Annex 2: KINDRA project overview (presentation by Marco Petitta)

Knowledge Inventory for hydrogeology research

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 642047.

Knowledge Inventory for hydrogeology research

KINDRA project overview: a knowledge inventory for hydrogeology research

State of the Knowledge for hydrogeology research in Europe
KINDRA orientation workshop for national experts

Marco Petitta, Balazs Bodo, Mariachiara Caschetto, Nicolò Colombani, Victor Correia, Adrienn Cseko, Maria Di Cairano, Isabel Fernandez, Eva Hartai, Klaus Hinsby, Clint Garcia Alibrand, Tamas Madarasz, Mikita Viktória, Mercedes Garcia Padilla, Peter Szucs, Peter van der Keur

Project partners

including:
- A Joint Panel of Experts (10 members)
- 20 third parties (associations acting as national members of EFG network)

Vision of the project

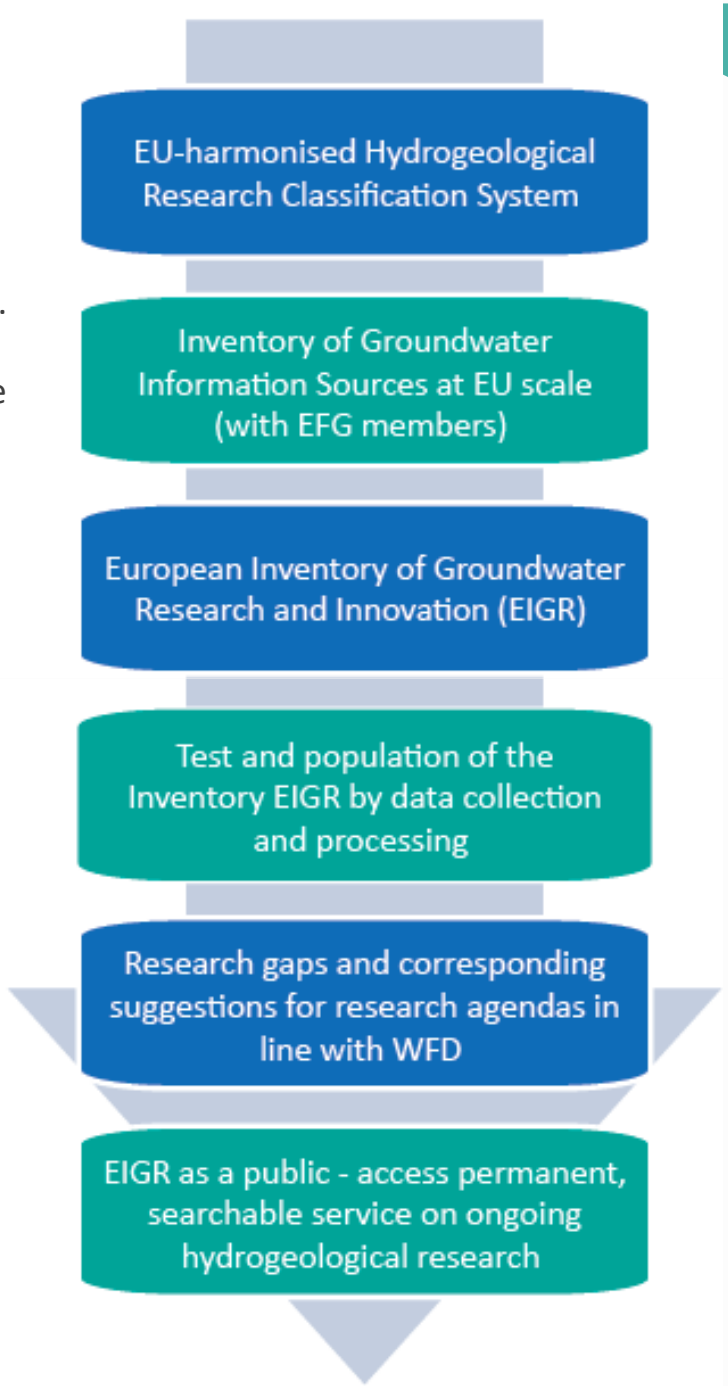
A project on groundwater research inventory and classification to make groundwater visible

Raising awareness on the importance of groundwater is our priority. KINDRA will work together/or in close collaboration with the technical and scientific community, stakeholder groups and with the general public.

Who can help us?

Classification	• Joint Panel of Experts
Inventory	• 20 third parties (national representatives of EFG network)
Dissemination	• EFG dissemination capacity • Collaboration with JPE, CIS WG-C, IAH, WssTP, ICT4water cluster, etc.

All technical content and results will be finally adapted into outreach materials that will help the general public to understand the ***relevance of groundwater in daily life.***



Aims of the project (2015-2017)

To create an inventory of GW knowledge-base and then use the inventory to identify critical research challenges, in line with the implementation of the WFD and new innovation areas within integrated water resources management based on the latest research.

✓ Create a uniform EU-harmonised categorisation approach / terminology for reporting groundwater research (a Hydrogeological Research Classification System – HRC-SYS).
✓ Carry out EU-wide assessment of existing practical and scientific knowledge (using the developed HRC-SYS) focusing on EU, national, regional, international and EU-third party scientific activities
✓ Create a European Inventory of Groundwater Research and Innovation (EIGR). This register will be supported by a web-service that will be searchable by selected key-words and will support users with query functions for statistics, diagrams, and others concise data elaboration.
✓ Use the data in the register and the developed analytical tools (qualitative/quantitative) to assess the performance of key ongoing EU, national, regional, international and EU-third party hydrogeological scientific and innovation activities and results.
✓ Compare the results with existing recommendations and position papers, outcomes of past Projects workshops, recommendations by the EIP on Water /WssTP
✓ Define research gaps and corresponding suggestions for research agendas in line with WFD
✓ Deploy the Register as a public-access service, to be used as a permanent, searchable service on ongoing hydrogeological research and innovation

Project structure and where we are

WP4 - Dissemination and communication (LPRC)

Dissemination and management

Dissemination and support services

Leveraging dissemination and dialogue

WP1 - Methodology framework development (SAPIENZA)

harmonised framework for reporting hydrogeology-related research and innovation (programmes, projects, results, agendas, etc) in Europe:

-Hydrogeological Research Classification System – HRC – SYS

-European Inventory of Groundwater Research- EIGR

→

WP2 - Data collection and processing (EFG)

EU- wide assessment of existing practical and scientific knowledge on hydrogeology-related research and innovation in Europe:

- National workshops on Hydrogeology
- Data collection and processing
- country reports

→

WP3 - Research gaps and recommendations (GEUS)

Identify research gaps in hydrogeology research that have relevance for the implementation of the Water Framework and Groundwater Directives (WFD and GWD)

-Hydrogeology research evaluated

-Research gaps identified

-Recommendations formulated

WP5 - Project management (SAPIENZA)

Quality Assurance and Risk Management

Project Coordination

Project management

Exploitation of results and IPR

WP4 - Dissemination synergies and strategies

✓ Our network is available for interacting with other groups, for dissemination and common initiatives (joint workshops, shared non-technical documents, etc.)

✓ EC requires coordination among all Water4a projects (WIDEST, WaterInnEU, FREEWAT and BlueSCities); and with 10 previous « water » FP7 projects federated in the ICT4water cluster

✓ We are interested to have contacts with stakeholders, EIP water action groups, SPI researches, JRC water, water JPI, scientific associations (IAH, EGU), water networks (as WssTP and others), SMEs, etc.

✓ Knowing the results of past and on-going project on groundwater is necessary for us to build a successfull project

✓ We are looking for information to help us to build and populate our inventory: archives, monitoring databases, guidance and best practice documents, etc.

✓ We are performing a preliminary inventory of information sources (by EFG members) and a stakeholder analysis by a survey to provide a continuous assessment monitoring of end-user interest

✓ We activated accounts on main social media networks

✓ The EFG and IAH communities are reached by their newsletters

WP1 – Classification (HRC-SYS): keywords selection

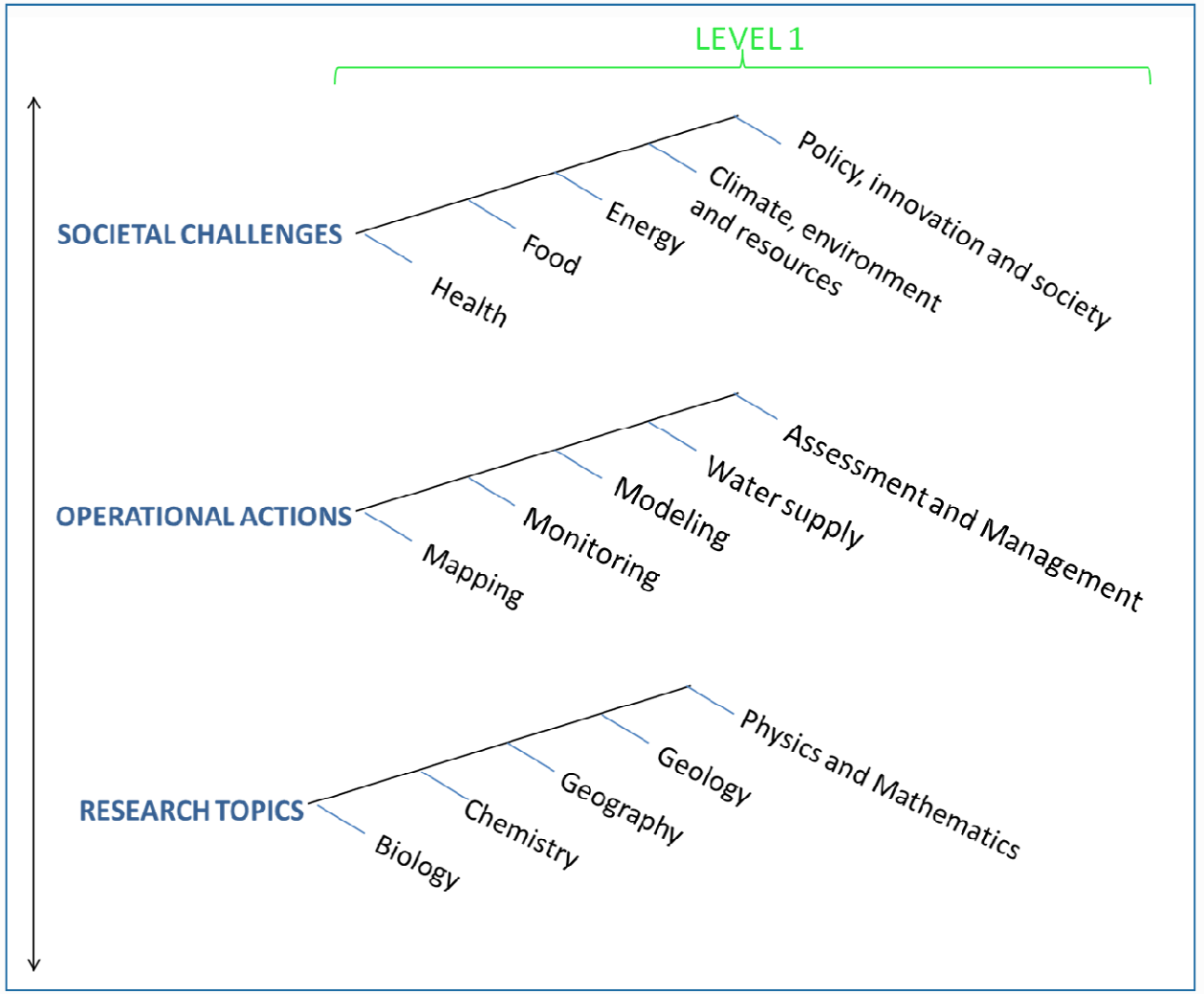
For developing the common terminology on which to base the EIGR through the HRC-SYS, keywords characterizing research on groundwater have been identified following two approaches: (1) from the most important ***EU directives and documents***, i.e. the ***WFD, GWD and The Blueprint to Safeguard Europe's Water Resources***, and (2) from ***groundwater related scientific literature,*** which has been fundamental for identifying relationships and intersections between topics, themes and activities.

To assess the importance and pertinence of the keywords, these have been ranked by performing searches via the Web of Science, Scopus and Google Scholar search engines.

WP1 – Classification (HRC-SYS): hierarchy and categories

The complete merged list of keywords consisting of about 200 terms has been organized in a ***tree hierarchy***, identifying ***three main categories***: Societal Challenges (SC), Operational Actions (OA) and Research Topics (RT).

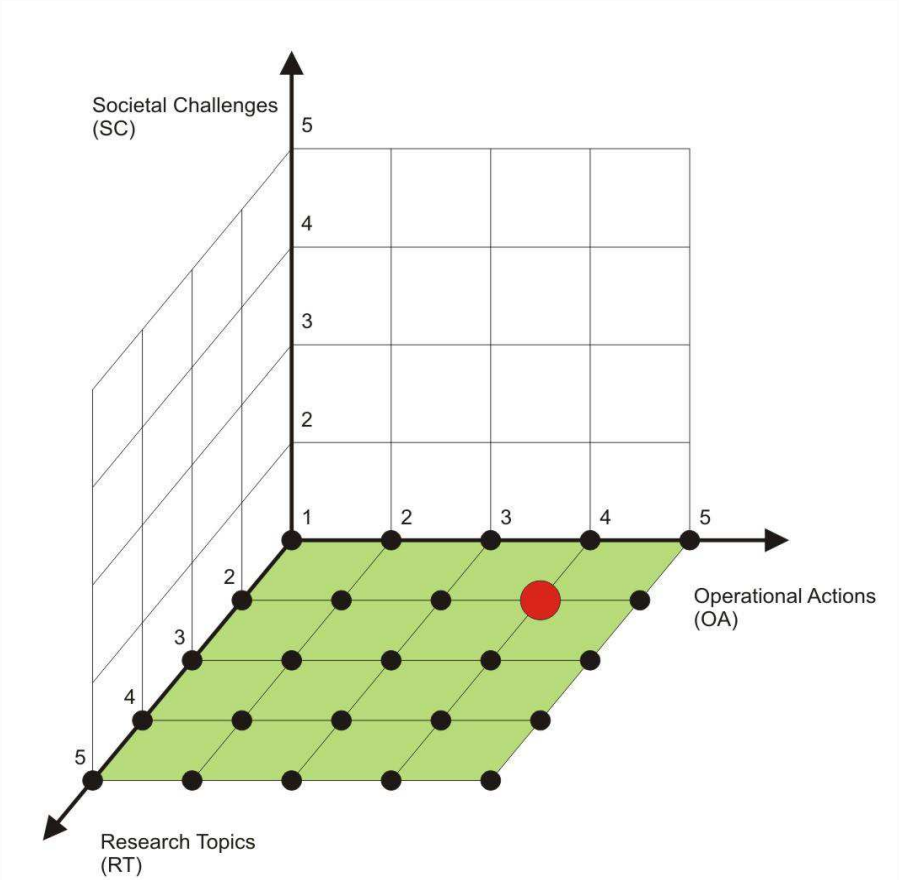
In each of these three categories, ***5 overarching groups*** have been defined for easy overview of main research areas, representing level 1. All identified keywords have been categorized into one of these overarching group in up to three levels where appropriate.

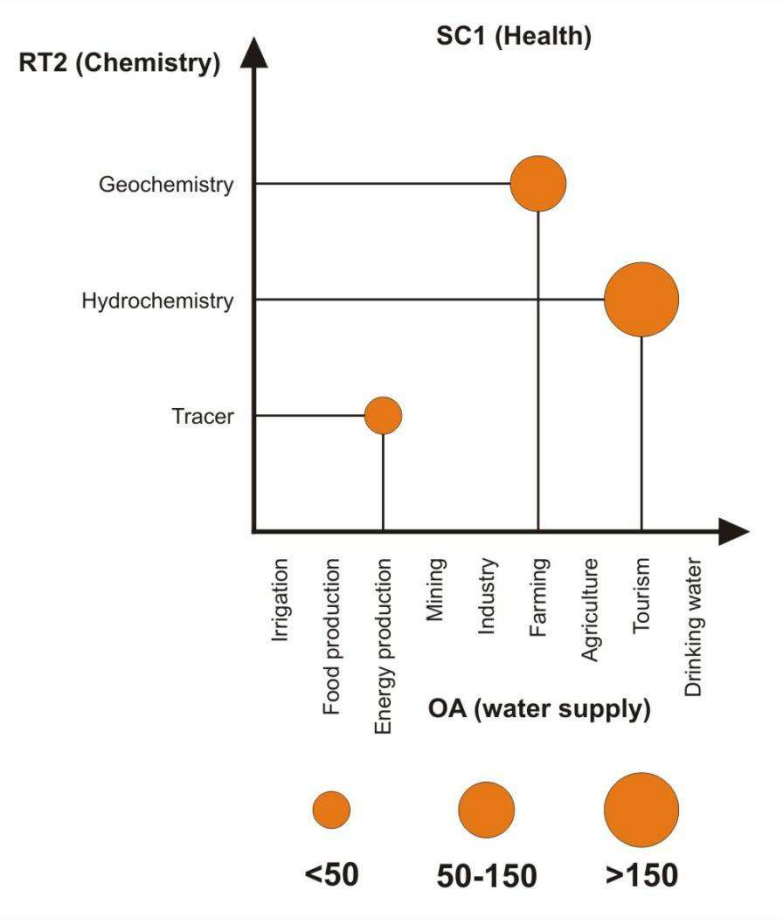


WP1 – Classification (HRC-SYS): CUBE & related 2D diagrams

The classification system previews the interaction among the three main categories through a ***3D approach*** , where along each axis the 5 overarching groups are indicated.

This also results in a ***2D representation*** for each of the Societal Challenges, where Operational Actions and Research Topics intersect in a 5x5 matrix.





WP1 – Inventory (EIGR)

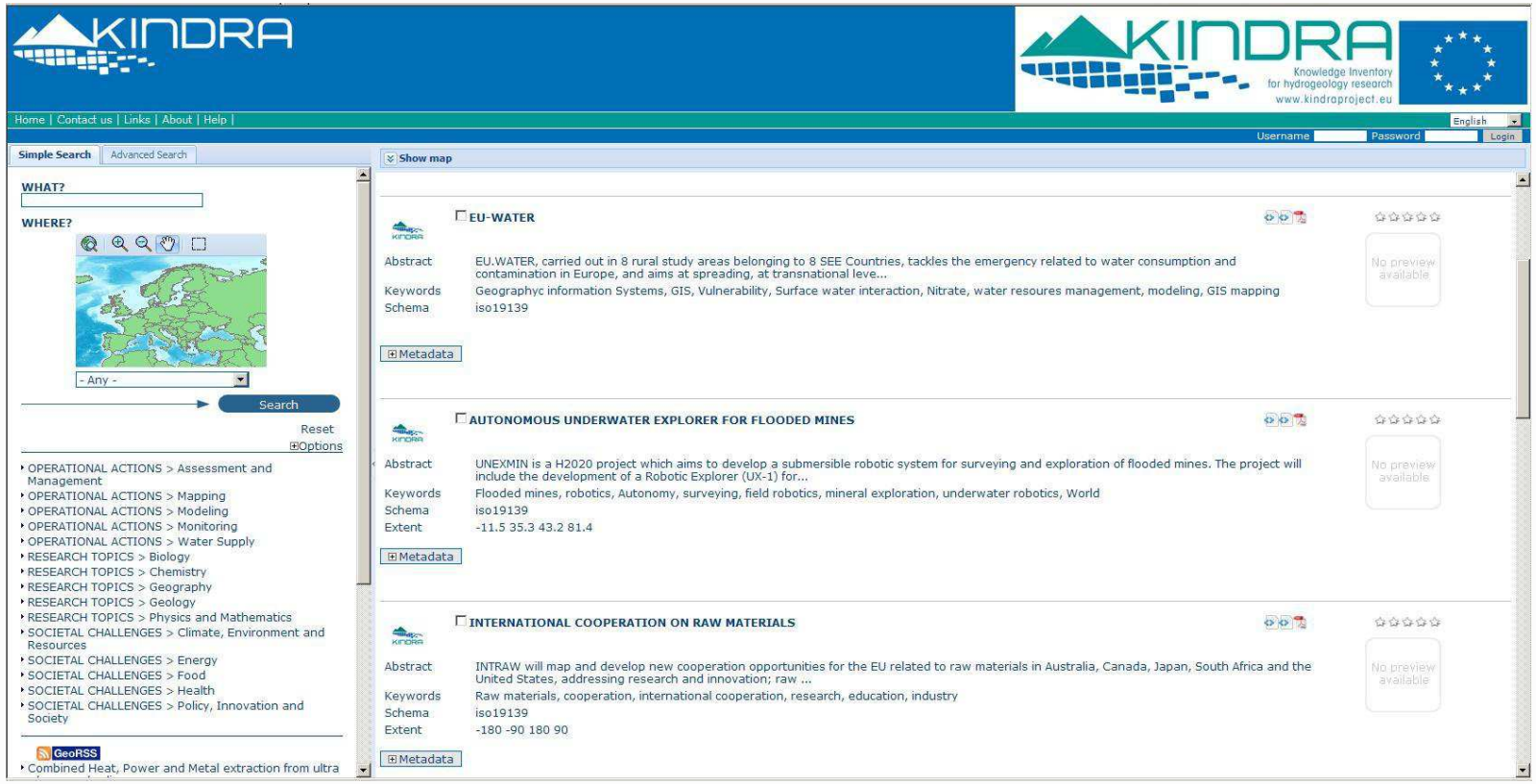
The scopes of the EIGR are the following:

i) for insertion of information pertaining to groundwater research and other available knowledge by the National Experts of the European Federation of Geologists (EFG);

ii) for consultation during and after the project by people and organizations dealing with groundwater research, but also possibly by non experts;

iii) for analysing collected and stored information to identify trends, challenges and gaps in groundwater research, by the KINDRA partners.

The EIGR is intended to be a permanent resource, publicly available after the end of the KINDRA project.



What are the "added values" of KINDRA?

i) KINDRA and its inventory are exclusively dedicated to "groundwater", differently from other databases
ii) Combining research and knowledge it enables to merge academic and practitioner communities
iii) A dedicated classification system has been created to classify your product, paper, project, report, database, etc.
iv) Database analysis will be used for EU policy support
v) It is intended BY and FROM geologists and "groundwater" people, to promote networking and enlarge our community
vi) It will be a international access to national knowledge sources

Thanks for coming

Have a nice day!