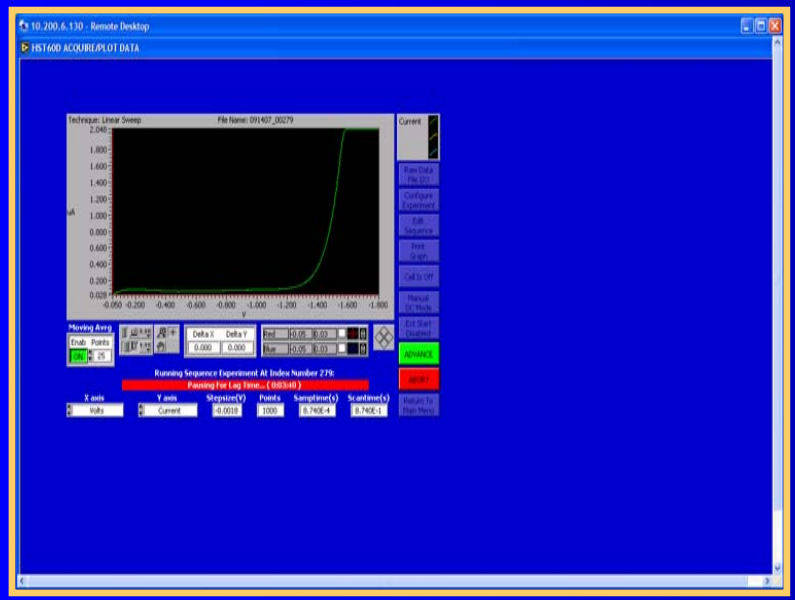
University of Delaware
Delaware Bay Observatory Systems
DBOS

SWAP Wireless Communication
Network Infrastructure

SWAP Network Base Site Marine Operations Building

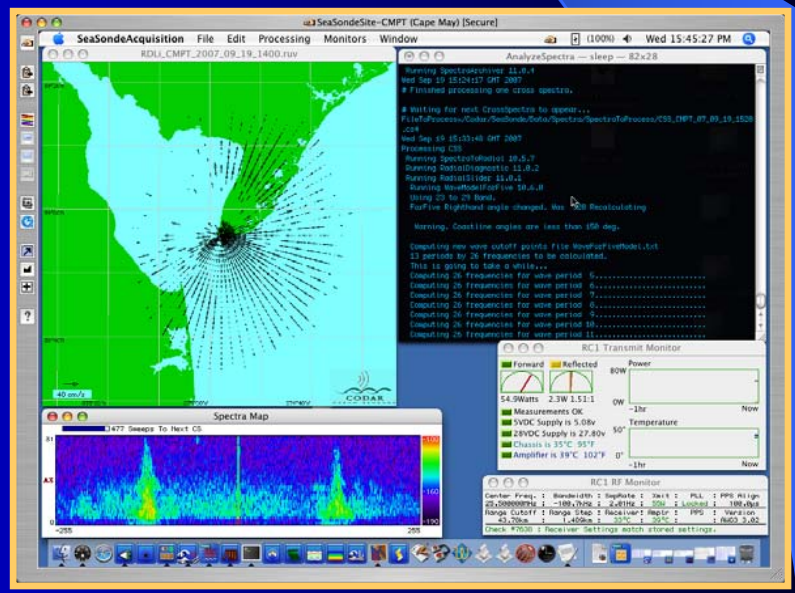
- WWW connection.
- Antenna is a 120 deg directional.
- ~ 45 feet height
- 1 Watt amplifier.
- Router.
- Port-forward.

Instrument Access over the Network



- Buoy uses Windows Remote Desktop.

- CODAR uses Timbuktu.



Cape Henlopen Pilot Tower

- Relay Site #1.
- ~80 feet height.
- Permission to install on the site was easy.

Cape Henlopen CODAR Site

- In-situ Surface Water Currents and Waves.
- Real Time Access.
- Site #1 at Cape Henlopen uses SWAP.
- Site #2 at Cape May uses a phone modem, and will be upgraded to SWAP.

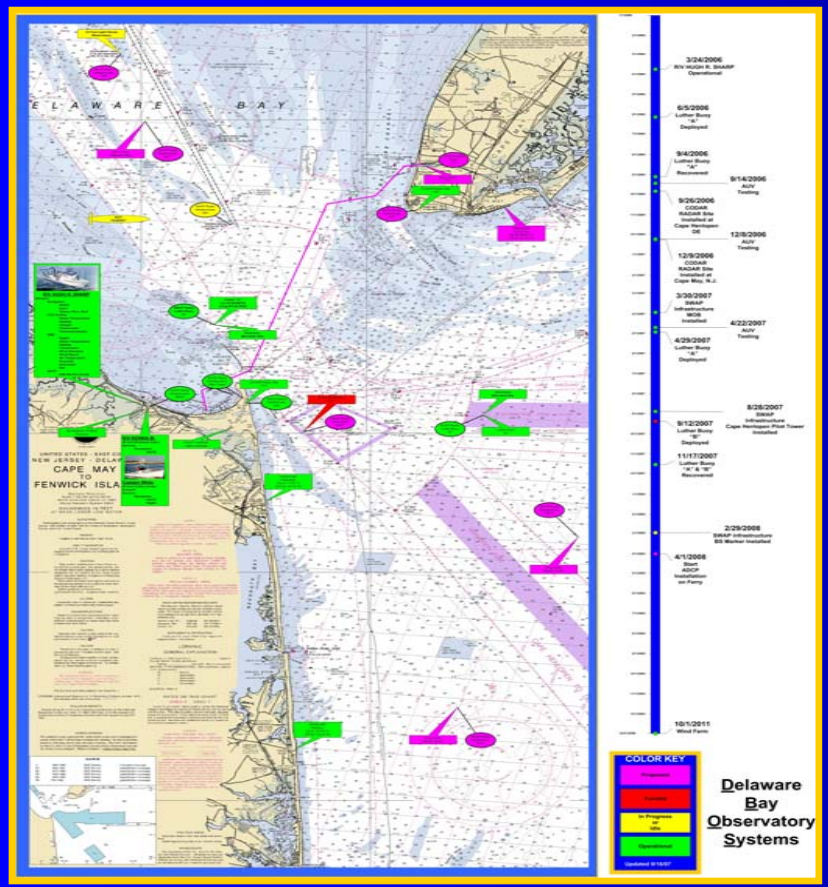
Luther Buoy “A” & “B”

- In-situ Electro Chemistry.
- Real Time Access.
- Buoy “A” 5 miles from Marine Operations Building.
- Buoy “B” 7 miles from Pilot Tower.

Brown Shoal Nav. Marker

- Future Relay Site #2.
- ~ 40 feet height.
- Permission to install on this site was more difficult.

DBOS Instrumentation Systems



Instruments Include.

- CODAR.
- Instrument Buoys.
- Wave Riders.
- Microbial Observation.
- ADCP.
- Video Observation.
- Relay Sites.

Ellipses are SWAP locations.

Credit Where Credit is Due

Swap Designer

- Toby Martin
- Val Schmidt
- Geoff Daves
- Eldridge McFadden

Indispensable Help

- Jim Akens
- Laure Stolp

Funding Sources

- Travel to SWAP meetings was funded by NSF.
- Ship and Dock radios was funded by NSF.
- DBOS components was funded by NOAA Sea Grant. This included radios, and technician time (one month) for installation.