

# Deep Water Current Conditions for the Planned Offshore Oil & Gas Operations North Coast Colombia, SA

## Project Characteristics:

- *Deepwater Mooring Program*
- *Met-ocean Conditions Affecting Oil & Gas Operations*
- *Operational, Extreme and Directional Statistics for Regional Currents*
- *Seasonal Variability of the Met-ocean Conditions at the Site of Deepwater Oil & Gas Operations*

Operational and extreme current statistics were required by Petrobras-Colombia, S.A. for the design of a drilling program to evaluate offshore Colombia Oil & Gas reserves. The objective of the project for Woods Hole Group was to provide ocean current criteria for the operation of deepwater drilling platforms and for future production platforms.

Woods Hole Group worked with Petrobras-Colombia, Petrobras CENPES (research and development center), and the Colombian Navy (DIMAR) to accomplish this one-year project in an area where there was no prior historical deep water ocean current data.

Woods Hole Group designed three deep water moorings to obtain full water column ocean current measurements. The moorings were comprised of a TRDI 75 KHz Long Ranger ADCP, and multiple single point Nortek Aquadopp Current meters co-located with Seabird SBE-37SMP CTD instruments. Emergency relocation devices were attached to the upper sub-surface float. Dual Benthos Acoustic Releases were employed for the quarterly recovery of the moorings.

Logistics support was provided by DIMAR and the Research Vessel Malpelo, which was an excellent platform for conducting the deployment and recovery operations.

On a quarterly basis, data were compiled and analyzed to produce statistics for both operational and extreme conditions. The output information from the analysis was presented to the client in summary reports, with an executive summary and analysis discussion. Data also were delivered in tabular and graphical forms.



*Deployment of sub-surface 75 khz ADCP as a component part of the three taut wire moorings*

