



Upper air observations over the Gulf oil spill: A student experience of a lifetime

Dion M. Delao

Texas A&M University



Background

- Develop procedures and determine feasibility for ultra-portable upper air sounding system to enhance NWS support of oil spill operations
- System funded by Dr. Richard Orville, TAMU/NOAA CIAMS
- Second of 2 trips; first set initial procedures for operations
- Collect air quality samples for Dr. Gunnar Schade and colleagues for analysis

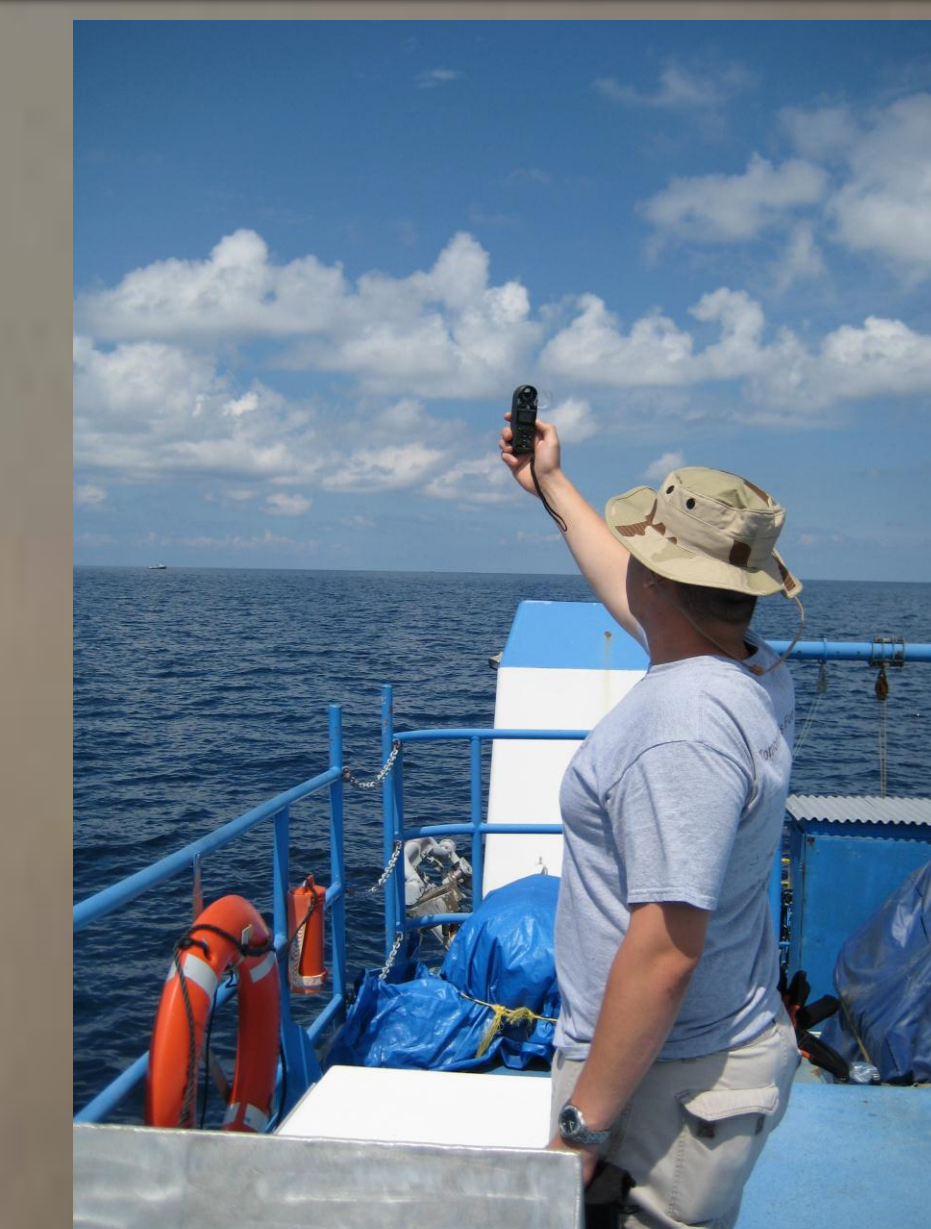
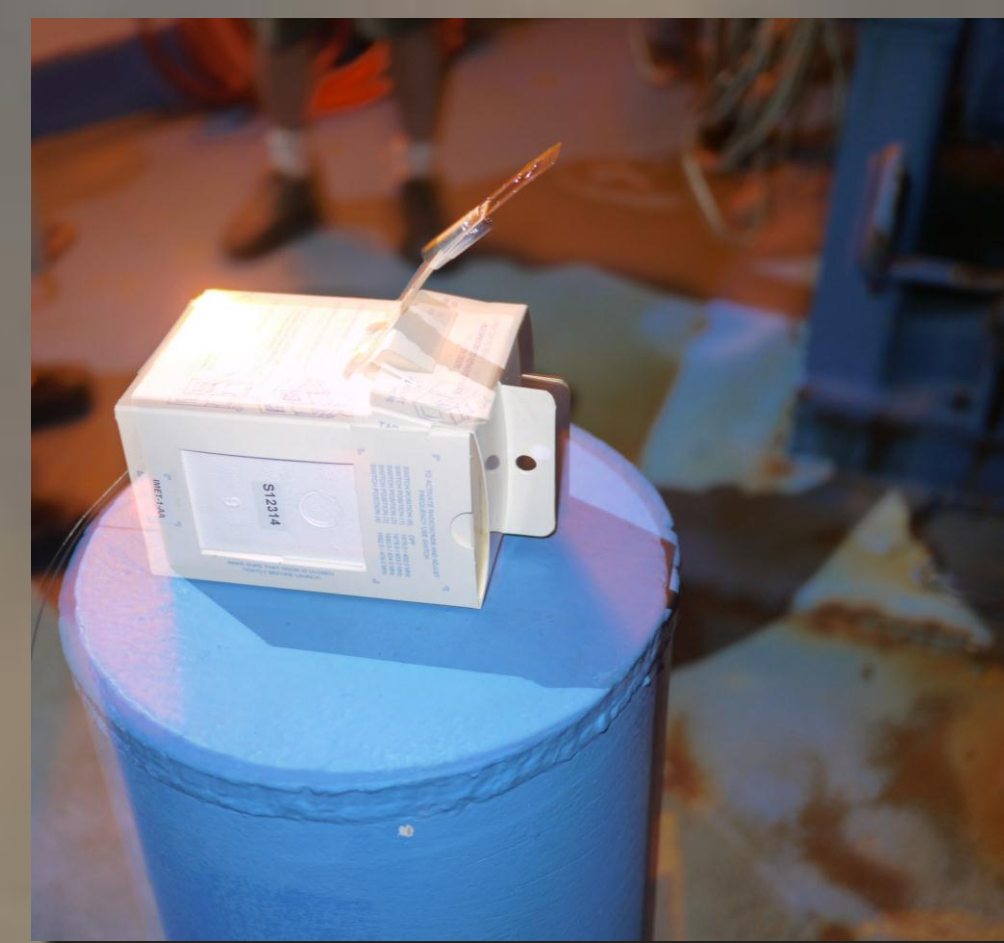
The Vessel



- R/V Brooks McCall
- TDI Brooks International, College Station, TX
- INTERNET!
- Primary mission to locate underwater sub-surface oil plume with the use of CTD Rosette
- Numerous scientists and researchers from various organizations

Equipment

- InterMet Systems, Grand Rapids, MI
- Model 3150 ultra portable system
- 403 Mhz
- Sondes provided same data as more expensive systems
- Kestrel 4000 Pocket Wind Meter



Launches



- 0500Z launches (0000 Local)
- Launch conditions and location recorded
- Set up time for pre launch procedures approximately 30 minutes
- Data collection lasted about 2 hours
- "Package" raw data into form for Global Telecommunication System



Lessons Learned

- System capabilities, procedures
- Ideas for set up improvement
- Airspace coordination
- Transferring raw data into RAOB program for graphics
- Converting raw data to ship WMO format coded message
- Data recovery
- Procedures for getting data into the GTS
- Uses of ultra- portable system
- Take students to the field!



Ancillary Activities

- (Right, upper) Assisted Dr. Ian MacDonald (FSU) with collection of surface samples. Substantial bio-degradation detected in his findings
- (Left) Collection of air quality samples for Dr. Schade. Samples still undergoing some tests, however no harmful levels of VOC's present at site
- (Right, lower) Just for fun, lowered large styrofoam cup in bag attached to CTD. Pressure at 5000 ft. level shrunk cup

