



The Permanent Service for Mean Sea Level: Recent Improvements in Data Access and Storage

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The Permanent Service for Mean Sea Level (PSMSL) is the internationally recognised global sea level databank for long term sea level change information from tide gauges. Established in 1933, the PSMSL continues to be responsible for the collection, publication, analysis and interpretation of sea level data.

The PSMSL was formerly a member of the Federation of Astronomical and Geophysical Data Analysis (FAGS), and is currently being incorporated into the new World Data System (WDS) of the International Council for Science (ICSU). In addition, the PSMSL has close links with the Intergovernmental Oceanographic Commission's (IOC's) Global Sea Level Observing System (GLOSS). Currently the PSMSL databank holds over 58,000 station years of data from over 2,000 stations and in the region of 200 authorities worldwide. Data undergo careful quality control, including ensuring year to year continuity, before addition to the databank. Where possible, data is reduced to a common datum for time series analysis. In 2007 the PSMSL combined its monthly mean sea level activities with the higher frequency data collection from GLOSS station sites conducted by the British Oceanographic Data Centre (BODC).

The PSMSL also attempts to stimulate the development of tide gauge networks at national, regional and global level. It provides training and technical advice to national sea level authorities, mainly through its work with GLOSS. It has also been closely involved in the installation and continued operation of twelve gauges in Africa and the Western Indian Ocean as part of the ODINAFRICA and Indian Ocean Tsunami Warning System programmes.

The PSMSL data storage systems have recently been redesigned in order to increase data integrity and take advantage of recent developments in database technology. A suite of graphical user interfaces have been developed to facilitate maintenance and quality control of the database by PSMSL staff. In addition, a new interactive data portal has been designed to enable users to search for and retrieve data from the PSMSL website more easily. Future developments will include improvement of interoperability with other systems.