

ACCESS TO HISTORICAL DART/BRP DATA AT NOAA'S NATIONAL GEOPHYSICAL DATA CENTER (NGDC)

Kelly J. Stroker

Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado Campus
Box 216, Boulder, CO 80309 United States

Paula K. Dunbar

National Geophysical Data Center, NOAA, E/GC1 325 Broadway, Boulder, CO 80305 United States

ABSTRACT

NOAA's National Geophysical Data Center (NGDC) operates the World Data Center (WDC) for Solid Earth Geophysics (including tsunamis). NGDC is one of three environmental data centers within NOAA's Environmental Satellite Service. The WDC/NGDC provides the long-term archive, data management, and access to national and global tsunami data for research and mitigation of tsunami hazards. Archive responsibilities include the global historic tsunami event and runup database, the bottom pressure recorder data, and access to event-specific tide-gauge data, as well as other related hazards and bathymetric data and information. In the 1980s, NOAA's Pacific Marine Environmental Laboratory (PMEL) developed deep ocean tsunameters for the early detection, measurement, and real-time reporting of tsunamis in the open ocean. The tsunameters were developed by PMEL's Project DART (Deep-ocean Assessment and Reporting of Tsunamis). A DART system consists of a seafloor bottom pressure recording (BPR) system capable of detecting tsunamis as small as 1 cm, and a moored surface buoy for real-time communications. An acoustic link is used to transmit data from the BPR on the seafloor to the surface buoy. The data are then relayed via a GOES satellite link to ground stations for immediate dissemination to NOAA's Tsunami Warning Centers and PMEL. These systems were deployed near regions with a history of tsunami generation, to ensure measurement of the waves as they propagate towards threatened U.S. coastal communities and to acquire data critical to real-time forecasts. Currently, there are ten BPRs located near Alaska, Hawaii, Chile, and in the northeast and equatorial Pacific. The WDC/NGDC is now providing access to retrospective bottom pressure recorder (BPR) data from 1986 to the present (real-time data are available from NOAA's National Data Buoy Center). The BPR database includes pressure and temperature data from the ocean floor. All of the WDC/NGDC tsunami and significant earthquake databases are stored in a relational database management system. These data are accessible over the Web as tables, reports, interactive maps, and custom CD-ROMs.