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Educational, Scientific and
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Организация
Объединенных Наций по
вопросам образования
науки и культуры

• Intergovernmental
Oceanographic
Commission

• Commission
océanographique
intergouvernementale

• Comisión
Oceanográfica
Intergubernamental

• Межправительственная
океанографическая
комиссия

Workshop on update of metadata, data availability
and application needs for a CCLME ECO-GIS viewer

GIS applications, spatial modelling and open data portal

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Marine Policy and Regional Coordination Section

Section de Politique Maritime et de la Coordination Régionale

Sección de Política Marítima y de Coordinación Regional

Морская политика и Региональная координация

Objectives and content

- ...ensure the richest debate as possible on spatial analysis and data availability, necessary for the delivery of a dynamic GIS tool to explore, analyze and compare data.
1. Indicators visualization tools
 - Transboundary Waters Assessment Program (TWAP)
 - Ecosystem services indicators tool
 - ...with the aim to make metadata accessible and to improve data flows into analytical tools for ecosystem modeling.
 2. Open data portal (CKAN)
 3. Spatial-Dynamic model





1. Indicators visualization tool - TWAP

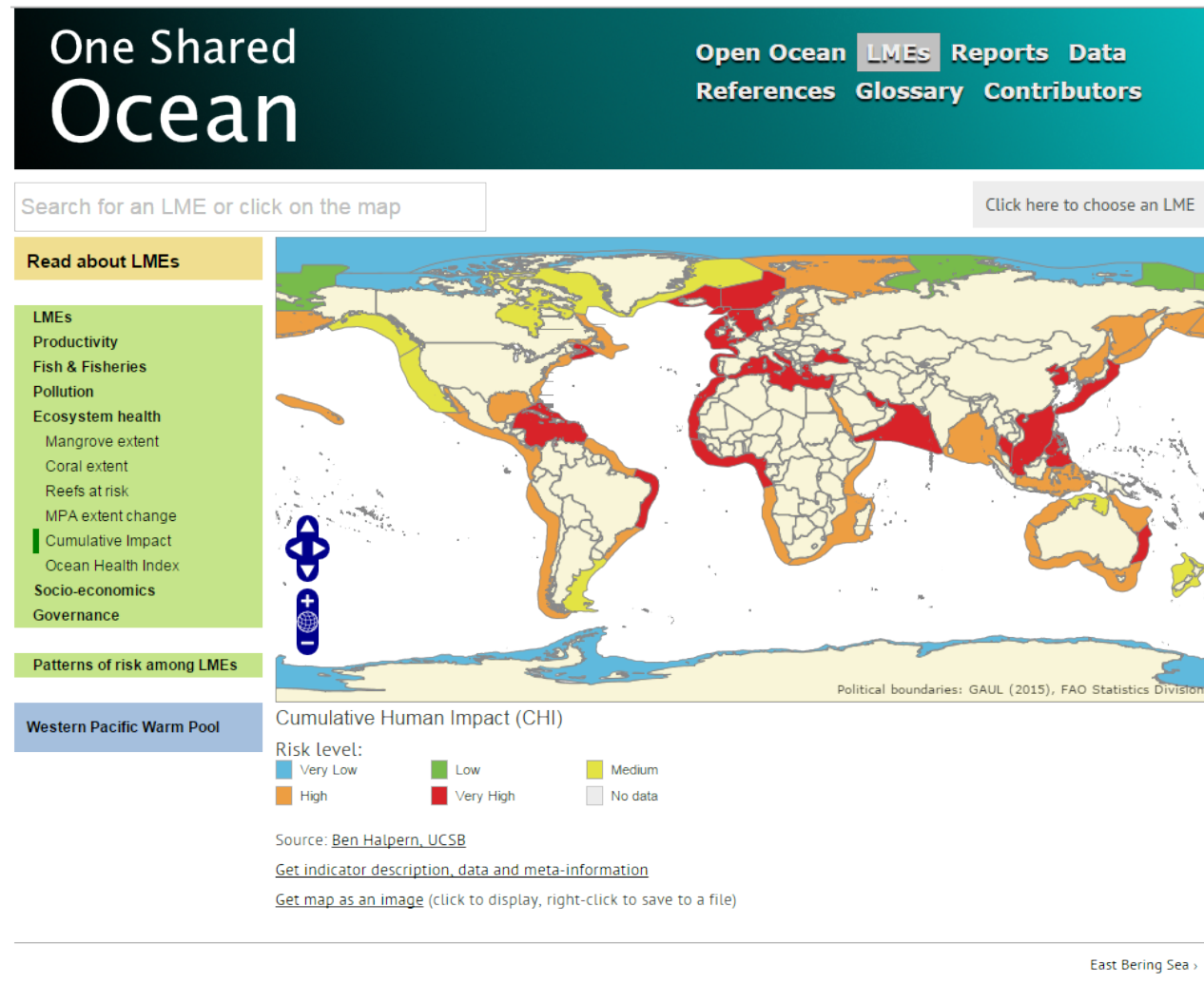
- Specifications:
 - **Global Environmental Facilities (GEF found project):** the main users are the GEF itself, policy makers and international organizations;
 - **Geographic dimension:** Large Marine Ecosystems
 - **Thematic dimension:** 66 LME factsheets, showing indices and narratives for a given LME
 - **Time dimension:** Time-series
 - **Requirements:** Global maps, factsheets (narratives), Interactive charts, data to download, Web services and product descriptions;
 - **Web-site:** <http://onesharedocean.org/?q=node/64>



1. Indicators visualization tool - TWAP

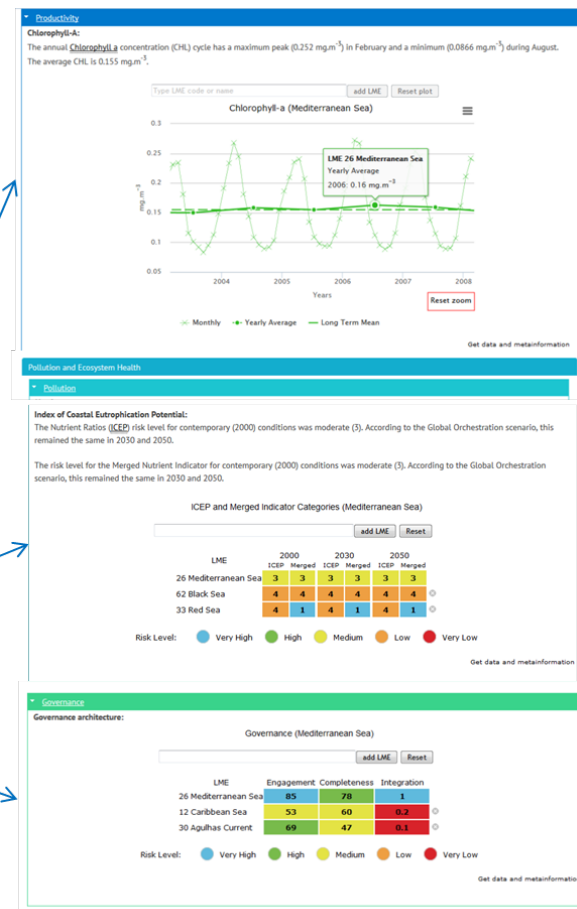
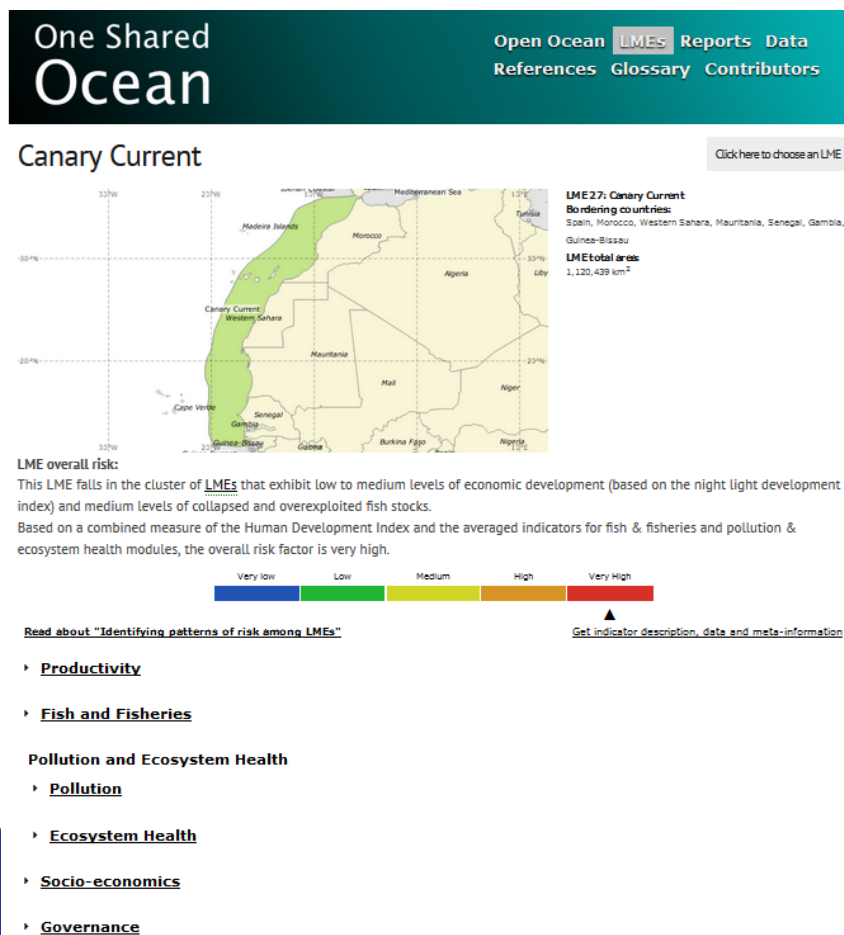
Main outcomes of the application:

- Global maps,
- Showing indices values
- Productivity,
- Fish & fisheries,
- Pollution,
- Ecosystem health,
- Socio-economics, and Governance



1. Indicators visualization tool - TWAP

Main outcomes of the application: **Interactive charts** allowing to compare indices between LMEs



1. Indicators visualization tool - TWAP

Main outcomes of the application: Data page: data to download, Web services and product descriptions

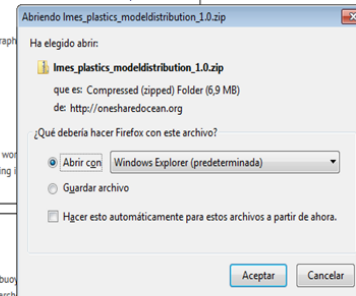


Data download (*.zip)

Download dataset from Modelled macro and micro plastics distribution

Get data and metainformation

ISO Metadata document



1. Indicators visualization tool - TWAP

- Technology:

- **** Server side ****

- Server OS: Linux
 - Web server: Apache2
 - SDI: Geoserver

- **** SDI communication ****

- OGC web services, including WMS (served by geoserver)
 - Connected to UNEP SDI for TWAP geoportal application

- **** Client side ****

- CMS (content management system): Drupal 7
 - Interactive graphics: javascript, using HighCharts API
 - Interactive maps: OpenLayers (WMS interaction with geoserver)
 - Database interface: PHP 5. Data downloadable in a zip, showing meta-information

1. Indicators vizualization tool - LFT

- Specifications:
 - **Geographic dimension:** 2 geographic reporting layers
 - **Thematic dimension:** six thematic groups and ~55 indicators
 - **Time dimension:** Time-series (2010, 2020, 2030, 2040, 2050)
 - **Requirements:** GIS mapping and chart (comparison, composition and relationships)
- Technology:
 - R Shiny - <http://shiny.rstudio.com/>
 - Shiny a framework to develop web apps based on R scripts;
 - R libraries used: Shiny, GoogleVis, rCharts , tmap

1. Indicators visualization tool - LFT

- Main outcomes of the application:
 - **Motion chart (Temporal trend graphs)- googleVis**
 - Spiderweb/radar charts
 - Vertical bar graphs
 - Export maps for country and regions - Tmaps
 - Data tables filtering and ranking

Please use the filter below to compare the different indicators across regions and years.

Select the country of interest:

- ☒ Austria
- ☒ Belgium
- ☒ Bulgaria
- ☐ Croatia
- ☐ Cyprus
- ☐ Czech Republic
- ☐ Denmark
- ☐ Estonia
- ☐ Finland
- ☐ France
- ☐ Germany
- ☒ Greece
- ☐ Hungary
- ☐ Ireland
- ☐ Italy
- ☐ Latvia
- ☐ Lithuania
- ☐ Luxembourg
- ☐ Malta
- ☐ Poland
- ☒ Portugal
- ☐ Romania
- ☐ Slovakia
- ☐ Slovenia
- ☐ Spain
- ☐ Sweden
- ☐ The Netherlands
- ☐ United Kingdom
- ☐ EU 29

[Run](#)

Do you want to upload your own dataset?

1.- Download and modify the indicators dataset [here](#).

2.- Upload modified file with new values and indicators:

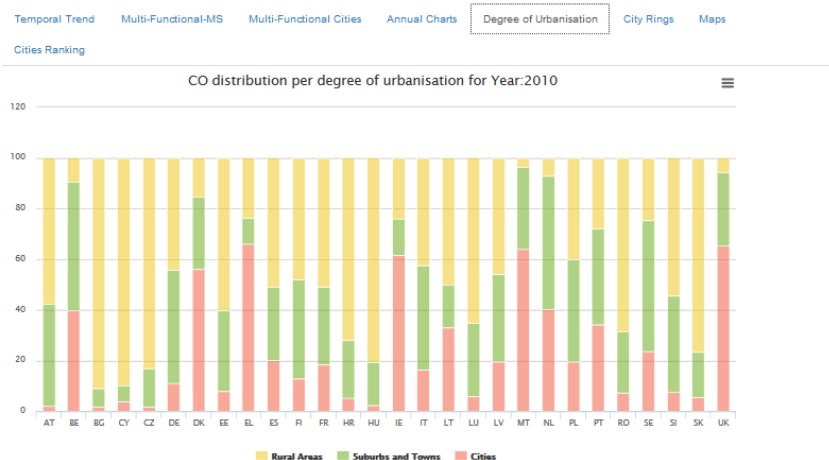
[Selegli file](#) Nessun file selezionato

Joint Research Centre, Sustainability Assessment Unit.



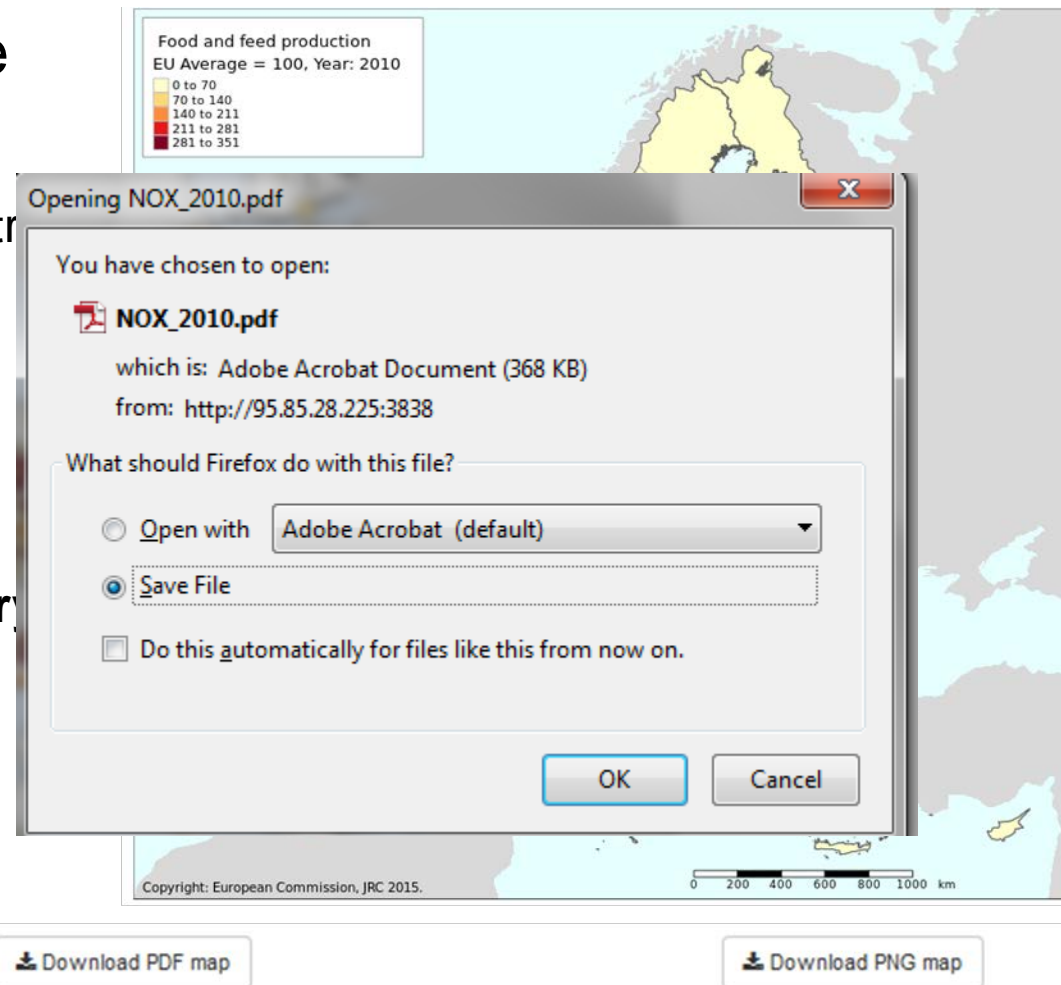
1. Indicators vizualization tool - LFT

- Main outcomes of the application:
 - Motion chart (Temporal trend graphs)
 - **Spiderweb/radar charts**
 - **Vertical bar graphs**
 - Export maps for country and regions - Tmaps
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1. Indicators visualization tool - LFT

- Main outcomes of the application:
 - Motion chart (Temporal trends graphs)
 - Spiderweb/radar charts
 - Vertical bar graphs
 - **Export maps for countries and regions - Tmaps**
 - Data tables filtering and ranking

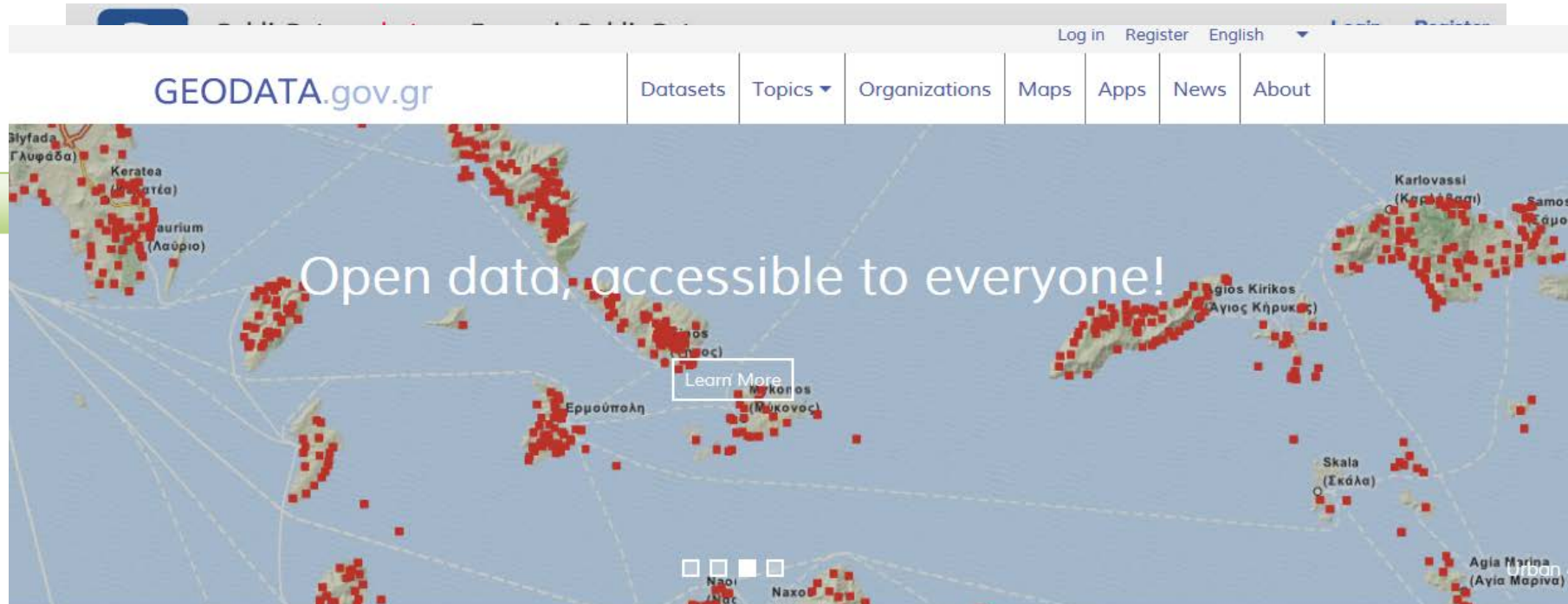


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2. Open source data portal



Search Datasets



Latest Updates

21, October, 2015 @ Imagery Base Maps Earth Cover



Corine 2000

Hellenic Mapping and Cadastral Organization

07, October, 2015 @ Society

ZNasichDānī / From Our Taxes

ZNasichDani.sk uncovers who are influential persons

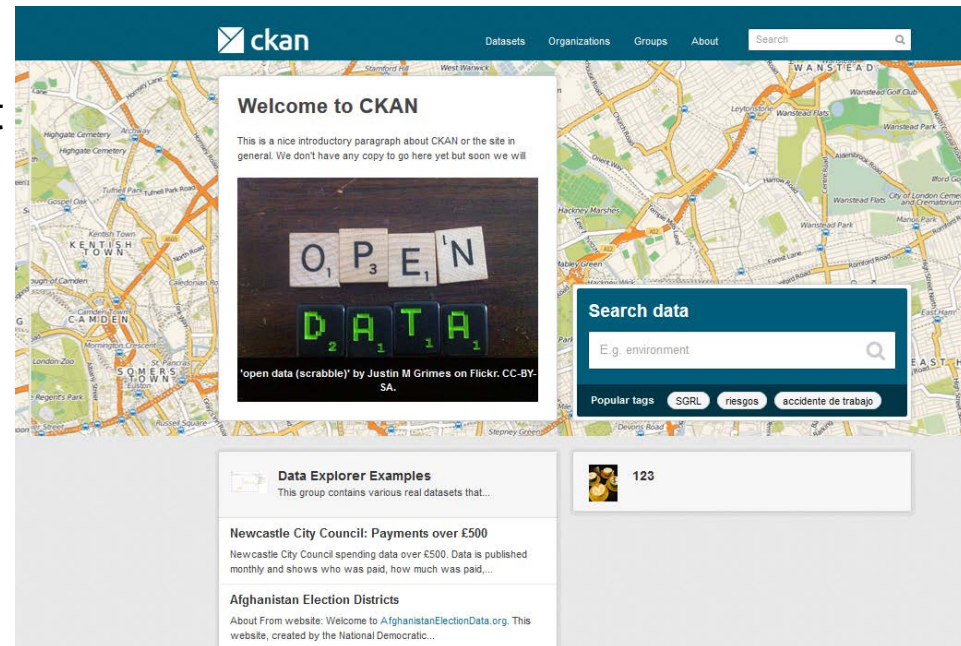
OpenCorporates

OpenCorporates has taken one of the most important

Live London Underground tube map

2. Open source data portal

- Specifications:
 - **AQUACROSS H2020 project:** researchers, project partners, European Commission;
 - **Geographic dimension:** pilot case studies
- **Requirements:** cataloguing, interrogation, manipulation, and visualisation of diverse relevant datasets and documentation on water and biodiversity.

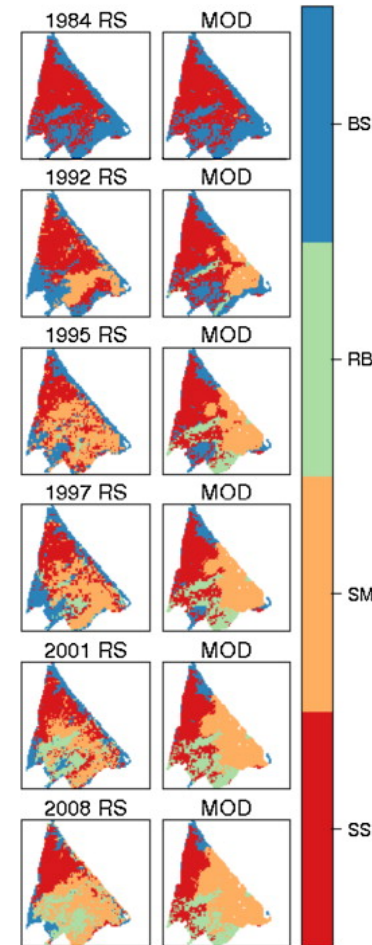
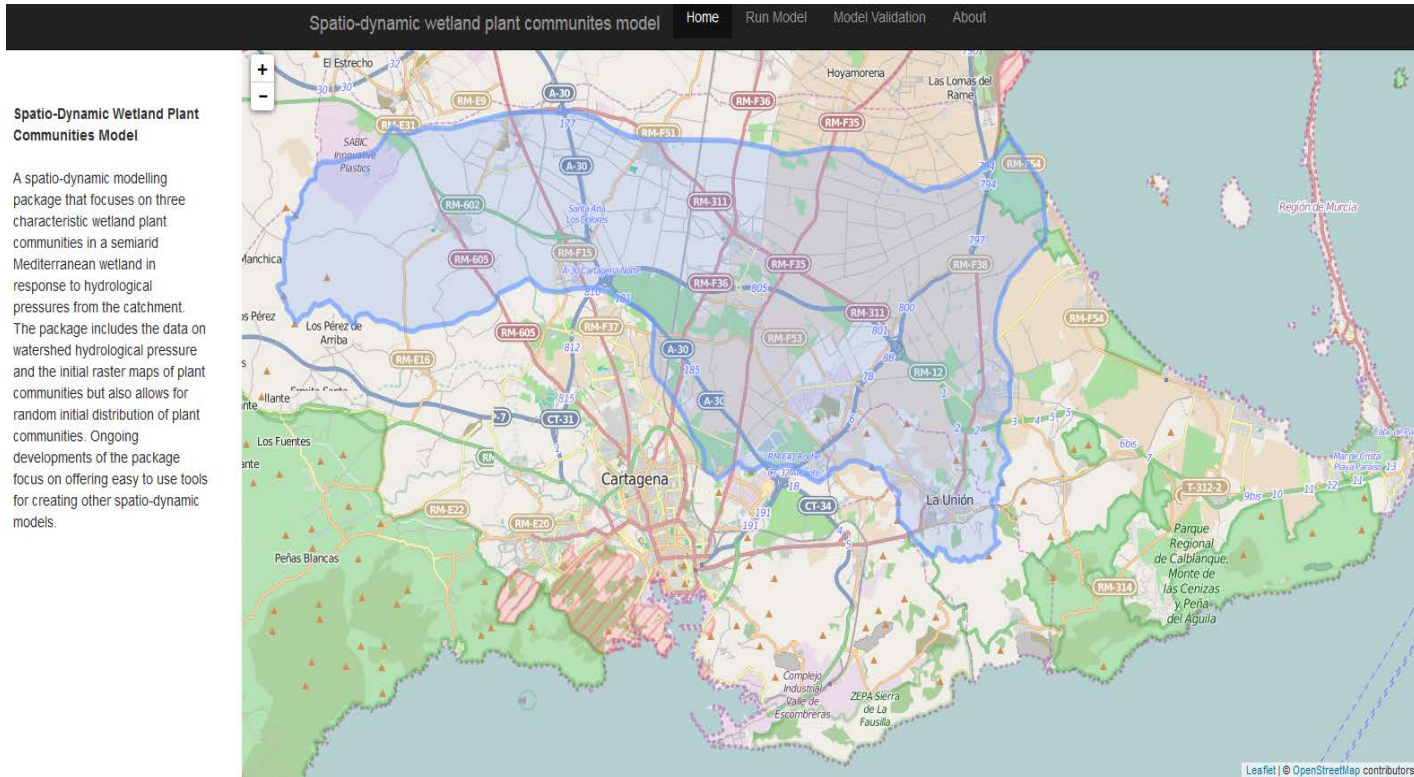


2. Open source data portal

- Technology:
 - CKAN is an *open-source data portal* platform is a powerful **data management system** that makes data accessible - <http://ckan.org/> .
 - CKAN is aimed at data publishers (national and regional governments, companies and organizations) wanting to make their data open and available.
 - CKAN Python on the server side
 - Postgres/postgis for the database management system
 - javascript for the front-end libraries such as recline.js and leaflet.js



3. Spatial temporal model



Martínez-López, J., Martínez-Fernández, J., Naimi, B., Carreño, M.F., Esteve, M.A., 2015. An open-source spatio dynamic wetland model of plant community responses to hydrological pressures. Ecological Modelling.

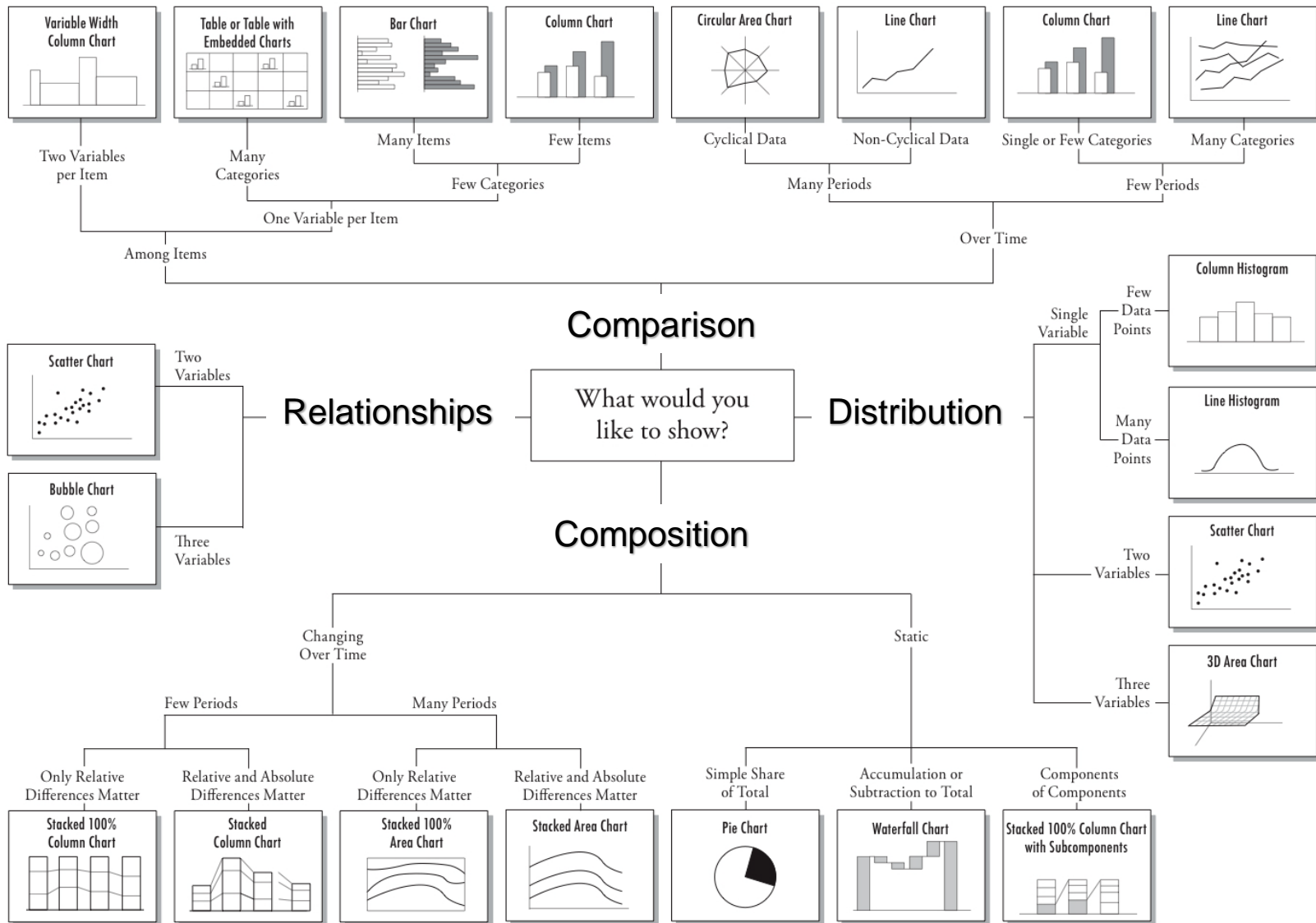


3. Spatial temporal model

- Technology
 - Open CPU- <https://www.opencpu.org/>
 - OpenCPU is a system for embedded scientific computing and reproducible research -based on R.
 - Leaflet -an open-source JavaScript library for mobile-friendly interactive maps
- Github
 - Spatial temporal model: <https://github.com/javimarlop/spdynmod>
 - Graphic interface: <https://github.com/javimarlop/spdynmodocpu>



Charts Suggestions



A scenic view of a Greek island, likely Santorini, featuring white-washed buildings with prominent blue domes and a bell tower. The buildings are situated on a cliff overlooking the deep blue Aegean Sea. In the foreground, there are white stone walls, a blue wooden fence, and several potted plants. The sky is a clear, vibrant blue with a few wispy clouds.

Thank you!
Muito obrigado!
Merci beaucoup!
¡Muchas gracias!
شُكْرًا
Спасибо
谢谢

<http://ioc.unesco.org>

