

PREMISE

DEVELOPMENT OF A TRANSNATIONAL ENVIRONMENTAL OBSERVATION SYSTEM IN SUPPORT OF EUROPEAN & INTERNATIONAL POLICIES THROUGH THE INTEGRATION OF REAL-TIME MONITORING DATA FROM VARIOUS PLATFORMS, MODELLING TOOLS AND ADVANCED GLOBAL CYBER-INFRASTRUCTURE FOR DATA SHARING AND INTEROPERABILITY.

CONTEXT

IGOSP will support the achievement of the goals and objectives of Strand-3 of the **ERA-PLANET project** (www.era-planet.eu). The project has strong links with activities in the GEOSS Work Programme (www.earthobservations.org/geoss.php), specifically the GEO (Group on Earth Observations - www.earthobservations.org/index2.php) Flagship - Global Observation System for Mercury (**GOS⁴M** - www.gos4m.org) - and the GEO Initiative - Global Observation System for Persistent Organic Pollutants.

GOS⁴M and GOS⁴POPs

- increase the availability and quality of Earth Observation data for the tracking of persistent pollutants;
- harmonize metadata production, archiving and data sharing from monitoring networks;
- develop advanced services that Parties may use to support the implementation of Minamata Convention on mercury and the Stockholm Convention on POPs.

IGOSP thus bridges and strengthens the European, national and regional R&I programmes in the domain of persistent pollutants, in support of international conventions.

The **CONCEPT**

behind the IGOSP project is integration of:

- new and existing data to provide uniform and harmonious datasets, which are discoverable, available and supplied with tools appropriate for a range of end-users;
- existing and new technologies, with coherent standard operating procedures and metadata production to conform to the standards of the GEOSS Common Infrastructure (GCI);
- in-situ and remote sensing data from Copernicus to provide the appropriate suite of data for studies of the processes in the Hg biogeochemical cycle and to improve multicompartamental modelling of Hg;
- EO information with in-situ measurements to improve our understanding of Hg hot-spots (i.e., contaminated sites);
- science with state-of-the-art tools and applications to aid the implementation of policy and to promote awareness of the issues surrounding environmental hazards.

PLATFORM

PLATFORM THE PROJECT'S MAIN INTERFACE WITH THE PUBLIC, POLICY MAKERS AND THE SCIENTIFIC COMMUNITY WILL BE THE IGOSP PLATFORM. WHILE THE PROJECT ESSENTIALLY AIMS TO STRENGTHEN AND SUPPORT EXISTING NETWORKS / INITIATIVES / PROGRAMMES, THE PLATFORM WILL PROVIDE A STEP-CHANGE IN PERSISTENT POLLUTANT DATA UTILISATION, ENHANCEMENT AND EXPLOITATION.

The **Platform** will provide:



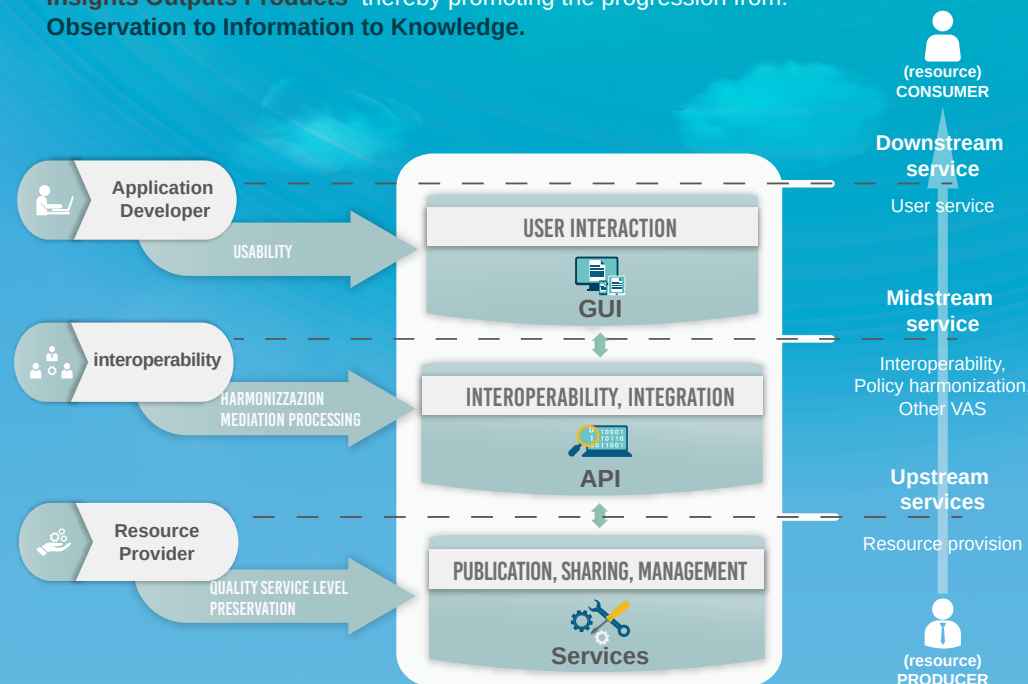
Access – observational data, ancillary parameters (chemical, meteo, climate);
Tools – geospatial selection, temporal selection, category selection (coast, altitude, maritime);
Workflow applications – trend (spatio-temporal) analysis, plots / maps / advanced visualisation, comparison of dataset characteristics (EMD, superstatistics).

Which in turn facilitate:

Investigations – links, comparable trends, relationships in datasets;
Scenario design – what if? (emissions/climate/socio-economic change) ;
Instigation of External Tasks – modelling, the targeting of sites / campaigns / periods / atmospheric parameters.

Resulting in:

Insights Outputs Products thereby promoting the progression from:
Observation to Information to Knowledge.



METHODOLOGY

IGOSP WILL ADOPT A METHODOLOGY TO INTEGRATE REAL-TIME MONITORING OF PERSISTENT POLLUTANTS, DERIVED FROM DIFFERENT PLATFORMS, INTO AN ADVANCED INTEROPERABLE DATA INFRASTRUCTURE FOR DATA SHARING AND WEB SERVICES RELEASE.

The main activities foresee:

- Development of up-stream services to gather data from sites / sensors / platforms check their quality, catalogue information and publishing services.
- Implementation of mid-stream and down-stream services to define a common terminology for metadata, design and implementation of a set of open and standard APIs and provide a set of web-based applications.
- The main tasks on which will be based the activity will include:
 - State of the art analysis of data and infrastructures for mercury and POPs;
 - Integration between in-situ and marine observations and satellite data;
 - Better integration and harmonization of model outputs within the infrastructure;
 - Infrastructure design and implementation for data assimilation and development of advanced web services;
 - Dissemination and Stakeholder involvement.

