




UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Office of Coast Survey  
Silver Spring, Maryland 20910-3282

September 9, 2011

MEMORANDUM FOR: CDR David Neander, NOAA  
Commanding Officer, NOAA Ship *Fairweather*  
2011.09.09

FROM: Jeffrey Ferguson  10:08:13 -04'00'  
Chief, Hydrographic Surveys Division

SUBJECT: Vertical Datum Transformation Technique,  
OPR-N395-FA-11, Central Puget Sound, WA

Hydrographic surveys H12280 & H12281 are approved for vertical reduction to chart datum, Mean Lower Low Water (MLLW), using the NOAA Vertical Datum Transformation (VDatum) (<http://vdatum.noaa.gov>) derived separation (SEP) model provided on the project CD/DVD.

Approval of VDatum, in lieu of the NOAA Center for Operational Oceanographic Products and Services (CO-OPS) discrete zoning package as per the Project Instructions, is based on your recommendation and the review of comparison results you included in your attached memo from August 29, 2011, Subject "OPR-N395\_Interim\_Deliverables\_Memo".

The results of the data analysis show that ellipsoidally referenced survey (ERS) techniques with VDatum used as the vertical datum reducer to MLLW in this area indicate a better internal consistency of the survey data and produces final sounding values that meet or exceed horizontal and vertical specifications for hydrographic surveys.

The comparison techniques are in line with the procedures that were developed and approved as part of the CSDL Ellipsoidally Referenced Survey (ERS) project. These procedures and deliverables were recently added to the April 2011 edition of the NOS Hydrographic Surveys Specifications and Deliverables document.

You shall include a description of your ERS processing procedures and the comparisons you conducted between ERS and traditional tides in the appropriate Descriptive Report (DR), Horizontal and Vertical Control Report and/or Data Acquisition and Processing Report.

This memo and your memo, shall be included in the supplemental correspondence Appendix of the DR.

