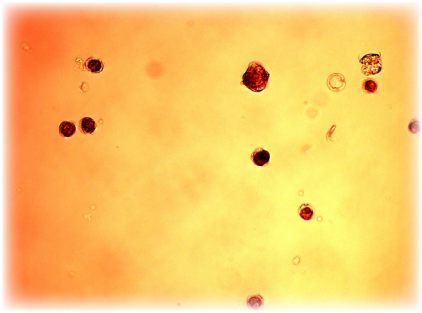
McLANE RESEARCH LABORATORIES, INC.

Profilers Samplers Flotation
Fall 2010 Newsletter

McLane Instruments Yield Significant HAB Data

Scientists are deploying several different McLane instruments to collect diverse views of harmful algal bloom (HAB) data.



Alexandrium Cells in a Sample
Photo courtesy of Kerry Norton, WHOI

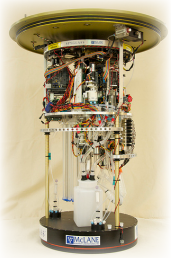
Bruce Keafer, Kerry Norton, and other researchers from Dr. Don Anderson's Lab, Woods Hole Oceanographic Institution (WHOI) have collaborated with Dr. Cindy Pilskaln of U-Mass Dartmouth since 2004 using McLane Phytoplankton Samplers (PPS) and Sediment Traps to study the distribution, transport, and delivery of the toxic dinoflagellate *Alexandrium fundyense* blooms that cause red tide.

In 2009, significant HAB data were collected using McLane samplers during a red tide bloom within the GOMOOS buoy network in the Gulf of Maine. The PPS collected Alexandrium cells from within the red tide bloom and Sediment Traps collected a large amount of Alexandrium cysts deposited downstream in the coastal flow at the end of the bloom. Studying mid-stream and end of bloom cysts contributed to a greater understanding of the development of dinoflagellate cysts and the coastal current flow.

Toxic algae can now be examined at the genomic level using a new McLane instrument, the Environmental Sample Processor (ESP). Keafer and Dr. Don Anderson are using an ESP for a joint WHOI/ Environmental Protection Agency (EPA) project in the Gulf of Maine. This genomic study provides another perspective on red tide blooms by identifying and counting Alexandrium cells.

The ESP, PPS and Sediment Traps will all be used in continued red tide studies in 2011.

McLane Announces New Sampler Availability



We are pleased to announce the availability of a new sampler, the Environmental Sample Processor (ESP). Working with our partners at Monterey Bay Research Institute and Spyglass™ Biosecurity, McLane's first ESP was shipped to Dr. Don Anderson at Woods Hole Oceanographic Institution in June.

The ESP collects and analyzes water samples *in situ* using molecular probes that identify microorganisms and their gene products. For more information see *mclanelabs.com*.

New ITP Sensor Integration

The ITP is now integrated with the Teledyne RDI Doppler Velocity Sensor (DVS) and Wetlabs Triplet sensor. The DVS measures the velocity of ocean currents. The Wetlabs triplet measures 3 wavelengths of optical backscatter. The Satlantic SUNA nitrate sensor and RBR conductivity temperature depth logger (CTD) are also now integrated with profiler firmware and electronics.

Photos from the Deck

Want a new McLane t-shirt? Visit mclanelabs.com and send us a photo!

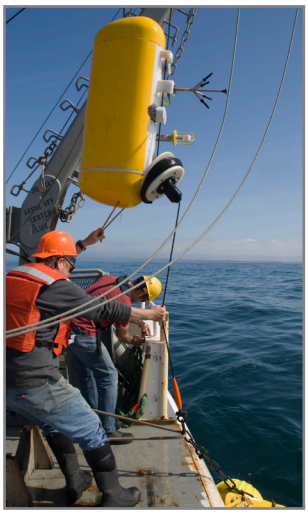


Photo: Mike Gregg, APL-UW

MMP, Monterey Submarine Canyon

Photo: Rick Krishfield, WHOI

Steel Buoy, Beaufort Sea

Photo: Andrew Bowie, University of Tasmania

WTS-LV, Tasman Sea

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McLane Sediment Traps Help Monitor Gulf Cleanup Results

McLane Sediment Traps are uniquely positioned to study how cleanup methods will affect the underlying ecosystems at the site of the Deepwater Horizon oil spill.

When the Deepwater Horizon drilling rig exploded, researchers from Woods Hole Oceanographic Institution (WHOI) were nearby with McLane Sediment Traps studying the ways that deep-water fauna and coral obtain energy from a cold dark habitat. Originally, the year-long Gulf of Mexico coral study called for final sample collection in July of 2010. After oil began pouring into the Gulf however, WHOI Principal Investigator Chris German realized that sediment samples could help monitor subsequent oil contamination and remediation efforts that will impact the underlying seafloor and deep-water ecosystems in the Gulf.

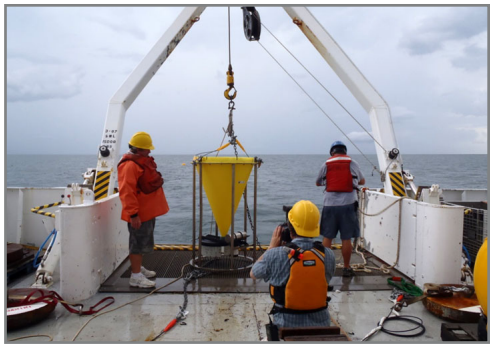

Photo: T. Thomas, R/V Hatteras

Trap Deployment, Deepwater Horizon Site

The NSF agreed and funding has been granted to extend German's original study, adding two more McLane Sediment Traps at a second site in the oil well area. The Sediment Traps began sampling on June 25, and will continue to do so throughout 2011.

2010 Conference Schedule

Sept | Oct | Nov | Dec

20-23
Oceans 2010
Seattle, WA
Booth#: 531

13-15
EOF 2010
Barcelona, Spain
Rep: Grafinta

13-17
AGU Fall Mtg.
San Francisco, CA
McLane to attend

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