

Deepwater Furrows Current Measurement Program Gulf of Mexico

Project Characteristics:

- *Bottom Platforms – Precision ROV Deployment*
- *Acoustic Data Telemetry*
- *Unique Furrow Data Set*

Woods Hole Group designed, deployed, and recovered six unique bottom frames in deepwater Gulf of Mexico (~2800m) for ROV precision deployment in special bottom features of interest. This was a one-year program with no interim instrument recovery, but supported periodic data access.

Two current profilers with different frequencies on each frame were used to obtain detailed near bed profiles and less detailed longer profiles. Data were recovered at four-month intervals using acoustic modem technology from a surface vessel, thereby lowering costs by not using an ROV. Recovering the data acoustically was a unique application proven successful by Woods Hole Group.

Further cost reduction was accomplished during final recovery of frames by using acoustic releases, so no ROV was necessary during this procedure as well. The instruments used were:

- TRDI 300kHz Workhorse ADCPs for long profiles.
- Nortek 2MHz Aquadopp profilers for short, near bed profiles in the furrows.
- Linkquest UWM4000 modems used to recover data while deployed, working over ranges of up to 4000m.

The data were collected at instrument deployment locations precisely within the deepwater furrows, where no previous site-specific data existed and currents were known to be swift, even in deep water. The engineering and scientific value of the data for the client is substantial.

