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National Oceanographic Data Center (NODC)

The mission of the National Oceanographic Data Center is to provide scientific stewardship of marine data and information.

The vision is to be recognized as the nation's premier repository and provider of marine data and information.

NODC's service to the nation is to identify, archive, and disseminate marine data, information, and products useful to the marine community.

Message from the Director

I want to express my deep gratitude to our staff, who are committed and dedicated toward every aspect of the data we steward. They have a passion to make sure the next generation of users will find novel ways to use the data this current generation has invested so much in. This commitment is made possible by our interactions with the ocean community and your willingness and enthusiasm to preserve your data legacy. NODC celebrated its 50th year on January 2011.

Our accomplishments from FY11 reflect our continuing path toward meeting our goals by providing a permanent archive to ocean data, providing easy access to data, and generating products recognized as authoritative data and information records.

During FY2011, NODC successfully linked its interoperable data services through a single Geoportals Server interface, thereby allowing users and their software clients to easily discover, use, and understand the vast collection of ocean data and information in the NODC Archives. We launched a highly successful digital pilot Gulf of Mexico data atlas. NODC continued to add value to observations and data by building on the success of its products such as World Ocean Atlas and Database, Gulf of Mexico and International Atlases, Regional Climatologies, OER and CoRIS, GTSPP, Coastal Beach Temperatures (and many others).

During FY12, NODC will continue to strengthen and expand its core capabilities of archive, access, products, and information that meet its mission to scientifically steward marine data and information. In light of a proposed FY13 budget reduction, NODC will focus on solidifying its infrastructure: in the area of **archive**, NODC will continue to facilitate the interactions between data providers and the archive and begin to more fully utilize the CLASS IT infrastructure. In the area of **access**, NODC will focus on providing integrated and easy access to its products and archived data by establishing a global ocean current database and expanding on the success of its FY11 pilot on the Gulf of Mexico atlas. In the area of products, NODC will focus on generating and providing access to data and information on the Arctic Ocean. In the area of information, NODC will build on its work with NTIS and provide an Institutional Repository for all NOAA generated documents related to DWH.

NODC looks forward to working and meeting the needs of the ocean community for the next 50 years.

Margarita Gregg

Director, National Oceanographic Data Center

Meeting NODC's Mission in Fiscal Year 2011 Highlights

NODC Celebrated 50 years of Providing Scientific Stewardship to Marine Data and Information: In observance of its 50th Anniversary, NODC held a celebration and Open House on January 13, 2011.



NODC opened its doors on November 1, 1960 under the United States Navy Hydrographic Office. In 1970, NODC was formally transferred from the U.S. Navy Hydrographic Office to the newly formed National Oceanic and Atmospheric Administration (NOAA), under the Department of Commerce. NODC now maintains the world's largest collection of oceanographic data.

The celebration was attended by both NODC staff and a number of other NOAA personnel. Deputy Under Secretary Mary Glackin and Assistant Administrator Mary Kicza gave the opening remarks. Twenty one NODC retirees also attended the celebration, providing personal accounts of their experiences at the data center. The anniversary recognized the essential work done by NODC over the past 50 years.

NODC Provides Critical Information and Data Management Support for Disasters: NODC has delivered a multi-faceted, direct response to ongoing disasters that have grave health and economic consequences. Data from satellites, aircraft, buoys and gliders provide critical information to guide emergency response.

The Deepwater Horizon rig explosion and resultant oil spill took place in the Gulf of Mexico on April 20, 2010, leading to wide spread damage of marine and coastal habitats as well as disruption of the Gulf's fishing and tourism industries. NODC has led the data management effort for this disaster.

In response to the Fukushima reactor disaster, the NOAA Central Library, in collaboration with NOAA's Office of Oceanic and Atmospheric Research and National Marine Fisheries Service, created and continues to update a bibliography of more than 500 citations on anthropogenic radionuclides in the marine environment.

NODC's National Coastal Data Development Center (NCDDC) publishes and distributes thousands of NOAA Extreme Weather Information Sheets (NEWIS) in anticipation of the Atlantic hurricane season. The NEWIS provides valuable emergency reference information in a single, readily available format. More than 300,000

NEWIS were produced this year. In 2011, NCDDC introduced a NEWIS for the Hawaiian Islands. **NEWIS sheets were also linked into hurricane webpages** on NOAAWatch.gov. Specifically, the sheets were linked on Hurricane Irene's webpage which was receiving over **6 million hits per day** at the peak.

OCEAN DATA ACCESS: Provide access to NODC data for a multitude of purposes

NODC Provides Access for Gulf of Mexico Data: NODC, in collaboration with federal, state, non governmental organizations, and academic partners, developed an online data atlas for the Gulf of Mexico which simplifies discovery and access to marine data. Integrated into this effort, NODC constructed and validated fine spatial and temporal Gulf of Mexico regional sea surface temperature (SST), dissolved oxygen, and salinity climatologies. In situ ocean climatologies were developed from analysis of scientifically quality controlled oceanographic data from a variety of measuring instruments as part of the World Ocean Database and World Ocean Atlas. This "Next Generation" atlas takes advantage of the improvements in online data discovery and access, more advanced digital geographic information systems (GIS) techniques/tools, and the exponential growth in Gulf observations/data. *(Supports NOAA's Science and Technology Enterprise)*

NODC's Ocean Heat Content data on the Climate.gov Dashboard Feature: This critical product informs the public on how climate change affects the ocean. A product article is also posted for more information, which can be found at <http://www.climatewatch.noaa.gov/> *(Supports NOAA Climate Adaptation and Mitigation Goal)*

OCEAN DATA ARCHIVE: A comprehensive ocean data archive recognized by data providers and data users

NODC's **ocean data archive volume increased by 32%**, bringing the total volume to 115 TB. *(Supports NOAA's Science and Technology Enterprise)*

NODC's Advanced High Resolution Repository (AVHRR) Pathfinder Version 5.2 Data was the **first Climate Data Record (CDR) submitted by a NOAA office to the NOAA CDR Program at the National Climatic Data Center (NCDC)**. This 30 year sea surface temperature data set included substantial updates to the data format, content, and metadata. *(Supports NOAA Climate Adaptation and Mitigation Goal)*

Observing Systems Team started automatically ingesting the National Data Buoy Center (NDBC) moored buoy and C-MAN station data into NODC's Ocean Archive System in the more-modern network Common Data Form (NetCDF) format. *(Supports NOAA's Science and Technology Enterprise)*

NCDDC **developed transforms and tutorials for transitioning between metadata standards**, specifically between the Federal Geographic Data Committee (FGDC) and the International Organization for Standardization (ISO) metadata standards for geospatial data. This package not only contains transforms to automate the translation between FGDC and ISO metadata standards but also a comprehensive training package that contains a core curriculum, lesson plans, presentation modules, exercises, handouts, evaluations, and ISO workbooks. NCDDC trainers Jacqueline Mize and Kathy Martinolich are the sole trainers for metadata ISO format and developed the transforms from FGDC to ISO. *(Supports NOAA's Science and Technology Enterprise)*

NOAA Extreme Weather 2011 INFORMATION SHEET
To download the latest updated version of this sheet: www.noaa.gov/NEWIS

STATE INFORMATION

| | |
|---|---|
| Department of State Civil Defense (www.scd.hawaii.gov) | 808-733-4300 |
| Official Site of the State of Hawaii | www.hawaii.gov |
| State Operator | 808-586-2211 |
| Governor's Office (http://hawaii.gov/gov) | 808-586-0034 |
| National Weather Service Honolulu, HI (www.ph.noaa.gov/pe/hnl/) | 808-973-5286 |
| Attorney General (http://hawaii.gov/ag) | 808-586-1500 |
| Hawaii Tourism Authority (www.hawaiitourismauthority.org) | 808-973-2255 |
| Department of Agriculture (http://hawaii.gov/doa) | 808-973-9500 |
| Department of Commerce and Consumer Affairs (http://hawaii.gov/dcca) | 808-587-3222 or 1-800-394-1902 |
| Department of Defense (http://hawaii.gov/dod) | 808-672-1207 |
| Department of Public Safety (http://hawaii.gov/psd) | 808-587-1288 |
| Department of Transportation (http://hawaii.gov/dot) | 808-587-2150 |
| Office of Veteran Services (http://hawaii.gov/dor) | 808-433-0420 |
| Department of Health (http://hawaii.gov/health) | 808-586-4400 |
| Adult Mental Health Division (www.ambd.org/access.asp) | 808-832-3100 (Oahu) or 1-800-753-6879 |
| Department of Human Resources Development (http://hawaii.gov/hrd) | 808-587-1150 |
| Department of Human Services (http://hawaii.gov/dhs) | 808-586-4997 |
| Department of Land and Natural Resources (http://hawaii.gov/dlnr) | 808-587-0400 |
| Hawaii Beach Safety | http://oceansafetyandhawaii.edu |
| Hawaiian Electric Company (HECO) (www.heco.com) | 808-548-7961 |
| Hawaii Electric Light Company (HELCO) (www.helcohi.com) | 808-969-6666 |
| Maui Electric Company (MECO) (www.mauielectric.com) | 808-871-7777 |
| Kaui'i Island Utility Cooperative (www.kiuc.coop) | 808-246-4300 |
| U.S. Coast Guard District 14 (www.uscg.mil/d14) | 1-800-818-8724 |

FOR EMERGENCIES CALL 911 • FOR NON-EMERGENCIES CALL 211

COUNTY INFORMATION

| Honolulu | Kaui'i |
|--|--|
| Emergency Management | Civil Defense |
| 808-723-8960 | 808-241-1800 |
| www1.honolulu.gov/em/ | www.kiuc.coop/Government/Departments/CivilDefenseAgency.html |
| 808-529-3162 | 808-241-1711 |
| Police | Police |
| www.honolulupd.org | www.kiuc.gov/default.aspx?tabid=298 |
| 808-723-7101 | 808-241-4980 |
| Fire | Fire |
| www1.honolulu.gov/fire/ | www.kiuc.coop/Government/Departments/FireDepartment.html |
| 808-748-5000 | 808-245-5400 |
| Water Board (Broken Water Mains) | Water Department |
| www1.honolulu.gov/cswb/ | www.kiucwater.org |
| Hawaii | Maui |
| Civil Defense | Civil Defense |
| 808-935-0031 or 808-935-3311 (after hours) | 808-270-7285 |
| www.co.hawaii.hi.us/co/index.htm | www.co.maui.hi.us/index.aspx?tabid=90 |
| 808-961-2211 | 808-244-6400 |
| Police | Police |
| www.co.hawaii.hi.us/directory/dir_police.htm | www.co.maui.hi.us/index.aspx?tabid=122 |
| 808-932-2000 | 808-270-7561 |
| Fire | Fire |
| www.co.hawaii.hi.us/directory/dir_fire.htm | http://www.co.maui.hi.us/index.aspx?tabid=1460 |
| 808-861-8060 | 808-270-7613 |
| Water Department | Water Department |
| www.co.hawaii.hi.us/water/DW'smain.htm | www.co.maui.hi.us/index.aspx?tabid=136 |

OCEAN DATA PRODUCTS: NODC products recognized as authoritative data records

NODC provided **global high resolution temperature and salinity climatologies** through quality control of seasonal temperature and salinity fields to deeper depths. Seasonal estimates of ocean heat content were extended to 2,000 meters. *(Supports NOAA's Climate Adaptation and Mitigation Goal and Science and Technology Enterprise)*

The NOAA Administrator, Shell Exploration & Production, ConocoPhillips, and Statoil USA E&P Inc. signed a **Memorandum of Agreement (MOA) to share scientific data in the Arctic**. These data will be archived at NOAA's National Data Centers, will increase our understanding of the Arctic, and **provide a baseline of ecosystem conditions that may aid in emergency response**. *(Supports Goal for Resilient Coastal Communities and Economies)*

NOAA INFORMATION: NOAA staff using the NOAA Central and Regional Libraries as sources for information and research support

The NOAA Library has worked with the NOAA Research Council to develop a plan for **consolidating purchasing across the NOAA Library system**. An Ad Hoc Committee on Libraries was established to further evaluate the current situation and to recommend a plan of action. The **goal of the Committee is to maintain and hopefully increase the current level of access to journals across NOAA**. *(Supports NOAA's Engagement Enterprise)*

NOAA has **partnered with the National Technical Information Service (NTIS) to develop a DWH Institutional Repository (DWH-IR)** to support online discovery and dissemination of NOAA's DWH data and information in digital form. The goal of the IR is to increase public transparency, increase efficiency for answering customer inquiries, and reduce direct customer contact for Freedom of Information Act (FOIA) requests. *(Supports Goal for Resilient Coastal Communities and Economies)*

NODC's National Coastal Data Development Center (NCDDC) provided **NOAA Extreme Weather Information Sheet (NEWIS) to a reporter from The Weather Channel as he reported on Tropical Storm Lee** from Bay St. Louis, MS. *(Supports NOAA's Healthy Coasts goal)*

NODC's Global Oceanographic Data Archaeology and Rescue Project (**GODAR**) **Project Mentioned by Nature News**: at <http://www.nature.com/news/2010/101102/full/468017a.html> *(Supports NOAA's Science and Technology Enterprise)*

CORPORATE VALUES AND SERVICES: NODC will develop and maintain a secure, reliable, technically robust operating environment to support the NOAA mission goals and ensure accessibility to the highest data quality and information for the public

NODC continues to reach out with a popular new Earth System Monitor issue on "Extreme Events". Starting in FY12, the publication will be distributed electronically unless requested by the users. *(Supports NOAA's Engagement Enterprise)*

The **2011 NOAA-Northern Gulf Institute (NGI) Diversity Internship successfully concluded their program by placing nine interns in a variety of positions throughout the Gulf of Mexico region and in Silver Spring**. One intern joined the NODC team at the NOAA Central Library. *(Supports NOAA's Engagement Enterprise)*

NCDDC supported the NOAA Office of Ocean Exploration and Research (OER) by conducting data management activities for the NOAA RV Okeanos Explorer cruises and OER Signature cruises. *(Supports NOAA's Science and Technology Enterprise)*

An internal NODC survey was conducted to measure employee satisfaction. Approximately 77% of employees felt that the work that they do gives them a feeling of personal accomplishment. Likewise, 72% of employees felt that their talents were used well in the workplace. There were 61 out of 64 federal employees who participated in the survey. *(Supports NOAA's Engagement Enterprise)*

NCDDC IT Infrastructure Continues to Maintain a secure, reliable, and technically robust operating environment with the renewal of a 3 year Authority to Operate. NODC performed upgrades to our air conditioning, servers, networks, and Systems Hardware. Efficiencies were gained in the migration of systems from ORACLE to Postgress at NCDDC. *(Supports NOAA's Science and Technology Enterprise)*

NODC received the **President's Award for its Extraordinary Support of Voluntarism through the Combined Federal Campaign National Capital Area 2010**. Only 8 NOAA programs received this award. The award signifies that a program has achieved 75% participation or \$275 per capita. NODC achieved \$297 per capita! *(Supports NOAA's Science and Technology Enterprise)*

NODC released an **Internal NOAA Survey** to identify user satisfaction and requirements for NODC ocean data and products. The survey requested information on who within NOAA is using and accessing NODC data and information, and if the request process can be improved. The survey also asked the NOAA data producers who collect and submit data to NODC's archives if their requirements as an official NOAA archive are being met. According to the survey:

- Most data downloaded was used for scientific research.
- Most data was downloaded via the web (HTTP) in CSV (comma separated) and NetCDF formats.
- The most downloaded data types were: temperature, salinity, buoy and satellite data.
- 79% of users did not have difficulty downloading data; 62% thought downloading was easy. *(Supports NOAA's Science and Technology Enterprise)*



NODC Employees

NODC Staff Recognized Nationally and Internationally



NODC's Sydney Levitus was elected as a Fellow of the American Association for the Advancement of Science (AAAS) for his work in advancing oceanography through data rescue and on ocean climate change studies.

Syd was also awarded an Intergovernmental Oceanographic Commission (IOC) 50th Anniversary Commemorative Medal. This medal is further recognition of the important contribution Mr. Levitus has made to ocean climate research and ocean data stewardship, both nationally and internationally.

Additionally, Sydney Levitus and fellow NODC staff member, Linda Pikula, received Intergovernmental Oceanographic Data and Information Exchange (IODE) Achievement Awards. Sydney Levitus received an award for his leadership of the Global Oceanographic Data Archaeology and Rescue (GODAR) and World Ocean Database (WOD) Intergovernmental Oceanographic Commission (IOC) Projects. Ms. Pikula's award was given for her championing Marine Information Management and for her role as an "Ocean Teacher" in numerous IODE Information Management courses.

NODC's role in preserving ocean data and information contributes to our understanding of the impact of climate and global change on the oceans. National and international leadership in the area of ocean data and information stewardship are a service we provide to the public.

New Hires

Beverly King, Darbie Bridgett, Jefferson Ogata, Krisa Arzayus, Charles Carleton

FY 11 Certificates of Appreciation & Awards

NODC Employee of the Season, Fall 2010: Angela Sallis

Certificates of Appreciation:

Mary Lou Cumberpatch, Sharon Mesick, Margaret Eggleston, Melanie Hamilton, Cheryl Ingram, and Evgeney Yarosh for Exceptional Dedication and Effort During the 2010 NODC/NCDDC Combined Federal Campaign (CFC) Drive

Jeff Ogata, Joseph Shirley, Bill Burton, Mike Chepurin, George Sinclair and William Wooten-Janney for their Outstanding Upgrade of NODC HVAC and Electrical System with Minimum Operational Disruption

Mary O'Chery and Thelma Johnson for their Outstanding Teamwork and Dedication in Fulfilling the Duties of the NODC Administrative/Budget Officer During the Vacancy

Charles Sun, Steven Rutz and Donald Collins for their Outstanding Dedication and Effort in Fulfilling the Duties of the Marine Data Stewardship Division Chief During the Vacancy

John Relph, Joseph Shirley, William Wooten-Janney, Susan Starke, Juanita Sandidge and Sherry Goynes for their Outstanding Effort and Coordination of the Re-Accreditation of the NODC Systems 5010 and 5036

Beverly King for her Outstanding Teamwork and Dedication in Fulfilling the Duties of the NODC Administrative/Budget Officer

Steve Rutz for his Outstanding Dedication and Effort in Hosting the Rolling Deck to Repository (R2R) Meeting

Danie Kinkade for her Outstanding Dedication and Effort in Hosting the Quadrennial Hydrographic Data Assembly Center (DAC) Meeting

Charles Sun for his Outstanding Dedication and Effort in Hosting the International Global Temperature and Salinity Profile Programme (GTSPP) Meeting

Danie Kinkade for her Dedication, Hard Work, and Creativity for the 2011 NESDIS Get Healthy Challenge

Kenneth Casey for Successfully Leading NODC's Technology Advancement

Terry Tielking for Successfully Leading NODC's Operations

Jocelyn Carandang for her Professional and Personal Work Ethic this Past Summer as a NOAA Northern Gulf Institute Diversity Intern working in the NOAA Central Library

Angel Vu, Caitlin Whiting, and Omar Selehdar for Completing the Annual Inventory of the Library's Rare Book Room Well Ahead of Time and in Addition to their Normal Duties

Christopher Cook and Li Zhang taking on the Cataloging of Documents for NOAA's Deepwater Horizon Institutional Repository in Addition to their Normal Duties

Caroline Woods and Sarah Davis for Assisting in the Preparation of the Central Library's Plan for NOAA's "Facility Efficiency Initiative for 2011" and their Initiative in Scanning and Adding Digital Documents to the Collection

Jan Thomas for his Initiative in the Planning and Implementation of a Pilot Virtual Reference System for the NOAA Library and Information Network

FY2011 Publications

Peer-Reviewed Publications

Baker-Yeboah, S, D A Byrne and D R Watts, Observations of mesoscale eddies in the South Atlantic Cape Basin: A characterization of baroclinic and deep barotropic eddy variability, *J. Geophys Res.*, 2010JC006236, 115, C12069, 20 pp., DOI:10.1029/2010JC006236, 2010.

Boyer, T. P., V. V. Gopalakrishna, F. Reseghetti, A. Naik, V. Suneel, M. Ravichandran, N. P. Mohammed Ali, M. M. Rafeeq, and R. A. Chico, 2011: Investigation of XBT and XCTD biases in the Arabian Sea and the Bay of Bengal with implications for climate studies, *J. Atmosph. Ocean. Tech.*, 28, DOI: 10.1175/2010JTECHO784.1, 266-286.

Giese, B. S., G. A. Chepurin, J. A. Carton, T. P. Boyer, and H. F. Seidel. 2011: Impact of Bathythermograph Temperature Bias Models on an Ocean Reanalysis, *J. Clim.* , 24, 84-93.

Johnson, G.C., J. M. Lyman, J. K. Willis, S. Levitus, T. Boyer, J. Antonov, 2011: Ocean heat content, Global Oceans (in State of the Climate in 2010), Bull. Amer. Meteor. Soc. 92 (6), 81-84.

Levitus, S., J. Antonov, T. Boyer, J. Reagan, C. Schmid, 2011 : Subsurface salinity, Global Oceans (in State of the Climate in 2010), Bull. Amer. Meteor. Soc. 92 (6), 88-92.

Previdi, M., B. G. Liepert, D. T. Peteet, J. Hansen D.J. , Beerlin A. J. , Broccoli, S. Frohling, J. N. Galloway, M. Heimann, C. Le Quéré, S. Levitus, and V. Ramaswamy, 2011: Climate sensitivity in the Anthropocene, Earth Syst. Dynam. Discuss., 2, 531-550, doi:10.5194/esdd-2-531-2011.

Ray, R D and D A Byrne, Bottom pressure tides along a line in the southeast Atlantic Ocean and comparisons with satellite altimetry, Oc.Dynamics, 60 (5), pp 1167-1176, 2010.

Proceedings/Abstracts from Meetings

Arko, R. A.; Milan, A.; Chandler, C. L.; Miller, S. P.; Ferrini, V.; Mesick, S.; Mize, J.; Paver, C.; Sullivan, B.; Sweeney, A. "Shared Semantics for Oceanographic Research: Development of Standard "Cruise-Level" Metadata." American Geophysical Union (AGU) Fall 2010. San Francisco, 2010.

Chu, P. , Sun, L.C., and Fan, C., 2010, "Near -Real Time Monthly Global Temperature and Salinity Gridded Data from New Ocean Exploration by Argo Floats", American Geophysical Union, Fall Meeting 2010, abstract #OS13C-1239, December 2010, San Francisco, CA.

Chu, P. C., Sun, L.C., and Fan, C., 2011, "Establishment of Near-Real Time Monthly Gridded Dataset from Global Temperature and Salinity Profile Program (GTSP) using the Optimal Spectral Decomposition (OSD)", Proceedings on 15th Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS), American Meteorological Society, 23 -27 January 2011, Seattle, WA.

Fredericks, J., E. Terray, D. Symonds, J. Bosch, G. Voulgaris, T. Cook. "Enabling Quality Assessment through Web Services Encoding Waves Sensor and Processing History in Sensor Web Enablement Frameworks". IEEE/OES Tenth Currents, Waves, and Turbulence Measurement Workshop. Monterey, CA. 2011.

Haines, S., R. Crout, J. Bosch, W. Burnett, J. Fredericks, D. Symonds, J. Thomas. 2011. "A Summary of Quality Control Tests for Waves and in situ Currents and their Effectiveness, IEEE/OES Tenth Currents, Waves, and Turbulence Measurement Workshop (CWTM)". IEEE/OES Tenth Currents, Waves, and Turbulence Measurement Workshop. Monterey, CA. 2011.

Kalenchitis, Maria., Pauline Simpson, Linda Pikula and Marc Goovaerts. 2011. UNESCO, IOC, IODE 50th Anniversary Bibliography: 50 years of service 1961-2011.

Mize, Jacqueline, Robert Arko, Anna Milan, Cynthia Chandler, and Paul Clark. "Rolling Deck to Repository (R2R): A "Linked Data" Approach for the U.S. Academic Research Fleet." American Geophysical Union (AGU) Fall 2011. San Francisco, 2011.

Mize, Jacqueline, Robert Arko, Anna Milan, and Susan McClean. "Improving Discovery and Use of Marine Data through Standard Metadata." International Union of Geodesy and Geophysics (IUGG). Melbourne, Australia, 2011.

Mize, Jacqueline, and Dr. R. Ted Habermann. "Automating Metadata for Dynamic Datasets." Oceans 2010. Seattle, MTS/IEEE. 2010.

Raymond, Lisa, Linda Pikula , Roy Lowry, Ed Urban, Gwenaelle Moncoiffe, Peter Pissierssens and Cathy Norton. 2011. SCOR/IODE/MBLWHOI Library Collaboration on Data Publication. Peer reviewed poster given at ACM/IEEE, Joint Conference on Digital Libraries June 13-17, 2011, University of Ottawa, Ottawa, Canada.

Raymond, Lisa, Linda Pikula, Roy Lowry, Ed Urban, Gwenaelle Moncoiffe, Peter Pissierssens and Cathy Norton. 2011. SCOR/IODE/MBLWHOI Library Collaboration on Data Publication. 1st International Council for Science (ICSU) World Data System Conference, Global Data for Global Science, September 3-6, 2011, Kyoto

University, Kyoto, Japan.

Technical Reports/Manuals/Book Reviews

Cloud, John 2011. The U.S. Coast Survey in the Civil War. A paper commissioned by the National Ocean Service for the project Charting a More Perfect Union 1861-1865.

Cloud, John 2010. various entries related to the history of NOAA geodetic and space programs, satellites, and sensors, in: Johnson, Stephen B. (General Editor) 2010. Space Exploration and Humanity: A Historical Encyclopedia, Vols. I and II. Santa Barbara, CA: ABC-CLIO.

Cloud, John (in press): Technology and Culture, book review of: Launius, Roger D., James Rodger Fleming, and David H. DeVorkin (eds), 2010. Globalizing Polar Science: Reconsidering the International Polar and Geophysical Years. New York: Palgrave Macmillan.

Cloud, John (in press): Technology and Culture, book review of: In the Shadow of Melting Glaciers: Climate Change and Andean Society, by Mark Carey. Oxford: Oxford University Press.

Cloud, John 2010. Alaska History, the Alaska Historical Society. Vol. 26, No. 1 (2011 Spring):38-39. book review of: The Kandik Map, by Linda Johnson. Fairbanks: University of Alaska Press, 2009.

Cloud, John 2011. Imago Mundi. Vol. 63, No. 2: 238-239. Book review of: No Dig, No Fly, No Go: How maps restrict and control, by Mark Monmonier. Chicago: University of Chicago Press 2010.

Cloud, John 2011. Pacific Historical Review. Vol. 78, No. 4 (Nov): 669-671. Book review of: America's Ocean Wilderness: A Cultural History of Twentieth-Century Exploration, by Gary Kroll. Lawrence, Kansas: University Press of Kansas, 2008.

Fiolek, Anna, Linda Pikula, Brian Voss. 2010. Resources on Oil Spills, Response, and Restoration: A Selected Bibliography. Silver Spring, MD: U.S Dept. of Commerce, National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service, National Oceanographic Data Center, Library and Information Services Division. LISD Current References; 2010-2.

Fiolek, Anna, Susan Gottfried, Sharon Mesick. 2010. Video Data Management System Archives and Provides Online Access to the NOAA Ocean Exploration Digital Video and Image Data: Metadata Exchange. Silver Spring, MD: U.S Dept. of Commerce, National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service, National Oceanographic Data Center, Library and Information Services Division. LISD Current References; 2010-3.

Mize, Jacqueline, and Kathy Martinolich. United States. Transitioning Metadata Standards at NODC from FGDC to ISO Point Paper. Stennis Space Center: NCDDC, 2011.

Sun, C. 2010, IOC Manual and Guides No. 22 rev.1: GTSP Real-Time Quality Control Manual Revised Edition, 2010, published on 06 December 2010, http://www.iode.org/index.php?option=com_oe&task=viewDocumentRecord&docID=6437 , 145 pp.

Fiolek, Anna, Susan Gottfried, Sharon Mesick. 2010. Video Data Management System Archives and Provides Online Access to the NOAA Ocean Exploration Digital Video and Image Data: Metadata Exchange. Silver Spring, MD: U.S Dept. of Commerce, National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service, National Oceanographic Data Center, Library and Information Services Division. LISD Current References; 2010-3.

Mize, Jacqueline, and Kathy Martinolich. United States. Transitioning Metadata Standards at NODC from FGDC to ISO Point Paper. Stennis Space Center: NCDDC, 2011.

Sun, C. 2010, IOC Manual and Guides No. 22 rev.1: GTSP Real-Time Quality Control Manual Revised Edition, 2010, published on 06 December 2010, http://www.iode.org/index.php?option=com_oe&task=viewDocumentRecord&docID=6437 , 145 pp.

NODC Communications

Notable Customer Comments and Requests

- NODC was contacted by a yacht navigator looking for currents data who was participating in an upcoming race in the Malacca Straits.
- User Services was contacted by a French engineering company with questions regarding oil spill drift data. The customer is working on modeling oil spill drifts for a petroleum company.
- User Services was contacted by a PhD student from the University of Bremen, Germany, asking for *in situ* salinity data in order to assess climate variability documented in coral skeletons.
- A lifeguard from the Law Enforcement and Emergency Services Division in Monterey, CA contacted NODC for average coastal temperatures by month for 2010. The customer is trying to make a correlation between ocean temps and water rescues.
- NODC was contacted by a woman writing a book about her father, a U.S. Air Force Major, who flew several Project Thunderstorm missions in the 1940s. The customer wanted to meet with a NOAA librarian to research meteorological observations to match up some of her photos and documents.
- A health worker from California called NODC to find out how radiological material may impact sea life and divers, in reference to the Japanese nuclear power plant.
- An ophthalmology physician contacted NODC for water temperature data in July and August, 2009. The physician had taken care of near-drowning patients and was questioning whether cold water was considered protective for these patients.

Comments from Satisfied Customers

- “Thanks a ton for your help! Sometimes a person never knows how far a request like this will go when dealing with a government agency. You’ve definitely restored some of my faith.”
- Comment from physicist at the National Institute of Oceanography & Fisheries, Egypt, regarding NODC’s Anniversary: “I am jealous of your center for its advancement, accuracy of its founding and the general benefits to the world. I am one of those who have benefited greatly from your center in my studies for a PhD.”
- “I really appreciate NOAA’s Web presence and products. Thanks much for your help.”
- “Thank you very much for you help in this matter, and the timely response.”
- “Wow .. .thank you very much for your mail and all the info. I will look at all the links you sent and do some digging and see what I can find.”
- “Very helpful indeed. Thank you very much for your effort. I’ll use that resource immediately.”
- “Thank you very much for this information. You’ve provided all we require for our project in these links. We can use this data to collaborate what we need for our project. Once again, many thanks for this information and your time.”
- A Southern Mississippi University student wanted assistance with downloading plankton data from World Ocean Database. The customer was very grateful, “Thank you for all of your help. You saved me. I appreciate it so much.”

**National Oceanic and Atmospheric Administration
National Environmental Satellite Data and Information Service
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1315 East West Highway
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