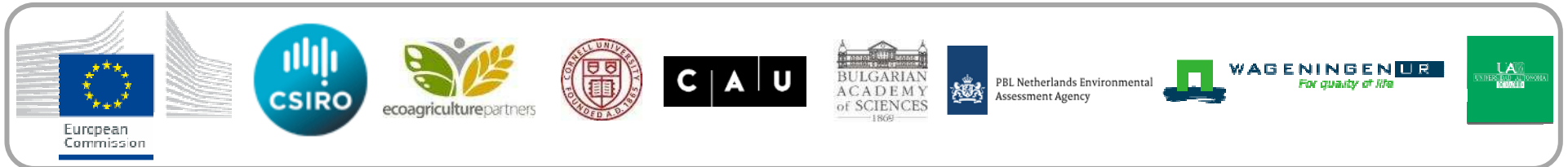




Evangelia Drakou, Louise Willemen, William Temperley, Bart Verbeeck, Joachim Maes, Benjamin Burkhard, Neville Crossman, Ignacio Palomo, Stephen Peedell, Rob Alkemade, Stoyan Nedkov



Overview

- ESP Tool background
- Other tools
- Aim of the ESP Tool
- ESP Tool functions and structure
- Next steps



Tool Background

Ecosystem Services Partnership (ESP) a “worldwide network to enhance the science and application of ecosystem service assessments”

- Organized by member-led Thematic and Biome Working Groups
- Annual conferences to share findings and ideas



ESP Mapping Working Group published **ecosystem service mapping blueprint** (Crossman et al., 2013)

- A call for more consistency and transparency in ES quantification and mapping efforts



Tool Background

ESP through the Joint Research Centre of the EC, and partners, works on an online tool to **collect** and **share** ecosystem services **maps** and information on mapping **methods** and underlying **data**



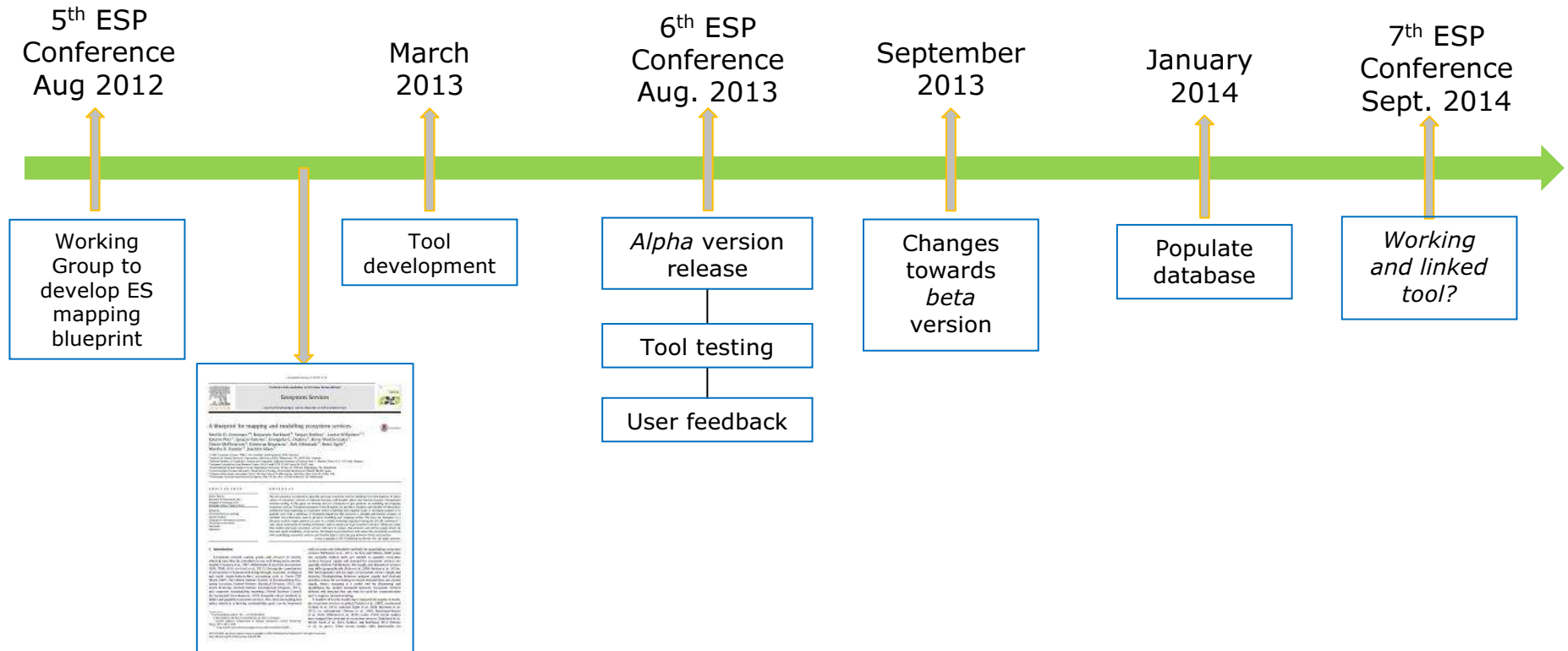
PBL Netherlands Environmental Assessment Agency



WAGENINGEN UR
For quality of life



Brief History



Other tools



**Mapping
Tools**



**Data Catalogue
Tools**



Thematic Tools
*e.g. Economic
Valuation*

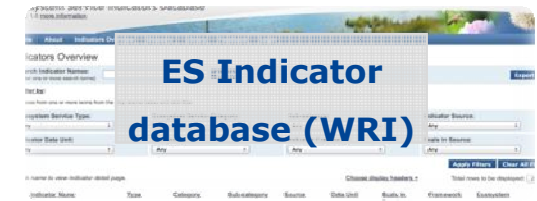
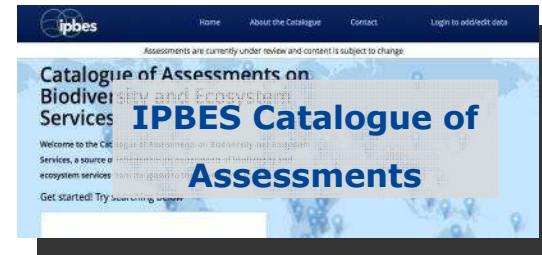
Other tools



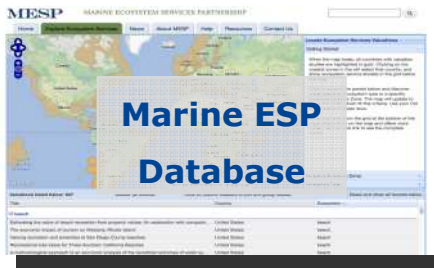
Mapping Tools



Data Catalogue Tools



Thematic Tools



Aims of the ESP Tool

- *Provide* **ES maps**.
- *Provide* information on ecosystem service mapping and modeling **methodologies**.
- *Collect* information on ES studies, maps, indicators, models and primary data used.
- Allow for *interaction* among tool users (scientists and practitioners)

Tool functions & structure

Functions

Query, view and
download information
on ecosystem service
**maps, methods and
metadata**

**View and download
maps** of ecosystem
services

Login and **upload**
your own maps and
data for sharing in the
system

Give
**Under
Construction**
Contributors

Tool functions & structure

1. Data search

ESP

The Ecosystem Services Partnership Visualization tool

alpha^{version}

The screenshot displays the user interface of the ESP tool. At the top, there is a navigation bar with five buttons: 'About', 'Maps', 'Data', 'Upload', and 'Help'. The 'Data' button is highlighted with a yellow rectangular border. Below the navigation bar is a world map showing various countries and regions. On the left side of the map, there is a legend panel with three tabs: 'Baselayer', 'Overlay', and 'Uploaded'. The 'Baselayer' tab is active, showing a list of map layers with checkboxes: 'WOPA', 'Regions' (checked), 'White's Terrestrial Ecoregions', 'Marine Ecoregions Of the World (MEOW)', 'Exclusive Economic Zones', and 'Bathymetry'. At the bottom left, there is a scale bar for 200 km and logos for the European Union and BIO-PAMA. At the bottom right, there is an inset map showing the current view's location on a world map.

Tool functions & structure

1. Data search

The screenshot displays the 'Data' search interface of the Ecosystem Services Partnership Visualization tool. The top navigation bar includes 'About', 'Maps', 'Data' (highlighted with a yellow box), 'Upload', and 'Help'. The main content area shows a map of Canada with a 'Close filter' button and '31 Services selected'. The filter panels are as follows:

- Ecosystem Service:** A list of 31 services with checkboxes, including Provisioning Services (Food, Raw materials, Fresh water, Medicinal resources), Regulating Services (Local climate and air quality, Carbon sequestration and storage, Moderation of extreme events, Waste-water treatment, Erosion prevention and maintenance of soil fertility, Pollination, Biological control), Habitat or Supporting Services (Habitats for species, Maintenance of genetic diversity), and Cultural Services (Recreation and mental and physical health, Tourism, Aesthetic appreciation and inspiration for culture, art and design, Spiritual experience and sense of place).
- Biome:** A list of 9 biomes with checkboxes, including 1. Marine & coastal systems (general), 2. Freshwater systems, 3. Forests, 4. Drylands, 5. Mediterranean-Climate Ecosystems, 6. Polar regions & high mountains, 7. Rural/cultivated systems, 8. Urban ecosystems, and 9. Others.
- Spatial Scale:** A list of 6 scales with checkboxes: Local, Sub-National, National, Supra-National, Continental, and Global.
- Study purpose:** A list of 6 purposes with checkboxes: Ecosystem Service Valuation, Ecosystem Service Quantification, Congruence, Trade-offs, Scenario impact assessment, and Prioritization of intervention areas.

Additional features include a search bar, 'Data restricted by: nothing', and a 'Clear all filters' button.

[Link](#)

Tool functions & structure

1. Data search

ESP
The Ecosystem Services Partnership Visualization tool

alpha

About Maps **Data** Upload Help

Filter

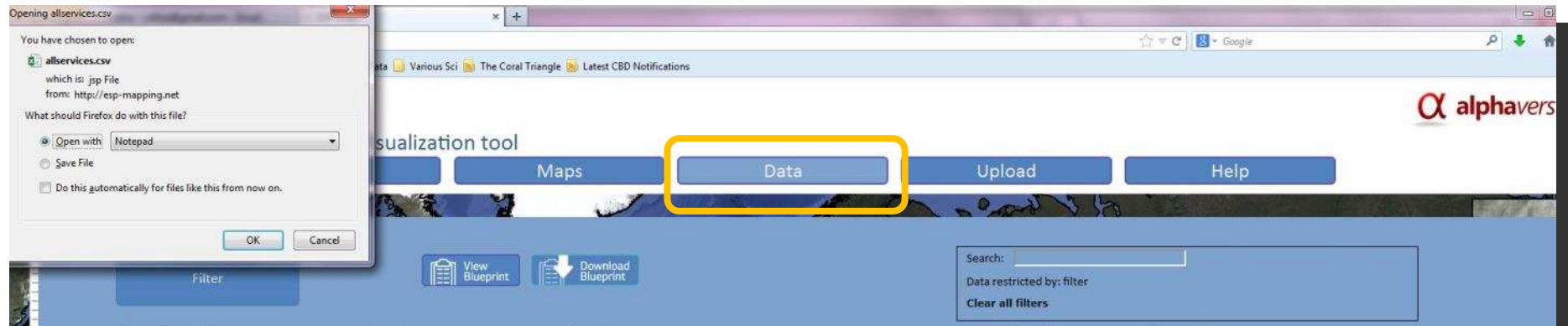
Indicator

- Ground water quality
- Share of freshwater bodies
- Water quality
- Productivity
- Freshwater supply
- Timber standing stock
- Surface water flow
- Livestock density
- Freshwater demand
- Timber annual growth rate
- Share of cropland

Name of the mapping study:	A European assessment of the provision of ecosystem services	Purpose of the study: (e.g. biodiversity conservation, awareness/ communication, scenario/trend analysis, valuation, mapping, ex-ante decision support, regulating/ monitoring policy, methodology)	Ecosystem Service Quantification
Location of the study site(s):	Europe	Study duration (e.g 2000-2005):	2010-2011
		Main Investigators (name and affiliation):	Joachim Maes, Joint Research Centre, European Commission
References (publication, project www-link):	Maes J, Zullian G, Paracchini ML (2011) A European assessment of the provision of ecosystem services - Towards an atlas of	Type of project (e.g Research, Outreach, Education [PhD, MSc]):	Research
Funding source:	European Commission	Contact details:	joachim.maes@jrc.ec.europa.eu
Keywords:	Europe, land cover, supply		

Tool functions & structure

1. Data search



Mapped ecosystem service	Ecosystem Service Indicator	Accounting definitions		Quantification unit			Input Data source	Quantification method	Spatial details			Mapped year or period	Study objective met	Comments
		Type	Beneficiary	Quantity	Area	Time			Scale	Extent	Resolution			
Provisioning Services														
Fresh water	Share of freshwater bodies	Flow	Supply	%	Ha		CORINE land cover http://www.eea.europa.eu/data-and-maps/data#C12=corine+land+cover+version+13	Collection of primary data (e.g. tourist counts, species observations)	Continental	17,882,940 sqkm	1ha	2000 - 2000	Disagree	
Fresh water	Ground water quality													

	Livestock density	Europe					A European assessment of the provision of ecosystem services		2010-2011	Ecosystem Service Quantification			GeoTIFF
	Freshwater demand	Doñana and Sierra Nevada, Spain					Managing National Parks beyond their limits		2009-2013	Trade-offs			
	Timber annual growth rate	Europe					A European assessment of the provision of ecosystem services		2010-2011	Ecosystem Service Quantification			GeoTIFF
	Share of cropland	Europe					A European assessment of the provision of ecosystem services		2010-2011	Ecosystem Service Quantification			GeoTIFF

Tool functions & structure

2. Data view











ESP
The Ecosystem Services Partnership Visualization tool

alpha

About Maps **Data** Upload Help

Filter View Blueprint Download Blueprint

Search:
Data restricted by: filter
Clear all filters

Indicator	Location	Study	Duration	Purpose	
Ground water quality	The Netherlands	Spatial analysis of landscape services for sustainable development	4 years	Ecosystem Service Quantification	
Share of freshwater bodies	Europe	A European assessment of the provision of ecosystem services	2010-2011	Ecosystem Service Quantification	  Click to load map
Water quality	Brazil, Rio de Janeiro, Pito Aceso watershed, Mata Atlantica biome (Tropical rain forest)	An approach to evaluate ecosystem services in an agricultural landscape - a study case in Rio de Janeiro, Brazil.	2009-2012	Ecosystem Service Quantification	
Productivity	Brazil, Rio de Janeiro, Pito Aceso watershed, Mata Atlantica biome (Tropical rain forest)	An approach to evaluate ecosystem services in an agricultural landscape - a study case in Rio de Janeiro, Brazil.	2009-2012	Ecosystem Service Quantification	
Freshwater supply	Doñana and Sierra Nevada, Spain	Managing National Parks beyond their limits	2009-2013	Trade-offs	
Timber standing stock	Europe	A European assessment of the provision of ecosystem services	2010-2011	Ecosystem Service Quantification	 
Surface water flow	Europe	A European assessment of the provision of ecosystem services	2010-2011	Ecosystem Service Quantification	
Livestock density	Europe	A European assessment of the provision of ecosystem services	2010-2011	Ecosystem Service Quantification	 
Freshwater demand	Doñana and Sierra Nevada, Spain	Managing National Parks beyond their limits	2009-2013	Trade-offs	
Timber annual growth rate	Europe	A European assessment of the provision of ecosystem services	2010-2011	Ecosystem Service Quantification	 
Share of cropland	Europe	A European assessment of the provision of ecosystem services	2010-2011	Ecosystem Service Quantification	 

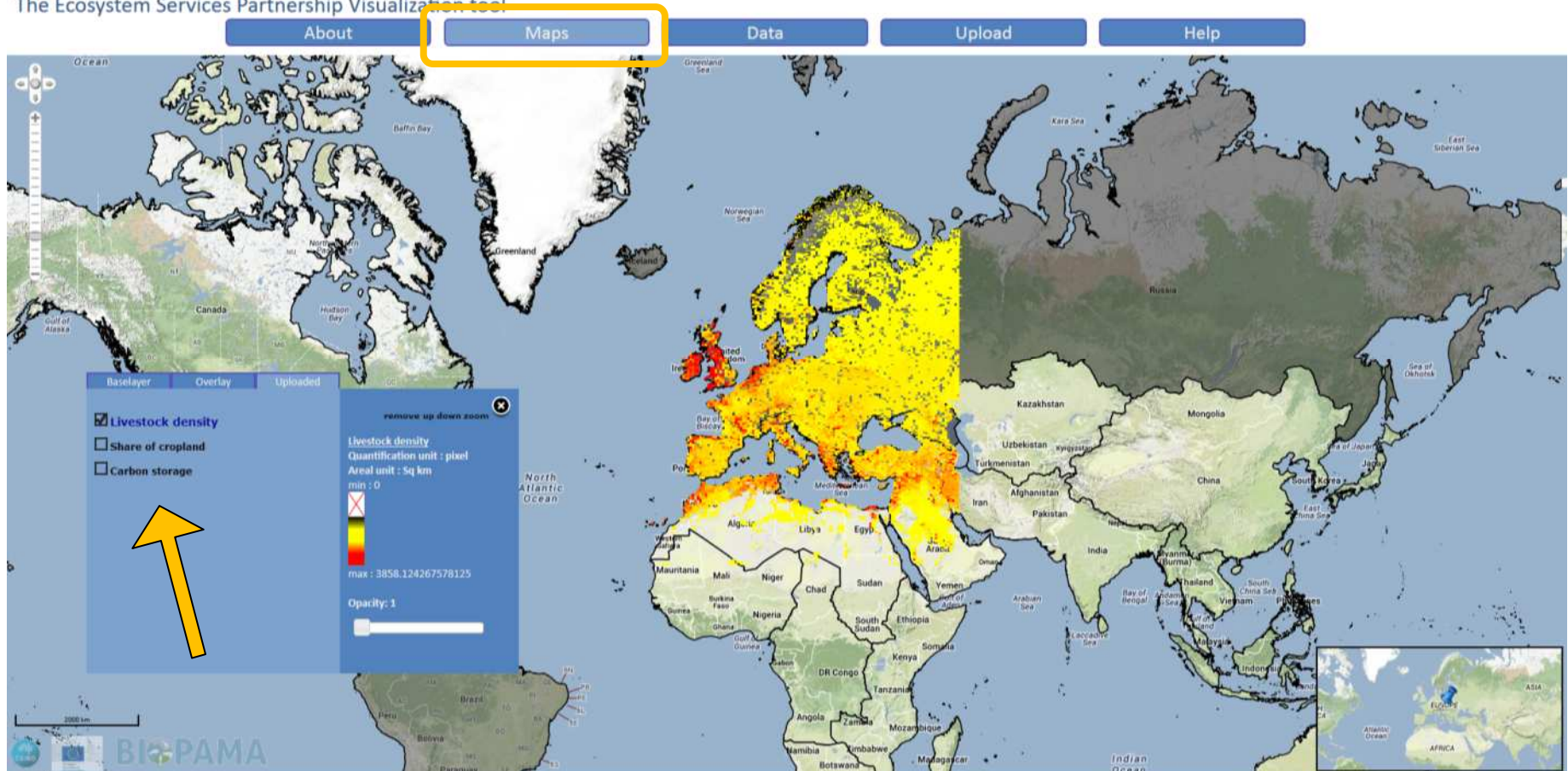
Tool functions & structure

2. Data view

ESP

The Ecosystem Services Partnership Visualization tool

alpha version



Tool functions & structure

3. Data upload

ESP

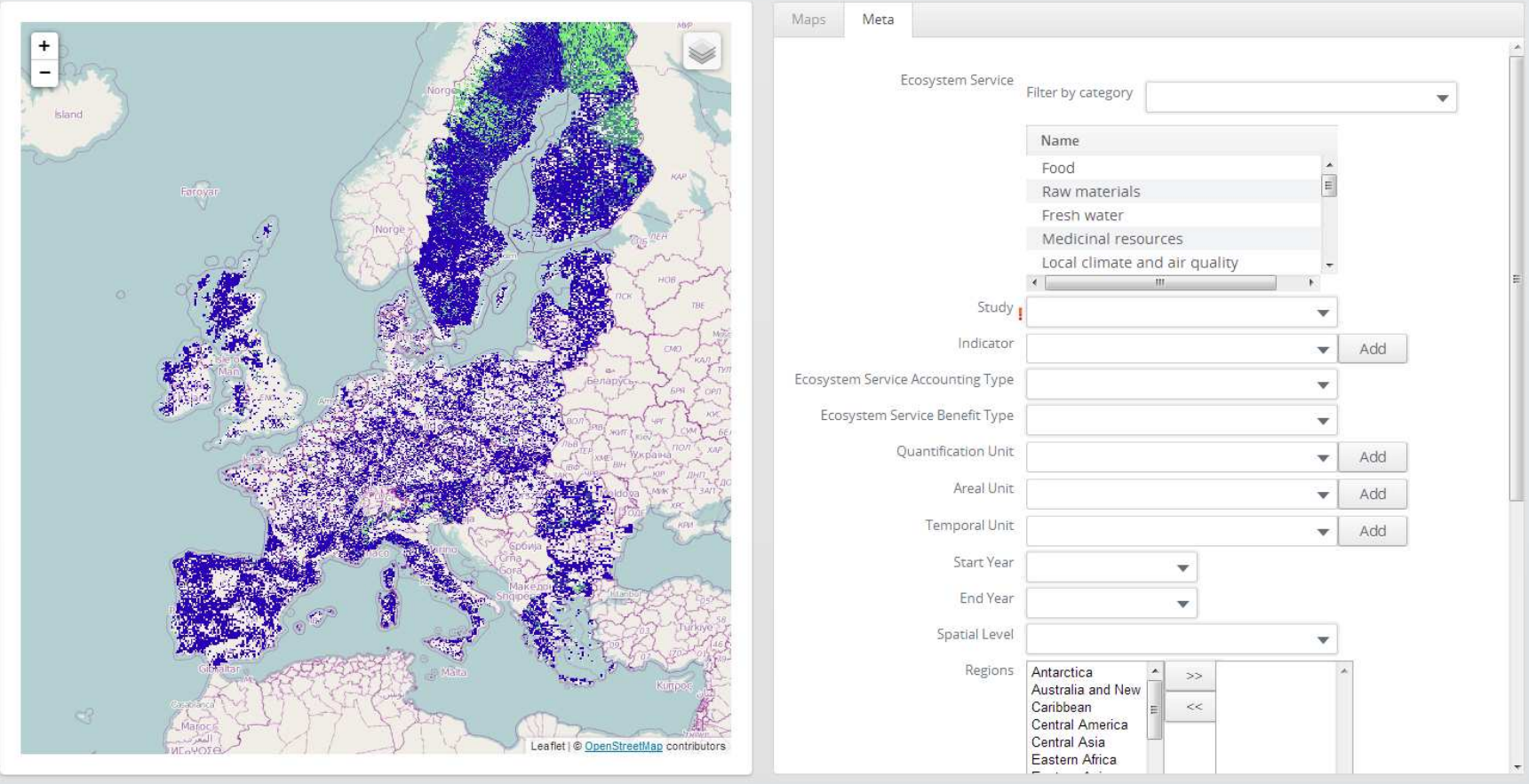
The Ecosystem Services Partnership Visualization tool

The screenshot displays the user interface of the ESP tool. On the left, a sidebar titled 'STUDY' contains a list of study options: 'Mapping pollination se', 'A European assessme', 'An approach to evalua', and 'Marine and coastal car'. The main content area features four 'log in with' buttons for Google, YAHOO!, myOpenID, and Stack Exchange. Below these is a large grey button labeled 'Select your OpenID provider'. A text block below the button reads: 'Please authenticate using an OpenID provider. If you are a first time user, your account will automatically be created, however will require activation before you can login.' On the right side, there is a form with several input fields and dropdown menus, and a 'Contact Details' label at the bottom.

Tool functions & structure

3. Data upload

ESP Mapping



The screenshot displays the ESP Mapping tool interface, divided into two main sections: a map and a configuration panel.

Map Section: Shows a map of Europe with data points overlaid. The map includes a zoom control (+/-) and a layer control icon. The data points are concentrated in Western and Central Europe, with some points in the Balkans and the Mediterranean region. The map is credited to Leaflet | © OpenStreetMap contributors.

Meta Configuration Panel: Contains the following fields and controls:

- Ecosystem Service:** Filter by category (dropdown menu)
- Name:** List of categories: Food, Raw materials, Fresh water, Medicinal resources, Local climate and air quality (scrollable list)
- Study:** (dropdown menu)
- Indicator:** (dropdown menu) with an **Add** button
- Ecosystem Service Accounting Type:** (dropdown menu)
- Ecosystem Service Benefit Type:** (dropdown menu)
- Quantification Unit:** (dropdown menu) with an **Add** button
- Areal Unit:** (dropdown menu) with an **Add** button
- Temporal Unit:** (dropdown menu) with an **Add** button
- Start Year:** (dropdown menu)
- End Year:** (dropdown menu)
- Spatial Level:** (dropdown menu)
- Regions:** List of regions: Antarctica, Australia and New Zealand, Caribbean, Central America, Central Asia, Eastern Africa (scrollable list)

Tool functions & structure

Documentation

ESP
The Ecosystem Services Partnership Visualization tool

alpha version

About Maps Data Upload **Help**

User Guide Glossary Publications FAQ Technical Guide Who are we

User Guide

The tool is an interactive knowledge platform that gathers and makes available a wide range of information on ecosystem services maps, data and mapping methodologies. The diversity of mapping ecosystem services (ES) approaches, has led to a variety in methods, models, classification systems and terminologies used to communicate the ecosystem services related research and practice. To better manage this diversity and facilitate the dialogue and data sharing among the ES practitioners across levels and disciplines, the need for a system that gathers information on indicators used to map ecosystem services, becomes more and more urgent. This tool builds upon a recent call for improved guidance on modelling and mapping ecosystem services by introducing a so-called **ecosystem service mapping blueprint** (Crossman et al., 2013). An ecosystem mapping blueprint can be seen as a template and checklist of information needed for those beginning an ecosystem service modelling and mapping study. This tool should become a valuable information resource of methods and information used in previous modelling and mapping studies. The tool has three main functions:

- **Data** This function allows the user to search the database for information on ES maps.
 1. **Go to Data**

By selecting **Filter** you can query the database based on four filter types:

 - a. Ecosystem Services (based on TEEB 2010 classification)
 - b. Biomes assessed (following the [ESP Biome working groups](#))
 - c. Spatial scale of the ES map
 - d. Study purpose
 2. **View the filtering results**

Click on **View Data**
View the list of ES maps that corresponds to the search criteria with basic information on the indicators. View and/or download the metadata of one or more ES maps by selecting those of your interest by selecting the left side checkboxes and then clicking on the or the icon.
View a description of the study metadata by clicking on the Study name.
To view a map you can click on the icon.
To download a map, click on the if the map is a shapefile, or the if the map was uploaded as a GeoTiff.
Go back to the search result list click on Data.

Baselayer Overlay Uploaded

Google Terrain Google Satellite

Global Land Cover (GLC2000) Basic layer

2000 km

BIOPAMA

[Link](#)

Tool functions & structure

Documentation

ESP
The Ecosystem Services Partnership Visualization tool

alphaversion

About Maps Data Upload **Help**

User Guide Glossary Publications FAQ **Technical Guide** Who are we

Technical Guide

Download the detailed technical guide of the tool [here](#).

ESP Visualization Tool

Technical Guide v.4

Authors: Evangelia G. Drakou, William H. Thompson, Bart Verheek, Lucien Whelan, Benjamin Buisson, Neill Drummen, Spiros Polonis, Judith Wiss, Paul Wilmanns, Stefan Paulsen

Role: ESP and IJC-MS

August 2023

Baselayer Overlay Uploaded

Google Terrain Google Satellite

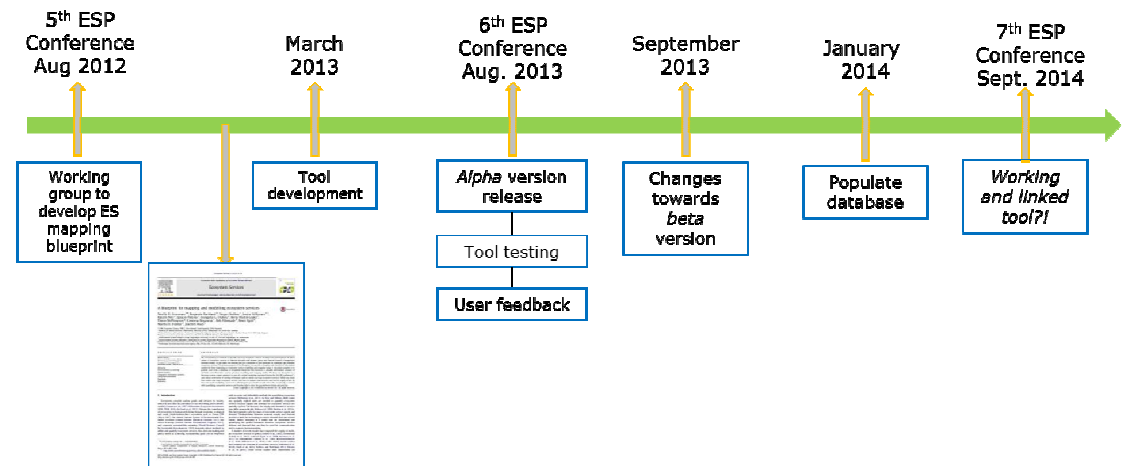
Global Land Cover (GLC2000) Basic layer

2000 km

BIO-PAMA

Next steps

- Technical, documentation and design **improvements**
- Implementations **CICES** classification systems with TEEB and MA links
- Allow users to **comment** on the maps and methods
- Explore Creative Commons **license** for data sharing
- Link with scientific **journals** (*Ecosystem Services*)
- **Link** with other ES databases and tools



Links with other tools

MESP MARINE ECOSYSTEM SERVICES PARTNERSHIP

Home Explore Ecosystem Services News About MESP Help Resources Contact Us



The image shows a world map with various countries labeled. The map is divided into regions: North Atlantic Ocean, South Atlantic Ocean, South Pacific Ocean, and Indian Ocean. A search results table is displayed below the map, showing results for the search term 'beach'.

Title	Country
Estimating the value of beach recreation from property values: An exploration with comparis...	United States
The economic impact of tourism on Westerly, Rhode Island	United States
Valuing recreation and amenities at San Diego County beaches	United States
Recreational Use Value for Three Southern California Beaches	United States
A methodological approach to an economic analysis of the beneficial outcomes of water qu...	United States

Link the MESP with the ESP tool:

- Make databases interoperable
- Cross-population databases

[Duke University](http://duke.edu)

Links with other tools



[Earth Economics](#)

Possible link the EVT with the ESP tool:

- Exploring collaboration; e.g. standardization of data types, use of matching ontologies

Tool functions & structure

Thank you

ESP
The Ecosystem Services Partnership Visualization tool

alpha version

About Maps Data Upload Help

Welcome to ESP-mapping.net
An interactive knowledge platform for ecosystem service maps

This tool aims at facilitating the sharing of ecosystem service maps and mapping methodologies. It is a joint initiative of the Ecosystem Service Partnership's Working Groups on [Mapping](#) and [Modelling](#) ES, supported by the [Joint Research Centre](#) (JRC) of European Commission and the [Commonwealth Scientific and Industrial Research Organisation](#) (CSIRO) of Australia.

The system has three major components

- Map: View and download maps of Ecosystem Services
- Data: Query, view and download information on ES indicators and relevant metadata
- Upload: Login and upload your own maps and data for sharing in the system

Sponsors, partners, supporters

Give us your feedback!
Contact us

BIOPAMA

esp-mapping@jrc.ec.europa.eu