

**Virtual NEP  
NOAA's Education Strategic Plan  
August 5, 2008  
Consolidated Comments**

**Approvals**

Approved: NMFS, PA&E (w/comments), NESDIS (w/comments), PPI (w/comments), NOS (w/comments), Climate Goal (w/comments), NWS, and OMAO.

Silent Approvals: DUS, CFO, CAO, CIO, WMO, OAR, AGO, OED, and OLA.

Disapproved: None

**Comments**

**PPI (Kuester)**

Thank you for the opportunity to review the Draft Education Strategic Plan. PPI's comments follow.

General comment. The plan is organized in hierarchy order going from goal, theme (concepts), outcomes, strategies to activities. This is a complex hierarchy that may prove difficult to implement and quantify accomplishment. Consider thinking about the plan with performance measurement in mind as a way to edit and focus. For each of the goals, outcomes & strategies how will the education managers know that they have accomplished the desired result? How do accomplishing the goals, outcomes & strategies in this plan further the accomplishment of NOAA's Mission goals?

1. Introduction. Include an explicit reference to NOAA's Strategic Plan in the Introduction. Education is recognized in the NOAA Plan as a cross-cutting priority thus providing the "top cover" for this plan. Additionally every NOAA Mission Goal has an element of education in either an Outcome or an Objective. It is appropriate for this plan to show that linkage to the NOAA Plan - specifically to the NOAA Mission Goals. Lastly, this is stated to be a plan for a 20-year education vision, but it is not stated why 20 years was the chosen time horizon or what NOAA can expect to be the significant trends/drivers in 20 years.
2. Education Goals. The context setting for the goals is thin and buried in the Introduction. Suggest more discussion so the reader understands why these goals are the right goals for NOAA's Education effort. Also, Goal 1 has four themes, but Goal 2 has concepts - suggest unifying terminology.
3. Outcomes. It is not obvious why the eight listed outcomes are the appropriate outcomes for the goals. Suggest some additional context setting for the outcomes as well.
4. Strategies. Goal 1 has 24 strategies and Goal 2 has 12 for a total 36 strategies. Implementation of 36 strategies may be cumbersome. Measuring accomplishment may also be complex.

PA&E (Amos)

**Document Reviewed: Education Strategic plan**

**General comment:** The intended audience for this plan is not clear. It is difficult to provide meaningful comments when the distribution and intended audience for the plan are not known. The nature of the plan might vary if it was intended for internal only distribution compared to a plan intended for wide external distribution.

**General comment:** Typically NOAA Strategic plans have objectives. The items presented as priorities seem to fill the role of objectives. Consider renaming the priorities as objectives.

**General comment:** In the implementation of the plan, ensure the logic trail of:

Requirements → Current Capabilities → Gaps → Strategies to fill gaps is maintained.

NOS (Corso)

NOS enthusiastically supports this plan and looks forward to its approval.

Our suggestions for improvement include:

- Recommend strengthening the introduction section to demonstrate (1) how education supports NOAA’s research priorities, and (2) how it will advance those research priorities. The document seems to be too “education” centric and it risks becoming a stand-alone piece if it doesn’t truly demonstrate how it connects to other NOAA research plans.
- Recommend generating a visual which captures both goals and their respective outcomes and strategies. This will make it easier for readers, who don’t spend much time on these documents, to clearly identify the overall vision of this plan.
- Recommend having a specific outcome focused on providing access to NOAA resources. This could be woven into a theme about the need to coordinate efforts across NOAA - there is mention about it in the introduction but not much after. Having an outcome related to guaranteeing easy and comprehensive access to NOAA education products might be a way to link some of the themes and outcomes together.
- Recommend including a reference as to the best way for people to find information about all the programs and resources referenced in the document. This reference could be NOAA’s Education Website, but we would need to add some way of listing or referencing all the current NOAA Education Programs. In other words, make it easier for the reader to find information about NOAA Education Programs.

## Specific Comments:

### Goal 1

- Page 1, line 9 - The titled of this document reads: NOAA’s Education Strategic Plan. We suggest re-wording this title to simply say “ NOAA’s Education Strategy”. Even though planning and strategy development are closely related, there is a difference. Where planning is meant to identify concrete activities, strategy development is more concerned with defining future direction. Planning is then the translation of the chosen strategy into concrete objectives, activities and related means. After this Strategy document has been finalized, an implementation “PLAN” will be developed. The use of the word “plan” is more appropriate in this context.
- Page 2, line 41 – Outcome 6.1 is not listed in the table of contents
- Page 6, line 19 – Recommend adding a fifth theme that explores the connections between NOAA’s Research priorities with those from NOAA’s Education priorities. Even though these ideas seem to be the basis of many of the strategies outlined, it is not made explicit in this document. The text box suggested in page 8, line 17 is too broad and doesn’t get to the point in stating that the education community will work with the researchers to develop and disseminate science-based storylines.
- Page 7, line 8 – Recommend including the definition for engagement/training. It is briefly explained in page 17, but the NOAA Engagement Workgroup has actually come-up with a fuller definition that seems to better fit this section.
- Page 11, line 1 - Under outcome 1.3 there is discussion of data translation. This discussion does not include any focus on science translation to decision-makers. This is either an oversight or left out because of the emphasis on k-12. Regardless, it is important to emphasize that NOAA science is translated into products and information that help decision-makers at all levels to improve their decisions about NOAA relevant issues. If it is in appropriate for 1.3 then this issue should be addressed under outcome.
- Page 11, Line 22 Comment: IOOS is the Integrated Ocean Observing System and the acronym has recently been approved for Registered Trademark  
Recommendation: Change "U.S. Integrated Ocean Observation System (IOOS)" to ""U.S. Integrated Ocean Observing System (IOOS®)"
- P 14 lines 20-25 - Rewrite the paragraph for clarity:

“This term generally applies to an open and ongoing dialogue between NOAA and the public. A successful dialogue produces partnerships to address issues of ocean, coastal, Great Lakes, weather, and climate sciences. Engagement reinforces NOAA’s role as a service agency whose goals and objectives are commensurate with society’s, and whose resources are used to benefit the public. Implicit to engagement is a respect between partners that involves

communication, understanding, and mutual support (NOAA Science Advisory Board, 2008).”

- P14 lines 42-43 - This sentence seems contradictory to the NERRS CTP model of carefully-targeted decision maker audiences. Recommend re-writing this sentence to say:

“Develop and deliver a suite of coordinated activities that reach **carefully-targeted** audiences and promote informed decision making.”

- Page 14, line 46 - Outcome 1.6 does not provide much detail to support educational efforts targeting adult decision-maker audiences. Recommend adding a strategy to the list that states:

"Apply appropriate planning and evaluation tools targeting specific decision maker audiences".

- Page 14, line 46 - Change strategy c) to read: "Integrate engagement into NOAA priority issues at the national and regional levels."

## **Goal 2:**

- Page 17, line 5 – This whole section focuses on Mission Critical Disciplines, but it seems to miss making a stronger reference about the need to develop a future workforce that has actual expertise in the scientific arena. Recommend re-writing this section to say:

“Protecting, restoring, and managing coral reef, estuarine research reserves, or maritime heritage resources require scientific investigations to understand these environmental systems and their processes at work. A strong science background is needed to conduct the type of research needed which can yield better tools for ecosystem assessments and monitoring, better understanding of the coastal and ocean processes and ecosystem dynamics, better understanding of the linkages of these ecosystems to human impacts, amongst others. Development of management plans that consider stakeholder interest and drafting of policy to support these efforts require different skill sets build on an understanding of political processes, public involvement mandates, legal statutes, international treaties, strategic planning methods, and administrative procedures.”

- Page 17, line 28 re-write to say: [c]ommunities and partnering with Minority Serving Institutions and Environmental Cooperative Science Centers (ECSC), to inspire students to consider this career
- P17 lines 5-9: rewrite the paragraph for clarity

“Protecting, restoring, or managing resources such as coral reefs and maritime heritage sites requires management plans that fully consider all stakeholders’

interests and concerns. These efforts also require a workforce skilled in political processes and public involvement, familiar with U.S. and international laws and treaties, and adept in strategic planning methods and administrative procedures.”

- Page 20, line 7 – Include a line that references the NERRS Graduate Research Fellowship Program. This line could say:  
  
“Another example can be found in the National Estuarine Research Reserve System’s Graduate Research Fellowship which provides master’s degree students and Ph.D. candidates with an opportunity to conduct research of local and national significance that focuses on enhancing coastal zone management.”
- Page 20, line 9 – This line indicates that a picture will be inserted of a NERRS fellow at work, yet there is no reference about the GRF program, at all, unless you include the line references above.
- Page 20, line 21 – What are the Student Career Experience Programs? Please define, this is not clear.
- Page 22, line 9 – Suggest using a NOAA reference to CZMA and not Cornell’s. Suggested reference can be: <http://www.nerrs.noaa.gov/Legislation/315.html>
- p.3, line 25: Change 'Corals Program' to 'Coral Reef Conservation Program'
- p.14, line 11: If appropriate add, U.S. Coral Reef Task Force as a formal interagency body which maintains an Education & Outreach Working Group.

#### NESDIS (Baker)

NESDIS has no comments on the NOAA Education Strategic Plan. We support the two goals and the various objectives as listed in the plan. NESDIS' overall communications effort is in line with the plan's proposal.

Given the prominence placed on the America COMPETES Act in the plan, NESDIS would request that guidance on implementation of the America COMPETES Act be included as part of the forthcoming 5-year Education Implementation Plan. This is needed to ensure that NOAA and DOC General Counsel offices as well as the NOAA Budget Office agree on what the Act enables NOAA to do and what it does not. This would be helpful to NESDIS as it seeks to use the America COMPETES Act as the authority to implement various education and outreach initiatives.

#### Climate Goal (Arzayus)

Climate goal comments on the draft NOAA Education Strategic Plan, Aug. 12, 2008

The Climate Goal review focused on reviewing how well the NOAA Education Strategic Plan (ESP) meshes with our draft strategy for a National Climate Service (NCS) and planning efforts in FY11-15.

Overall, we are pleased to see that the ESP meets the strategic objectives outlined in the NCS strategy and our outyear planning very well. Without the advancement of climate literacy, the gap between climate science and decision-making cannot be bridged. The investment of the NCS and its partners in education will yield in time an increased ability of citizens to understand science and technology in order to participate in public policy decisions.

**Specific comments:**

- Page 7 lines 10-20 – It is good that the education council is developing formal definitions of the various types of education and outreach; however, for formal education we recommend clarifying whether post docs be considered formal education. Numerous labs across NOAA have post docs and this issue comes up every time the Education Council asks for information on the education activities within each goal. These definitions are an opportunity to be very clear and provide examples. The way they are written now still leaves some interpretation.
- Page 11 line 1- Evidence-based Earth System Science. The title for this outcome can lead to conclusion that the Education Council will be involved in the research and development of Earth System Science. However, the text below is speaking to connecting students and educators to the new and evolving science NOAA does. Consider revising the title of the outcome so that it doesn't imply a direct research role.
- Page 14 line 40 – Strategy A in Outcome 1.6 Strategies “Develop and deliver a suite of coordinated activities that reach multiple audiences and promote informed decision making,” is an activity that many other parts of NOAA are already involved in. While this is a strategic plan and not an implementation plan. It is important to discuss how the Education Council will work with and use the other parts of NOAA that may already be involved in these efforts to perform the services described above. This is emphasized in the NCS strategic plan, which also calls for improving NOAA's ability to communicate information for informed decision making. We want to ensure that a mechanism exists to avoid duplicative efforts.
- Page 16 Line 1 - Goal 2, Workforce Development, is focused on developing NOAA's workforce yet the language seems to concentrate a lot more on NOAA's future work force and less on improving opportunities for NOAA's existing work force. We suggest an emphasis on the need to take advantage of the workforce NOAA already has and improve their educational opportunities.
- Page 20 Line 1 – Strategy for Implementation. Again, while this is not an implementation plan, this section would be an opportunity to address the previous comment about using the existing entities to accomplish this work. It is important to recognize that these goals and outcomes will only be accomplished through the existing entities within NOAA.