proposals were submitted, of which 40% came from SMEs, 30% from research institutions and 30% from individuals.
- Thirty-nine apps have been developed in the project.
- 36 from the open calls and three developed by the European Commission's Joint Research Centre (JRC) to support EU policy.

Winning projects from the first MYGEOSS call

Apps for your environment



 CALIOPBE by Barcelona Super Computing Centre Air quality forecast (next 24 hours) of major air pollutants	 Loss of the Night by Interactive Scope & GFZ App for citizen scientists to collect quantitative data on the changing night-time environment	 Dust Storm Monitoring by the University of La Sapienza Near real-time dust storm monitoring and impact assessment
 ScoutHub by Proambiente Information for citizens on water quality, transparency, temperature, fish abundance and intensity of currents	 Know Your City by UbiGIS Social, economic and environmental indicators presented on a map-based view as a quiz	 Geo-MAHA by GAP Connect Alert app to collect and provide information on floods, fires and other related hazards
 ESOL by United Nations Centre for 22 year-olds to raise awareness on air pollution	 iRTracker by ICSTEAM App to locate invasive alien species using crowd-sourced data from citizens	 My Seasons by Friedrich-Schiller Vegetation phenology analysis using satellite data and data collected by citizens

 ProPlant Monitor by San Rafael App to collect data about protected plants and integrate it with existing data	 LAND by Land Cover Change by Terrametry Time analysis of changes in agricultural land use, urban cover, forest cover etc.	 Smart Alert by System Monitor Alerts and information on issues with air quality, floods, landslides or pests
 WaterWatch by BEV Connect Crowd-generated information on rivers, lakes and canals	 Wildlife Monitoring of Habitats by the Centre of a Habitat 2009 Site at the University of Eastern Finland App to collect biodiversity data from remote reserves	 European Protected Areas Change Explorer by Orlino App to explore land cover change in European nature reserves

GEOSS is an international voluntary effort coordinated by the Group on Earth Observation (GEO), which comprises 102 countries and 236 participating organizations.
 All GEO participants are committed to promoting the GEO Data Sharing Principles:

- Data, metadata and products will be shared as Open Data by default, by making them available as part of the GEOSS Data Collection of Open Resources for Everyone (Data CHERE) without charge or restriction on reuse, subject to the conditions of registration and attribution when the data are reused.
- Where international instruments, national policies or legislation preclude the sharing of data as Open Data, data should be made available with minimal restrictions on use and at no more than the cost of reproduction and distribution.
- All shared data, products and metadata will be made available with minimum time delay.

For more information see <http://earthobservations.org>

Winning projects from the third MYGEOSS call

Apps for your environment



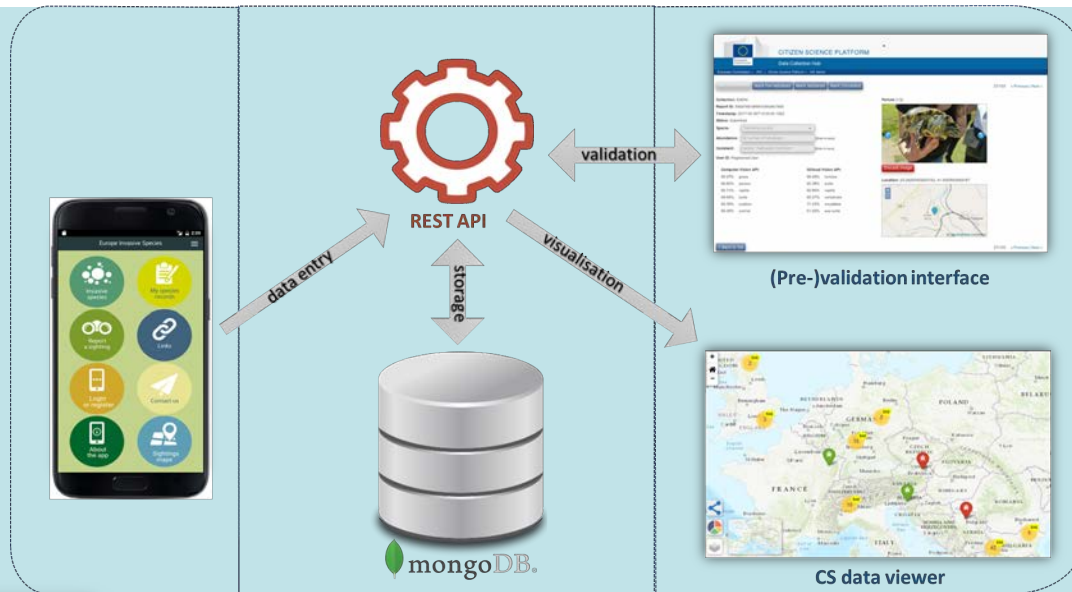
 CityFusion by GEOlab Web-based app for finding the best place to live in a city	 FluSense by Data Linn Maps of where influenza is most common across Europe	 Tree by Terrance and Sengupta Information about the role of urban trees in cities and their benefits for citizens
 GreenMap by GLOBE Netherlands Analysis of how the climate impacts plant life, with a time-lapse movie feature	 Flash Flu Alert Shed by Oxl24 A system to model the spread of influenza	 Geshvalanche by Geobeyond Crowd-sourced data on avalanches and maps showing avalanche risk
 Farabee by ES Systemes e-Information JRCs team Mobile app to raise awareness of and monitor threatened bee species in Europe	 MIGRATE - Migration patterns in Europe by Pali Geographical Game to learn about population movements in and around Europe	 FeedMy Friends by Madspid Design Rotterdam Online community, quiz system and contents to help households use food more wisely

 Invasive Alien Species in Europe	 MyNatura2000	 SenseEurAir
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Invasive Alien Species app.

Collection, validation,
and integration into
an authoritative
source

Framework designed for re-use!



integration of validated data into the scientific
data base supporting Regulation
(EU) 1143/2014



Interoperability across domains

- We serve different communities/use cases
- The original entry supports:
 - DCAT-AP = **Open Government**
 - DataCite = **Researchers**
- We offer transformations to:
 - ISO 19139 and OGC = **SDI**
 - INSPIRE = **Public Sector Information**
 - schema.org = **Discoverability**
 - JSON via the CKAN-API = **Developers**



Source: Didacool at en.wikipedia [Public domain]

Without introducing any new term, i.e. re-using existing vocabularies!

Interconnecting different CS initiatives

Invasive Alien Species in Europe

Natusfera

IAS TRACKER
Invasive Alien Species Tracker

Status: Prevalidated

ID: 58d148938a4157626b39de85

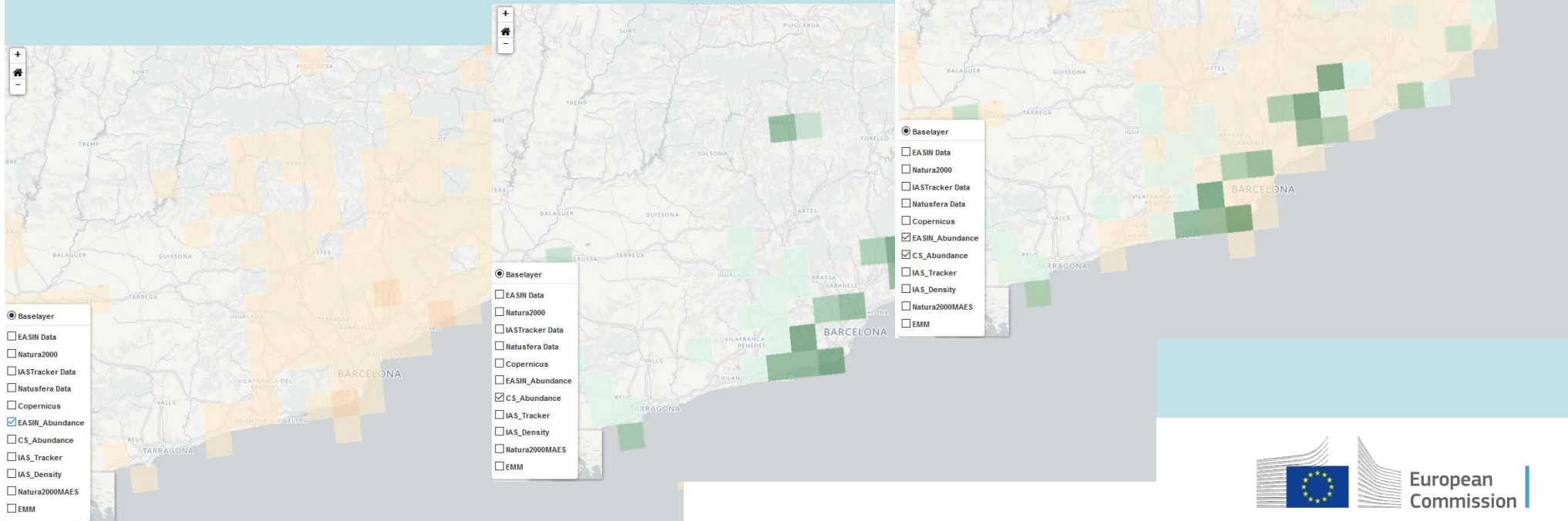
Coordinates: 46.068 / 14.469
Abundance: 3 number of individuals
Precision: Measured

Comment: Habitat : freshwater. Comment : Koseski bajar

Species Name:
Observed by:
Anonymous

Complementing official sources

Different kind of participants visit different areas



Sharing the data globally

The screenshot displays the Joint Research Centre Data Catalogue website. The main search results are for the query "invasive aliens species". The results list two datasets:

- Alien species in Europe**
(Organization: Joint Research Centre Data Catalog)
Distribution by countries (EEZ): All the alien species in Europe. Number of species 15354. Done by EASIN Official on 18-02-2014.
- High impact alien species in Europe**
(Organization: Joint Research Centre Data Catalog)
Distribution by countries (EEZ): All the high impact alien species in Europe. Number of species 881. Done by EASIN Official on 29-10-2015.

The interface includes a search bar, filters, and a sidebar with navigation options like "Home", "Datasets", and "Collections". Logos for the European Commission, EU Open Data Portal, and GEOSS Portal are visible.

Conclusions

- We know there is an increasing interest in Citizen Science, which is a good thing
- But we must make sure we do not squander the opportunity by raising high expectations and then letting everybody down with projects that are just an ephemeral glow in the sky.
- Interoperability, and re-usability over time i.e. good management of people, data, and process are crucial to embed CS in both policy and practice.



Thank you!



Any questions?

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