

GLOSS

- Global Sea Level Observing System -

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Mission and spatial scales:

Develop a well-structured, high-quality in-situ sea level observing network to support a wide range of research and operational users at global, regional, national and local levels. Its data are used for a **wide variety of scientific, economic and social purposes**, enhancing our understanding of the impacts of climate change on mean sea level and extreme sea level events along coastlines worldwide. Additionally, the network contributes to ocean circulation studies, storm surge forecasting and early warning systems, including those for tsunamis.



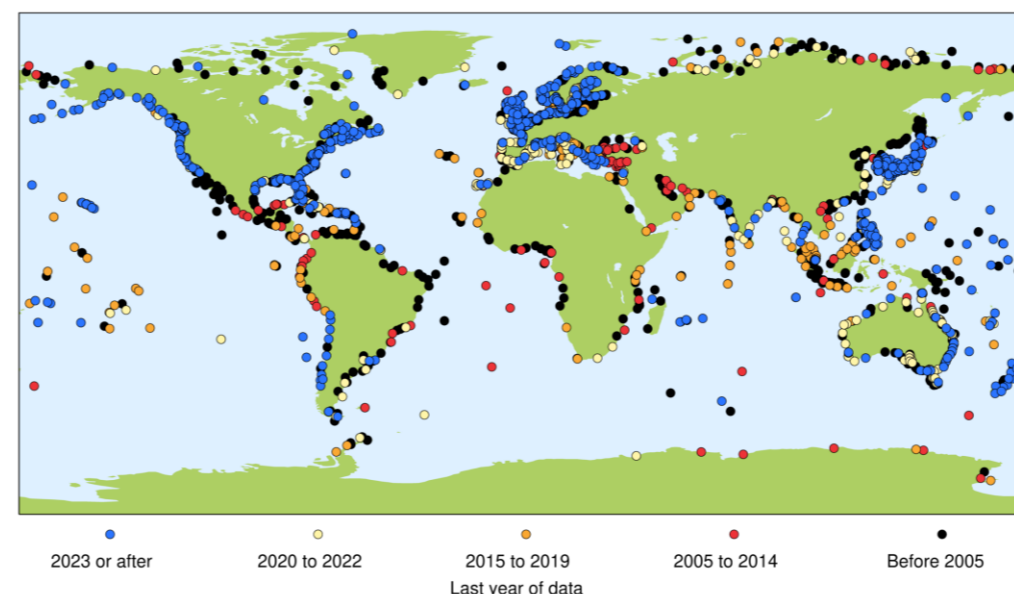
Coordination and funding:

- Funded and operated by diverse national institutions worldwide (oceanographic, geographic, hydrographic, met offices, seismological entities, ports...), represented in the GLOSS Group of Experts.
- Coordinated by the Intergovernmental Oceanographic Commission of UNESCO and the GLOSS Group of Experts chair, with the support of a Steering Committee.

Built around the **GLOSS Core Network: 290 tide gauge stations** across more than 90 countries and territories, to ensure high-quality global coverage. **More than 2000 tide gauges contributing to GLOSS data portals.**



GLOSS Core Network



PSMSL data

Data availability:

- Monthly means: Permanent Service for Mean Sea Level (PSMSL, since 1933).
- Hourly values and higher frequency data: University of Hawaii Sea Level Center (UHSLC) and British Oceanographic Data Centre (BODC).
- Real time data: Flanders Marine Institute (VLIZ).
- Vertical land movement (VLM) data: University of La Rochelle/SONEL group.

Challenges and concerns:

- Maintenance funding and data policy issues in certain countries.
- Lack of unique identifier: related to the definition of a tide gauge station.
- Metadata standards and management, including easy-to-use tools to get these data from national providers.
- New low-cost sensors and technologies that require validation and assessment.
- Unified data processing chain (replicability of sea level products).
- Faster response to societal needs: from research to operational users.

Future Plans and Opportunities:

- Implementation Plan 2025.
- Unified GLOSS data access point and website.
- New Working Groups: 1) *Sensor Performance including GNSS-IR technique*; 2) *Data Archaeology*; 3) *Quality control, data processing and data management*.
- GLOSS Steering Committee: Terms of References and membership.
- Enhancing coordination with IHO - TWCWG and with GOOS – OCG, along with other relevant international programmes.
- UN Ocean Decade: exploring potential links and opportunities over the next 2 years.

Questions:

- Are any funding cuts or data policy issues foreseen for any of the observing components?
- How do other networks manage the availability and quality of metadata, including changes of sensor, technology, maintenance problems, and information required at national level?