



The GOS4M use case

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GOS⁴M in a nutshell

Aims

- **to support** the UN Global Partnership on Mercury Fate and Transport Research (UN F&T)
- **to provide** a global data sets of comparable monitoring data by harmonizing existing regional and global scale networks.
- **to provide** a Knowledge Hub integrating EO data sets and modeling tools that allow to co-design socio-economic-policy driven scenarios.
- **to assess** the effectiveness of measures undertaken by the Minamata Convention that Parties implement to reduce the risk for human health and the environment

Application

- Is developing a Knowledge Hub



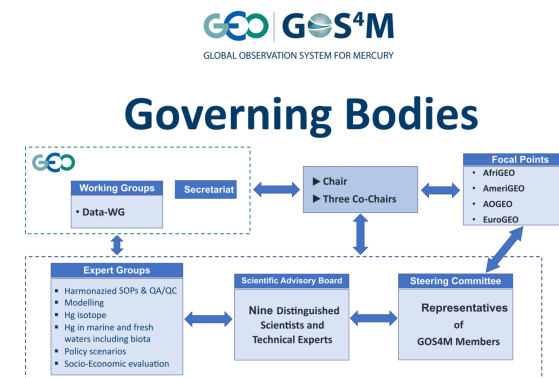
GLOBAL OBSERVATION SYSTEM FOR MERCURY

www.gos4.org

Membership & Governance

21

- Voluntary membership
- Has established Governing Bodies

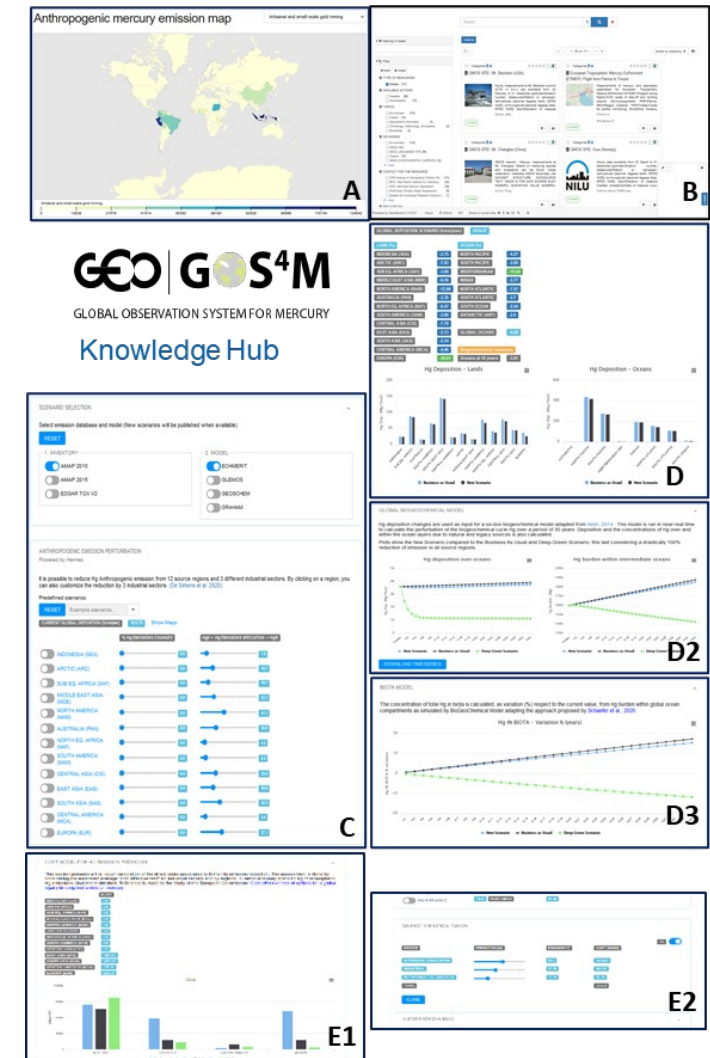




Key aspects of the GOS⁴M-KH

- The KH is an integrated **multi-model** and **multi-domain** computational platform to support the effectiveness evaluation of the Minamata Convention on Mercury
- It is based on a Chemical-Transport Model emulator to provide end-users a scientific-based information on Hg end-points
- It shares in-situ data, model outputs and APIs
- It enables scenario analyses to assess the effectiveness of policy measures adopted
- It provides cost estimates for reduction strategies
- We are working on the module “**human health risk assessment**”

www.gos4.org/kh





Trusted knowledge generation

Aims

- Data are QA_{ed}/QC_{ed} against Standard Operating Procedures
- All modules are **peer-reviewed** (workflow published)
- CTM emulator **APIs are open source**
- **Licence is under preparation**

GEO KH
gkhub.earthobservations.org

The screenshot shows the GEO Knowledge Hub interface. At the top, there is a search bar with 'GOSAM' entered and a search icon. To the right of the search bar are links for 'Log in' and 'Sign up'. Below the search bar, it indicates '15 results found'. The main content area displays a list of search results. The first result is 'GOSAM - GEOS Mirror portal' by Orlans, France, with a '2023.0.0' version and '14' downloads. The second result is 'GOSAM - Data Catalog' by CNR-Institute of Atmospheric Pollution Research, with a '2023.0.0' version and '1' download. The third result is 'In-situ data for model calibration' by CNR-Institute of Atmospheric Pollution Research, with a '2023.0.0' version and '1' download. The fourth result is 'HERMES effectiveness evaluation tool' with a '2023.0.0' version and '1' download. On the left side, there are filters for 'Versions', 'GEO Work Programme Activities', 'Resource types', and 'Subjects'.



GOS⁴M: a use-case in GREAT 1/2

- GOS⁴M is knowledge provider that can serve different Communities of Practice (has a consolidated interaction with policy- and decision-makers)
- It has a long co-design experience with policy maker, their implementers being part of UNEP an COP
- It is ready to be part of a digital ecosystem (**metadata & data compliant** to interoperable exchange format) with high-value information
- Its technical architecture for data & services is based on open-source components requiring medium-level skills for deployment
- Its federation has a voluntary basis making effective data provision
- Has developed tools that's support answers to policy questions



GLOBAL OBSERVATION SYSTEM FOR MERCURY

UNITED
NATIONS



United Nations
Environment
Programme

MC

UNEP/MC/COP.3/INF/15

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Conference of the Parties to the
Minamata Convention on Mercury
Third meeting
Geneva, 25–29 November 2019
Item 5 (b) of the provisional agenda*
Matters for consideration or action by the
Conference of the Parties: effectiveness evaluation

Background information on mercury monitoring

Note by the secretariat

The annex to the present note sets out information on mercury monitoring relevant to the consideration of the framework for the effectiveness evaluation of the Minamata Convention on Mercury and global monitoring arrangements, compiled by the ad hoc technical expert group on effectiveness evaluation. The information supplements the report of the group, contained in documents UNEP/MC/COP.3/14 and UNEP/MC/COP.3/14/Add.1.

* UNEP/MC/COP.3/1.



GOS⁴M: a use-case in GREAT 2/2

- GOS⁴M is part of the EIRENE PPP project aimed to implement the EIRENE RI for the development of advanced technologies and complementary services on the characterization of complex environmental exposures and their impact on the European population.
- It will take the opportunity to demonstrate through pilots the generation of knowledge from cross-domain data made available in GDDS.
- It will take the advantage from the AI workbench of the GDDS.



**Research Infrastructure for
EnvlRonmental Exposure
assessment in Europe**