

G. Vertical and Horizontal Control

The vertical datum for this project is Mean Lower Low Water. The vertical control method used was VDatum.

All data have been reduced from the ellipsoid to MLLW using the VDatum Separation Model provided in the files associated with the Project Instructions.

The horizontal datum for this project is North American Datum of 1983 (NAD 83). The projection used for this project is Universal Transverse Mercator (UTM) Zone 18.

Trimble-RTX service was used with an Applanix POS MVv5 GNSS_INS system to obtain highly accurate ellipsoidally referenced position data to meet ERS specifications for D00272 MBES data from vessel S222. The Wide Area Augmentation System (WAAS) was used for real-time horizontal control during data acquisition. NOAA Ship Thomas Jefferson is equipped with Applanix POS/MV position and orientation systems on the hull. Correctors are derived using a Precise Point Positioning (PPP) approach. The POS/MV data was post-processed in Applanix POSpac MMS using the Applanix RTX service to produce Smoothed Best Estimates of Trajectory (SBETs) and RMS uncertainty files using the method of Post Processed Precise Point Positioning (5P).

No DGPS stations were used for this survey.

Additional information discussing the vertical and horizontal control for this survey can be found in the DAPR for the 2020 field season.