

C. HORIZONTAL AND VERTICAL CONTROL

A complete description of horizontal and vertical control for survey H11470 can be found in the *OPR-0167-FA-05 Horizontal and Vertical Control Report*¹⁴, submitted under separate cover. A summary of horizontal and vertical control for this survey follows.

Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Differential GPS (DGPS) was the sole method of positioning. Differential corrections from the U.S. Coast Guard beacon at Level Island (295 kHz).

Vertical Control

The vertical datum for this project is Mean Lower-Low Water (MLLW). The operating National Water Level Observation Network (NWLON) primary tide station at Sitka, AK (945-1600) served as control for datum determination and as the primary source for water level reducers for survey H11470.

FAIRWEATHER personnel installed one Sutron 8210 “bubbler” tide gauges at the tertiary station listed below. Gauge #09 (S/N 002332) was installed to provide information to the Center for Operational Oceanographic Products and Services (CO-OPS N/OPS1) for the determination of time and height correctors, in accordance with the Project Instructions.

Station Name	Station Number	Type of Gauge	Date of Installation	Date of Removal
Kuiu Island	945-0913	Tertiary 30 Day	April 22, 2005	May 31, 2005

CO-OPS does not provide calibration or quality assurance documentation to the FAIRWEATHER. FAIRWEATHER personnel are responsible for installation and removal of the water level gauges. CO-OPS is responsible for delivering final approved vertical correctors to the processing branch for application to the hydrographic data set.

Refer to the *OPR-O167-FA-05 Horizontal and Vertical Control Report* further information about the tide station.

All data were reduced to MLLW using unverified observed tides from station Sitka, AK by applying tide file 9451600.tid and time and height correctors through the revised zone corrector file O167FA2005CORP.zdf.

The Pacific Hydrographic Branch will apply final approved (smooth) tides to the survey data during final processing¹⁵. A request for delivery of final approved (smooth) tides for survey H11470 was forwarded to N/OPS1 on June 7, 2005 in accordance with the *Draft Field Procedures Manual v1.1*, dated March 2005 (FPM). A copy of the request is included in Appendix III.

The OPR-O167-FA-05 Horizontal and Vertical Control Report was originally transmitted to N/OPS1, CO-OPS, on August 22, 2005. The report was not received by CO-OPS, so it was retransmitted on October 31, 2005.