

Response to the National Research Council's Review of NOAA's Education Program

March 31, 2011

Executive Summary

The National Research Council (NRC) of the National Academies of Science performed a review of NOAA's education program, with the goal of providing recommendations for optimizing NOAA's investment in education. The report focused on five topics: 1) NOAA's role in education, 2) Education goals and outcomes, 3) Composition and management of the education portfolio, 4) Education evaluation practices, and 5) Evidence of impact.

The final NRC report, "NOAA's Education Program: Review and Critique", was publically released in 2010 (<http://www.nas.edu/morenews/20100303b.html>). Key findings in the Report include: 1) NOAA has the legislative authority to engage in education; 2) NOAA has a role to support state and local education; 3) Characteristics of NOAA make management of the education portfolio challenging; 4) NOAA has created a large number of education programs with a small budget; 5) NOAA education evaluations are limited in scope and quality and uneven across the portfolio.

Key recommendations in the Report include: 1) NOAA should fulfill its role in education through its expertise, place-based assets, and partnerships; 2) NOAA should address broadening participation as an important outcome of all program phases; 3) NOAA should develop a system to monitor and catalogue its portfolio to guide decisions about programs; 4) NOAA should continue to support improved evaluation practices and portfolio management; 5) NOAA should draw on research and evaluation evidence to better support education practices.

NOAA has made significant progress towards responding to recommendations from the NRC Report. Two of the most important efforts undertaken, even before the Report was finalized, were the development of the 2009 – 2029 Education Strategic Plan (<http://www.education.noaa.gov/plan/>) and the companion 2010-2014 Education Implementation Plan (http://www.oesd.noaa.gov/planning_policy/IplanFinal_21210.pdf). The Education Strategic Plan describes NOAA's long term goals and objectives. The Education Implementation Plan outlines specific priority actions to be taken in the next five years to advance the NOAA Education Strategic Plan.

Below are a summary of additional efforts NOAA is undertaking to address the report's findings and recommendations. This summary focuses on the work of the NOAA Education Council and specifically the efforts captured in the Education Strategic Plan, the Education Implementation Plan and other NOAA-wide education activities. A more detailed summary of NOAA's response to the NRC Report is available at: <http://www.oesd.noaa.gov/pdfs/NOAAResponse.pdf>

Steps NOAA is taking to fulfill its role in education through its expertise, place-based assets, and partnerships

- Co-chairing the Interagency Working Group on Ocean Education
- Co-chairing the U.S. Global Change Research Program Education Working Group
- Coordinating STEM education through the Federal Coordination of STEM Task Force
- Partnering with NASA and NSF on management of the GLOBE Program, an international K-12 science and education partnership in 111 partner countries
- Co-hosting joint meeting of climate education grant recipients from NOAA, NSF and NASA
- Supporting Science On a Sphere (SOS) and Ocean Today Kiosk networks with advanced technology and compelling content

Steps NOAA is taking to address broadening participation

- Leveraging NOAA's significant capability serving underrepresented students and faculty at Minority Serving Institutions through partnerships and collaboration across NOAA
- Identifying and analyzing current data reports from NOAA Workforce Management and national workforce trends
- Putting a priority on education projects that reach underrepresented and underserved groups, including elementary-level teachers and students
- Consolidating NOAA student opportunities, especially those targeted at underrepresented and underserved groups, to increase their reach and effectiveness

Steps NOAA is taking to monitor and catalogue its portfolio to guide program decisions

- Developing a systematic process for collecting, analyzing, and reporting data on resource allocation, inputs, and outputs for education programs
- Developing a system for collecting and reporting on performance measures (outcome and output) of education programs
- Offering multiple opportunities for professional development in order to increase the use and proficiency of NOAA education staff in program monitoring and evaluation
- Enhancing the education chapter in the yearly budget book for Congress (NOAA's Blue Book), to better categorize and present NOAA's education portfolio
- Performing program-level evaluation to increase overall program efficiency and reach

Steps NOAA is taking to support improved evaluation practices

- Creating an agency-wide inventory of the status of education evaluation
- Hiring an external evaluator to assist with conducting an agency-wide evaluation of NOAA's education programs
- Implementing the recommendations from a National Research Council convened Expert Evaluation Meeting focused on advancing NOAA's efforts to conduct effective evaluation

Steps NOAA is taking to draw on research and evaluation evidence to better support education practices

- Encouraging informal education recipients of NOAA's Environmental Literacy Grants to enter their evaluation reports and materials on "informalscience.org" website
- Identifying best practices in informal and formal climate education
- Creating a resource toolkit for climate science education in formal and informal settings