

NOAA CoastWatch/OceanWatch Quarterly Newsletter

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The CoastWatch quarterly newsletters showcase the progress and accomplishments of the CoastWatch program, including each of the Nodes. If you have any comments or suggestions, please email them to Shawna.Karlson@noaa.gov.

Central Operations

CoastWatch would like to extend a warm welcome to Dr. Paul M. DiGiacomo, new Program Manager. After 20 years of managing NOAA CoastWatch, Kent Hughes has decided to step down in order to devote more time to his current position as Acting Chief, Satellite Oceanography and Climatology Division within STAR. We wish him all the best.

Paul joined NESDIS/STAR in August 2006 as the Chief of the Marine Ecosystems and Climate Branch (MECB). He joins us from NASA/JPL where he most recently served as Supervisor of the Earth Mission Concepts Group (2005-2006), overseeing mission architects and system engineers engaged in Pre-Phase-A and early Phase-A Earth mission concept trade studies. Paul is a biological oceanographer, with particular expertise in the remote sensing of coastal regions. He received his B.S. in Biology, with a Minor in Marine Science, from Penn State University (1990), and a Ph.D. in Biology from the University of California, Los Angeles (UCLA) (1999). Paul was the recipient of a NASA Graduate Student Researchers Program Pre-Doctoral Fellowship Award, and an NRC Resident Research Associate Award (JPL; 1999-2001). He is active in a variety of regional, national, and international coastal and ocean observing activities, including serving as Chair of the Water Quality component of the Southern California Bight '03 Project and Co-Chairing both the IGOS Coastal Theme and the GEOSS Coastal Zone Community of Practice. In addition, he is the PI for a NASA-funded study examining the coastal ocean biological response to urbanization and climate variability in the Southern California Bight.

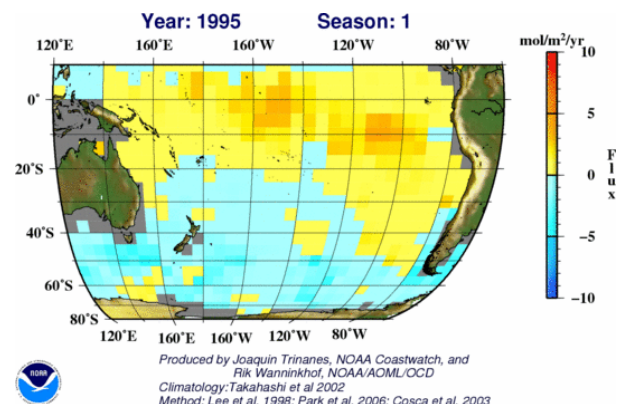
Node Updates

➤ Caribbean/Gulf of Mexico

The Caribbean/Gulf of Mexico Node will soon have an Internet map server for users to view images and download data from an FTP server. Data includes the Pathfinder v5 monthly climatological mean SST images for 1985-2001, which were recently cut for the Gulf of Mexico, Caribbean, and South Atlantic regions, then converted to ArcView shapefiles and ESRI ascii raster grid files.

Improvements continue to be made to the algorithms used for estimating global carbon fluxes. An example is shown to the right, but the full animation can be viewed at:

ftp://ftp.aoml.noaa.gov/pub/phod/trinanes/WANNINKHOF/FEELY/movie_season_feely.gif



Work has been completed to fully upgrade the HRPT satellite receiving station. The previous receiver was manufactured by Seaspace, while the new system is from Global Imaging. With the launch of Metop-2 and its different transmission characteristics, NESDIS provided the necessary funding for the new system. It includes two receivers, one low-noise amplifier down converter and a new HP workstation. During set up, problems linked to the antenna gain surfaced which mainly affect low power signals (i.e. NOAA-16) and the quality of the data received. Global Imaging will replace the failed equipment and solve the problem. With the upgrade, modifications to the routines that ingest and preprocess the data were necessary to fit them to the new computer operating system.

In April and May, SST and chlorophyll-a imagery for the Eastern Gulf of Mexico will be provided in near real-time to support the NMFS small boat R/V Gandy. The objective of the work is to explore, and possibly develop, fishing strategies using satellite observed environmental and in-situ data to reduce the bycatch of bluefin tuna, *Thunnus thynnus*, on longlines in the Gulf of Mexico.

➤ Central Pacific

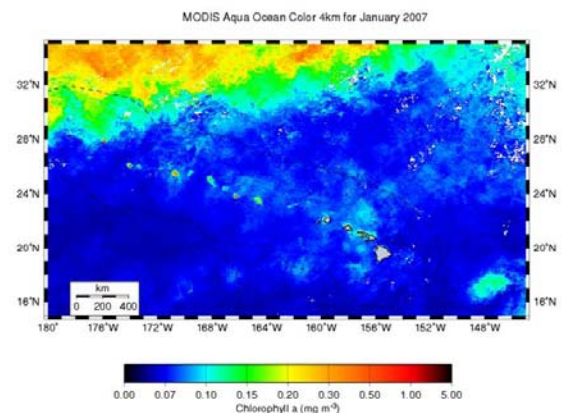
The OceanWatch – Central Pacific Node continued testing its THREDDS/ OPeNDAP and LAS servers. Currently, the data server contains test data for development purposes as well as for evaluating present and future logistical requirements. Initial tests of the sample data and the web have been successful.

Continuing the work initiated in Q1, revisions and updates were contributed to the NOAA Pacific Islands Fisheries Science Center (PIFSC) “Metadata Compilation” project. Detailed metadata information was provided, including current satellite remote sensing data holdings. This information is being compiled for the establishment of a detailed data inventory repository, PIFSC wide.

Recently, the Central Pacific Node was asked to participate in drafting a multi-agency Hawaiian Archipelago Marine Ecosystem Research Plan. This plan is aimed at establishing a short- and long-term ecosystem monitoring plan for the Hawaiian Archipelago.

Multiple data requests were received this quarter from a variety of users:

- Researchers at NOAA PIFSC – Coral Reef Ecosystem Division (CRED) were provided with monthly AVHRR-GAC SST data in ArcGIS (grid) format for the Main Hawaiian Islands. The time-period under study included January 2004 through the present.
- Staff at the NOAA PIFSC – Fishery Biology and Stock Assessment Division, received customized SSH empirical orthogonal function (EOF) analyses for the Samoa region. The EOF analysis utilized ocean altimetry data from the TOPEX/Poseidon and JASON-1 missions collected during 1992 through the present.
- NOAA/NOS Biogeography Division requested various remote sensing products focusing on the Northwestern Hawaiian Islands region. The data will contain the new netCDF format, along with corresponding metadata information.



➤ East Coast

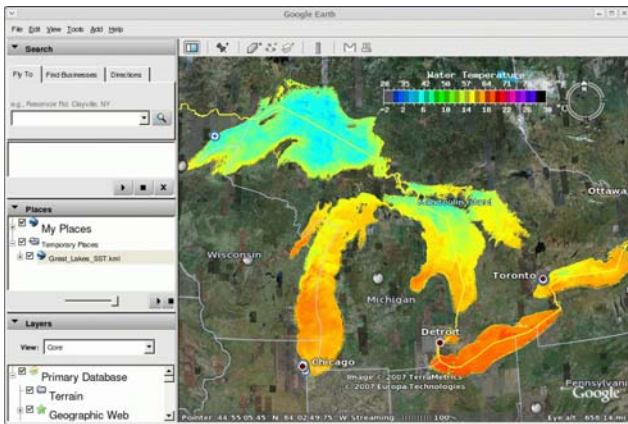
The East Coast Node is now providing the Maryland Department of Natural Resources (MDDNR) AVHRR SST to study the correlation of water temperature to fish catch rate during striper season from April 1 to June 15 in the Chesapeake Bay. Daily composites are created and provided to MDDNR in near real-time through the Internet. In addition, the CoastWatch Software and Utilities are used to

generate geographic statistics of the upper, middle and lower Maryland area within the Chesapeake Bay. These reports can be viewed at http://coastwatch.chesapeakebay.noaa.gov/cb_sst_stats.txt A Live Access Server has been installed and configured, and can be accessed at <http://coastwatch.chesapeakebay.noaa.gov/las/servlets/dataset>. Currently, only weekly composites of AVHRR SST for the east coast are available, however other products will be added to the LAS server at a later time.

The NESDIS Satellite Products and Services Review Board has decided to make the MODIS algorithm for the Chesapeake Bay an operational product, once it has been selected by the bay community. This is a result of the Chesapeake Bay Remote Sensing Symposium, where NASA and NOAA teams have worked to implement a SeaWiFS chlorophyll algorithm for the Bay. With the SeaWiFS data purchase contract ending in September with GeoEye, focus is on Aqua/MODIS. The two teams will come together in April to discuss progress, requirements, users, and the future direction of the project.

Following a user's request, an animation of SST data was added to the East Coast Node website. It consists of 3-day composites of GOES SST covering the east coast for the most recent 60 days. This animation can be viewed at <http://coastwatch.chesapeakebay.noaa.gov/animation/jip.html>. A modified version will soon be available using weekly composites of AVHRR SST for the Chesapeake Bay region only. Both will be used in educational and research activities.

➤ Great Lakes



The Great Lakes Node has started a new project to create KML and PNG files of AVHRR images to use with the Google Earth browser. Following testing, these files will be available for download to be displayed directly in the browser.

Work continues on converting the GLSEA composite chart to a 1024x1024 format, which includes reformatting the winter ice cover produced by the National Ice Center. The SST imagery and ice overlay files have all been compared, and the new Great Lakes landmask file had been developed. This landmask will match both the ice overlay file,

produced by NIC, and the SST imagery.

Under a cooperative agreement with the University of Toledo, improvements to the AVHRR turbidity product continue to be evaluated, using a better atmospheric correction and cloud maskings. A summary report on the work completed has been submitted to George Leshkevich and will be evaluated for incorporation into the turbidity product.

➤ West Coast

The West Coast Node held the second "NOAA Satellite Applications Class" at Oregon State University (OSU), in conjunction with scientists at the Cooperative Institute for Oceanographic Satellite Studies (CIOSS). This class supports ongoing efforts to enlarge essential user groups and build advocacy amongst marine resource scientists and managers. Once again, the class attracted a full house, with 30 federal, state, and municipal representatives attending a series of lectures and hands on training in the OSU Digital Earth Laboratory. The class lasted for three days, during which each participant works through a project that integrates satellite data into some facet of their day to day work. Because of the success of these classes, Dave Foley was asked to lead a similar session for the Coral Reef Ecosystem Investigation at the NOAA Fisheries Pacific Islands Fisheries Science Center in Honolulu, HI, in February.

Education and Outreach

Lucas Moxey of the Central Pacific Node was invited as a guest speaker at the Teachers Teaching with Technology (T3) Regional Conference held in Honolulu, HI. The presentation focused on his current outreach efforts with the Node, as well as those of CoastWatch – Central Operations. Also this quarter, Lucas participated in the NOAA Pacific Islands Fisheries Science Center – Oceanography Working Group meeting where he presented the upcoming OceanWatch THREDDS and Live Access Servers.

George Leshkevich of the Great Lakes Node attended and exhibited at the annual Novi Boat Show March 16-18, 2007, in Novi, MI. The booth was shared with the National Weather Service (NWS) where NOAA 200th anniversary information was also displayed and distributed. A total of 880 participants visited the booth during the 3 day show.



Publications

Satellite SAR Remote Sensing of Great Lakes Ice Cover: Part 1, Ice Backscatter Signatures at C-Band
S.V. Nghiem and G. A. Leshkevich (in review – Journal of Great Lakes Research)

Satellite SAR Remote Sensing of Great Lakes Ice Cover: Part 2, Ice Classification and Mapping
G. A. Leshkevich and S. V. Nghiem (in review – Journal of Great Lakes Research)

Upcoming Events

- April 22 **Earth Day**; (<http://www.earthday.gov/>)
Apr 22-27 **2nd National Conference on Ecosystem Restoration**; Kansas City, MO
(<http://www.conference.ifas.ufl.edu/NCER2007>)
May 13 - 19 **Coastal Society's 20th Biennial Conference**; St. Petersburg, FL
(<http://thecoastalsociety.org/>)
May 21 – 24 **5th Intl Conference on Marine Bioinvasions**; Cambridge, MA
(<http://mit.edu/seagrant> or <http://massbay.mit.edu>)
Jun 25 – 29 **International Symposium on Remote Sensing of the Environment**;
San Jose, Costa Rica (<http://www.symposia.org/>)
Jul 22 – 26 **Coastal Zone 07: Brewing Local Solutions to Your Issues**; Portland, OR
(www.csc.noaa.gov/cz/)
Jul 23 – 27 **National Marine Educators Association**; Portland, ME
(<http://www.marine-ed.org/>)
Aug 9 – 11 **IGARSS 2007**; Barcelona, Spain (<http://www.igarss07.org>)
Satellites and Education Conference; Los Angeles, CA
(<http://www.sated.org/AboutFrame2.htm>)

Sep 29 – Oct 4

Oceans 2006 MTS/IEEE; Vancouver, B.C.
(<http://www.oceans07mtsieevancouver.org/>)

Nov 4 – 8

Estuarine Research Foundation (ERF) 2007; Providence, RI (<http://erf.org>)

Announcements

Call for Symposia and Topical Sessions

2008 OCEAN SCIENCES MEETING: "From the Watershed to the Global Ocean"

March 2-7, 2008 – Orlando, Florida, USA

Sponsored by ASLO, AGU, and TOS. Supported by ERF.

<http://www.aslo.org/forms/orlando2008.html>

The biennial Ocean Sciences Meeting, a gathering of more than 3000 aquatic scientists, will be held at the Orange County Convention Center in Orlando, FL next March.

The Planning Committee invites proposals for sessions of interest to members of ASLO, AGU, TOS, and ERF. The Ocean Sciences meeting is an important venue for scientific exchange across broad marine-science disciplines, including physical, biological, chemical, and geological oceanography, all branches of limnology, hydrology, and multidisciplinary topics ranging from evolution to climate change. In keeping with the theme of the meeting, proposals for topical sessions on these subjects and others that reflect new and ongoing research on watersheds, the global ocean, and society, including science education, outreach, and public policy are welcomed.

Session Proposals are due April 30, 2007. Proposals should identify at least two co-chairs and include an informative session title and a short description of the session. Session presentations will be oral, poster, or both, to be determined by the Planning Committee after abstracts have been received. Proposals for poster-only sessions are strongly encouraged. Poster sessions will be designed for maximum attendance and will not conflict with oral presentations.

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