



Latest Developments from the Permanent Service for Mean Sea Level (PSMSL)

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The Permanent Service for Mean Sea Level (PSMSL) is the internationally recognised global sea level data bank 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, and is based in Liverpool at the National Oceanography Centre. The PSMSL operates under the auspices of the International Council for Science (ICSU), is a regular member of the ICSU World Data System and is associated with the International Association for the Physical Sciences of the Oceans (IAPSO) and the International Association of Geodesy (IAG). The PSMSL continues to work closely with other members of the sea level community through the Intergovernmental Oceanographic Commission's Global Sea Level Observing System (GLOSS).

Currently, the PSMSL data bank holds over 68,500 station-years of monthly and annual mean sea level data from over 2300 tide gauge stations. Data from each site are quality controlled and, wherever possible, reduced to a common datum, whose stability is monitored through a network of geodetic benchmarks. PSMSL also distributes a data bank of measurements taken from in-situ ocean bottom pressure recorders.

Here we will present an overview of the PSMSL dataset, how it can be obtained, where it has been used, and how we recommend it should be cited. We will describe how the global tide gauge network has evolved over the past 200 years and examine its current state. We will also discuss our ongoing work with SONEL to exchange information about geodetic links between tide gauges and GNSS receivers, allowing us to link relative sea level measured at tide gauges to the reference ellipsoid, and to provide an estimate of the rate of vertical land movement.