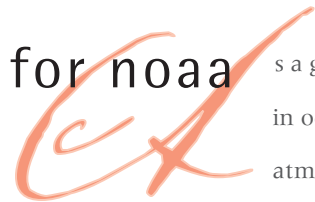


# an education plan for noaa



As a global leader in oceanic and atmospheric research, NOAA's role is more crucial than ever in shaping people's grasp of our planet's dynamic air and water systems and how they affect every aspect of our lives. If we are to succeed with our mission, we must prepare citizens in our society to understand and act on this information. Only in a culture of intelligent deliberation enabled by full understanding of the Earth around us can current and future generations enjoy the health and prosperity we consider our birthright.



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## noaa's education plan: an introduction

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U.S. Secretary of Commerce Donald L. Evans has said, “Environmental Literacy is critical to enable learners of all ages to pursue knowledge, produce advanced products, and enhance personal growth.”

The National Oceanic and Atmospheric Administration (NOAA) recognizes it has a role and a responsibility to the nation in advancing education leading to such a literate society. In order to effectively carry out this work, NOAA recently established an Office of Education and Sustainable Development (OESD) and an Education Council. Their role is to lead NOAA in articulating, assessing and sustaining a comprehensive education program directly supporting the Agency’s mission. The Council is comprised of representatives across NOAA, including members from programs with long-standing education mandates.

OESD and the Education Council were assigned the critical task of creating a Plan for Education to move the Agency to the forefront of environmental literacy efforts. This Plan builds on existing efforts and provides a basis for strategic investment of resources. It is based on a multi-level approach and serves our many constituents and partners at national, regional and local levels.

The Plan is the product of a network within NOAA, in collaboration with external partners, and is consistent with national efforts. The planning effort incorporates external evaluation and review. Upon its adoption, it will be implemented in a phased approach.

NOAA’s Plan for Education outlines the vision and scope necessary to address exponential increases in our society’s information needs and bring the riches of NOAA data and information to all learners.

## environmental literacy, outreach and education: a noaa cross-cutting priority

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“We will establish an environmental literacy program to educate present and future generations about the changing Earth and its processes, to inspire our nation’s youth to pursue scientific careers, and to improve the public’s understanding and appreciation of NOAA’s missions. This program will improve the public’s understanding of the natural environment and human response to natural hazards, will assist state and local natural resources managers, and will ensure that decision makers have access to, and the knowledge to use, the information they need to reduce significant human impacts on the environment and to respond to storm warnings and environmental change.”

— *New Priorities for the 21st Century: NOAA’s Strategic Vision, 2003*

## a vision for education

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Our vision is an environmentally literate public and a diverse workforce who will use NOAA’s products and services to make informed decisions that enable responsible action.

NOAA’s education program

- *aligns with NOAA’s mission and strategic goals and addresses complex issues integrated across the Agency;*
- *is based on NOAA’s unique capabilities to understand, predict, and explain fundamental processes and interactions of the atmosphere, climate, oceans, and coastal ecosystems;*
- *promotes careers in environmental sciences to ensure a future workforce reflecting the nation’s diversity and trained in disciplines critical to NOAA’s mission;*
- *emphasizes the atmosphere, oceans, coasts, and inland seas as natural laboratories to demonstrate fundamental processes across many disciplines;*
- *exhibits standards of high quality and educational excellence;*
- *addresses goals identified by national science education organizations, such as the National Academy of Sciences and the National Science Foundation;*
- *prepares teachers to understand and present NOAA sciences;*
- *is coordinated with partners, including other federal and state agencies, non-governmental organizations and the education community; and*
- *supports informal education to increase environmental literacy of adults as well as students through museums, science centers, and aquaria.*

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## definition and standards

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At NOAA, education means a process of engaging audiences to build knowledge on topics relevant to the world's atmosphere, climate, oceans, and coastal ecosystems in order to achieve greater environmental literacy, personal safety, and an improved economy.

NOAA's education program will exhibit standards of high quality. Education activities will

- *be based on NOAA sciences and services;*
- *include goals and measurable objectives;*
- *be aligned with appropriate national or state science education standards;*
- *be replicable, consistent in quality and designed to be sustainable;*
- *include an evaluation component; and*
- *be managed by NOAA employees who have satisfied NOAA's education training requirement.*

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## goals and strategies

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### **Goal 1**

PROMOTE ENVIRONMENTAL LITERACY BY INCREASING UNDERSTANDING AND USE OF NOAA DATA, INFORMATION AND PROGRAMS.

### **Goal 2**

BUILD NOAA'S CAPABILITY TO ENGAGE AUDIENCES AND ENABLE INFORMED DECISION MAKING.

### **Goal 3**

INCREASE THE NUMBER OF PEOPLE, PARTICULARLY IN UNDERREPRESENTED GROUPS, WHO CHOOSE EDUCATION AND CAREERS SUPPORTING NOAA'S MISSION.



### **Strategy 1**

Integrate NOAA sciences into high-quality educational materials.

- *Develop education materials where there are gaps in the NOAA-related sciences.*
- *Assure education materials are aligned with appropriate national and state science education standards.*
- *Translate and integrate data from earth observation systems into education materials.*
- *Create educationally excellent Internet materials and support electronic links for science textbooks.*

### **Strategy 2**

Improve access to NOAA educational resources.

- *Disseminate NOAA educational materials through educational and scientific organizations.*
- *Organize speakers and wide-ranging media presentations for formal and informal education settings.*
- *Maintain robust exhibit and presentation programs with national, regional, and state organizations.*
- *Engage audiences through innovation and new technologies.*
- *Maintain an Internet-accessible archive of NOAA's electronic documents, photos, videos, and other digital resources.*
- *Provide web sites designed for education.*

### **Strategy 3**

Support educator professional development programs to improve understanding and use of NOAA sciences.

- *Infuse NOAA-based curricula, materials, and web sites into professional development programs.*
- *Support professional development, field-based learning experiences, and online workshops for pre-service and in-service teachers.*
- *Develop and promote related course work for future educators through partnerships with institutions of higher education.*

#### **Strategy 4**

Promote participation in NOAA-related sciences and careers, particularly by members of underrepresented groups.

- *Support internships, fellowships, traineeships, scholarships, and mentorships for students.*
- *Develop NOAA-related course content for community colleges.*
- *Provide speakers and career information for students.*
- *Expand NOAA field-based experiences for students.*

#### **Strategy 5**

Leverage partnerships to enhance formal and informal environmental science education.

- *Develop education programs associated with complex issues, such as observing systems and climate change.*
- *Establish new, and strengthen existing, linkages with external partners serving underrepresented groups.*
- *Develop an environmental literacy partnership program.*
- *Highlight NOAA sciences through informal education venues, such as aquaria and science museums.*
- *Support research on best education practices in both formal and informal environmental science education.*
- *Develop environmental literacy benchmarks aligned with the National Science Education Standards.*
- *Create an external advisory board for education.*

#### **Strategy 6**

Build capability within NOAA for educational excellence.

- *Develop a comprehensive education training program.*
- *Provide long-term professional development for education staff within NOAA.*
- *Adopt best education practices based on education research.*