OSCARS
Open Science Clusters' Action for Research & Society

Funded Project

AQUANAVI

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WIKIDATA

- **Aquatic ecosystems** are under pressure due to global change drivers, e.g. pollution, habitat degradation, rising temperatures, and ocean acidification

- **Aquatic experimental research infrastructures (RIs)** allow studying the impact of these drivers in controlled but realistic environments, thus delivering the basis for **predictions** and the development of **mitigation measures**

- Information on the **technical specifications** and location of these RIs is available at aquacosm.eu and mesocosm.org, but it is **not searchable nor machine readable** and is far from exhaustive

- **Publications are not systematically linked** to the RIs

- This **lack of easy access** to information does **not** comply with the **FAIR** principles and **limits usage** of these valuable RIs and of previously acquired knowledge

- Inconsistent terminology of facility metadata and relevant concepts:
  - Development of additional **controlled vocabulary** for describing facilities and their experimental capacities (including grand ecological challenges)
  - Streamlining of terminology together with **RI user community**
- Lacking link of RIs and publications stemming from them:
  - Manual **annotation of publications**
- Incomplete and outdated facility metadata:
  - Improving **options for easy contribution** of updated information
- Lacking options for searching and filtering across RIs:
  - Development of a **schema for metadata linking**
  - Development of **AI-driven search and filtering functions**

- **AI-driven visualizations:**
  - Searchable Geo Maps for RIs and linked technical information
  - Dynamic, interactive Knowledge Maps and Streamgraphs of relevant publications and datasets
- **FAIR knowledge graph:**
  - Representation of assembled metadata of facilities and publications in WikiData
- **Integration into a community-run website:**
  - All search options will be made available at mesocosm.org

- Facility and publication metadata will stay openly available via **Wikidata**

- AQUANAVI will be connected to the **ENVRI HUB and EOSC services**

- The AI-driven visualization components are hosted by **Open Knowledge Maps**

- The team is well connected with the aquacosm.eu **community of future users** and will spread the word through mailing lists, on conferences and on social media

- The project principles and processes will provide a framework that allows others to implement similar systems in other domains and **inspire greater open collaborative exposure** of scientific knowledge transfer

OSCARS

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