

NOAA Buoy Regional  
Prioritization Inputs and  
NDBC Response

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Thank you for participating  
and helping to enhance the National Backbone!!




Outline

- Request for Regional Inputs
- MACOORA Inputs
- Accomplishments
- NDBC Challenges
  - Equipment
  - Schedule
  - NDBC 4000
- The Plan

Request for Regional Inputs

- Due to FY05 budget, we are able to add some Salinity, ADCP and Directional Wave sensors to existing buoys.
- What are your priorities?
- What else do you want to tell us?
- Coordinated Response desired.



**MACOORA Input on Directional Waves**

- Continue 44025 (S of Islip, NY)
- **Add**
  - 44009 (Delaware Bay)
  - ALSN6 (Ambrose Light)
- **New DW wave buoy needed @ shelf break near 39.5N, 72.5W**

**MACOORA Input on ADCP/Salinity**

- **ALSN6 (AMBROSE Light)**
  - ADCP
  - TS Profile

**Additional MACOORA Input**

- **New Sensors Needed**
  - Temp, Salinity and DO: Sfc, Mid and Bottom
  - Radiation: Above water radiance, incoming short and longwave
  - Nutrients and Biological
  - UV and CO<sub>2</sub>
- **New Buoys:**
  - SSE of Block Island
  - Between Baltimore Canyon and Elephant Trunk canyon
  - Hudson Canyon @ Shelf Break
  - Off Barnegat Inlet NJ
  - Off Middle Long Island
  - Western Long Island Sound (Buoy or CMAN?)



**Accomplishments**

- Ambrose Light (ALSN6) - ADCP installed for directional waves and current profile
- VA Beach (44014) – surface current meter installed
- SE of Nantucket (44008) and Delaware Bay (44009) – SW radiation sensors
- SE of Cape Cod (44018) – SW and LW radiation sensors



**NDBC Scheduling**

- Moored buoy operations schedule
  - Two- to three-year replacement cycle
  - Schedule is updated every three months
- Dependent on Coast Guard for heavy lift capability
- Weather dependent
- Planned service visits. Once the buoy is on station, we do not plan to return for 2 years
  - Service visits for critical sensors may occur
- Wells may make replacing ocean instruments easier

**ADCP, CT, SCM Wells**



**NDBC Equipment**

- A large number of ADCPs, point source current meters, and CTs were purchased
  - Some current measurement will be made at all buoys
  - We are trying to procure more CTs to augment all buoys with salinity
- Payloads (data loggers) must be augmented or developed based on the sensor suite. The ADCP data stream is large compared to others.
- Communications capable of transmitting larger messages are required (Iridium vs. GOES)

## NDBC 4000

- NDBC Document listing the buoys and their proposed/accepted sensor suites
- The Operations group consults NDBC 4000 before outfitting a buoy for integration, testing, and deployment
- If a sensor or payload (data logger) is not ready for a scheduled deployment, the deployment goes on and the requirement remains for the next cycle



## The Plan: Directional Waves

- Directional waves are to be added to all 3m, 10m, and 12m buoys and some C-MAN stations
- For some 6 meter NOMADS, adding a 1.8 meter companion buoy may be feasible
- For some C-MAN stations, adding a 1.8 meter companion buoy or a bottom-mounted wave/current sensor (ALSN6) may be feasible




## The Plan: Currents

- SE Nantucket (44008) – SCM (early 07)
- Islip, NY (44025) – SCM (early 08)
- Delaware Bay (44009) – SCM (late 07)
- E of Cape May (44004) – SCM (mid 08)

## The Plan: Salinity

- SE Cape Cod (44018) - surface CT (early 08)
- ISLIP (44025) - surface CT (early 08)
- Delaware Bay (44009) CTs @ 1.5m, 10m, and 15m (late 07)



## Summary



- Please re-assess your region and provide a list of proposed new buoy locations
- We welcome suggestions
- NDBC is striving to implement the requests from all of the Regional Associations
- Six months ago, the list was different; six months from now, it will probably be different again!
- Thanks again for participating!
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