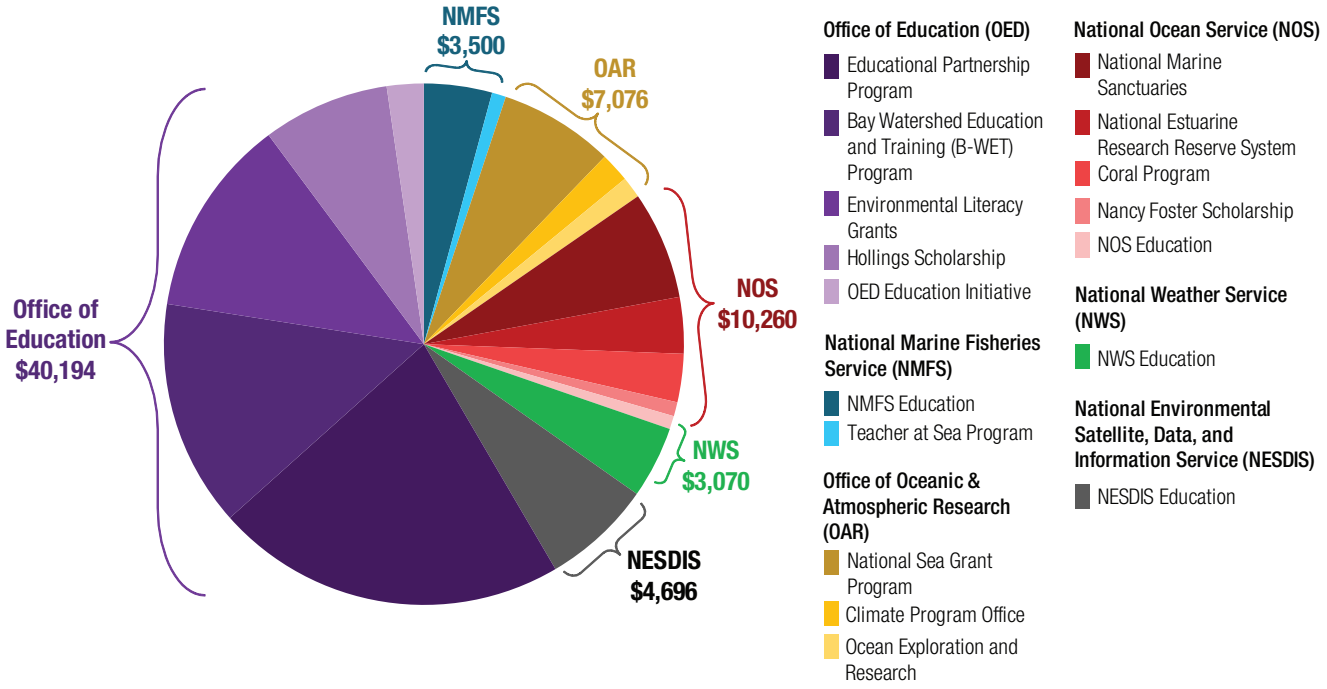
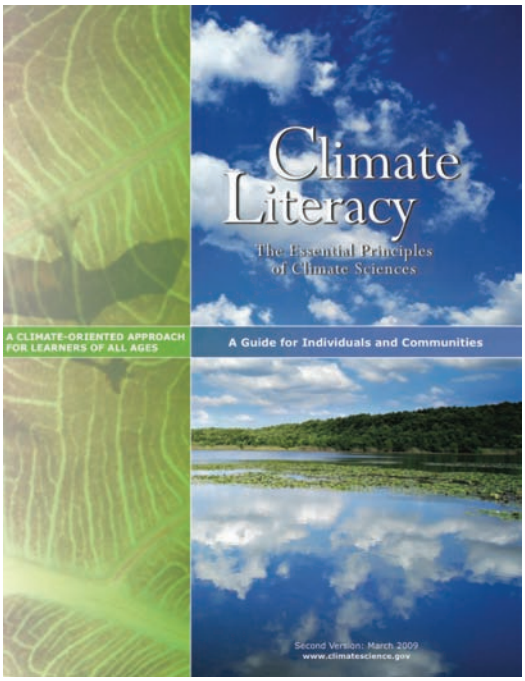
NOAA'S EDUCATION MISSION

The America COMPETES Act (P.L. 110-69) gives NOAA broad authority for educational activities. Stemming from this statute and other program-specific education mandates, the NOAA education community works collaboratively to advance the priorities outlined in NOAA's Education Strategic Plan and meet NOAA's Education Mission: "To advance environmental literacy and promote a diverse workforce in ocean, coastal, Great Lakes, weather, and climate sciences, encouraging stewardship and increasing informed decision making for the nation." The following are just a few of NOAA's FY 2009 Education accomplishments.

NOAA Education Budget by Program for FY 2009, in $1,000

Total Education Budget for FY 2009 = $68.8 Million





Climate Literacy: The Essential Principles of Climate Science

CLIMATE COMMUNICATIONS AND EDUCATION PROGRAM

The Climate Program Office's Communication and Education Program seeks to improve public climate science literacy and to raise public awareness and understanding of, and engagement with, NOAA's climate science and services programs. Climate Education produces and distributes a range of products, conducts programs, and collaborates in partnerships designed to help NOAA fulfill its climate goal. Major accomplishments for FY 2009 include publishing the "Climate Literacy: The Essential Principles of Climate Science" (www.globalchange.gov/resources/educators/climate-literacy), a product of the U.S. Global Change Research Program. This document was compiled by an interagency process led by NOAA to help individuals of all ages understand how climate influences them and how they influence climate. http://www.climate.noaa.gov/education/

NOAA diver conducts a bleaching survey of boulder star coral in the Caribbean

CORAL REEF CONSERVATION PROGRAM

The Coral Reef Conservation Program works closely with states and U.S. territories to address climate change, adverse impacts of fishing, and land-based sources of pollution that damage reef ecosystems. The Program has a congressional mandate to conduct education and outreach activities to enhance public understanding and appreciation of coral reefs and associated ecosystems. In FY 2009, the Program funded two-year fellowships in six U.S. jurisdictions, partnered with the National Science Teacher Association to conduct multiple symposiums and presentations, training and providing resources to hundreds of educators nationwide. The program also played a leading role in the International Year of the Reef. http://coralreef.noaa.gov/education/

EPP Ph.D graduate in Atmospheric Sciences at a Hurricane Hunter console

EDUCATIONAL PARTNERSHIP PROGRAM

The Educational Partnership Program (EPP) provides financial assistance, through competitive processes, to students and Minority Serving Institutions that train students and conduct research in NOAA mission sciences. The program's goal is to increase the number of students, particularly from under-represented communities, who are trained and graduate in sciences directly related to NOAA's mission. FY 2009 accomplishments included a rigorous evaluation by an external team of NOAA's 5 Cooperative Science Centers; the recruitment of 9 students to the Graduate Scholarship Program - it's largest to date; 7 Graduate Science Program (GSP) trainees became NOAA employees; and 113 EPP funded students graduated with STEM degrees. http://www.epp.noaa.gov/epp_about_us_page.html

Students launch a weather balloon at a student workshop

ENVIRONMENTAL LITERACY GRANTS PROGRAM

The Environmental Literacy Grants (ELG) program promotes public environmental literacy. ELG funds a broad range of informal and formal education projects implemented on state to national scales. ELG competitions align with NOAA's mission goals and Education Strategic Plan; require robust project evaluation; promote best practices; complement other federal granting programs; emphasize partnerships; and promote ocean and climate literacy. For FY 2009, 191 applications were reviewed and 18 new awards were made totaling $7.3 million. Among these were eleven awards to aquariums that combined reach over eleven million visitors annually. http://www.oesd.noaa.gov/elg/elg_projects.html

Students planting submerged aquatic vegetation at Weeks Bay NERRS

NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

The National Estuarine Research Reserves System (NERRS) protects more than 1.3 million coastal and estuarine acres in 27 reserves located in 21 states and Puerto Rico for purposes of long-term research, education and stewardship. Reserves serve as "living classrooms" that provide, on an annual basis, meaningful experiences for 90,000 K-12 students; 2,000 K-12 programs; community-based programs; public events, and reach 3,500 teachers through professional development programs. In FY 2009, Reserves celebrated the completion of 3 Education Centers; 11,500 students and teachers participated in a live webcast - EstuaryLive; and launched classroom curricula to advance students' deep understanding of real time data. http://nerrs.noaa.gov/Education.aspx & http://estuaries.gov

NOAA employee teaches children about various species of sea turtles

NATIONAL MARINE FISHERIES SERVICE

The Fisheries' Service Education Program translates marine science and management information into learning tools and opportunities for families, educators, and students of all ages. In FY 2009, NOAA Fisheries' Service educators reached thousands of teachers and students throughout all of its regions across the nation via summer science camps, career counseling, lectures, educator workshops and professional develop opportunities, podcasts, internships, and resource materials. By working directly with field educators, teachers, and local communities, the NOAA Fisheries Service Education program supported and contributed to NOAA's overall education mission. http://www.nmfs.noaa.gov

NOS Education launched a new website along with the estuary game, WaterLife: Where Rivers Meet the Sea

NATIONAL OCEAN SERVICE EDUCATION

The National Ocean Service (NOS) Education team serves educators and students through websites and programs that promote environmental literacy using ocean, coastal, and climate science. Tools for teachers and resources for students are posted at http://oceanservice.noaa.gov/education. The team produced the 2009 Year of Science, NOAA Education Sampler DVD highlighting education resources from across the agency and supported the development of the interagency Climate Change Wildlife and Wildlands Toolkit (http://www.globalchange.gov/resources/educators/toolkit). In FY 2009, NOS created and launched http://games.NOAA.gov, a portal to environmental games and developed "WaterLife: Where Rivers Meet the Sea," an interactive online game about estuaries. (http://games.noaa.gov/oscar),

Teachers involved in hands-on, professional development hosted by the Alaska Sea Grant Program

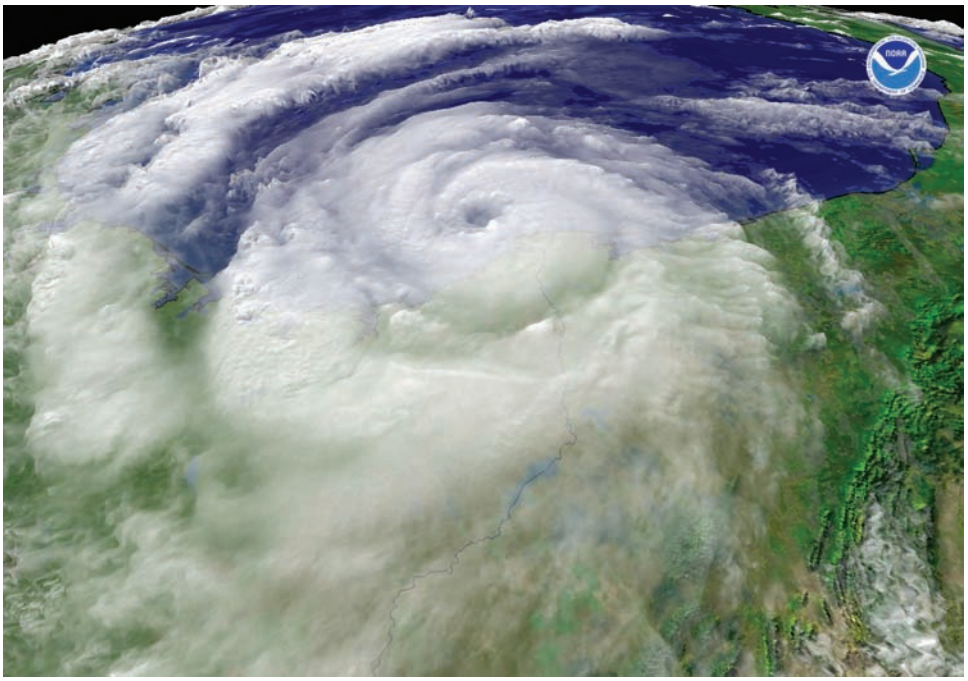
NATIONAL SEA GRANT PROGRAM

The well-established Sea Grant Education Network (SGEN) is located at universities across the Nation and is committed to NOAA's education goals of advancing environmental stewardship and workforce development. Educators tailor informal and K-20 efforts to meet regional needs. During FY 2009, outcomes included inquiry-based instruction for 11,558 teachers and 242,792 students, the development of 269 curricular activities and the award of 1001 educational scholarships. Increased knowledge is provided primarily in climate change, fisheries science, aquatic nuisance species, coastal processes, organisms and habitats, watersheds, technology, and ocean/Great Lakes literacy. In addition, SGEN provides web products, precollege teachers' multiplier effects, regional/national leveraging and collaborations. http://www.seagranted.net

Girl Scouts participate in a weather instrument demonstration at WeatherFest 2009

NATIONAL WEATHER SERVICE

NWS increases public awareness and preparedness of severe weather to local communities. In FY 2009 the National Weather Service (NWS) conducted 2,500 school visits, providing weather, climate, and water information to teachers and students, grades K-12. In partnership with the American Meteorological Society (AMS), the NWS trained 25 new science teachers in weather forecasting, hydrology, climate, and NWS operations. The AMS, partnered with NWS, awarded a fellowship grant to a first-time graduate student in the atmospheric, oceanic, and hydrologic sciences. WeatherFest 2009 was held in Phoenix, Arizona, with an attendance of 3,000 individuals. The Girl Scouts of the USA participated in a hands-on weather activity accompanied by an NWS meteorologist. http://www.weather.gov/



GOES-12 imagery of Hurricane Dolly

NOAA'S SATELLITES AND INFORMATION SERVICE

NOAA's Satellite and Information Service (NESDIS) provides timely access to global environmental data to promote, protect, and enhance the Nation's economy, environment, and quality of life. In FY 2009, NESDIS conducted 125 presentations reaching 7,000 students and 1,800 teachers via tours, camps, fairs, conferences, and developmental workshops. Volunteering NESDIS scientists created data visualizations at national museums, hosted 24 interns, and advised at NOAA Cooperative Institutes and Science Centers. Partnerships resulted in six educational hands-on tools (K-12), including NOAA's first resource in American Sign Language; three informative one-pagers; 45 audience-targeted exhibits at national and international conferences, and over 25,000 STEM materials distributed to constituents. http://www.nesdis.noaa.gov

Educators on board a NOAA-sponsored ocean exploration expedition examine a deep-sea coral

OCEAN EXPLORATION AND RESEARCH PROGRAM

The Office of Ocean Exploration and Research is committed to engaging educators in near-real time ocean exploration to raise America's environmental literacy. Efforts include opportunities for educators to learn about ocean exploration and how they can use science, technology, engineering, and mathematics (STEM) content associated with exploring the ocean in classrooms. Educational offerings introduce educators to ocean scientists/explorers and their research and explorations, and at the same time, equip educators with exemplary tools and resources that intrigue students of all ages. Approximately 600 teachers received intensive onsite professional development in 2009, reaching approximately 73,000 students. http://oceanexplorer.noaa.gov/edu/welcome.html

Multicultural students get immersed in the marine environment through the Ocean for Life program

OFFICE OF NATIONAL MARINE SANCTUARIES

Since 1972, the Office of National Marine Sanctuaries (ONMS) has been federally mandated to promote environmental education through thirteen national marine sanctuaries and one marine national monument. Through hands-on activities, workshops, classroom curricula, and innovative technology ONMS reaches over 33 million people a year with messages about the ocean and its resources. Highlights for 2009 include the Ocean for Life program, which brought together students of diverse cultures and backgrounds (14 countries and 11 United States) to enhance cultural understanding through ocean science; and MERITO, a multi-cultural program which provides under-served students with hands-on, inquiry-based in-class and field activities. http://sanctuaries.noaa.gov/education

Teacher at Sea alum, participating in 2009 Teacher in the Lab pilot program, identifies juvenile fish

TEACHER AT SEA PROGRAM

Since 1990, NOAA's Teacher at Sea Program has provided hands-on research experiences for teachers aboard NOAA ships. In FY 2009, 34 teachers completed research cruises and now make up a portion of over 550 alumni from around the country using NOAA science in the classroom, reaching thousands of students every year. NOAA's Teacher at Sea Program also published its fourth children's book: "Mr. Tanenbaum Explores Atlantic Fisheries on the NOAA Ship Henry B. Bigelow", which includes 40 pages of educational illustrations and text that focus on North Atlantic fisheries research. Thousands of copies have been distributed to teachers and students across the nation. http://teacheratsea.noaa.gov

Hollings Scholars at the Smithsonian Environmental Research Center

ERNEST F. HOLLINGS UNDERGRADUATE SCHOLARSHIP PROGRAM

The Ernest F. Hollings Scholarship Program provides successful undergraduate applicants with academic assistance, and a 10-week NOAA internship that provides "hands-on" experiences in NOAA-related science, research, technology, policy, management, and education activities. The Program's goals are: to increase undergraduate training in oceanic and atmospheric science, research, technology, and education; foster multidisciplinary training; recruit and prepare students for careers with NOAA and natural resource and science agencies; recruit and prepare students for careers as educators in oceanic and atmospheric science; and improve scientific and environmental education in the U.S. FY 2009 accomplishments included the selection of 122 students from 45 states and territories. http://www.oesd.noaa.gov/Hollings_info.html

2009 Class of Dr. Nancy Foster Scholarship Recipients

DR. NANCY FOSTER SCHOLARSHIP PROGRAM

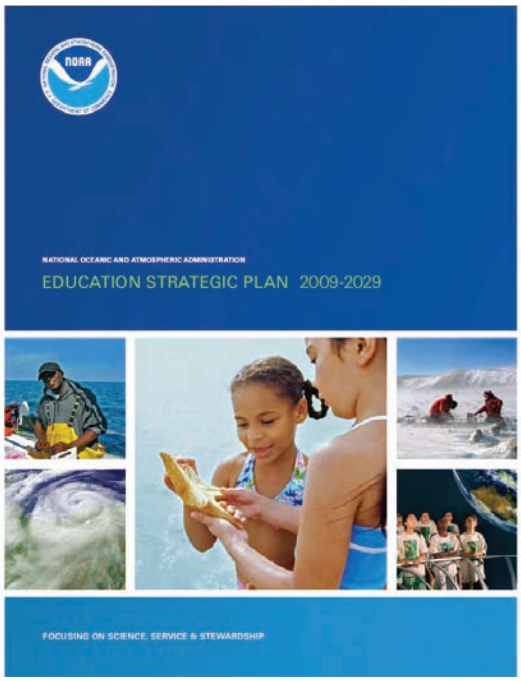
The Dr. Nancy Foster Scholarship Program recognizes outstanding scholars in marine biology, oceanography, or maritime archaeology, particularly by women and minorities, and encourages independent graduate-level research by providing financial support, through competitive processes, of graduate studies in those fields. In FY 2009, 7 new scholarships were awarded. Of the 40 total Dr. Nancy Foster Scholarships, 35 have been awarded to women; one recipient is now a Federal Employee, and three recipients are contractors to NOAA. http://fosterscholars.noaa.gov/aboutscholarship.html

Chesapeake B-WET students in the field, Fall 2009

BAY WATERSHED EDUCATION AND TRAINING PROGRAM

NOAA's education program has also received additional funds provided by Congress to increase environmental and ocean literacy. Bay Watershed Education and Training (B-WET) is an example of one of NOAA's congressionally-directed projects in 2009.

The Bay Watershed Education and Training (B-WET) Program offers competitive grants to promote locally relevant environmental education opportunities to students in grades K through 12, as well as related professional development for educators. All B-WET projects emphasize sustained, hands-on, experiential activities that are aligned with academic learning standards and respond to regional education and environmental priorities. In FY 2009, B-WET made over 85 new competitive awards in six regions around the country: New England, Chesapeake Bay, the Gulf of Mexico, California, the Pacific Northwest, and Hawai'I. B-WET reached 58,000 students and over 2000 teachers nationally. http://www.oesd.noaa.gov/BWET/



Education Strategic Plan, 2009-2029

EDUCATION STRATEGIC PLAN

Looking ahead, in FY 2011 NOAA will continue to support its education programs and work to implement the 2009-2029 Education Strategic Plan.

NOAA Education Website: http://www.education.noaa.gov/

Education Strategic Plan: http://www.education.noaa.gov/plan/