

Observing System Data Access

Tide Gauge Observations

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1. Program Definition

CLIVAR Data Assembly Centers (DACs) for tide gauge data are located at the University of Hawaii Sea Level Center (UHSLC) and the British Oceanographic Data Centre (BODC). The BODC is closely aligned with Permanent Service for Mean Sea Level (PSMSL), which is the ultimate repository for all mean (monthly averaged) sea level (MSL) datasets. The high frequency tide gauge data most relevant to CLIVAR are obtained from the Global Sea Level Observing System (GLOSS) Core Network (GCN), a set of 300 stations designed to provide a global baseline, and the GCOS network, a set of 170 stations that are recognized by the OOPC as contributing to the Global Observing System for Climate.

2. Data Flow and Quality Control

The BODC is responsible for constructing the delayed mode GCN and GCOS datasets that are suitable for archiving. High frequency data (1 hour sampling rate or faster) are quality controlled and questionable data are flagged and brought to the attention of data providers. The BODC distributes the original data with QC data flags. High frequency data are formed into monthly averages for inclusion in the PSMSL database, or in some cases PSMSL receives monthly averages directly from the data provider.

The UHSLC distributes a corrected dataset of hourly and daily averages, with metafiles describing how the data were corrected. The center provides data in "fast delivery" (latency < 1 month) and "real-time" (latency < 1 day) modes when available. Data flow to the UHSLC is by Internet or surface mail, and by GTS for real-time, satellite-transmitted data. UHSLC real-time data are inspected and quality controlled each day, fast delivery data each month, and all datasets undergo an annual inspection that includes an assessment of datum stability.

Joint operations of the two DACs are still under development, but the goal is for all data in the GCN and GCOS sets to be available in both the BODC and UHSLC formats from one seamless data portal. The portal also will provide a daily-averaged atmospheric pressure product for each tide gauge station per the request of the GSOP.

3. Timeliness of Distribution

The BODC/PSMSL and UHSLC acquire, quality assess, and distribute data through their web-based data servers, and through other databanks (e.g., PMEL's Climate Data Portal, the NOPP sponsored NVOODS project, the NOSA geospatial and geospatial metadata databases). The timeliness of distribution varies from ~1 year for the MSL and delayed mode higher frequency data, 1 month for the fast delivery data, and 1 day for the real-time data.

GLOSS is seeking to bring all GCOS stations, as well as the GCN, into real-time delivery mode. As of March 2005, 25% of GCOS stations and 55% of GCN stations are reporting in real-time to the UHSLC. The GCOS percentage will increase significantly with the addition of European and Australian stations into the data stream, which should be accomplished by mid-2005.