Observations in the Gulf of Mexico from the Florida State University

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FSU’s Northern Gulf Institute (NGI) Ocean Observing System

CTD Profile data is collected monthly at 5 stations along a Hydrographic Line.

Instruments include: Sea-Bird SEACAT 19 and YSI 6600 Multiparameter Water Quality Datasonde

Parameters collected every second:

- Conductivity, Temperature, and Depth
- Temperature, Conductivity, Salinity, Dissolved Oxygen, pH, Chlorophyll, and Turbidity

Site A: depth = 5m
Site B: depth = 10m
Site N7: depth = 20m
Instruments deployed at Site A and Site B include:
Nortek Acoustic Wave and Current Meter (AWAC) and YSI 6600

Parameters collected every 15 minutes:
• Current Velocity and Amplitude (East/North/Up)
• Temperature, Conductivity, Salinity, Dissolved Oxygen, pH, Photosynthetic Active Radiation, Chlorophyll, and Turbidity

Parameters collected hourly:
• Significant Wave height, Mean 1/3 height, Mean 1/10 height, Max height, Mean period, Peak period, Peak direction, Directional spread, Mean direction, and Mean pressure

Data is collected monthly during instrument servicing.
Subsurface instruments deployed at **Site N7** include:

RDI Acoustic Doppler Current Profiler (ADCP), RDI NEMO Real-time Wave Processor, YSI 6600, Wet Labs ECO Fluorometer, Satlantic MBARI-ISUS, and Sea-Bird SEACAT16

Parameters collected every 15 minutes:

- Current Velocity (East/North)
- Temperature, Conductivity, Salinity, Dissolved Oxygen, pH, Photosynthetic Active Radiation, Chlorophyll, and Turbidity
- Colored Dissolved Organic Matter
- Nitrate
- Conductivity and Temperature at 3m and 9m

Parameters collected hourly:

- Significant Wave height, Max height,
  Peak period, Mean period, Peak direction, and Pressure

Data is collected monthly during instrument servicing. **Soon to be real time.**
Instruments deployed on tower at N7 include:

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Instrument</th>
<th>Height (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind Speed, Direction</td>
<td>RM Young Marine</td>
<td>4</td>
</tr>
<tr>
<td>Wind Speed, Direction</td>
<td>RM Young Marine</td>
<td>19</td>
</tr>
<tr>
<td>Wind Speed, Direction</td>
<td>RM Young Marine</td>
<td>30</td>
</tr>
<tr>
<td>Air Temperature</td>
<td>Vaisala HMP 45C</td>
<td>4</td>
</tr>
<tr>
<td>Air Temperature</td>
<td>Vaisala HMP 45C</td>
<td>19</td>
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<tr>
<td>Air Temperature</td>
<td>Vaisala HMP 45C</td>
<td>30</td>
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<tr>
<td>Relative Humidity</td>
<td>Vaisala HMP 45C</td>
<td>4</td>
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<tr>
<td>Relative Humidity</td>
<td>Vaisala HMP 45C</td>
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<tr>
<td>Dewpoint Temperature</td>
<td>Calculated</td>
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<td>19</td>
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<tr>
<td>Dewpoint Temperature</td>
<td>Calculated</td>
<td>30</td>
</tr>
<tr>
<td>Atmospheric Pressure</td>
<td>Vaisala PTB 110</td>
<td>19</td>
</tr>
<tr>
<td>Sea Surface Temperature</td>
<td>IR; Campbell-Scientific (CS) SI-111</td>
<td>4</td>
</tr>
<tr>
<td>Water height</td>
<td>Acoustic Campbell-Scientific SR 50A</td>
<td>4</td>
</tr>
<tr>
<td>Sea State Photos</td>
<td>Campbell Scientific CC-640</td>
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<tr>
<td>3D Turbulence</td>
<td>Sonic Anemometer</td>
<td>19</td>
</tr>
<tr>
<td>2D Wind</td>
<td>2D Sonic (CS)</td>
<td>19</td>
</tr>
</tbody>
</table>

Meteorological parameters are all one-minute averages from higher frequency sensor sampling
- Transmitted via RF to FSU Coastal and Marine Lab in 10-min. packets
- Packets uploaded by COAPS for automated QC (under development)
- Real-time data available (with range checks) from NGI web site: http://coaps.fsu.edu/ngi/home/
- Sea state photos taken and transmitted hourly
- Sonic anemometers not yet installed, but plan to provide air-sea fluxes

Planning to provide data to NDBC and NWS in real-time
Research vessel data via SAMOS

**History:**
- Initiated near-real time data transfer via daily emails in 2005

**Parameters:**
- Position, course, speed, heading
- Tair, humidity, winds, pressure, radiation
- Tsea, salinity, conductivity
- 1-min. samples, daily delivery

**Status:**
- 17 operational RVs
  - Vessels operated by WHOI, NOAA, NSF, and USCG
- Fully automated QC for preliminary data
- Visual inspection occurs daily
- At sea notification of problems

2008 Gulf Observations

Currently recruiting *Pelican* (LUMCON), *Sette* and *Okeanos Explorer* (NOAA), *Kilo Moana* (UH), and *Southern Surveyor* (Australia)

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