# DRDSI DANUBE REFERENCE DATA AND SERVICES INFRASTRUCTURE

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

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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

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# **DRDSI**

DANUBE REFERENCE

DATA AND SERVICES

INFRASTRUCTURE

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

Vosges

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JRC SCIENCE FOR POLICY REPORT

Data Infrastructures in Support of Macro-Regional Development



Experiences and Lessons Learned from the Danube Region

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2016





#### 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



#### 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

# Commission priorities Science areas Research topics Centre for Advanced Studies Laboratories & facilities Crosscutting activities Behavioural Insights

Research

Scientific support to Danube strategy

Intellectual property & technology

Innovation Partnership

Foresight & horizon scanning

Impact assessment

# 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 nexi;
- 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.

#### **Danube Project Team**

# DRDSI JRC Team Team

# 14 Danube NET Experts

# Experts

Danube NET Experts

The Danube\_Net are our experts in the field with a Danube\_Net member present in each Danube Country.

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

Slovania

#### Non-EU

Bosnia and Herzegovina

Moldova

Montenegro

Serbia

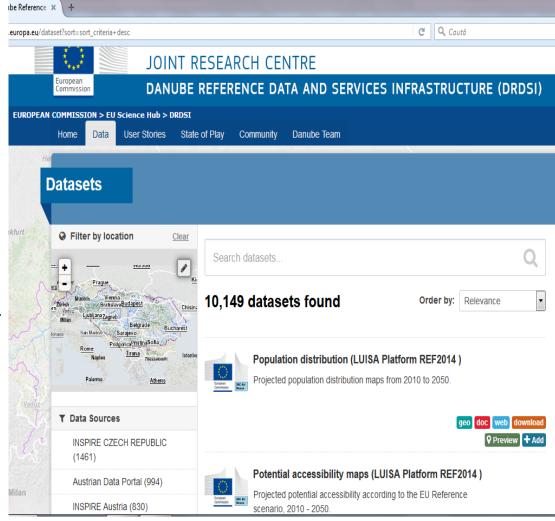
Ukraine

# 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**



# **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
- **FDGAR**
- **European Location Framework** Infrastructure
- Geology in Europe
- Impact of the EU Cohesion Policy



#### JOINT RESEARCH CENTRE

#### DANUBE REFERENCE DATA AND SERVICES INFRASTRUCTURE (DRDSI)

User Stories

State of Play Community

#### **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



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

2 Datasets



#### Statistics on Renewa ble energy for the D anube 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...

9 Datasets



#### Scenarios of region al evolutions: territ orial 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 Da nube Basin

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

24 Datasets



#### Developing a high r esolution harmonise d soil da...

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

3 Datasets



#### EDGAR modal shift: air emissions evaluation and...

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

9 Datasets



#### European Location Framework infrastru cture

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

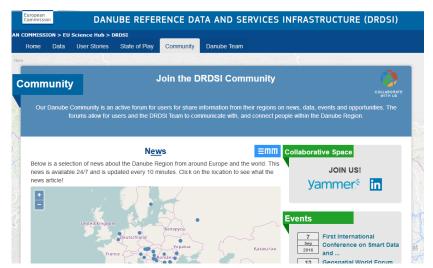


#### SPATIAL Cross-borde r project

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



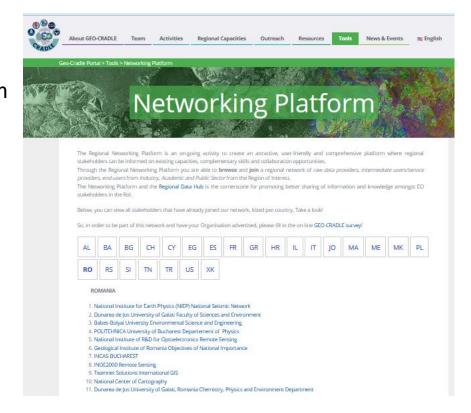
#### **Building a community around DRDSI**

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



### **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.

# **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

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# **SUCCESS TO GEO-CRADLE!!!**

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