GLOSS
Global Sea Level Observing System

Bernard Kilonsky
University of Hawaii
Thorkild Aarup
Intergovernmental Oceanographic Commission
Mark Merrifield
University of Hawaii
(Chair GLOSS Group of Experts)
• Global data standards and archiving facilities with QC of data
• Training courses on analysis & uses of sea level observations
• Technical expert visits
• Technical manuals and training material
• Special workshops on technical issues (i.e. How to operate a gauge in harsh ocean environments; New technical developments in sea and land level observations)
• Provision of gauges
• Assistance with development of proposals for upgraded tide gauge hardware
• Satellite altimeters need to be calibrated using in situ sea level gauges

• Continuity and low cost. We need the GLOSS network for global ocean dynamics studies and monitoring variability (ENSO, EL NINO)

• Long mean sea level (MSL) records needed for climate change studies (e.g. for IPCC)

• Many coastal applications, tides, engineering. People live at the coast, not in the deep ocean.

• Long records of higher frequency climate change (e.g. changes in storm surge statistics)

• Higher frequency sampling important for storm and tsunami monitoring and warning.
It can not be over emphasized that the reliance on multiple-use water level stations maximizes the likelihood of maintenance and the continuous operation of the sea level measurement network. The sea level data acquired through these sites are very sustainable as they are used in climate, oceanographic and coastal sea level research, and other purposes. GLOSS specifications are for stations designed for long-term sea level monitoring and configured for a sub-regional and national tsunami monitoring system. The stations will report in such a way as to provide appropriate sea level data to an operational warning centers. While for tsunami, Initially, these centers will be PTWC and NATWC on an interim basis. Each nation will have to assess their needs in terms of early warning requirements. As the sub-regional and national sea level data messages are available for immediate retransmission to the PTWC and NATWC using WMO’s GTS facilities, they can then be used by these and other warning centers to help confirm the existence of a major tsunami or to cancel a tsunami watch or warning.