



FY 99 Progress Report on the Real Time Tsunami Detector System

September 14, 1999

The DART mooring (D-145) that was deployed at Ocean Weather Station PAPA in September 1998 and operated for 86 days was recovered in May 1999 from the RV WECOMA. The aluminum tower was missing from the buoy and a forensic analysis determined the tower failure was caused by improper welding techniques employed in the manufacturing process. New buoy towers were designed with greater stiffness and welded in accordance with industry specifications.

Data return from the D-145 mooring, although greater than 96%, showed the need for redundancy in the system. An engineering buoy with two acoustic modems, transducers, CPUs, and GOES transmitters was assembled and deployed off the coast of Monterey, California in May in 3200 meters of water. The system has been operating successfully for 4 months and has given greater than 99% data return.

Three complete DART systems have been built and shipped to Hawaii for deployment in the North Pacific in September and October from the NOAA Ship RON BROWN. Additionally, another DART system will be deployed at OWS PAPA as part of a continuing occupation of that site for climate and weather research. A strong emphasis has been placed on testing the acoustic modems, BPRs, and GOES transmitters in the laboratory during the past 4 months in preparation for this cruise.

The buoy off Monterey will be recovered in the spring of 2000. An engineering mooring to evaluate adaptive modulation applied to acoustic data telemetry and new higher baud rate GOES transmitters will be deployed at that time. Additional moorings will be fabricated for 2000 deployments.