



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE- Office of Coast Survey
Hydrographic Surveys Division: Atlantic Hydro Branch
Norfolk, Virginia 23510

May 8, 2009

MEMORANDUM TO: Monique LaFrance
University of Rhode Island

FROM: CDR Shepard M. Smith, NOAA
Chief, Atlantic Hydrographic Branch

SUBJECT: Charting Action of URI SAMP Survey (W00198)

We appreciate you sending us the C3D data from the SAMP cruise, which we renamed W00198 for our own tracking. We are beginning to consider increased use of interferometric systems ourselves and appreciate additional datasets that we can use to refine our understanding of these systems.

We gridded the data provided at 4m resolution in Caris HIPS. As you mentioned, there is a considerable noise band in the outer beams, at times reaching about 10m. The gridding means out much of the noise at 4 m resolution, but there is still enough residual noise in the outer parts of the swath to make object detection of navigationally significant features unreliable, and general depths not accurate enough to replace the charted depths. I included a screenshot of one area with an average amount of noise.

However, your survey does provide enough confirmation of the general depth of the water in the deeper parts of the survey area that we may be able to offset some of our survey requirement in these areas, potentially saving us valuable ship time.

We have an active research program underway to look at new algorithms to further improve the signal to noise ratio for interferometric systems, and particularly the C3D (which we also own), and we hope to have a better toolbox for modeling this sort of data in the future.

Thanks again!



