



DRDSI DANUBE REFERENCE DATA AND SERVICES INFRASTRUCTURE

seen from the perspective of
Earth observation products,
regional capacities, needs and challenges

Florian Petrescu

UTCB – Technical University of Civil Engineering Bucharest

florian . petrescu @ utcb . ro

GEO-CRADLE Regional Workshop in Romania

Addressing regional needs by enhancing Earth Observation uptake and relevant business performances

National Institute of Research and Development for Earth's Physics (NIRDEP)

12 Calugareni St. Magurele, Ilfov county, 077825, Bucharest, Romania

May 9th 2017

doi: 10.2791/161532

http://publications.jrc.ec.europa.eu/repository/bitstream/JRC104140/jrc104140_jrc%20science%20for%20policy%20report%20-%20final%20on-line.pdf

DRDSI DANUBE REFERENCE DATA AND SERVICES INFRASTRUCTURE

<http://drdsi.jrc.ec.europa.eu>



JRC SCIENCE FOR POLICY REPORT

Data Infrastructures in Support of Macro-Regional Development

*Experiences and Lessons
Learned from the Danube
Region*

Jean Dusart
Alexander Kotsev
Robin S. Smith
Vlado Cetl
Brooke Tapsall
Dragan Divjak
2016



The DRDSI, Technical University of Civil Engineering of Bucharest and Ministry of Regional Development and Public Administration organized a workshop on "Creating Value from Open Data (Culture and Tourism)", June 23-24, 2016, Bucharest.

Danube Data

The Joint Research Centre (JRC) of the European Commission is coordinating an initiative aiming to provide scientific support to the European Union Strategy for the Danube Region (EUSDR) in close cooperation with key scientific partners of the Danube Region for the implementation of the EU Strategy of the Danube Region.



DRDSI
is a JRC project
within the framework of
JRC scientific support to the EUSDR
(European Union Strategy for the Danube Region)

DRDSI helps to create a data-sharing infrastructure in support of Danube strategy



Research

Commission priorities

Science areas

Research topics

Centre for Advanced Studies

Laboratories & facilities

Crosscutting activities

Behavioural Insights

Foresight & horizon scanning

Impact assessment

Intellectual property & technology transfer

Scientific support to Danube strategy

Innovation Partnership

Scientific support to Danube strategy

The Joint Research Centre (JRC) provides scientific support to the **European Union Strategy for the Danube Region (EUSDR)** in two ways. Firstly, it addresses the scientific needs related to the implementation of the EUSDR and thereby helps decision-makers and other stakeholders to identify the policy needs and actions needed for the implementation of the Strategy. Secondly, it contributes to the reinforcement of ties and cooperation amongst the scientific community of the Danube Region.

The **Scientific Support to the Danube Strategy** initiative is sub-divided into different **flagship clusters and activities**. They aim to address the scientific challenges faced by the Danube Region from an integrated and cross-cutting perspective, taking into account the interdependencies between various policy priorities.

Four thematic clusters focus on the key resources of the Danube Region, namely water, land and soils, air, and bioenergy.

4 thematic clusters:

- Danube Water Nexus
- Danube Land and Soil Nexus
- Danube Air Nexus
- Danube Bio-energy Nexus

3 horizontal activities:

- **DRDSI**
- Smart Specialisation
- Danube Innovation Partnership

The key aims of the DRDSI project:

- create an **Open Data platform**;
- **ensure that the platform could be redeployed** and sustained after the project (hence its construction using open source technologies);
- **foster collaboration between key stakeholders** in the Danube region that could provide content for the platform's catalogue, while exploring approaches that could be replicated in other macro-regions;
- **foster collaboration with JRC *nexti*** ;
- **help implement INSPIRE** by (i) sharing experience between Member States and build capacity in neighbouring countries (including accession countries) and (ii) reuse key aspects of it in the data infrastructure such as technologies to help create data services and provide examples of harmonised data across borders;
- collect, build-on and reuse in **practice data from existing projects** and initiatives related to the region, including cross-border and European-funded projects;
- help build **relationships at the public sector:research:business interface** to explore data-sharing and data reuse topics;
- **summarise this collective experience** for the EUSDR and potentially other macro-regions.

DRDSI Team

JRC Team

14 Danube NET
Experts

Danube NET Experts

The Danube_Net are our experts in the field with a Danube_Net member present in each Danube Country. DANUBE NET
These experts carry out valuable research and presentations for the DRDSI. Click on the flag of each country to connect to your Danube_NET representative.



Back row (L-R) Alex, Robin, Dragan

Front row: (L-R) Hilde, Alessandro, Roberto, Jean, Brooke

European Union

- Austria
- Bulgaria
- Croatia
- Czech Republic
- Germany
- Hungary
- Romania
- Slovakia
- Slovenia

Non-EU

- Bosnia and Herzegovina
- Moldova
- Montenegro
- Serbia
- Ukraine



DRDSI main results

Value-added pilots

- Infrastructure components
 - Serbian research data portal
 - Ukrainian geoportal
- Cross-border Data Harmonisation
 - Data harmonisation Moldova-Ukraine
 - Data harmonisation technical expertise
- Value-added applications
 - Macro-regional indicators
 - Cultural heritage analyses
 - Urban agriculture webapp
 - Study on Invasive Alien Species

Data platform

The screenshot displays the DRDSI Data platform interface. At the top, the URL is europa.eu/dataset?sort=sort_criteria+desc. The page features the European Commission logo and the text "JOINT RESEARCH CENTRE" and "DANUBE REFERENCE DATA AND SERVICES INFRASTRUCTURE (DRDSI)". The navigation menu includes "Home", "Data", "User Stories", "State of Play", "Community", and "Danube Team".

The main content area is titled "Datasets" and includes a "Filter by location" button and a search bar with the text "Search datasets...". Below the search bar, it states "10,149 datasets found" and "Order by: Relevance".

Two featured datasets are shown:

- Population distribution (LUISA Platform REF2014)**: Projected population distribution maps from 2010 to 2050. It includes a "geo" icon, a "doc" icon, a "web" icon, and a "download" icon. There are also "Preview" and "Add" buttons.
- Potential accessibility maps (LUISA Platform REF2014)**: Projected potential accessibility according to the EU Reference scenario, 2010 - 2050. It includes a "geo" icon, a "doc" icon, a "web" icon, and a "download" icon. There are also "Preview" and "Add" buttons.

A "Data Sources" section is visible on the left, listing:

- INSPIRE CZECH REPUBLIC (1461)
- Austrian Data Portal (994)
- INSPIRE Austria (830)

DRDSI main results

User Stories

- SPATIAL Cross-border Project
- SDI4Apps
- Danube River Basin District Management Plan
- Statistics on Renewable Energy
- Assessment of Water Resources
- Scenarios of Regional Evolutions
- Climate Change Predictions
- Developing a High-resolution Harmonised Soil Database
- EDGAR
- European Location Framework Infrastructure
- Geology in Europe
- Impact of the EU Cohesion Policy

European Commission

JOINT RESEARCH CENTRE
DANUBE REFERENCE DATA AND SERVICES INFRASTRUCTURE (DRDSI)

EUROPEAN COMMISSION > EU Science Hub > DRDSI

Home Data User Stories State of Play Community Danube Team

User Stories

Our User Stories are a diverse collection of projects, current, on-going and past, that have used open data within the Danube Region. Within the User Stories we can see cross-border collaborations, new data development and advances in scientific and statistical information. To contribute a User Story click [here](#).

SDI4Apps

Open Land Use Map

The Plan4business project (2012-2014) has identified a gap in land use data availability, especially outside big cities, in suburban and...

16 Datasets

Danube River Basin District Management Plan - U...

The ICPR has been developing the Danube River Basin District Management Plan - Update 2015 (DRBM Plan) according to the requirements of...

2 Datasets

Statistics on Renewable energy for the Danube R...

A JRC report provides data on the sustainable energy in the Danube region, as an integral part of EU 2020 energy and climate strategy...

0 Datasets

Assessment of water resources

As a JRC flagship cluster in support to the EU Strategy for the Danube Region, the 'Danube Water-Agriculture-Energy-Ecosystems Nexus'...

8 Datasets

Scenarios of regional evolutions: territorial i...

Scenario-based modelling is a technique employed when investigating the future evolutions of a given territory (a city, a region, a...

20 Datasets

Climate Change predictions over the Danube Basin

In this study climate change projections for the Danube River Basin (DRB) are presented. According to the International Commission for...

24 Datasets

Developing a high resolution harmonised soil da...

Soil performs a number of key environmental, economic and social functions that are vital for life. The importance of them need for the...

3 Datasets

EDGAR

EDGAR modal shift: air emissions evaluation and...

The ECURC EDGAR team is working together with experts from relevant institutions in the Danube region to design/build a sustainable tool...

8 Datasets

European Location Framework infrastructure

The DRDSI portal can use as its base map a European

Geology in Europe

In order to see a geological map of the whole Danube Region selected services from the OneGeology portal

Impact of the EU Cohesion Policy

The Cohesion policy is one of the most important policy instruments of the European

SPATIAL Cross-border project

Bulgaria and Romania are developing the first in the European Union trans-border

DRDSI Re-examined Lessons for SDI Capacity Building

- Build a consensus process: build on common interests and create a common vision
- Clarify the scope and status of the SDI
- Exchange best practices locally, regionally and globally
- Establish broad and pervasive partnerships across private and public sectors
- Develop clearinghouses and use open international standards for data and technology

European Commission
DANUBE REFERENCE DATA AND SERVICES INFRASTRUCTURE (DRDSI)

AN COMMISSION > EU Science Hub > DRDSI

Home Data User Stories State of Play **Community** Danube Team

Community Join the DRDSI Community

Our Danube Community is an active forum for users for share information from their regions on news, data, events and opportunities. The forums allow for users and the DRDSI Team to communicate with, and connect people within the Danube Region.

News

Below is a selection of news about the Danube Region from around Europe and the world. This news is available 24/7 and is updated every 10 minutes. Click on the location to see what the news article!

Collaborative Space

JOIN US!
 Yammer LinkedIn

Events

7 Sep 2016 First International Conference on Smart Data and ...
 13 Geospatial World Forum

Building a community around DRDSI

Communication within the regions and between the experts was also established via a number of successful avenues using social media and classic communication channels, including workshops, training sessions and leaflets in local languages, leading to over 700 stakeholders being directly informed or fully participating in the DRDSI project.

GEO-CRADLE Networking Platform is an on-going activity to create an attractive, user-friendly and comprehensive platform where regional stakeholders can be informed on existing capacities, complementary skills and collaboration opportunities.

SUGGESTION:

Develop and promote the GEO-CRADLE Networking Platform to become the **Global Earth Observation Directory**

About GEO-CRADLE Team Activities Regional Capacities Outreach Resources **Tools** News & Events English

Geo-Cradle Portal > Tools > Networking Platform

Networking Platform

The Regional Networking Platform is an on-going activity to create an attractive, user-friendly and comprehensive platform where regional stakeholders can be informed on existing capacities, complementary skills and collaboration opportunities. Through the Regional Networking Platform you are able to **browse** and **join** a regional network of *raw data providers, intermediate-users/service providers, end-users from Industry, Academic and Public Sector* from the Region of Interest. The Networking Platform and the **Regional Data Hub** is the cornerstone for promoting better sharing of information and knowledge amongst EO stakeholders in the RoI.

Below, you can view all stakeholders that have already joined our network, listed per country. Take a look!

So, in order to be part of this network and have your Organisation advertised, please fill in the on-line [GEO-CRADLE survey!](#)

| | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| AL | BA | BG | CH | CY | EG | ES | FR | GR | HR | IL | IT | JO | MA | ME | MK | PL |
| RO | RS | SI | TN | TR | US | XK | | | | | | | | | | |

ROMANIA

- National Institute for Earth Physics (NIEP) National Seismic Network
- Dunarea de Jos University of Galati Faculty of Sciences and Environment
- Babes-Bolyai University Environmental Science and Engineering
- POLITEHNICA University of Bucharest Department of Physics
- National Institute of R&D for Optoelectronics Remote Sensing
- Geological Institute of Romania Objectives of National Importance
- INCAS-BUCHAREST
- INCE2000 Remote Sensing
- Teamnet Solutions International GIS
- National Center of Cartography
- Dunarea de Jos University of Galati, Romania Chemistry, Physics and Environment Department

DRDSI Long-term sustainability

- DRDSI should ideally become a macro-regional resource governed by an international actor in the Danube Region. Voices of support have been made from many quarters, including decision-makers at national and European levels.
- Additional work is done on analysing various handover scenarios of handover of the platform and its related service links to the Danube Region, looking at aspects such as long-term sustainability and quantification of costs and benefits. Although the DRDSI project ended, the JRC will be undertaking activities to help with its hand-over and sustain some of its components as ongoing support.

A topographic map of Central Europe showing major river basins in blue and political boundaries in purple. Major cities are labeled, including Frankfurt, Prague, Kraków, Lvov, Vienna, Budapest, Zürich, Bern, Milan, Venice, Ljubljana, Zagreb, Belgrade, Sarajevo, Sofia, Podgorica, Skopje, Pristina, Istanbul, Constanta, Odessa, and Moscow. The Black Sea and Mediterranean Sea are also visible.

DRDSI conclusions

- **Data are crucial for macro-regional strategies**
- **The best use of investments and the targeting of resources require data**
- **Countries face similar changes, so experience should be shared**
- **Common solutions developed to address them to continue collaboration**
- **Seed investments create sustainable and transferable results**

SUCCESS TO GEO-CRADLE !!!

DRDSI
DANUBE
REFERENCE DATA AND SERVICES
INFRASTRUCTURE
seen from the perspective of
Earth observation products,
regional capacities, needs and challenges

Florian Petrescu

UTCB – Technical University of Civil Engineering Bucharest

florian . petrescu @ utcb . ro

GEO-CRADLE Regional Workshop in Romania

Addressing regional needs by enhancing Earth Observation uptake and relevant business performances

National Institute of Research and Development for Earth's Physics (NIRDEP)

12 Calugareni St. Magurele, Ilfov county, 077825, Bucharest, Romania

May 9th 2017