



INGV

Istituto Nazionale di Geofisica e Vulcanologia

Profile and role in INDIGO

**Team: Massimiliano Rossi, Lucio Badiali,
Manuela Sbarra, Paolo Favali, Laura Beranzoli,
Paola Materia**



- INGV is one of the major European research institution in Earths Science. It has 11 sites and a staff of around 900 people 600 of which researchers, engineers. Disciplinary sector are: seismology, volcanology, geodesy, remote sensing, geochemistry, physics of the atmosphere, oceanography, marine geophysics and technological research in support to the disciplinary areas.
- INGV manages national and local sensor networks to monitor seismic, volcanic activity over the Italian territory and volcanic areas and off-shore, officially charged with 24h surveillance service by the Civil Protection Agency.
- INGV is leading two research infrastructures of ESFRI (European Strategy fForum on Reseacrh Infrasrtucture): EPOS and EMSO.
In INDIGO INGV represents the research infrastructure EMSO.-2-



EMSO is the European Multidisciplinary Seafloor and water column Observatory: a network of marine monitoring observatories around the European plate located in key sites for the comprehension of local and global scale, short-term and long-term deep sea processes.



The main research areas addressed by EMSO are:
Natural Hazards,

Marine Ecosystems

Climate Changes

EMSO Challenge:
Sustained time-series of
physical parameters
over decades

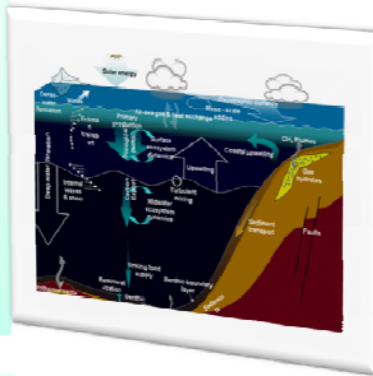
BIG DATA



EMSO Key Scientific Objectives

Geosciences

- Seismicity
- Gas hydrate stability
- Seabed fluid flow
- Submarine landslides
- Submarine volcanism
- Geo-hazard early warning



Biogeochemistry

- Ocean acidification & Solubility pump
- Biological pump
- Hypoxia
- Deep-ocean biogeochemical fluxes
- Continental shelf pump



Physical Oceanography

- Ocean warming
- Deep-ocean circulation
- Benthic and water column interactions
- Marine forecasting

Marine Ecology

- Climate forcing of ecosystems
- Molecules to microbes
- Fisheries
- Marine noise
- Deep biosphere
- Chemosynthetic ecology





Task T2.2: Defining support to Research Data

Lead partner: **INGV [18 PMs]**, deputy: **CSIC [10 PMs]**

Contributors: CNR [12 PMs], ICCU [9 PMs]

To guarantee a smooth and widespread usability of INDIGO, an appropriate integration and combination approach has to take into account the different Reference Models used by the Research Communities and Research Infrastructures and the diversity and heterogeneities of data services and catalogues.

This task follows the data research use and management of the Research Communities and Research Infrastructures and points out the different needs at the data life-cycle level.

In particular this task shall undertake a survey on the research communities to collect and analyze the individual Data Management Plans (DMP) and data-life-cycle documentation with the aim to ensure that the full data cycle and components will be supported in INDIGO, and with the aim to provide adequate specifications for the compliance with INDIGO.

Accordingly, the following activities are foreseen:

- **Development** of individual search activities to acquire and analyze the available DMP of the research communities/infrastructures with special attention to distributed/heterogeneous data services and catalogues, and to available open data;
- **Acquisition** of procedure details/parameters (i.e., DMP, Collection, Authenticity & Provenance, Data Preservation) to elaborate the specifications for data ingestion and use in INDIGO;
- **Definition** of the specifications of INDIGO ingestion integrity test.

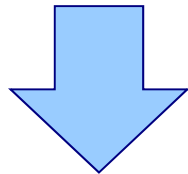


Task T2.2: Defining support to Research Data

Development of individual search activities.

Distribution of questionnaire with few questions that each partner can circulate in its community for collecting information about the available Data Manag. Plan.

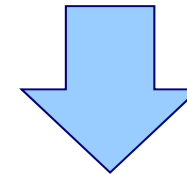
Target \Rightarrow **Partnership and eventual external entities**



Acquisition of procedure details/parameters.

Distribution of **survey** on procedure details/parameters to address the specifications for data ingestion and use in INDIGO.

Target \Rightarrow **Partnership**



Definition of the specifications of INDIGO ingestion integrity test.

Verify INDIGO does not alterate the ingested data