Real-Time Water Quality Monitoring at Clam Bayou St. Petersburg, Florida

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Sensor suite

- Atmospheric parameters: wind speed and direction, air temperature, relative humidity, barometric pressure and rainfall
- Water quality parameters: water level (Radar, Bubbler, and Pressure), dissolved oxygen, salinity, water temperature, chlorophyll and CDOM fluorescence, pH, and turbidity (YSI EXO² Sonde)
Water Quality Data – YSI EXO² Sonde

Water Temp

Salinity

Sonde Depth
Water Quality Data – YSI EXO² Sonde

**DO Concentration**

**pH**

**Turbidity**
Water Quality Data – YSI Sonde

Chl Concentration

BG Algae Concentration

DOM Concentration
Met Data

Air Temp

Rel. Humidity

Barometric Press.
Met Data – RMY sensor

Wind Gust RMY

Wind Speed RMY

Wind Direction RMY
Met Data – VS sensor

Wind Gust VS

Wind Speed VS

Wind Direction VS
### QARTOD

- QA for Real-Time Oceanographic Data

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<td>Density Inversion Test</td>
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### Tests Categorization

- **Data Stream Tests**
  - 1) Time/Gap Test
  - 2) Syntax Test
  - 3) Location Test
  - 4) Gross Range Test
  - 5) Climatological Test
  - 6) Spike Test
  - 7) Rate of Change Test
  - 8) Flat Line Test
  - 9) Multi-Variate Test
  - 10) Attenuated Signal Test
  - 11) Neighbor Test
  - 12) TS Curve/Space Test
  - 13) Density Inversion Test

- **Statistical Tests**

- **Tests specific to T/S**
QARTOD tests:

Need to establish:

- Gross ranges for each parameter
- Climatology for each parameter
  - Use 1 year of data to best account for seasonality
- Rate of change and spike test for each parameter