

# GOS<sup>4</sup>M – Global Observation System for Mercury

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## GOS<sup>4</sup>M – Knowledge Hub

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3<sup>rd</sup> meeting of the Conference of the Parties to the Minamata Convention on Mercury - Side Event  
Geneva, 25<sup>th</sup> - 29<sup>th</sup> November 2019



## The context: **GEO**

### GOS<sup>4</sup>M is a GEO Flagship

The Group on Earth Observations (GEO) is a partnership of more than 100 national governments and in excess of 100 Participating Organizations that envisions a future where **decisions** and **actions** for the **benefit of humankind** are **informed** by **coordinated, comprehensive** and **sustained** Earth observations

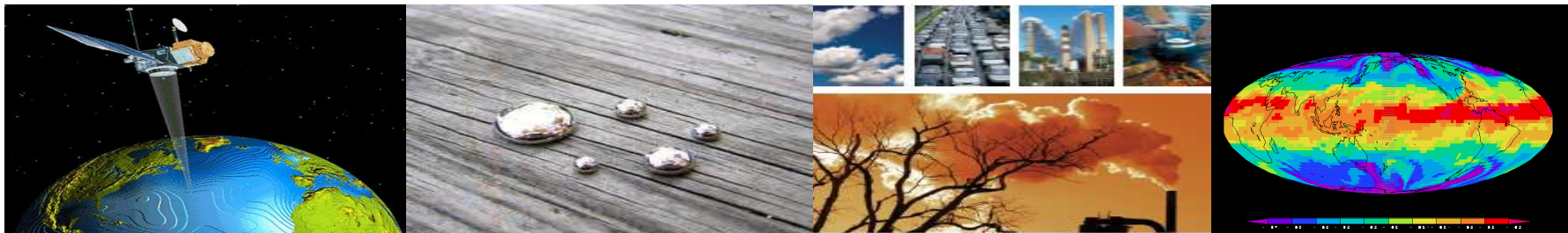


[www.gos4m.org](http://www.gos4m.org)

# GOS<sup>4</sup>M Knowledge Hub

**Objective:** to provide user-oriented integrated tools to support the Effectiveness Evaluation undertaken in the Minamata Convention on Mercury

**Platforms:** GEOSS; Copernicus; GOS<sup>4</sup>M Data Infrastructure



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# Policy Questions

*“Based on the information collated, and through proposed indicators on process, outcome and monitoring, an assessment will be made on mercury levels attributable to the Convention in relations to the four policy questions.”*

1. Have the Parties taken actions to implement the Minamata Convention?
2. Have these actions resulted in changes in supply, use, emissions and releases of mercury to the environment?
3. Have these changes resulted in changes in levels of mercury in the environment, biotic media and vulnerable populations attributable to the Convention?
4. To what extent are existing measures under the Minamata Convention meeting its objective of protecting human health and the environment from mercury?

UNITED  
NATIONS



United Nations  
Environment  
Programme

Conference of the Parties to the  
Minamata Convention on Mercury  
Third meeting  
Geneva, 25–29 November 2019  
Item 3 (h) of the provisional agenda\*  
Matters for consideration or action by the  
Conference of the Parties: Effectiveness  
Evaluation

MC

UNEP/MC/COP.3/14/ADV<sup>1</sup>

Distr.: General  
4 October 2019  
Original: English

**Report of the ad hoc technical expert group for effectiveness  
evaluation: Proposed framework for the effectiveness  
evaluation of the Minamata Convention on Mercury**

#### Note by the secretariat

1. This note relates to the outcome of the work of the ad hoc technical expert group on effectiveness evaluation that was mandated by MC-1.9 and MC-2.10 to consider the arrangements to be put in place to provide the Conference of the Parties with the required information to conduct an effectiveness evaluation of the Minamata Convention on Mercury.
2. The note contains two annexes. The first annex presents a draft decision for consideration by the Conference of the Parties at its third meeting. The second annex contains the report of the ad hoc technical expert group that puts forward the proposed framework for the effectiveness evaluation. The report in turn contains 4 appendices. It is to be noted that the text for appendix I is contained in UNEP/MC/COP.3/14/Add.1. Furthermore, the report is complemented by additional information contained in UNEP/MC/COP.3/INF/15.

<sup>1</sup> As submitted to UNON Conference Services for editing translation and made available for advance reading.  
\* UNEP/MC/COP.3/1.

*Report of the ad hoc technical expert group*

# From data to knowledge

## Effectiveness Evaluation requires:

- Reliable data and wide recognized chemo-physical models
- Scenarios based on most advanced scientific results
- **F**indable, **A**ccessible, **I**nteroperable, and **R**eusable data (FAIR results)
- User-friendly and co-designed applications

GOS<sup>4</sup>M can provide knowledge to support answer to relevant policy questions.



## Policy Questions



# The GOS<sup>4</sup>M Knowledge Hub

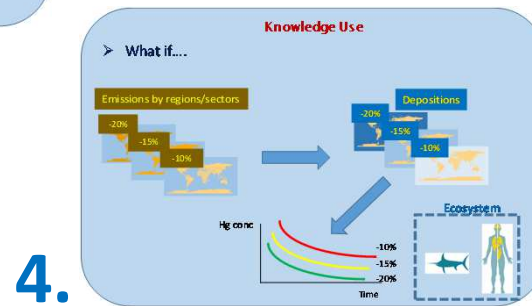
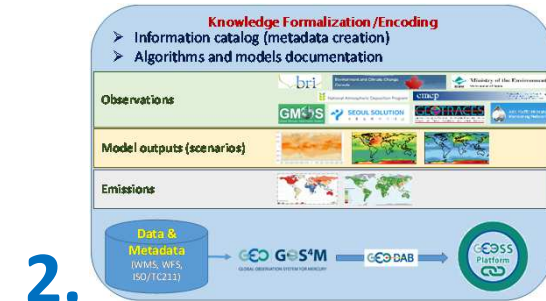
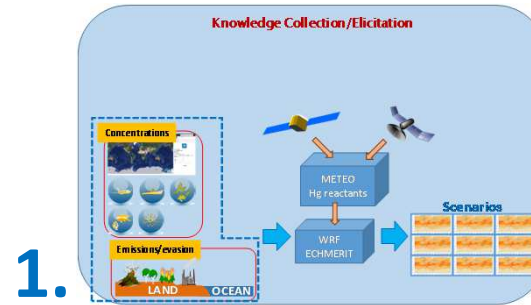
**5. Knowledge Generation**

- C/B Analysis
- DSS systems
- Gap analysis
  - MCM
  - Monitoring
  - Modelling

Investment (\$)

Emission/Deposition reduction (%)

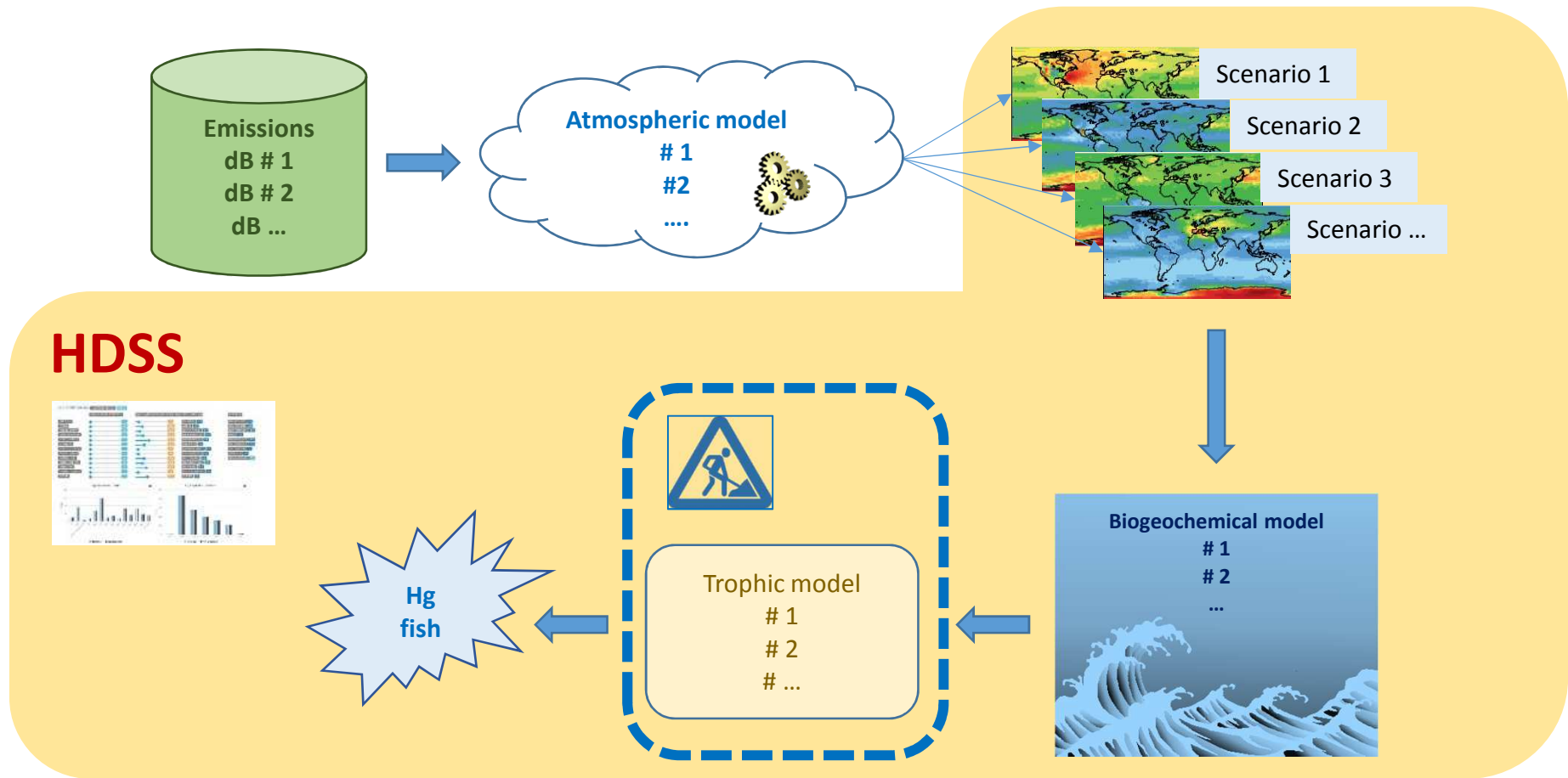
BAT 1  
BAT 2  
BAT 3



**3. Knowledge Sharing**

- Knowledge Platform implementation
  - Searching
  - Sharing
  - ...

<http://www.geoportal.org/community/gos4m>



# Home page

Can be visited at

[www.gos4m.org/kh](http://www.gos4m.org/kh)



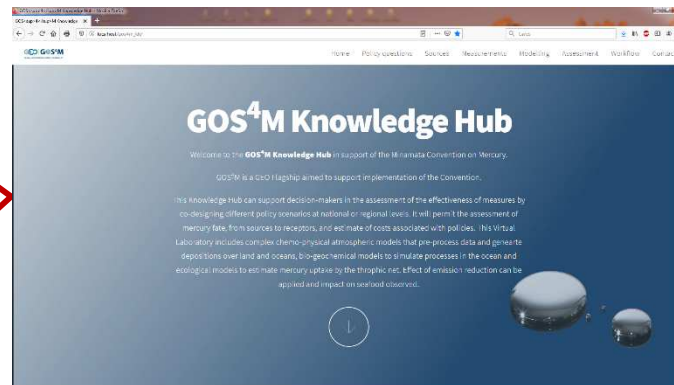
Policy questions



Emissions



Visual report



Monitoring



Scenario assessment



Hg uptake





## The road ahead **.1** computation

| Now   | Forthcoming  |
|---|--|
| 1 database on emission (AMAP 2010)              | Many databases, many years (AMAP, EDGAR, STREET, etc.; 2010, 2015, etc.)   |
| 1 atmospheric model to run scenarios (ECHMERIT) | Many models: <ul style="list-style-type: none"> <li>- global GLEMOS, GEOS-Chem, GEM-MACH-Hg, ECHMERIT),</li> <li>- hemispheric (CMAQ-Hem)</li> <li>- regional (WRF-Chem, CCLM-CMAQ)</li> </ul> |
| 1 Global Circulation Model (Selin)              | Many models  |
| Trophic model <b>N/A</b>                        | Available models and data-driven techniques  |
| Regional assessment                             | Country assessment   |
| 4 industrial macro-sectors                      | 24 Sectors (GMA 2018)  |
| Assessment of emission <b>N/A</b>               | Emission by-country & by-sector  |
| Assessment of BATs <b>N/A</b>                   | Assessment of BATs   |

## The road ahead .2 Graphical User Interface

| Now  | Forthcoming                                  |
|--|--|
| Maps as picture                                  | Browsing maps                                |
| Map charts and histograms N/A                    | Map charts and histograms with reports       |
| Selection of emission database, model N/A        | Selection of emission database, model        |
| Reporting on emission, monitoring, scenarios N/A | Reporting on emission, monitoring, scenarios |
| Reporting on concentration in seafood N/A        | Reporting on concentration in seafood        |
|  |  |
|  |  |
|  |  |

# Thank you!

## Credits:



Integrated Global Observing Systems for Persistent Pollutants (**IGOSP**), project funded by the European Commission in the framework of “The European network for observing our changing planet (**ERA-PLANET**)” program (Grant Agreement: 689443).



EuroGEO Showcases Applications Powered by Europe by ILR 2016

EuroGEO Showcases: Applications Powered by Europe (**E-SHAPE**) project (Grant Agreement: 820852).