



The Data Assembly Center (DAC) at the National Data Buoy Center (NDBC)

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NOAA NWS National Data Buoy
Center

Stennis Space Center, MS

Presented to DBCP XXIII

16 October 2007



Overview

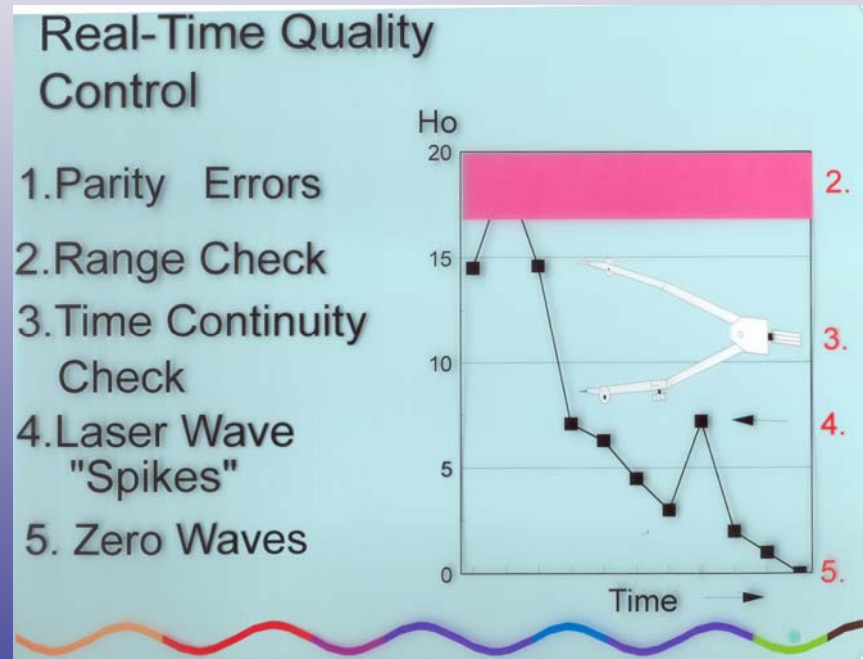


- Data Assembly Center
 - History
 - Functions
- Process
- Data Users
- Data Resources
- DAC – Partner Interactions
- Follow-on Efforts



Data Assembly Center

- Before there was a Data Assembly Center (DAC), the Data Quality Analysis Group was formed
 - Started 30 years ago
 - Meteorologists quality controlled the data from NDBC “Yellow Buoys” and C-Man stations
 - Quality control was provided on a “daily” basis
 - In the 1990’s automated quality control was established
 - Approximately 100 stations





Data Assembly Center



- Instituted the Data Assembly Center (DAC) 1 July 2005
- Real-time, automated quality control at the Telecommunications Gateway
 - As data arrive; before they are transmitted as bulletins
- Daily “eyes on” quality control for data that exceed “soft” limits
- Monthly quality control of NDBC files as they are accumulated for storage in the historical database



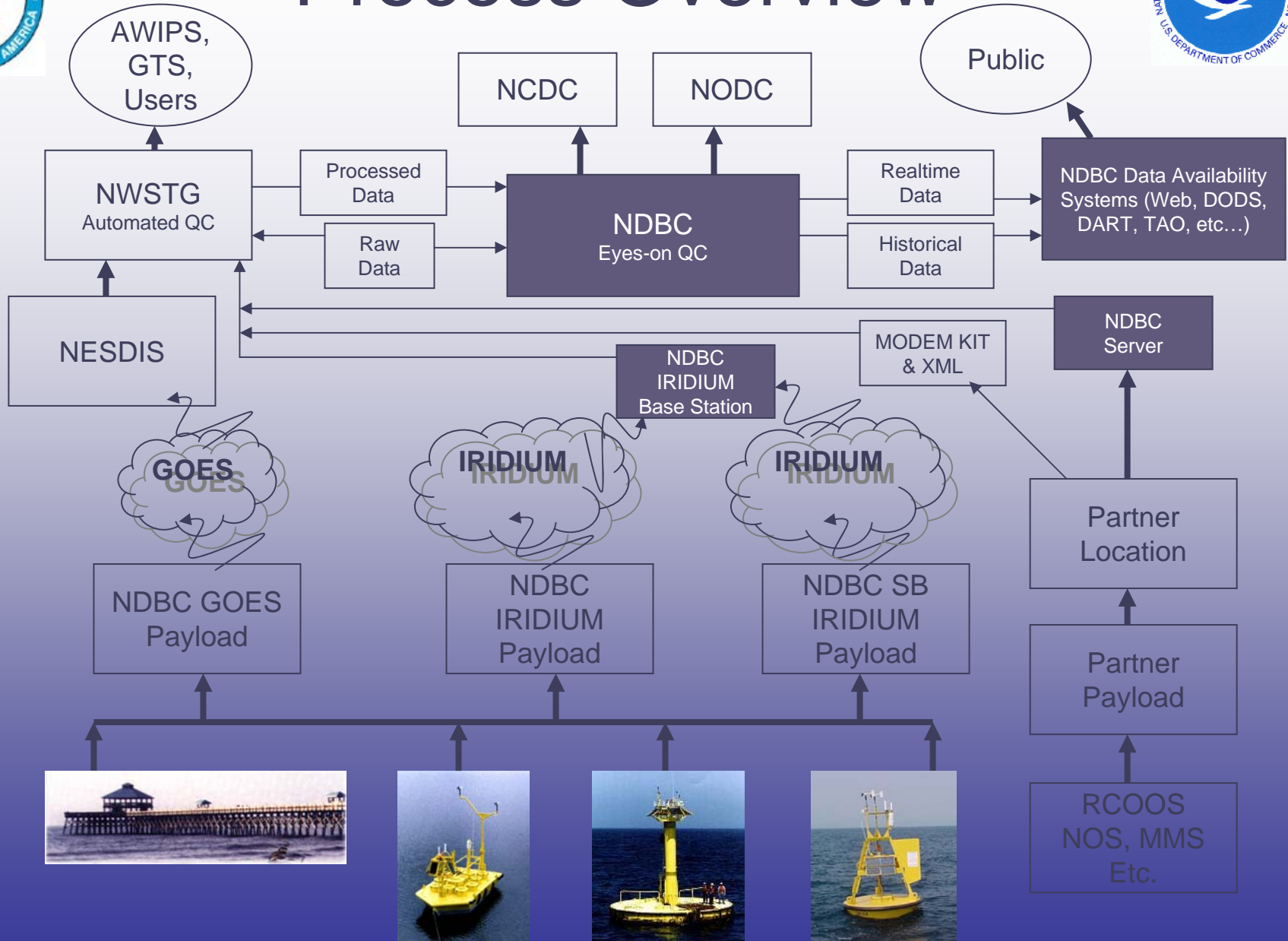
Additional DAC Functions



- Maintaining platform metadata in a data base for proper processing and archival
- Reporting communications outages that impact data quality or the ability to deliver data
- Reporting station failures to the data provider
- Reporting degraded data and contacting provider to stop/correct degraded data



Process Overview





National Data Buoy Center



Who Uses It

- Forty-three (43) coastal NWS Forecast Offices and U.S. Navy for marine warnings and forecasts (high winds and seas, surf, currents, etc.).
- Two (2) NWS Tsunami Warning Centers
- NOAA Center for Tsunami Research
- National Ocean Service – Center for Operational Oceanographic Products and Services
- Coast Guard for search and rescue missions.
- National atmospheric and/or ocean prediction centers.
- State and local decision makers; hazard and spill responders
- Fishing industry, marine transportation; cruise lines; oil and gas industry.
- Our active reimbursable partners
 - National Marine Sanctuary Program
 - Sea Launch Corp., LLC – Pacific equatorial waves
 - St. Lawrence Seaway Development Corporation – Fog
 - Army Corps of Engineers – Measure directional waves
 - Coast Guard meteorological observations and navigation aids
 - Michigan Dept. of Environmental Quality – Lake St. Clair circulation
 - NASA Kennedy Space Center and Goddard Space Flight Center
- Academic researchers
- Satellite sensor calibration and validation



NDBC DAC: An IOOS Data Assembly Center



- 24/7/365 support of
 - Data Quality Control
 - Communications
 - Operations
- Daily Operations Brief
- More than 600 stations currently supported
 - NDBC Buoys (104)
 - NDBC C-MAN Stations (56)
 - NOS Stations (161)
 - DART (34)
 - TAO (55)
 - VOS (400+)
 - Partner Stations (180)





NDBC MMS Page



NDBC - Station 42367 - Mozilla Firefox

http://www.ndbc.noaa.gov/station_page.php?station=42367

NDBC - Deep-ocean Assessment and Repor... NDBC - Station 42367

National Oceanic and Atmospheric Administration's
National Data Buoy Center
 Center of Excellence in Marine Technology

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Station ID Search
 Go
 Station List

Observations
 Recent
 Historical
 Obs Search
 NOAA Obs
 APEX
 CSP
 DART
 MMS ADCP
 TAO
 DODS
 HF Radar
 OSMC

Station Status
 Maintenance
 Platform Status
 Partner Platforms

Ship Observations
 VOS
 Ship Obs Report

About NDBC
 Moored Buoy Program
 C-MAN

Dial-A-Buoy

Publications
 Hurricane Data Plots
 Mariners Weather
 Log
 Observing
 Handbook No. 1

Science Education

FAQ
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Station 42367 - Matterhorn - Mississippi Canyon Block 243

Station operated by [Total USA, Inc.](#)
 Fixed Drilling Platform
 28.74 N 88.83 W (28°44'33" N 88°49'32" W)
 Water depth: 880 m
[Meteorological Observations from Nearby Stations and Ships](#)
[Latest Satellite Wind Map for this Area](#)

Ocean Current Data for 42367

Unit of Measure: Time Zone:

| | 9:24 am CST | | 9:04 am CST | | 8:44 am CST | | 8:24 am CST | | 8:04 am CST | | 7:44 am CST | | 7:24 am CST | |
|----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|
| Depth ft | Dir | Speed kts | Dir | Speed kts | Dir | Speed kts | Dir | Speed kts | Dir | Speed kts | Dir | Speed kts | Dir | Speed kts |
| 310.7 | 269 | 0.34 | 259 | 0.24 | 253 | 0.26 | 257 | 0.39 | 233 | 0.10 | 269 | 0.13 | 255 | 0.24 |
| 409.1 | 223 | 0.24 | 190 | 0.16 | 211 | 0.27 | 210 | 0.21 | 177 | 0.16 | 187 | 0.14 | 169 | 0.11 |
| 507.5 | 263 | 0.10 | 260 | 0.13 | 266 | 0.16 | 256 | 0.14 | 259 | 0.13 | 261 | 0.14 | 266 | 0.13 |
| 606.0 | 257 | 0.19 | 262 | 0.18 | 264 | 0.21 | 257 | 0.19 | 254 | 0.17 | 253 | 0.16 | 262 | 0.17 |
| 704.4 | 238 | 0.16 | 235 | 0.17 | 228 | 0.15 | 219 | 0.15 | 211 | 0.16 | 234 | 0.11 | 228 | 0.09 |
| 802.8 | 277 | 0.15 | 264 | 0.15 | 265 | 0.17 | 264 | 0.15 | 278 | 0.14 | 271 | 0.14 | 258 | 0.14 |
| 901.2 | 163 | 0.03 | 147 | 0.03 | 167 | 0.04 | 254 | 0.03 | 255 | 0.05 | 244 | 0.10 | 246 | 0.09 |
| 999.7 | 203 | 0.17 | 193 | 0.17 | 192 | 0.14 | 192 | 0.14 | 200 | 0.17 | 206 | 0.16 | 195 | 0.14 |
| 1098.1 | 205 | 0.21 | 206 | 0.20 | 200 | 0.19 | 197 | 0.19 | 203 | 0.20 | 195 | 0.17 | 179 | 0.15 |
| 1196.5 | 213 | 0.18 | 200 | 0.17 | 201 | 0.18 | 196 | 0.17 | 195 | 0.15 | 186 | 0.15 | 174 | 0.16 |
| 1294.9 | 151 | 0.14 | 141 | 0.17 | 152 | 0.16 | 148 | 0.17 | 152 | 0.17 | 157 | 0.17 | 162 | 0.18 |
| 1393.4 | 138 | 0.17 | 139 | 0.18 | 160 | 0.14 | 139 | 0.16 | 150 | 0.16 | 156 | 0.15 | 157 | 0.14 |
| 1491.8 | 134 | 0.19 | 138 | 0.17 | 150 | 0.13 | 143 | 0.17 | 158 | 0.13 | 152 | 0.11 | 148 | 0.10 |
| 1590.2 | 99 | 0.23 | 96 | 0.26 | 95 | 0.22 | 97 | 0.24 | 99 | 0.23 | 106 | 0.17 | 98 | 0.17 |
| 1688.6 | 106 | 0.14 | 102 | 0.17 | 103 | 0.16 | 102 | 0.19 | 106 | 0.18 | 103 | 0.18 | 99 | 0.17 |
| 1787.1 | 112 | 0.11 | 103 | 0.14 | 117 | 0.11 | 109 | 0.17 | 111 | 0.17 | 111 | 0.17 | 118 | 0.18 |
| 1885.5 | 131 | 0.08 | 131 | 0.07 | 130 | 0.11 | 129 | 0.13 | 112 | 0.15 | 120 | 0.13 | 113 | 0.11 |
| 1983.9 | 193 | 0.02 | 185 | 0.02 | 148 | 0.04 | 116 | 0.05 | 326 | 0.01 | 100 | 0.05 | 211 | 0.01 |
| 2082.3 | 65 | 0.07 | 68 | 0.09 | 56 | 0.08 | 59 | 0.10 | 47 | 0.10 | 47 | 0.08 | 42 | 0.10 |

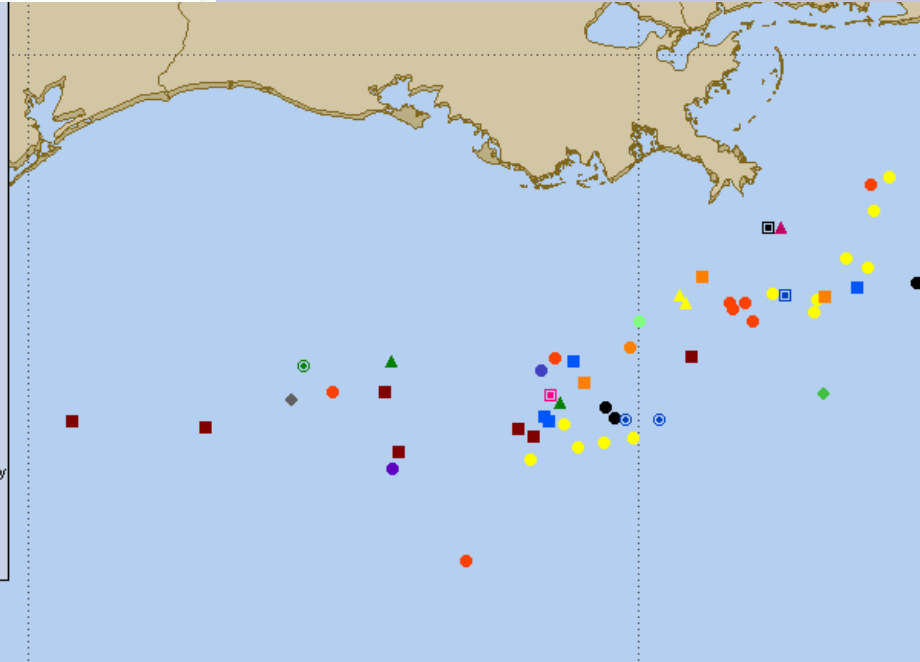
Station Legend

- Amerada Hess
- Anadarko Petroleum
- ATP Oil & Gas
- BHP
- BP Inc.
- Chevron
- Conoco Phillips
- Dominion Exploration
- ENI Petroleum
- ExxonMobil
- Kerr-McGee
- Marathon
- Mariner Energy
- Murphy Exploration
- Newfield Exploration
- Nexen
- Petrobras
- Remington Oil & Gas
- Shell
- Tana Exploration Company
- Total USA
- Walter Oil and Gas
- Williams
- W&T Offshore

Previous (up to 48) reports of ocean current data for 42367

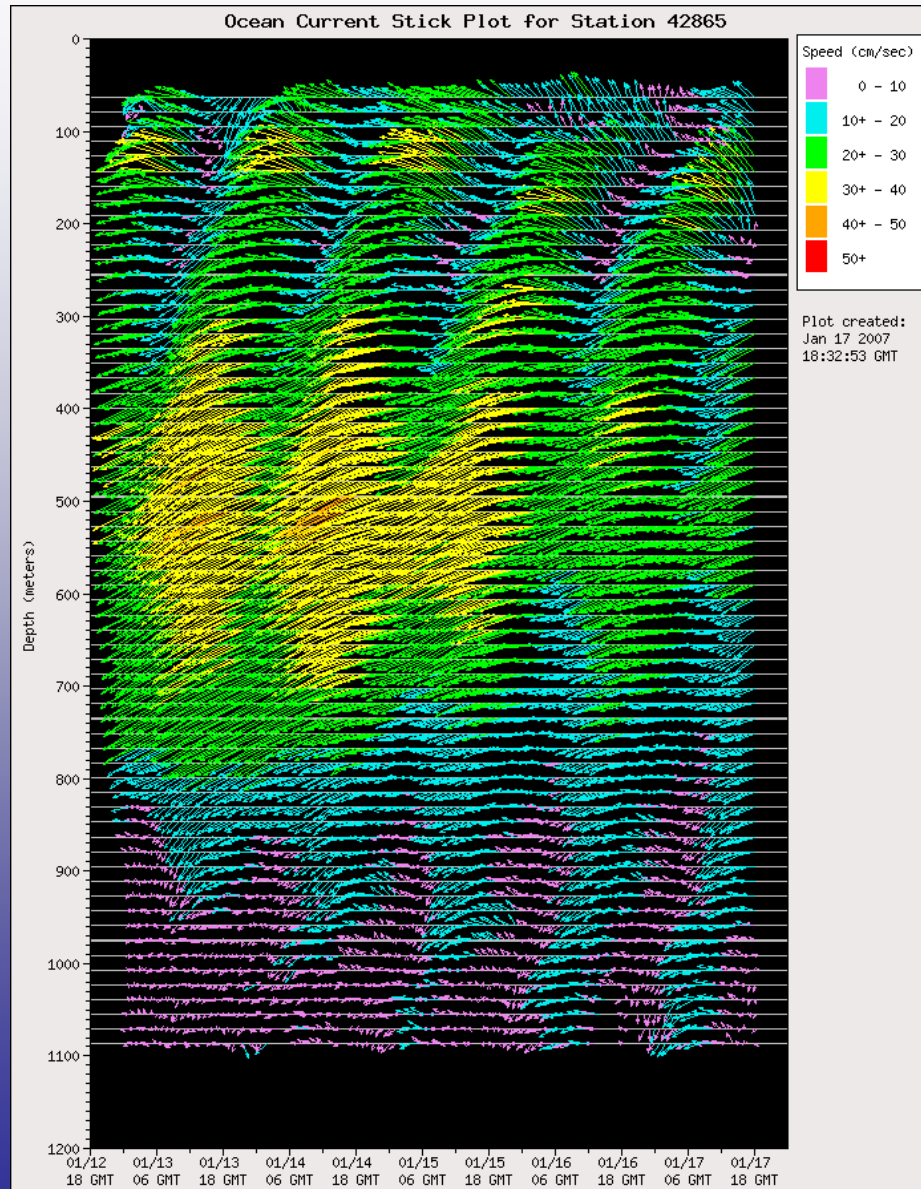
Ocean Current Stick Plots are available in metric units only.

Apply quality control to real-time ADCP data from 40-50 deep-water oil platforms and rigs

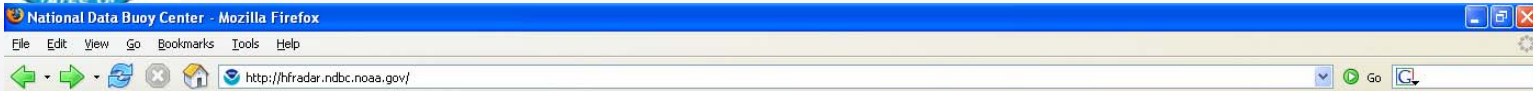




Real-Time MMS ADCP Data



NDBC HF Radar Page



- Station ID Search
- Station List
- Observations
- Recent
- Historical
- Obs Search
- NOAA Obs
- APEX
- CSP
- DART
- MMS ADCP
- TAO
- DODS
- HF Radar
- OSMC
- Station Status
- Maintenance
- Platform Status
- Partner Platforms
- Ship Observations
- VOS
- Ship Obs Report
- About NDBC
- Moored Buoy Program
- C-MAN
- Dial-A-Buoy
- Publications
- Hurricane Data Plots
- Mariners Weather
- Log
- Observing Handbook No. 1
- Science Education
- FAQ
- Contact Us
- Links

WARNING: HF Radar data have not been quality controlled.

This is a demonstration of the **NOAA HF Radar National Server and Architecture Project**. HF Radar is used to remotely measure ocean surface currents. Click a region on the map below to go directly to that HF Radar region or [view HF Radar data for the U.S.](#)



For more information about this demonstration, see the [HF Radar Product Description Document \(PDD\)](#).

Your feedback is requested. Please [fill out the survey](#) related to this demonstration.

U.S. Dept. of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Data Buoy Center

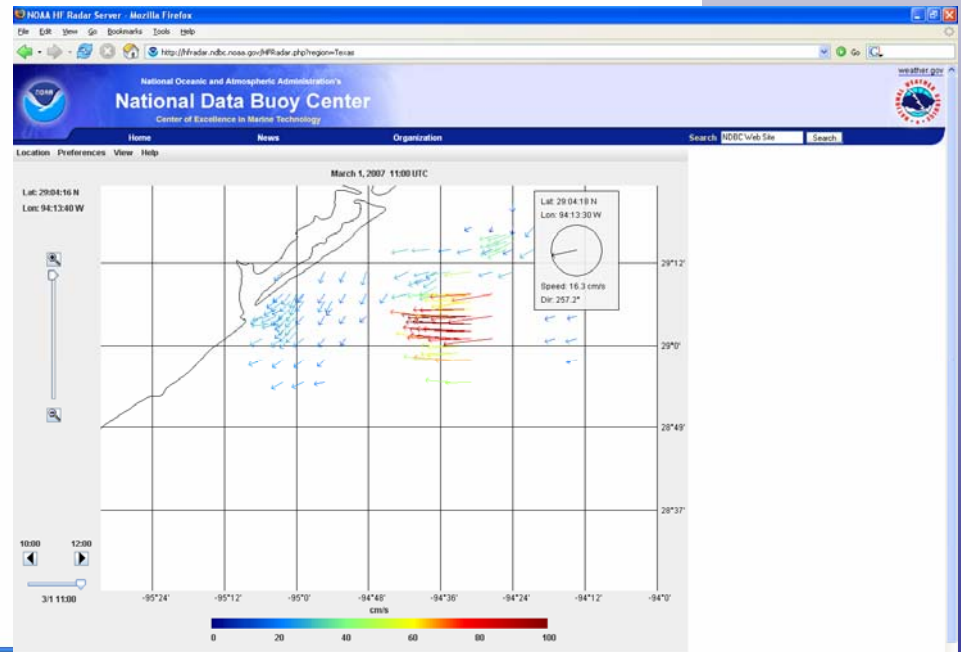
1100 Balch Blvd.
Stennis Space Center, MS 39529

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Page last modified: January 31, 2007

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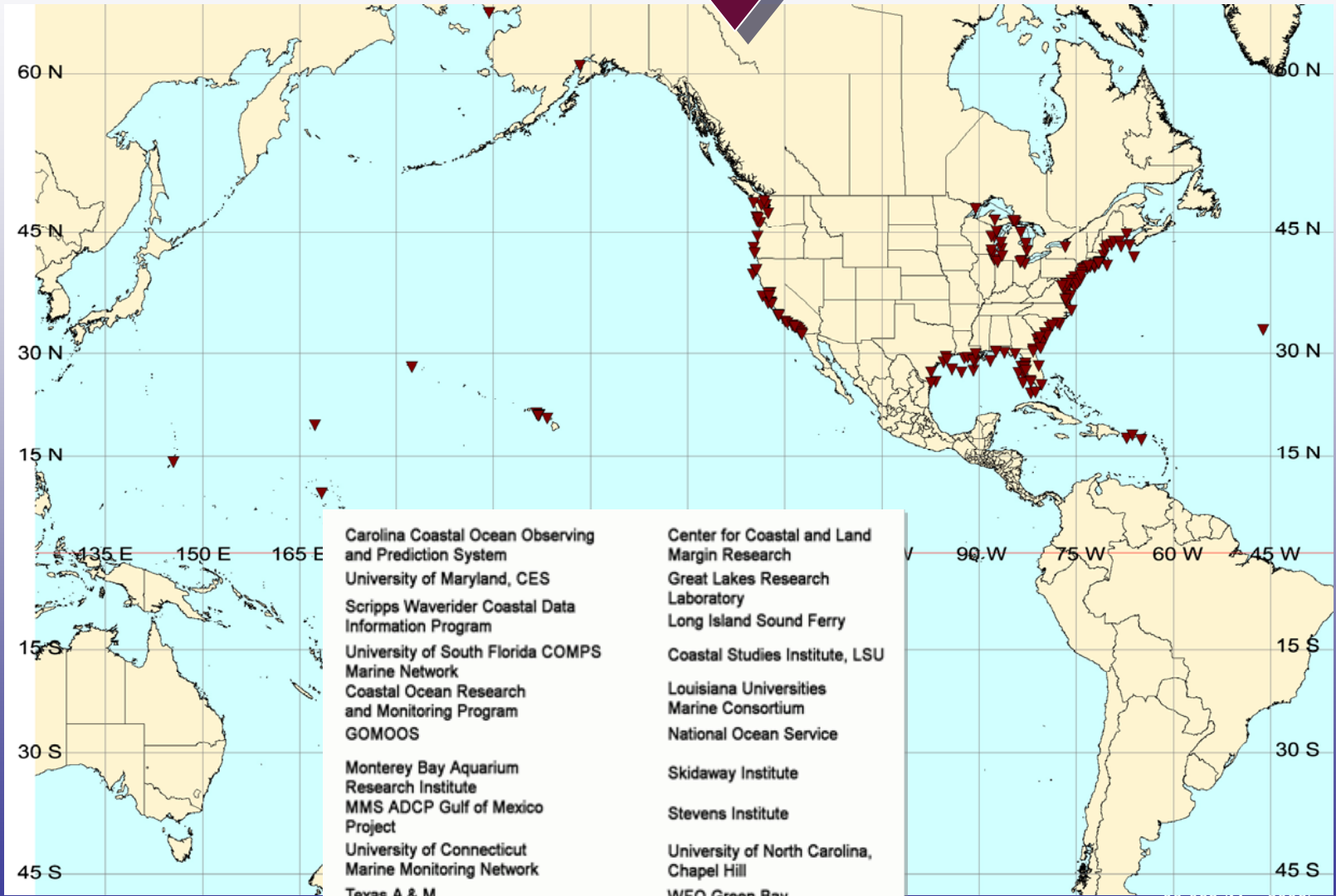
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NDBC became an HF Radar Node 28 February 2007. NDBC receives HF Radar radials from all HF radar sites and generates vectors.





Partner Stations



- | | |
|--|---|
| Carolina Coastal Ocean Observing and Prediction System | Center for Coastal and Land Margin Research |
| University of Maryland, CES | Great Lakes Research Laboratory |
| Scripps Waverider Coastal Data Information Program | Long Island Sound Ferry |
| University of South Florida COMPS Marine Network | Coastal Studies Institute, LSU |
| Coastal Ocean Research and Monitoring Program | Louisiana Universities Marine Consortium |
| GOMOOS | National Ocean Service |
| Monterey Bay Aquarium Research Institute | Skidaway Institute |
| MMS ADCP Gulf of Mexico Project | Stevens Institute |
| University of Connecticut Marine Monitoring Network | University of North Carolina, Chapel Hill |
| Texas A & M | WFO Green Bay |



Partner Platform Status



NDBC - NDBC Partner Status - Central Stations - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://www.ndbc.noaa.gov/pstat_central.shtml

Eastern Western Report Legend

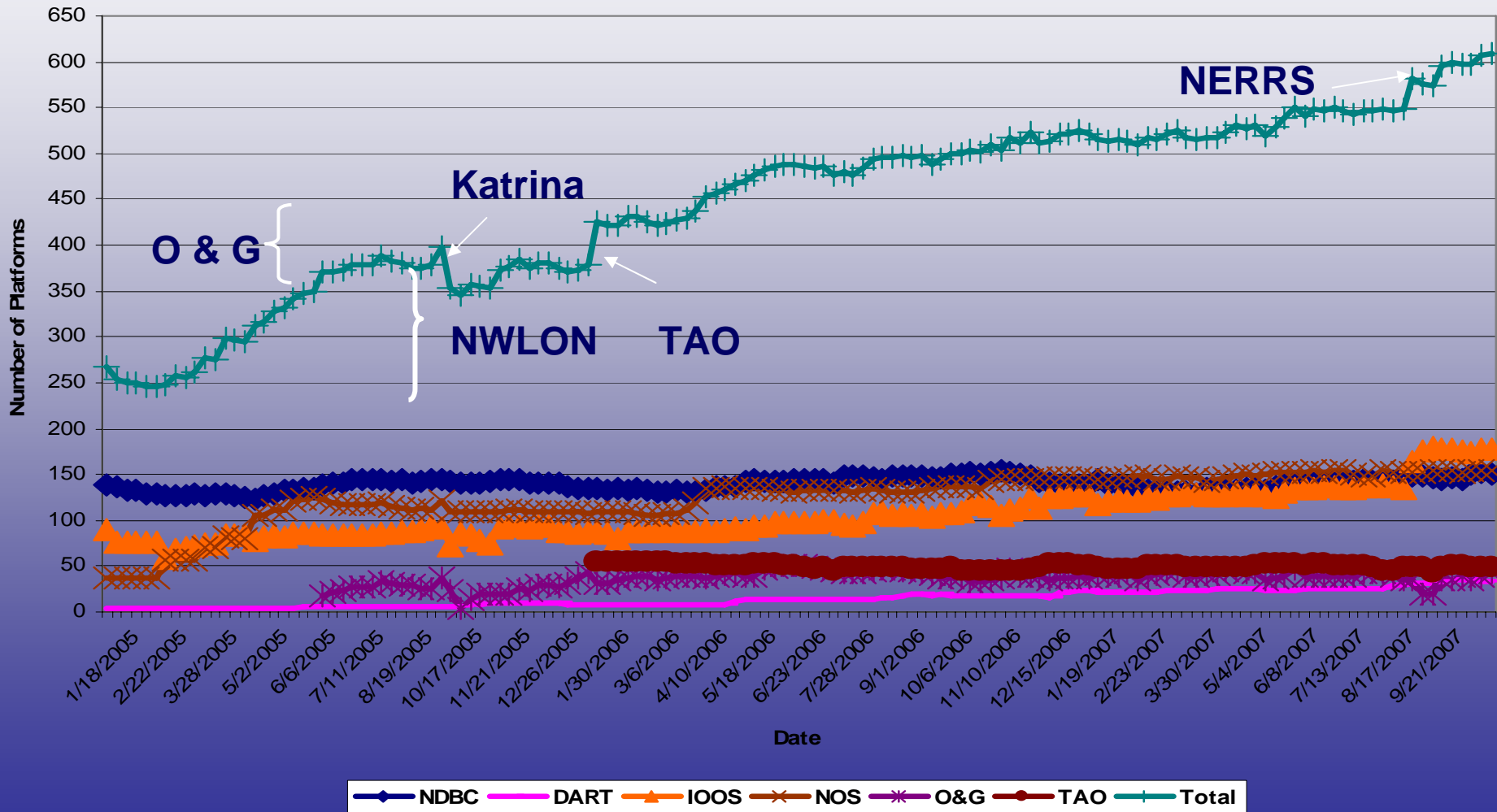
| Wednesday, 2/28/2007 | | | | Status by Sensor Groups | | | | | | | | | | | | | Data Reporting and Data Quality Comments | | | | | | | |
|----------------------|---------|-----|------------------|-------------------------|----------|-------|----|----|-------|----|----|----------|-----------------------------------|----|----------------|----------------------------|--|---|--|----------------------------------|----------|------------------|-------------------|--|
| Central | | | Daily Evaluation | | Obs Freq | Winds | | | Waves | | | New Item | Summary of Current Issues/Actions | | Effective Date | Verified on their Web Site | Init | | | | | | | |
| Exp | Station | Pgm | WED | NWS Met Status | | BA | AT | DP | WD | WS | GT | | WV | WD | | | | TD | VS | CR | OC | Issue/Action | Reason for Change | |
| Y | SHPF1 | COM | -- | Release | | | | m | D | D | D | | | | | | | No Data Reports Wind data failed | | 01/12/07 01/07/07 | na | TJB RB2 | | |
| Y | HSSF1 | COM | | Release | | | | m | D | D | D | | | | | | | Wind data failed | Suspect lightning strike | 02/02/07 | Y | RB1 | | |
| Y | ARPF1 | COM | | Release | | D | | m | D | D | D | | | | | | | Baro failed Wind data failed | baro too low numerous drops to zero | 2/27/07 2/22/2007 | | IS TJB | | |
| Y | PTRF1 | COM | | Release | | | | m | | | | | | | | | | | | | | | | |
| Y | ANCF1 | COM | | Release | | | | m | | | | | | | | m | | | | | | | | |
| Y | FHPF1 | COM | | Release | | | | m | | | | | | | | | | | | | | | | |
| Y | TARF1 | COM | | Release | | D | | m | | | | | | | | | | Baro failed | Baro too low | 02/27/07 | | IS | | |
| Y | EGKF1 | COM | | Release | | | | | | | | | | | | | | | | | | | | |
| Y | ANMF1 | COM | | Release | | | | m | | | | | | | | | | | | | | | | |
| N | SEAF1 | COM | | | | | | | | | | | | | | | | Planned Station | | | | | | |
| Y | BGCF1 | COM | | Release | | | | m | | | | | | | | | | | | | | | | |
| Y | NFBF1 | COM | | NR | | | | m | m | | | | | | | | | | | | | | | |
| Y | 42014 | COM | | Release | | | | m | D | D | D | | | | | | | WDIR data failed WSPD data failed | WDIR 90-115 off, now missing WSPD 4-5kts low, now missing | 12/13/06 12/13/06 | Y | TJB TJB | | |
| Y | 42023 | COM | | Release | | | | m | D | D | D | | D | | | | | WINDS data failed WTMP data failed | WSPD too low, now missing WTMP erratic | 01/07/07 07/24/03 | na | RB2 RB1 | | |
| Y | 42013 | COM | -- | NR | | D | D | | | | | | D | | | m | m | ATMP and WTMP data failed No data reports DEWPT data failed | ATMP and WTMP = 0 No station data released | 12/26/06 02/02/07 07/29/06 | Y | RB RB1 RB1 | | |
| Y | 42022 | COM | | Release | | | | m | D | D | D | | | | | | | WINDS data failed | WSPD 4m/s low, now missing | 12/26/06 | na | RB2 | | |
| Y | 42021 | COM | | Release | | | | m | | | | | | | | m | m | WTMP data missing | | 02/12/07 | Y | RJP | | |
| Y | 42024 | COM | | NR | | | | | | | | | | | | | | | | | | | | |
| Y | VCAF1 | NOS | | Release | 6m | | | | | | D | | | | | | | GUST data failed | spiking | 01/22/07 | Y | RB2 | | |
| Y | KYWF1 | NOS | | Release | 6m | | | | D | D | D | | | | | | | Winds data failed | WDIR 70 deg off, WSPD 5 kt low, now missing | 06/13/06 | Y | RB1 | | |
| Y | NPSF1 | NOS | | Release | 6m | | | | | | | | | | | | | | | | | | | |
| Y | FMRF1 | NOS | | NR | 6m | | | | | | | | | | | | | | | | | | | |
| Y | PMAF1 | NOS | | Release | 6m | | | | | | | | | | | | | | | | | | | |
| Y | OPTF1 | NOS | | Release | 6m | | | | | | | | | | | | | | | | | | | |
| Y | SAPF1 | NOS | | Release | 6m | | | | | | | | | | | | | | | | | | | |
| N | ERTF1 | NOS | | Release | 6m | | | | D | | | | | | | | | | WDIR data failed | WDIR 30-35 off | 02/19/07 | | RB2 | |
| Y | MCYF1 | NOS | | Release | 6m | | | | | | | | | | | | | | | | | | | |
| Y | CWBF1 | NOS | i | Release | 6m | m | | | | | | | | | | | | Intermittent data BARO data missing | missing/intermittent | 2/27/07 2/16/2007 | Y | IS RB1 | | |
| N | CKYF1 | NOS | | | 6m | | | | | | | | | | | | | Not Activated - CDRF1 | | | | | | |
| Y | APCF1 | NOS | | Release | 6m | | | | | | | | D | | | | | WTMP data failed | WTMP 5 degs low | 08/09/06 | Y | RB1 | | |
| Y | PCBF1 | NOS | | Release | 6m | | | | | | | | | | | | | | | | | | | |
| Y | PCLF1 | NOS | | Release | 6m | | | | | D | | | | | | | | GUST data failed | spiking | 01/22/07 | Y | RB2 | | |
| Y | WAVM6 | NOS | | NR | 6m | | | | | | | | | | | | | | | | | | | |
| Y | LABL1 | NOS | | Release | 6m | m | | | | | | | D | | | | | BARO missing WTMP data failed | very erratic | 02/25/07 12/19/2006 | | IS RJP | | |



Number of Stations Reporting

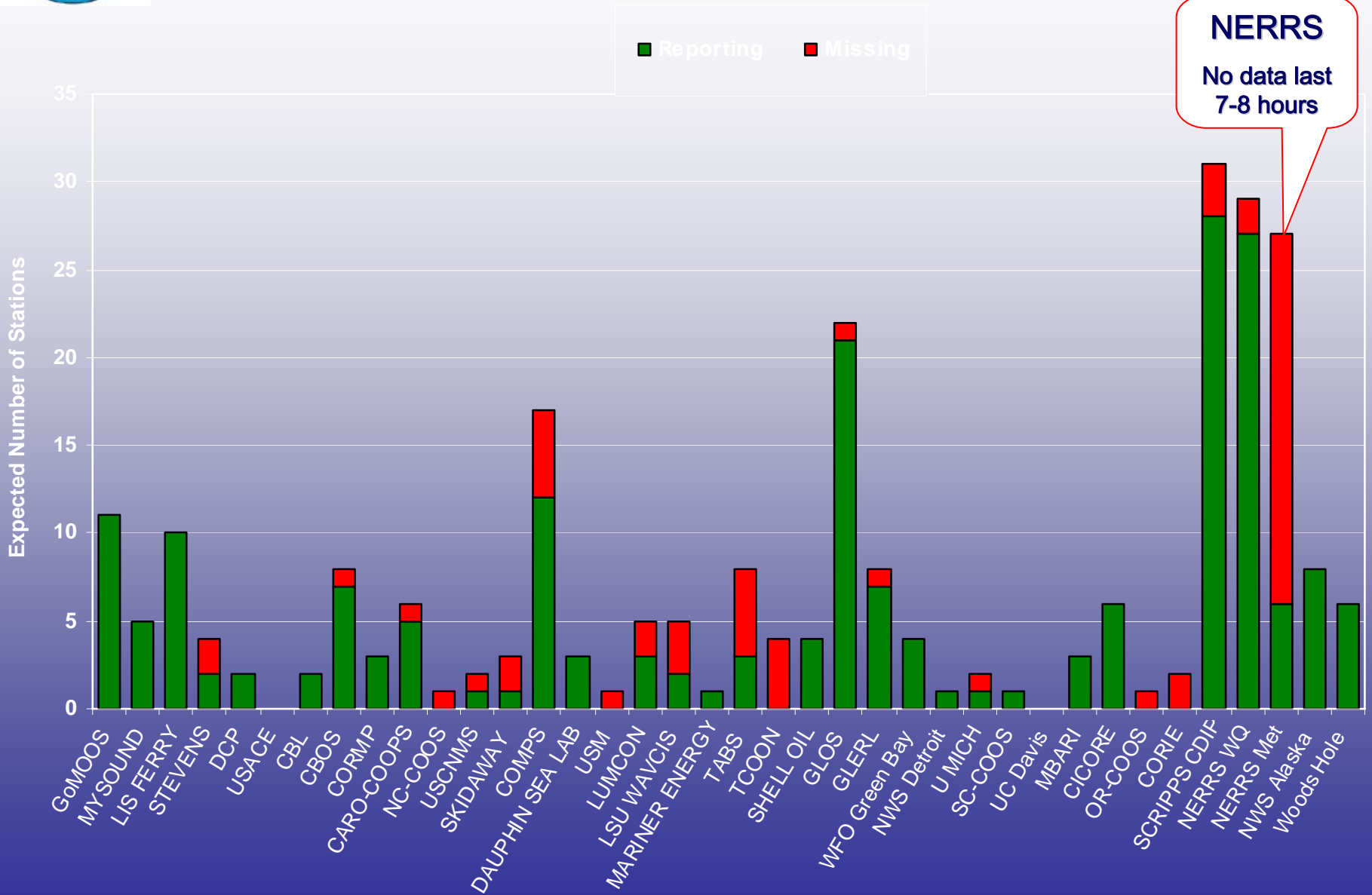


Weekly Platform Count



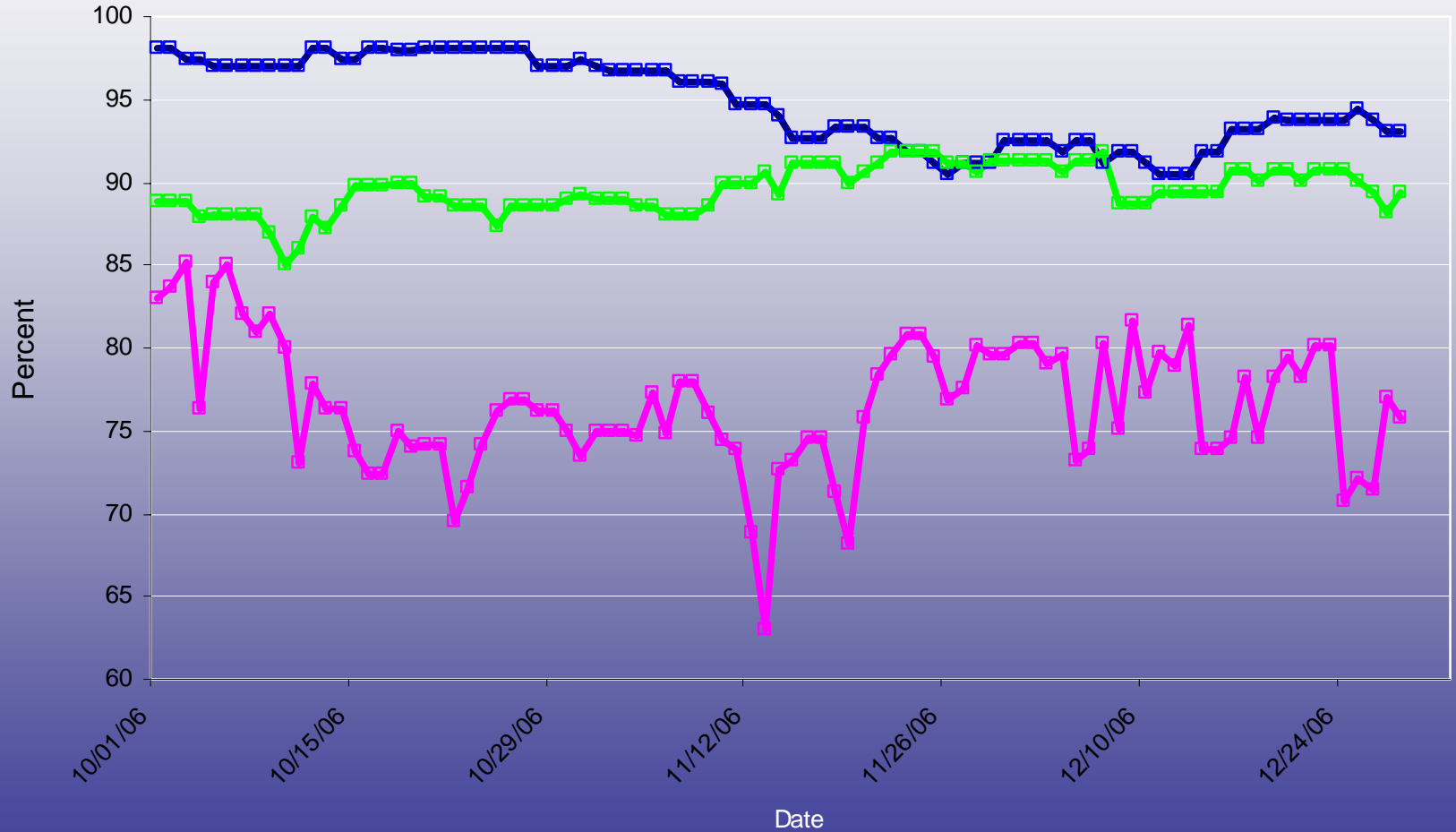


Number of IOOS Partner Stations Reporting





Percentage of Stations Reporting





Follow-on Efforts

- Adapt strategy to higher frequency (and battery powered) current profilers and all current profiler data processed by NDBC
 - Large surface current and current profiler expansion underway at NDBC
- Time continuity and other processing dependent on previous reports
- Spatial Checks
- Model Comparisons (In-House only)
- Training of NDBC DAC Staff on Data Management Console for QA/QC
 - Future quality control algorithms being sought
- QARTOD/COTS Demonstration Compliant



Questions?



Contact Info:

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