

NOTICE OF OFFICE OF MANAGEMENT AND BUDGET ACTION

Date 05/17/2007

Department of Commerce
National Oceanic and Atmospheric Administration
FOR CERTIFYING OFFICIAL: Barry West
FOR CLEARANCE OFFICER: Diana Hynek

In accordance with the Paperwork Reduction Act, OMB has taken action on your request received 03/15/2007

ACTION REQUESTED: New collection (Request for a new OMB Control Number)
TYPE OF REVIEW REQUESTED: Regular
ICR REFERENCE NUMBER: 200702-0648-015
AGENCY ICR TRACKING NUMBER:
TITLE: Professional Development Workshops and Formal Evaluation of NOAA Online Education Materials
LIST OF INFORMATION COLLECTIONS: See next page

OMB ACTION: Approved without change
OMB CONTROL NUMBER: 0648-0557
The agency is required to display the OMB Control Number and inform respondents of its legal significance in accordance with 5 CFR 1320.5(b).

EXPIRATION DATE: 05/31/2010 DISCONTINUE DATE:

BURDEN:	RESPONSES	HOURS	COSTS
Previous	0	0	0
New	3,240	855	0
Difference			
Change due to New Statute	0	0	0
Change due to Agency Discretion	3,240	855	0
Change due to Agency Adjustment	0	0	0
Change Due to Potential Violation of the PRA	0	0	0

TERMS OF CLEARANCE:

OMB Authorizing Official: John F. Morrall III
Acting Deputy Administrator,
Office Of Information And Regulatory Affairs

List of ICs

IC Title	Form No.	Form Name	CFR Citation
Teacher instructions and pre- and post-workshop questionnaires	NA, NA, NA	Teacher OE and overall post-workshop questionnaire, Teacher pre-workshop questionnaire, Teacher NOS post-workshop questionnaire	
Student pre-and post-lesson questionnaires	NA, NA, NA, NA	Student post-lesson questionnaire for grades 9-12, Student Pre-Lesson questionnaire for grades 9-12, Student Pre-Lesson Questionnaire, grades 6-8, Student post-lesson questionnaire for grades 6-8	
Teacher followup questionnaire	NA	Teacher follow-up questionnaire	

PAPERWORK REDUCTION ACT SUBMISSION

Please read the instructions before completing this form. For additional forms or assistance in completing this form, contact your agency's Paperwork Clearance Officer. Send two copies of this form, the collection instrument to be reviewed, the supporting statement, and any additional documentation to: Office of Information and Regulatory Affairs, Office of Management and Budget, Docket Library, Room 10102, 725 17th Street NW, Washington, DC 20503.

1. Agency/Subagency originating request	2. OMB control number b. <input type="checkbox"/> None a. _____ - _____
3. Type of information collection (<i>check one</i>) a. <input type="checkbox"/> New Collection b. <input type="checkbox"/> Revision of a currently approved collection c. <input type="checkbox"/> Extension of a currently approved collection d. <input type="checkbox"/> Reinstatement, without change, of a previously approved collection for which approval has expired e. <input type="checkbox"/> Reinstatement, with change, of a previously approved collection for which approval has expired f. <input type="checkbox"/> Existing collection in use without an OMB control number For b-f, note Item A2 of Supporting Statement instructions	4. Type of review requested (<i>check one</i>) a. <input type="checkbox"/> Regular submission b. <input type="checkbox"/> Emergency - Approval requested by _____ / _____ / _____ c. <input type="checkbox"/> Delegated
7. Title	5. Small entities Will this information collection have a significant economic impact on a substantial number of small entities? <input type="checkbox"/> Yes <input type="checkbox"/> No
8. Agency form number(s) (<i>if applicable</i>)	6. Requested expiration date a. <input type="checkbox"/> Three years from approval date b. <input type="checkbox"/> Other Specify: _____ / _____
9. Keywords	
10. Abstract	
11. Affected public (<i>Mark primary with "P" and all others that apply with "x"</i>) a. ___ Individuals or households d. ___ Farms b. ___ Business or other for-profit e. ___ Federal Government c. ___ Not-for-profit institutions f. ___ State, Local or Tribal Government	12. Obligation to respond (<i>check one</i>) a. <input type="checkbox"/> Voluntary b. <input type="checkbox"/> Required to obtain or retain benefits c. <input type="checkbox"/> Mandatory
13. Annual recordkeeping and reporting burden a. Number of respondents _____ b. Total annual responses _____ 1. Percentage of these responses collected electronically _____ % c. Total annual hours requested _____ d. Current OMB inventory _____ e. Difference _____ f. Explanation of difference 1. Program change _____ 2. Adjustment _____	14. Annual reporting and recordkeeping cost burden (<i>in thousands of dollars</i>) a. Total annualized capital/startup costs _____ b. Total annual costs (O&M) _____ c. Total annualized cost requested _____ d. Current OMB inventory _____ e. Difference _____ f. Explanation of difference 1. Program change _____ 2. Adjustment _____
15. Purpose of information collection (<i>Mark primary with "P" and all others that apply with "X"</i>) a. ___ Application for benefits e. ___ Program planning or management b. ___ Program evaluation f. ___ Research c. ___ General purpose statistics g. ___ Regulatory or compliance d. ___ Audit	16. Frequency of recordkeeping or reporting (<i>check all that apply</i>) a. <input type="checkbox"/> Recordkeeping b. <input type="checkbox"/> Third party disclosure c. <input type="checkbox"/> Reporting 1. <input type="checkbox"/> On occasion 2. <input type="checkbox"/> Weekly 3. <input type="checkbox"/> Monthly 4. <input type="checkbox"/> Quarterly 5. <input type="checkbox"/> Semi-annually 6. <input type="checkbox"/> Annually 7. <input type="checkbox"/> Biennially 8. <input type="checkbox"/> Other (describe) _____
17. Statistical methods Does this information collection employ statistical methods <input type="checkbox"/> Yes <input type="checkbox"/> No	18. Agency Contact (person who can best answer questions regarding the content of this submission) Name: _____ Phone: _____

19. Certification for Paperwork Reduction Act Submissions

On behalf of this Federal Agency, I certify that the collection of information encompassed by this request complies with 5 CFR 1320.9

NOTE: The text of 5 CFR 1320.9, and the related provisions of 5 CFR 1320.8(b)(3), appear at the end of the instructions. *The certification is to be made with reference to those regulatory provisions as set forth in the instructions.*

The following is a summary of the topics, regarding the proposed collection of information, that the certification covers:

- (a) It is necessary for the proper performance of agency functions;
- (b) It avoids unnecessary duplication;
- (c) It reduces burden on small entities;
- (d) It used plain, coherent, and unambiguous terminology that is understandable to respondents;
- (e) Its implementation will be consistent and compatible with current reporting and recordkeeping practices;
- (f) It indicates the retention period for recordkeeping requirements;
- (g) It informs respondents of the information called for under 5 CFR 1320.8(b)(3):
 - (i) Why the information is being collected;
 - (ii) Use of information;
 - (iii) Burden estimate;
 - (iv) Nature of response (voluntary, required for a benefit, mandatory);
 - (v) Nature and extent of confidentiality; and
 - (vi) Need to display currently valid OMB control number;
- (h) It was developed by an office that has planned and allocated resources for the efficient and effective management and use of the information to be collected (see note in Item 19 of instructions);
- (i) It uses effective and efficient statistical survey methodology; and
- (j) It makes appropriate use of information technology.

If you are unable to certify compliance with any of the provisions, identify the item below and explain the reason in Item 18 of the Supporting Statement.

Signature of Senior Official or designee

Date

Agency Certification (signature of Assistant Administrator, Deputy Assistant Administrator, Line Office Chief Information Officer, head of MB staff for L.O.s, or of the Director of a Program or StaffOffice)

Signature

Date

Signature of NOAA Clearance Officer

Signature

Date

SUPPORTING STATEMENT

PROFESSIONAL DEVELOPMENT WORKSHOPS AND FORMAL EVALUATION OF NOAA ONLINE EDUCATION RESOURCES

OMB CONTROL NO.: 0648-xxxx

A. JUSTIFICATION

1. Explain the circumstances that make the collection of information necessary.

According to the American Association for the Advancement of Science (AAAS), studies show that “our nation’s education system is failing to prepare students with the essential science skills required in an increasingly competitive global economy.” Minority students and those from low-income families perform particularly poorly. Adults, including educators, also lack knowledge. According to the 1999 survey *Communicating About Oceans*, nearly 60% of Americans do not realize that more plants and animals live in the oceans than on land; 75% mistakenly believe that forests, rather than oceans, are the planet’s main sources of oxygen; and 40% are unaware of the essential role oceans play in regulating climate. Thus, a project that seeks to educate first teachers and then students, and at the same time evaluate the efficacy of NOAA products, will enable NOAA to build new environmental literacy capacity in all four of its mission-goal areas.

The Oceans Act of 2000 ([P.L. 106-256](#)) established a commission to make recommendations for a coordinated and comprehensive national ocean policy, with goals including “stewardship of ocean and coastal resources” and “expansion of human knowledge of the marine environment.” The Commission on Ocean Policy produced *An Ocean Blueprint for the 21st Century* (2004) which highlights the importance of ocean science in teaching basic scientific concepts, as well as how it can enhance the teaching of social sciences (e.g., economics, history). It concludes: “Because scientists typically do not know what type, level, or format of information K-12 teachers require, and because teachers generally are not aware of how ocean-related data can be used to advance student achievement, collaborative efforts will be needed to develop and disseminate research-based, ocean-related curricula that are designed with state and national educational standards and meet the needs of teachers.”

Since 2004, NOAA’s National Ocean Service (NOS) has produced and offered Web-based formal educational products geared toward educators and students at the high school level. They are comprised of tutorials, case studies, and lesson plans based on NOAA research, and are correlated to National Science Education Standards and the AAAS Benchmarks for Science Literacy.

These products have been widely accessed. In 2006, NOS’s education Web site received nearly five million hits, and lesson plans have been downloaded at an average rate of 16,000 every month. In 2004, NOS entered into a Cooperative Agreement with the National Science Teachers Association (NSTA) to evaluate the content of its educational products. All of the products received high marks for age-appropriate, Web and inquiry-based materials.

Through its partnership with the NSTA, NOS has become acutely aware of teachers' growing needs for educational materials on ocean-science topics, as well as their need to learn more about the topics themselves and how best to teach them. NOAA has the opportunity to fulfill a specific and critical need by reaching out to these educators, informing them of the availability of NOAA educational materials, and providing them with professional development to implement them in their classrooms. In addition, it is essential for NOAA to create a formal mechanism by which its educational materials may be evaluated by the educators and students who use them. NOAA needs objective external feedback to assess the effectiveness of its educational materials in improving the teaching of state and national education standards, and to determine its success in promoting the concepts and content of the major ocean literacy principles.

The *NOAA Education Plan* states that NOAA's Education Program will "support educator professional development programs to improve understanding and use of NOAA sciences," that these planning efforts will "incorporate external evaluation and review," and that "NOAA's educational activities will include goals, measurable objectives, and an evaluation component." The Education Branch of NOS's Communication and Education Division, together with the National Education Coordinator of NOAA's Office of Ocean Exploration (OE), conclude that conducting a series of one-day professional development seminars for educators, which will include a rigorous evaluation and feedback component as well as an in-classroom follow-up component, is the best way for NOAA to achieve these goals.

In *Great Lakes Educational Needs Assessment: Teachers' Priorities for Topics, Materials, and Training* (Fortner & Corney, 2002), the authors write that "Research indicates that high-quality curriculum materials, accompanied by extensive teacher preparations for their use, can increase student achievement . . . In fact, research has shown that unless curriculum innovations are accompanied by teacher education, the materials are unlikely to be implemented. Thus it is critical for providers of materials to think not only about what is needed for the curriculum, but how teachers will react to specific opportunities for learning. Effective use of funds for teacher enhancement could depend on knowing more about teachers' priorities and needs." The authors also found that "respondents indicate that workshops are a primary source of . . . information, and one-day formats are preferred. This reinforces earlier research that found that one-day workshops were most effective in getting teachers to use new materials and introduce them to other teachers."

Similarly, in the article *Relative effectiveness of four modes of curriculum dissemination* (Mayer & Fortner, 1987) the researchers found that 80% of educators who participated in a one-day professional development seminar continued to utilize the materials in their classrooms for up to four years.

To address the educational needs of today's teachers and students, NOAA must provide formal materials that teachers can use in the classroom. These materials should be multidisciplinary and relate to the real world. NOS's and OE's combined efforts will make it possible for NOAA to provide teachers with professional development opportunities that cover the entire realm of coastal and ocean science, from the study of near-shore habitats and processes (NOS's focus) to open ocean processes and deep-sea exploration (OE's focus).

In doing so, the project will directly support NOAA's cross-cutting priority for environmental literacy, outreach, and education. NOAA hopes to inspire the nation's youth to pursue scientific careers and improve the public's understanding of ecosystem processes and natural hazards. Regarding strategies and measures of success in this area, the *NOAA Strategic Plan* states that "NOAA will create an agency-wide mechanism for distributing and using its educational materials and services and for measuring the effectiveness of its outreach efforts," and suggests that these mechanisms can be measured by "an increased number of favorable survey scores of NOAA's performance in delivering accurate, prompt, and comprehensible information."

For this reason, formal and rigorous evaluation must take place. Due to privacy laws and other regulations, it can prove difficult for federal agencies to conduct evaluations of material presented on federal Web sites. Among the ways that evaluative information can be collected on formal educational materials presented online are via feedback from educators who have participated in professional development seminars and workshops, as well as from students who have utilized the materials firsthand in the classroom.

In summary, the purpose of this study is to assess the usefulness and effectiveness of the online education resources of NOAA's Ocean Service education Web site and the Office of Ocean Exploration's Expedition Online Education Modules in enhancing the teaching of National Science Education Standards (NSES) and promoting the Ocean Literacy Principles and Fundamental Concepts.

The bulleted list below provides the constitutive definitions of "usefulness" and "effectiveness" in accordance with the statement of purpose:

"Usefulness" means teachers...

- Think they have found a wealth of exemplary resources.
- Think about how they can incorporate the NOAA online educational materials into their curricula- not necessarily ocean science—to meet the educational standards they need to teach to.
- Perceive NOAA education Web sites as a "go to place" for resources they will need.
- Think the information appears in a usable format, can access information quickly, and in a targeted way - i.e., *user-friendly*.
- See that education standards are clearly labeled, easy to access, useful.
- Use NOAA education Web sites on a regular basis.

"Effective" means teachers are...

- Empowered as teaching professionals using these materials.
- Excited about bringing these materials to their students.
- Thinking about students reactions to the materials.
- Thinking about how these materials will help them meet education standards.
- Thinking about coastal and ocean environments.
- Thinking about NOAA and why the organization exists/what the organization does.
- Intrigued by these NOAA Web sites, and encouraged to explore additional NOAA online education resources.
- Clearly seeing the collaboration between scientists and educators.

- Clearly seeing that these materials have been written by educators.
- Recognizing that these materials represent reliable scientific information.
- Recognizing that, as an organization, NOAA is working for them, as a resource.
- Increasing the number of online components they use - Increasing NOAA Web site usage in the classroom.
- Are feeling enhanced as a professional.
- Achieving classroom success through use of the online materials.

“Effective” means students are...

- Excited about using these materials.
- Intrigued by these NOAA Web sites, and encouraged to explore additional NOAA online resources.
- Engaged when using the online educational materials.
- Recognizing that these materials represent reliable scientific information.
- Recognizing that, as an organization, NOAA is working for them, as a resource.
- Increasing their knowledge of ocean science.
- Increasing their awareness of potential ocean science careers.

The Evaluation Plan

Using the statement of purpose previously presented, an evaluation plan was developed for the study. The evaluation plan was built upon the theory that when adopting materials for use, participants follow a logical progression of steps (Guskey, 2000). At the foundation, there are sufficient inputs to a program; the material must be valid and thorough for the needs of the audience. Upon introduction to new material, participants will react to it. If the reaction is positive, they will likely develop skills to use it. Once skills are acquired, participants often will plan on how they will use the material, before the behavior actually takes place. If behavior has occurred, it is important to look at the environmental circumstances that helped or hindered the behavior being performed as intended. A successful evaluation must take measures at each of these steps in order to fully inform the outcome of the program.

The following Evaluation Questions were developed, based on the logic above, to guide the assessment of the usefulness and effectiveness of NOAA’s online educational materials. A grid displaying how each of the questionnaire items is related to the evaluation questions can be found at the end of the document.

Teacher Professional Development

- a.(Inputs) What are the characteristics of the teachers and classroom environments that correlate with measures of participants’ reactions, skills, intentions, and behavior?
- b. (Inputs) Do participants perceive the overall workshop as useful in accordance with specific needs of teachers?
- c.(Reactions) Do the teachers have a positive attitude toward using the NOAA’s online education resources?
- d. (Reactions) Does the professional development workshop have the effect of increasing teachers’ awareness or interest in incorporating ocean related materials and/or activities into their curriculum?

- e.(Skills) Does the professional development workshop enhance teachers’ perceived ability to utilize NOAA’s online education resources?
- f. (Intention to Behave) Does the professional development workshop increase teachers’ intentions to utilize NOAA’s online education resources?
- g. (Behavior) Does the teacher attending the professional development workshop utilize the NOAA online education resources? What is their experience?
- h. (Behavior) What contextual factors impact teacher utilization of NOAA’s online education resources in the classroom?

Student Academic Development

- a.(Reactions) Do the students have a positive attitude toward using NOAA’s online education resources?
- b. (Reactions) Does utilization of NOAA’s online education resources increase students’ characteristics associated with academic achievement (e.g., engaged in learning)?
- c.(Skills) Does utilization of NOAA’s online education resources increase students’ academic achievement as measured by a pre-post knowledge test?
- d. (Intention to Behave) Does utilization of NOAA’s online education resources increase students’ characteristics associated with environmental stewardship (e.g., knowledge of ocean science issues, intention to participate in ocean science related volunteer opportunities or work)?

2. Explain how, by whom, how frequently, and for what purpose the information will be used. If the information collected will be disseminated to the public or used to support information that will be disseminated to the public, then explain how the collection complies with all applicable Information Quality Guidelines.

The instruments and sources of measures that will be used to collect data for answering the research questions are summarized in Table 1. To ensure the validity and reliability of the scales used in this evaluation, measures were taken from past, peer-reviewed, published studies and adapted to this study. Adapted instruments were reviewed and edited by former educators. Table 2 presents the timeline for instrument distribution.

Table 1. Levels of Measurement by Instrument

	Level of Measurement				
	Inputs	Reactions	Skills	Intention to Behave	Behavior
Workshop Pre-Questionnaire	x				
Workshop Post-Questionnaire	x	x	x	x	
Follow-Up Questionnaire			x		x
Student Pre/Post Questionnaire	x	x	x	x	x

Table 2. Instrument Distribution Timeline

	At start of workshop	At end of workshop	After Unit Completion (3-6 months following workshop)*
Workshop Pre-Questionnaire	X		
Workshop Post-Questionnaire		X	
Follow-Up Questionnaire			X
Student Pre/Post Questionnaire			X

**depending on workshop date*

The Pre-Workshop Questionnaire is designed to measure program inputs. It will collect demographics of the participants, confirm the program products are compatible with the needs of the audience, and take measures of baseline participant reactions. The Post-Workshop Questionnaire is designed to answer questions regarding participants’ reactions to materials, their perception of their ability to use materials, their intentions to use materials in the classroom, and their overall assessment of the program inputs. The Post-Workshop Questionnaire will be divided into three sections: one for the end of the NOS session, one for the end of the OE session, and one overall questionnaire section (as the NOS questionnaire will be administered directly after the morning session, and as the OE presentation is after the break, the last two sections will be administered in a separate document).

Participants will be directed to administer the Student Pre-Lesson Questionnaire within the week prior to beginning the lesson(s) with their classes. Instructions for Administration will be provided. Baseline information will be collected from students regarding their attitudes toward science and ocean science and their knowledge of related items¹. The Student Post-Lesson Questionnaire will assess changes in these baseline measures and also ask students to document their reactions to using the online materials. Teachers will be directed to administer the Post-Lesson Questionnaire the day after, or as soon as possible after, the completion of the NOAA related lesson or activity.

Approximately three to six months following the workshop, workshop participants will complete a Follow-Up Questionnaire. The purpose of this instrument is to assess teachers’ use of the materials in the classroom, document their reactions to the experience and their perception of the materials’ impact on students, and collect an overall assessment of the program outcomes in terms of the usefulness and effectiveness of program material.

¹ Two versions of the Pre and Post-Lesson questionnaire exist for the attitude portion of the evaluation, tailored for grades 6-8 and 9-12. We are not required to seek approval for the knowledge assessment portion of the evaluation, per the Paperwork Reduction Act, 1320.3(7).

A summary of this information is provided in Table 3.

Table 3. Program measures

<i>Evaluation Question</i>	<i>Instrument</i>	<i>Measures</i>	<i>Sources for measures</i>	<i>Use of information</i>
What components of the teacher professional development programs contribute to teachers feeling prepared to utilize the NOAA online education resources with their students?	Workshop Pre-Questionnaire	Demographic information: Years as a teacher, grade(s) taught, subject(s) taught, number of students	The Holden Arboretum, OH: <i>Growing Students with Science</i> (2006)	Collection of demographic data for description of target audience
		Program inputs: computer use in school, topic priority and coverage in school	NASA Explorer Schools (ongoing)	Contextual information describing an environment in which to use online materials
		Teacher familiarity with NOAA, teacher confidence in teaching ocean science, teacher comfort with computer online environment	The Holden Arboretum, OH: <i>Growing Students with Science</i> (2006)	Control for teacher characteristics that can influence outcomes of workshop
What components of the teacher professional development programs contribute to teachers feeling prepared to utilize the NOAA online education resources with their students?	NOS, OE, Overall Workshop Post-Questionnaire	Teacher reactions to online materials, teacher prediction of student reactions to online materials	Guskey (2000)	Building blocks of logic model
Do the teachers have a positive attitude toward using the NOAA online education resources?		Teacher assessment of professional development experience	Guskey (2000)	Building blocks of logic model
Do the professional development programs increase teachers' intentions to utilize the NOAA online education resources?		Teacher intention to use online materials in classroom.	Guskey (2000)	Building blocks of logic model

Evaluation Question	Instrument	Measures	Sources for measures	Use of information
Do the students have a positive attitude toward using the NOAA online education resources?	Student pre-lesson questionnaire	Student attitude toward science, student attitude toward Internet	NASA Explorer Schools <i>Classroom of the Future</i> (2005)	Building blocks of logic model
Does utilization of the NOAA online education resources increase students' characteristics associated with academic achievement (e.g., engaged in learning)?	Student post-lesson questionnaire Teacher follow-up questionnaire			
Does utilization of the NOAA online education resources increase students' academic achievement in the NOS lesson plan content as measured by a pre-post knowledge test?	Student pre-lesson questionnaire Student post-lesson questionnaire Teacher follow-up questionnaire	Student changes in results of knowledge items	NOAA's National Ocean Service	Building blocks of logic model
Does utilization of the NOAA online education resources increase students' characteristics associated with environmental stewardship (e.g., knowledge of ocean science issues, intention to participate in ocean science related volunteer opportunities or work)?		Student interest in ocean science related careers, volunteer opportunities	NASA Explorer Schools <i>Classroom of the Future</i> (2005)	Building blocks of logic model
		Teacher perception of student reactions	The Holden Arboretum, OH: <i>Growing Students with Science</i> (2006)	Triangulation; Multiple respondents' data strengthen validity of findings
Do the students have a positive attitude toward using the NOAA online education resources?	Student Pre-, Post Teacher Follow-Up	Student reactions toward online education resources	Guskey (2000)	Building blocks of logic model
Are the teacher professional development programs increasing the utilization of the NOAA online education resources by teachers? How consistently are the materials being utilized?	Teacher Follow-Up Questionnaire	Teacher behavior	Guskey (2000); Danter (2005)	Provide evidence for effectiveness of professional development workshop
What contextual factors impact teacher utilization of the NOAA online education resources in the classroom?		Teacher perception of supports and barriers	Danter (2005)	Control for extraneous variables that may impact outcomes

Summary

This initial evaluation will provide baseline data and offer NOAA proven, pilot-tested instruments for use in future educator workshops on this topic. As an outcome of this evaluation, NOAA's NOS and OE will learn about how the workshop materials are being implemented by the teachers and what benefits they are having for participants and students. The evaluation results will be used by managers to document the effects of currently-funded programs, to inform future decisions on what programs to fund, and to share critical "lessons learned" with national education communities. The instruments developed as part of this evaluation will be made available to professional development program providers for their use in monitoring their individual programs' effectiveness.

As explained in the preceding paragraphs, the information gathered has utility. NOAA will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for confidentiality, privacy, and electronic information. See response #10 of this Supporting Statement for more information on confidentiality and privacy. The information collection is designed to yield data that meet all applicable information quality guidelines. Prior to dissemination, the information will be subjected to quality control measures and a pre-dissemination review pursuant to Section 515 of Public Law 106-554.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological techniques or other forms of information technology.

The purpose of the project is to allow teachers and students to gain access to NOAA materials through the Internet. By allowing teachers to explore the Web sites during the workshop and to adopt the materials that are necessary and sufficient for their needs, workshop providers will avoid unnecessary printing of materials that would otherwise be discarded. Teachers will be asked to evaluate the online education resources, in some cases, while they are viewing them.

Facilities employed to host the workshops will only have sufficient computer resources for teachers to view the Web resources in groups of two. Due to the fifteen minute time limit for questionnaire completion, coupled with the lack of individual computer resources, teachers will be asked to complete paper versions of questionnaires. Paper versions of the questionnaires will ensure that all teachers have the opportunity to complete the questionnaire, given the possibility that each participant will not have his or her own computer to access an online version.

Teachers will need to access the Web sites while completing the Follow-Up Questionnaire. For ease of completion, they will be supplied with a paper version of the instrument, but will have the option of completing and submitting the questionnaire online. Due to the potential limitations of computer access for each individual student, students will be asked to complete paper versions of questionnaires. This is ensure that all students have the opportunity to complete the questionnaires, and also reduces the risk that students will share their answers on the Pre and Post knowledge questionnaires.

All data received will be entered into SPSS for statistical analysis.

Communications with participants regarding post-workshop requirements will be conducted via email. Email addresses and phone numbers will be collected from workshop participants at the workshop setting. Contact information will be stored in a locked file cabinet accessible only to the data analyst and shredded following the termination of the project, in accordance with guidelines established to protect personally identifiable information.

The reports containing the results of the evaluation will be available to the public via the NOAA Web site.

4. Describe efforts to identify duplication.

No other NOAA programs are surveying teachers and students regarding NOAA's NOS and OE's online education resources.

5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.

The questionnaires for this program were designed to maximize data collection regarding use patterns and outcomes while ensuring that respondents could complete them in a budgeted time frame. The program providers seek to ensure maximum participation and minimal burden for the participant.

6. Describe the consequences to the Federal program or policy activities if the collection is not conducted or is conducted less frequently.

The evaluation results will provide NOAA with insight into the targeted user's perception and effective use of the NOAA's NOS and OE's online education resources. It will inform NOAA about the outcomes of the funding which is allocated toward the development of online education resource materials, the workshops held to promote them, and improve/refine the quality of future online education resources.

7. Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.

The collection will be conducted in a manner consistent with OMB guidelines.

8. Provide a copy of the PRA Federal Register notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

Public comment was solicited via a PRA Federal Register notice. No comments were received.

9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.

NOAA's Ocean Service and Ocean Exploration Education Programs received a grant from NOAA's Office of Education to conduct a series of professional development workshops and evaluate NOAA online education resources. A portion of the granted funds was specifically designated as stipends for participating teachers, recognizing that participation in the workshop and completion of all of the evaluation requirements for the project would require the teachers to work above and beyond their regularly assigned duties. Respondents will receive a stipend of \$250.00 for their participation in the workshop and successful completion of all evaluation requirements. Materials needed to fulfill this obligation will be provided to the participant.

10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy.

Workshop participants will be asked to provide their name on their questionnaire so that they may receive credit for completing the workshop requirements. Although confidentiality cannot be promised to participants, as there is no applicable statutory authority in this case, it will be explained to participants that only the data analyst will have access to the completed questionnaires. All reports of data analysis will provide responses in aggregate form only, thus individual respondents will not be identifiable. No names of participants will be included in the final report.

In addition, students will be instructed not to include their names on their questionnaires. To allow student pre- and post-questionnaires to be matched, students will be asked to provide an identification code consisting of their birth date and month, and the last two digits of their home phone number. This code will be used only to physically match the questionnaires and will not be entered into the SPSS database.

Data will be maintained in a secured database. Paper questionnaires will be stored in a locked file cabinet accessible only to the data analyst and shredded following the termination of the project. Data without identifiers will be permanently stored in NOAA archives.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

No questions of a sensitive nature will be asked.

12. Provide an estimate in hours of the burden of the collection of information

Total respondent burden hours are reported in Table 4.

Table 4. Total Respondent Burden Hours

Instrument	Estimated number of respondents	Estimated number of responses	Estimated Time Per Response	Estimated Total Annual Burden Hours	Estimated Total Annual Cost to Public
Workshop Pre-Questionnaire	60	60	15 minutes	15	0
NOS Workshop Post-Questionnaire	60	60	10 minutes	10	0
OE and Overall Workshop Post-Questionnaire	60	60	20 minutes	20	0
Follow-Up Questionnaire	60	60	1 hour	60	0
Student Pre-Lesson Questionnaire	1500 ²	1500	15 minutes	375	0
Student Post-Lesson Questionnaire	1500	1500	15 minutes	375	0
Totals	1560	3240		855	0

13. Provide an estimate of the total annual recordkeeping/reporting cost burden to the respondents resulting from the collection (excluding the value of the burden hours in #12 above).

There are no direct costs to participants. The only costs are the opportunity costs of respondents' time required to provide information as explained in item 12 above. No capital equipment, start-up, or record maintenance requirements are placed on respondents.

² Estimated figure based on 25 students per each teacher participant.

14. Provide estimates of annualized cost to the Federal government.

The estimated cost to the federal government of conducting the *Evaluation of NOAA's Professional Development Workshops and Online Education Resources* is based on the government's contracted cost of the data collection and related study activities along with personnel cost of government employees involved in oversight and/or analysis. For the data collection activities for which OMB approval is currently being requested, the overall cost to the government is \$25,000 over a one year period. This includes:

- \$23,000 annually for contracted activities including instrument development; data collection; transcription; analysis; and report writing.
- \$2,000 annually for government personnel costs in overseeing the evaluation activity.

This estimate is based on the evaluation contractor's previous experience managing other research and data collection activities of this type.

15. Explain the reasons for any program changes or adjustments reported in Items 13 or 14 of the OMB 83-I.

N/A

16. For collections whose results will be published, outline the plans for tabulation and publication.

Information collected through these questionnaires will be summarized and presented in a complete technical document as well as a condensed executive summary. Evaluation results will be presented at national education annual conferences including the National Marine Educator's Association, North American Association for Environmental Education and the NSTA.

The evaluation results will be published as a technical report with summaries appropriate for stakeholders such as NOAA administration, workshop providers, and others interested in professional development for educators of ocean science. The reports will summarize the answers to the research questions posed in Item 1 of this Supporting Statement. The evaluator may also seek to publish results in a peer-reviewed journal.

Tabulation will follow the style rule requirements of the publishing journal. The technical report will be written according to the American Psychological Association style guidelines.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.

The expiration date for OMB approval will be displayed on all collection instruments.

18. Explain each exception to the certification statement identified in Item 19 of the OMB 83-I.

This data collection meets the criteria of the certification statement in Item 19 of the OMB 83-I.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g. establishments, State and local governmental units, households, or persons) in the universe and the corresponding sample are to be provided in tabular form. The tabulation must also include expected response rates for the collection as a whole. If the collection has been conducted before, provide the actual response rate achieved.

Table 5. 2007 Professional Development Participants

Location	Date	Estimated number of teacher participants	Estimated response rate	Estimated number of students reached by teacher participants	Estimated response rate
Audubon Aquarium of the Americas/Zoo; New Orleans, LA	May 19, 2007	20	99%	500	80%
Oregon State University; Corvallis, OR	June 30, 2007	20	99%	500	80%
Shedd Aquarium; Chicago, IL	August 11, 2007	20	99%	500	80%
Total		60	99%	1500	80%

The target population for this study is a census of adult educators (over 18 years of age) who will attend one of three NOAA professional development workshops for educators. Groups will be intact, and the evaluator will not control the group composition. All workshop participants will be aware of the evaluation requirements necessary to receive a stipend. Participation is strictly voluntary. The workshops are to be administered through established organizations known for the frequency and quality of educator workshops.

The evaluator will conduct a census of workshop attendants because the participants are voluntary, self-selected attendants. Given the voluntary nature of workshop attendance, the evaluator is unable to randomly select participants to attend available workshops, nor obtain and randomize a list of potential participants providing a sample size large enough to conduct the study.

The nature of this descriptive research does not require a random sample. Comparisons are made between participating individuals but results are not to be generalized beyond those teachers in this study.

2. Describe the procedures for the collection, including: the statistical methodology for stratification and sample selection; the estimation procedure; the degree of accuracy needed for the purpose described in the justification; any unusual problems requiring specialized sampling procedures; and any use of periodic (less frequent than annual) data collection cycles to reduce burden.

As explained in Question 1, the evaluator will conduct a census of workshop attendants because the participants are voluntary, self-selected attendants. Given the voluntary nature of workshop attendance, the evaluator is unable to randomly select participants to attend available workshops, nor obtain and randomize a list of potential participants providing a sample size large enough to conduct the study.

3. Describe the methods used to maximize response rates and to deal with nonresponse. The accuracy and reliability of the information collected must be shown to be adequate for the intended uses. For collections based on sampling, a special justification must be provided if they will not yield "reliable" data that can be generalized to the universe studied.

Data will be collected via survey to describe workshop participants' beliefs, attitudes, perception of skills/abilities and environmental constraints, intentions, and implementation of any part of the workshop material in their classroom. According to Babbie (1998), survey research is a suitable method of collecting data to measure "attitudes and orientations" (p.256). Questionnaires are a practical and inexpensive means of collecting large amounts of data from many subjects (Kratwohl, 1993).

Data will be collected using five pencil-and-paper self-report questionnaires, administered at different points in time. Four questionnaires will be administered to participants; one at the start of the workshop, two at the completion of the workshop, and one several months following the workshop. Students completing the units developed by their teachers, using the NOAA online education resources, will complete a pre- and post-lesson questionnaire.

The data collection plan is designed to maximize response rates while reducing stress for participants:

1. The flyer inviting participants to the workshop clearly describes the data collection requirements.
2. NOAA has a pre-established good working relationship with the staff at the two aquariums and the university hosting the workshops.
3. All data collection materials and return postage costs will be supplied for the participant through NOAA.
4. Questionnaire items are as simple and brief as possible, in an easy to read and respond format, with clear instructions on how to complete and return them.
5. Respondents will receive personal reminders via email from the data analyst regarding evaluation requirements.
6. Teachers are required to complete data collection requirements in order to receive their full program stipend; thus non-respondents will not receive a stipend.

4. Describe any tests of procedures or methods to be undertaken. Tests are encouraged as effective means to refine collections, but if ten or more test respondents are involved OMB must give prior approval under the Paperwork Reduction Act.

The instruments and sources of measures which will be used to collect data for answering the research questions were adapted from existing measures. These measures were taken from past, peer-reviewed, published studies to ensure the validity and reliability of the scales used in this evaluation.

5. Provide the name and telephone number of individuals consulted on the statistical aspects of the design, and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

Individuals Consulted on Statistical Design

Peg Steffen, M.S., Education Coordinator, NOAA National Ocean Service: 301-713-3060 x143
Bruce Moravchik, M.S., Education Specialist, NOAA National Ocean Service: 301-713-3060 x219
Paula Keener-Chavis, M.S., Director of Education, NOAA Ocean Exploration: 843-762-8818

Individual who Will Conduct Data Collection and Analysis

Elizabeth H. Danter, Ph.D., NOAA Contractor, E. Danter Evaluation, LLC, Vestavia Hills, AL: 205-296-3954

LITERATURE CITED

Babbie, E.R. (1998). *The Practice of Social Research*. Belmont, CA : Wadsworth Pub. Co.

Danter, E.H. (2005). *The intention-behavior gap: To what degree does Fishbein's Integrated Model of Behavioral Prediction predict whether teachers implement material learned in a professional development workshop?* Unpublished dissertation, The Ohio State University, Columbus.

Fortner, R.W., & Corney, J. (2002). Great Lakes Educational Needs Assessment: Teachers' Priorities for Topics, Materials, and Training. *International Association for Great Lakes Research, The Journal of Great Lakes Research*, 28 (1): 3-14.

Guskey, T.R. (2000). *Evaluating Professional Development*. Thousand Oaks, CA: Corwin Press, Inc.

Krathwohl, D.R. (1993). *Methods of educational and social science research : An integrated approach*. New York ; London : Longman.

Mayer, V.J., & Fortner, R.W. (1987). Relative effectiveness of four modes of curriculum dissemination. *Journal of Environmental Education*, 19 (1) 25-30.

U.S. Commission on Ocean Policy (2004). *An Ocean Blueprint for the 20th Century*.

List of instruments and related documents³

1. Letter of Evaluation Requirements
2. Pre-Workshop Questionnaire
3. NOS Post-Workshop Questionnaire
4. OE Post-Workshop Questionnaire
5. Overall Post-Workshop Questionnaire
6. Instructions for Administration of Student Questionnaires
7. Student Pre-Lesson Questionnaire
8. Student Post-Lesson Questionnaire
9. Follow-Up Questionnaire

Summary of information sought and representative instrument item number

Every item from each questionnaire is presented in Table 6 (*see below*) to show how all information collected will be used for a practical and necessary program purpose.

³ Instruments will be imported into Microsoft Publisher and will be printed in booklet form.

Table 6. Relationship between individual instrument items and information sought from workshop participants

<i>Evaluation Guiding Question</i>	<i>Questionnaire Item numbers</i>					
	<i>PRE</i>	<i>POST</i>		<i>F/U</i>	<i>Student Pre</i>	<i>Student Post</i>
		<i>NOS</i>	<i>OE/ Overall</i>			
<i>Teacher Professional Development</i>						
(Inputs) What are the characteristics of the teachers and classroom environments that correlate with measures of participants' reactions, skills, intentions, and behavior?	All (Q1-Q11)					
(Inputs) Do participants perceive the overall workshop as useful in accordance with specific needs of teachers?			Q5a-e, Q7, Q8	Q8a-d		
(Reactions) Do the teachers have a positive attitude toward using the NOAA online education resources?		Q1, Q2a, Q2b, Q2f	Q1, Q2a, Q2b, Q2e, Q3a-e, Q4c, Q4d,	Q24d, Q24h,		
(Reactions) Does the professional development workshop have the effect of increasing teachers' awareness or interest in incorporating ocean related materials and/or activities into their curriculum?		Q2h, Q2i, Q2j, Q2l, Q2m	Q2g, Q2h, Q2j, Q2k Q2l, Q4b, Q4e, Q4f,	Q24m, Q29a, Q29d, Q30, Q31, Q32,		
(Skills) Does the professional development workshop enhance teachers' perceived ability to utilize the NOAA online education resources?		Q2g, Q2k	Q2f, Q2k, Q2i, Q4a	Q24i, Q24l, Q29b,		
(Intention to Behave) Does the professional development workshop increase teachers' intentions to utilize the NOAA online education resources?		Q2c, Q2d, Q2e	Q2c, Q2d, Q2m, Q4g, Q6a-g	Q24a, Q24d, Q24e, Q24f, Q24g, Q25, Q29f, Q29g		
(Behavior) Do the teacher attending the professional development workshop utilize the NOAA online education resources? What is their experience?				Q1, Q2, Q3, Q4, Q6, Q9, Q10, Q11a-b, Q12a-e, Q13a-b, Q14a-f, Q15a-b, Q16, Q17, Q18, Q19, Q20, Q21, Q22a-e, Q23a-g, Q24b, Q24c, Q29e, Q33, Q34		
(Behavior) What contextual factors impact teacher utilization of the NOAA online education resources in the classroom?				Q5a-c, Q7, Q24j,		
<i>Student Academic Development</i>						
(Reactions) Do the students have a positive attitude toward using the NOAA online education resources?				Q24k, Q26a	Q1a-g	Q1a-g
(Reactions) Does utilization of the NOAA online education resources increase students' characteristics associated with academic achievement (e.g., engaged in learning)?				Q26b-c, Q28, Q29c,	Q1k,	Q1k, Q2, Q5, Q6, Q7
(Skills) Does utilization of the NOAA online education resources increase students' academic achievement as measured by a pre-post knowledge test?						
(Intention to Behave) Does utilization of the NOAA online education resources increase students' characteristics associated with environmental stewardship (e.g., knowledge of ocean science issues, intention to participate in ocean science related volunteer opportunities or work)?				Q26d-e	Q1h, Q1i, Q1j	Q1h, Q1i, Q1j, Q4,

Letter of Evaluation Requirements

Dear NOAA Workshop Participant:

Thank you again for participating in this workshop and the evaluation of NOAA's online education resources. You will receive a check for \$250.00 after completing the following workshop requirements. Your return of each item will be recorded in a database maintained by Liz Danter, the evaluator for this project.

Note that your name will be included on the completed questionnaires you submit, only in order to track the return of required documents. Your name will not be associated with the responses you provide, and no one other than the evaluator will view your completed questionnaires. Only summaries of the data will be released in which no individual's answers can be identified. All contact information will be destroyed at the completion of the project. If you have any questions or comments, please feel free to contact Liz Danter at edanter@bellsouth.net or 205-296-3954.

Please use this checklist to record the date you submitted the required instruments. Items 1-3 will be completed at the workshop.

(Date submitted)	Workshop Requirements
(At workshop)	1. Complete Pre-Workshop Questionnaire
(At workshop)	2. Complete NOS Post-Workshop Questionnaire
(At workshop)	3. Complete OE/Overall Post-Workshop Questionnaire
	4. Submit 10-item knowledge assessment quiz and answer key to Liz Danter via email (edanter@bellsouth.net)
	5. Administer Student Pre-Lesson Questionnaire
	6. Conduct a NOAA-related lesson/activity in classroom
	7. Administer Student Post-Lesson Questionnaire
	8. Complete Teacher Follow-Up Questionnaire
	9. Mail completed student pre-lesson, post-lesson, and teacher follow-up questionnaires to Liz Danter

Sincerely,

Liz Danter
E. Danter Evaluation
205-296-3954
edanter@bellsouth.net

Bruce Moravchik
Education Specialist
NOAA's Ocean Service
Communication and
Education

Cindy Renkas
Education Specialist
NOAA Research
Ocean Exploration

Your name _____

Learning Ocean Science and Exploration through an Online Environment

PRE-WORKSHOP QUESTIONNAIRE

Dear Workshop Participant:

Thank you for taking a few minutes to complete this survey. Teacher involvement in this evaluation is integral to its success, and your opinion about NOAA's online educational products is valued greatly.

We are asking all of the teachers who participate in this workshop to provide feedback on your personal and your students' experiences with the online education resources offered by NOAA. The information we are collecting is essential to determining the educational value of this workshop and the products we create. In addition, as part of our efforts to continually improve the content and delivery of our workshops, we are also interested in any suggestions you may have for improvement.

Your responses to surveys are confidential. Only summaries of the data will be released in which no individual's answers can be identified. If you have any questions or comments, please feel free to ask the person administering the survey. You may also contact Liz Danter at edanter@bellsouth.net or 205-296-3954.

Thank you for taking the time to provide us with this important information.

Sincerely,

Bruce Moravchik
Education Specialist
NOAA's Ocean Service
Communication and
Education

Cindy Renkas
Education Specialist
NOAA Research
Ocean Exploration

A Little About You

The following questions will tell us a little about your experience as a schoolteacher. Please answer each question by filling in the blank.

1. How many years have you been a formal schoolteacher? _____ years

2. What grade(s) do you teach this year? (Select all that apply)

- _____ 6th grade
- _____ 7th grade
- _____ 8th grade
- _____ 9th grade
- _____ 10th grade
- _____ 11th grade
- _____ 12th grade
- _____ Other _____

3. How many different students do you teach each week, on average? _____

4. Select the subject(s) you teach in an average week (select all that apply):

- | | |
|-----------------------------|-----------------------------|
| _____ Biology | _____ Health |
| _____ Chemistry | _____ Home economics |
| _____ Physics | _____ Industrial arts |
| _____ Environmental Science | _____ Language arts/English |
| _____ Integrated Science | _____ Reading |
| _____ Geology | _____ Social Studies |
| _____ Math | _____ Other: _____ |
| _____ Physical education | _____ Other: _____ |
| _____ Art | _____ Other: _____ |
| _____ Music | _____ Other: _____ |

5. Do you currently use ocean-related subjects/materials/topics as part of your regular curriculum?

_____ Yes

_____ No

6. Are ocean-related topics a required part of your school's/district's science teaching requirements?

_____ Yes

_____ No

Use of Computers in your Classroom

The following questions will tell us about computer use in your classrooms.

7. Approximately how often does a typical student use a computer at some point in the course of your classroom teaching (either classroom or computer lab setting)?

- _____ Never
- _____ Less than once a month
- _____ Once or twice per month
- _____ Once a week
- _____ Twice a week
- _____ Almost daily
- _____ Other: _____

8. Typically, how many students operate any one computer at one time during your class? Select the most common arrangement, or select two if two are equally common.

- _____ One student per computer
- _____ In pairs (2)
- _____ In groups of 3-4
- _____ Other: _____

Teaching Ocean Science

The following questions will tell us your opinion about teaching ocean science. Please indicate the extent to which you agree with the following statements by circling the appropriate number.

9. Please indicate the extent to which you agree or disagree with the following statements.

	Strongly disagree		Neutral		Strongly agree	N/A
a. I am familiar with the <i>Ocean Literacy Essential Principles and Fundamental Concepts</i> .	1	2	3	4	5	0
b. I have a clear idea of online educational resources offered by NOAA.	1	2	3	4	5	0
c. The Internet is a convenient way for me to view lesson plans.	1	2	3	4	5	0
d. I download and/or print lesson plans from the Internet.	1	2	3	4	5	0
e. I incorporate material downloaded from the Internet into my teaching.	1	2	3	4	5	0
d. I feel confident about teaching physical science as it applies to the world's oceans.	1	2	3	4	5	0
e. I feel confident about teaching biological science as it applies to the world's oceans.	1	2	3	4	5	0
f. I do not have flexibility in the lessons I teach.	1	2	3	4	5	0
g. I cannot use NOAA's online educational environment with my students because our classroom (or library/computer lab) computers are not connected to the Internet.	1	2	3	4	5	0
h. The NOAA Web sites are the first place I go to find resources for teaching about ocean related topics.	1	2	3	4	5	0

10. If you were to teach ocean related topics in your classroom, what topics might you include?

11. Which of the following **best** describes your familiarity with NOAA's online educational resources? (check one)

- I am very familiar with NOAA's online educational resources and have used the products and services several times.
- I am familiar with NOAA and have used the online educational resources once or twice.
- I am aware of NOAA's online products and services but have not used them.
- I have heard about NOAA but am not at all familiar with the online educational products and services.
- I am not at all familiar with NOAA's online educational resources.

Paperwork Reduction Act Statement: Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Bruce Moravchik, NOAA National Ocean Service: Bruce.Moravchik@noaa.gov, PH: 301-713-3060 ext. 219. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Your name _____

Learning Ocean Science and Exploration through an Online Environment

NOAA'S NATIONAL OCEAN SERVICE POST-WORKSHOP QUESTIONNAIRE

Dear Workshop Participant:

Thank you for taking a few minutes to complete this survey. Teacher involvement in this evaluation is integral to its success, and your opinion about NOAA's online educational products is valued greatly.

We are asking all of the teachers who participate in this workshop to provide feedback on your personal and your students' experiences with the online education resources offered by NOAA. The information we are collecting is essential to determining the educational value of this workshop and the products we create. In addition, as part of our efforts to continually improve the content and delivery of our workshops, we are also interested in any suggestions you may have for improvement.

Your responses to surveys are confidential. Only summaries of the data will be released in which no individual's answers can be identified. If you have any questions or comments, please feel free to ask the person administering the survey. You may also contact Liz Danter at edanter@bellsouth.net or 205-296-3954.

Thank you for taking the time to provide us with this important information.

Sincerely,

Bruce Moravchik
Education Specialist
NOAA's Ocean Service
Communication and
Education

Cindy Renkas
Education Specialist
NOAA Research
Ocean Exploration

The following questions refer to your use of the NOAA **NOS** online educational resources in your classroom(s) this coming year.

1. For each set of terms, circle the number that best represents the way you would complete the following statement:

I feel _____ about using the **NOS materials** with my students this year.

Very anxious	1	2	3	4	5	Very relaxed
Very indifferent	1	2	3	4	5	Very interested
Very bored	1	2	3	4	5	Very excited
Very uneasy	1	2	3	4	5	Very comfortable
Very unqualified	1	2	3	4	5	Very competent

2. Indicate the extent to which you disagree or agree with each of the following statements regarding the following **NOS Web site**:

	Strongly disagree		Neutral		Strongly agree	N/A
A. I think the NOS Web site is well designed.	1	2	3	4	5	0
B. The NOS Web site is a convenient source of lesson plans.	1	2	3	4	5	0
C. I intend to regularly access the NOS Web site for teaching information.	1	2	3	4	5	0
D. I intend to regularly access the NOS Web site to view and/or print lesson plans.	1	2	3	4	5	0
E. (If applicable) I intend to regularly access the NOS Web site while teaching, using an LCD projector or similar technology.	1	2	3	4	5	0
F. I find the NOS Web site engaging.	1	2	3	4	5	0
G. I can easily navigate through the NOS Web site.	1	2	3	4	5	0
H. My students will be able to access the NOS Web site at our school.	1	2	3	4	5	0
I. My students will find the NOS Web site interesting and engaging.	1	2	3	4	5	0

J. My students will be able to easily navigate through the NOS Web site.	1	2	3	4	5	0
K. I know everything I need to know to use the NOS Web site in my classroom.	1	2	3	4	5	0
L. The NOS Web site provides information that I need.	1	2	3	4	5	0
M.I have a clear idea of how I can use the NOS Web site in my teaching.	1	2	3	4	5	0

Paperwork Reduction Act Statement: Public reporting burden for this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Bruce Moravchik, NOAA National Ocean Service: Bruce.Moravchik@noaa.gov, PH: 301-713-3060 ext. 219. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Your name _____

Learning Ocean Science and Exploration through an Online Environment

NOAA's OFFICE OF OCEAN EXPLORER AND OVERALL POST-WORKSHOP QUESTIONNAIRE

Dear Workshop Participant:

Thank you for taking a few minutes to complete this survey. Teacher involvement in this evaluation is integral to its success, and your opinion about NOAA's online educational products is valued greatly.

We are asking all of the teachers who participate in this workshop to provide feedback on your personal and your students' experiences with the online education resources offered by NOAA. The information we are collecting is essential to determining the educational value of this workshop and the products we create. In addition, as part of our efforts to continually improve the content and delivery of our workshops, we are also interested in any suggestions you may have for improvement.

Your responses to surveys are confidential. Only summaries of the data will be released in which no individual's answers can be identified. If you have any questions or comments, please feel free to ask the person administering the survey. You may also contact Liz Danter at edanter@bellsouth.net or 205-296-3954.

Thank you for taking the time to provide us with this important information.

Sincerely,

Bruce Moravchik
Education Specialist
NOAA's Ocean Service
Communication and
Education

Cindy Renkas
Education Specialist
NOAA Research
Ocean Exploration

OE Post-Workshop Questionnaire

The following questions refer to your use of the NOAA **OE** online educational resources in your classroom(s) this coming year.

1. For each set of terms, circle the number that best represents the way you would complete the following statement:

I feel _____ about using the **OE materials** with my students this year.

Very anxious	1	2	3	4	5	Very relaxed
Very indifferent	1	2	3	4	5	Very interested
Very bored	1	2	3	4	5	Very excited
Very uneasy	1	2	3	4	5	Very comfortable
Very unqualified	1	2	3	4	5	Very competent

2. Indicate the extent to which you disagree or agree with each of the following statements regarding the following **OE Web site**:

	Strongly disagree		Neutral		Strongly agree	N/A
a. I think the OE Web site is well designed.	1	2	3	4	5	0
b. The OE Web site is a convenient source of lesson plans for my teaching.	1	2	3	4	5	0
c. I intend to regularly access the OE Web site for teaching information.	1	2	3	4	5	0
d. I intend to regularly access the OE Web site to view and/or print lesson plans.	1	2	3	4	5	0
e. I find the OE Web site engaging.	1	2	3	4	5	0
f. I think I will be able to easily navigate through the OE Web site.	1	2	3	4	5	0
g. My students will be able to access the OE Web site at our school.	1	2	3	4	5	0
h. My students will find the OE Web site interesting and engaging.	1	2	3	4	5	0
i. I know everything I need to know to use the OE Web site in my teaching.	1	2	3	4	5	0

j. The OE Web site provides information that I need.	1	2	3	4	5	0
k. I have a clear idea of how I can use the OE Web site in my teaching.	1	2	3	4	5	0
l. My students will be able to independently read the textual information (such as the Expedition logs and OceanAGE scientist profiles) from the OE Web site.	1	2	3	4	5	0
m. I plan to include still and/or video images from the OE Web site in my teaching.	1	2	3	4	5	0

3. Please rate the following components of the OE EEM (Expedition Education Module).

	Not useful at all		Neutral		Extremely useful	N/A
a. Expedition Purpose	1	2	3	4	5	0
b. Lesson Plans	1	2	3	4	5	0
c. Multimedia Learning Objects	1	2	3	4	5	0
d. Career Connections/OceanAGE	1	2	3	4	5	0
e. Other Resources and Links	1	2	3	4	5	0

Overall Post-Workshop Questionnaire

4. Please indicate the extent to which you agree with each of the following statements by circling the appropriate number.

	Strongly disagree		Neutral		Strongly agree	N/A
a. After participating in this workshop, I feel more confident about my ability to incorporate NOAA online education resources in my classroom(s).	1	2	3	4	5	0
b. The overall workshop enhanced my understanding of ocean science topics.	1	2	3	4	5	0
c. I would recommend NOAA professional development workshops to other teachers.	1	2	3	4	5	0
d. I would participate in another professional development workshop sponsored by NOAA.	1	2	3	4	5	0
e. This workshop helped me see NOAA as a resource for teaching science.	1	2	3	4	5	0
f. This workshop increased my awareness of how to use technology with my students.	1	2	3	4	5	0
g. In the future, the NOAA Web sites will be the first place I go to find resources for teaching about ocean related topics.	1	2	3	4	5	0

5. Please rate the following aspects of the workshop on a scale from poor to excellent.

	Poor	Fair	Good	Very Good	Excellent	N/A
a. The applicability of the materials and activities to your school district's learning standards.	1	2	3	4	5	0
b. The usefulness of this professional development workshop, overall.	1	2	3	4	5	0
c. The usefulness of what you learned toward improving student academic achievement.	1	2	3	4	5	0
d. The usefulness of what you learned toward improving student awareness of ocean related issues.	1	2	3	4	5	0
e. The usefulness of what you learned toward improving student knowledge of ocean related subjects.	1	2	3	4	5	0

6. Listed below are a series of behaviors. On the left side of the list, indicate the extent to which you believe you would have engaged in the behavior prior to attending this professional development. On the right side, indicate the likelihood that you will participate in this behavior following the professional development.

BEFORE this professional development, how likely or unlikely WAS IT that you would _____ during the next school year?

AFTER this professional development, how likely or unlikely IS IT that you will _____ during the next school year?

Extremely unlikely					Extremely Unlikely					Extremely unlikely					Extremely likely				
1	2	3	4	5	a. Regularly access the Internet.					1	2	3	4	5					
1	2	3	4	5	b. Regularly access the Internet to find resources on ocean related topics.					1	2	3	4	5					
1	2	3	4	5	c. Regularly access NOAA online education resources as you prepare lessons.					1	2	3	4	5					

1	2	3	4	5	d. Regularly access NOAA online education resources as you teach lessons.	1	2	3	4	5
1	2	3	4	5	e. Regularly encourage your students to access NOAA's Web site, either during the school day or as homework.	1	2	3	4	5
1	2	3	4	5	f. Integrate NOAA online education resources into writing and reporting activities.	1	2	3	4	5
1	2	3	4	5	g. Encourage student use of NOAA online education resources for making informed decisions.	1	2	3	4	5

7. How could this professional development experience be improved to better prepare you to use NOAA online education materials in your classroom?

8. Any additional comments? *(use next page if needed)*

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Bruce.Moravchik@noaa.gov, PH: 301-713-3060 ext. 219. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Student Knowledge Assessment - Notice to Workshop Participants

Workshop Requirements

Participants in the *Learning Ocean Science and Exploration through an Online Environment* workshop have agreed to teach one Ocean Service Education **and** one Ocean Explorer lesson plan activity of their choice during the 2007 fall semester. As part of the workshop requirements, teachers will administer a brief student pre-and post-lesson questionnaire (requiring about 15 minutes each) which will assess the students' overall attitudes toward ocean science related subjects and evaluate students' change in knowledge of the ocean science topic(s).

Student Assessments

Participants in this workshop have the option of selecting from over 250 different lesson plans and/or activities to integrate into their curriculum. In order to meet each of the participants' choices of curriculum and the unique needs of the students, we are asking each teacher to develop and administer a ten item quiz that their own students will take as part of the pre- and post-lesson questionnaire.

The purpose of the quiz is to assess any change in students' knowledge based on measures taken prior to and following their participation in the lesson/activity that teachers have chosen to implement in the classroom. The ten items will remain the same for the pre- and post- questionnaire, and the workshop evaluator will grade and record each of the assessments with the correct answer key teachers provide. **The assessment is solely a workshop evaluation measure, and students will be reassured in the survey introduction that their scores will not be reported nor their grades affected.**

Instructions

At least three weeks prior to the start of your lesson, please submit via email the ten knowledge assessment items you have developed, including the answer key. The items will be added to the pre- and post-questionnaires for your students, and will be printed and shipped for you to administer to your students and return to us at the end of the lesson.

The following are examples of the types of subject knowledge questions that have been developed for the online tutorials and case studies in the Ocean Service Education Web site. You may wish you use and/or adapt these types of questions for your pre- and post-assessments.

1. Individual coral animals are called _____. (*polyps*)
2. After food is consumed by corals, waste products are expelled through the _____. (*mouth*)
3. Contamination of air, land, or water by substances that can adversely impact human health and the environment is known as _____. (*pollution*)

4. Sometimes, it is not the type of material, but its _____ that determines whether or not the material is a pollutant. (*concentration*)
5. Waters whose salt content is between that of freshwater and that of seawater are called _____. (*brackish*)
6. _____ are a major influence on many estuaries. (*tides*)
7. _____ established the Survey of the Coast, which later evolved into the National Geodetic Survey. (*Thomas Jefferson*)
8. The National Geodetic Survey uses markers made from long steel rods driven to _____ (pushed the ground until they won't go any farther). (*refusal*)

9. A species that occurs in an environment naturally is called a(n):
 - a. exotic species
 - b. natural species
 - c. native species X
 - d. non-indigenous species
 - e. alien species

10. When an exotic species overwhelms a native species, it becomes:
 - a. a native species
 - b. an invasive species X
 - c. an indigenous species
 - d. an indigent species

11. Oil is ONLY harmful to an animal if it is ingested (swallowed).
 - a. True
 - b. False X

12. Scientists might "fingerprint" a sample of oil collected at a spill site:
 - a. to determine where the oil originated.
 - b. to determine its chemical components.
 - c. to attempt to determine who spilled it.
 - d. to determine how and if it has weathered.
 - e. All of the above. X

Instructions for Administration of Student Questionnaires

Dear NOAA Workshop Participant:

Thank you again for participating in the evaluation of NOAA's online education resources. Enclosed are the materials you will need to administer the pre-and post-lesson questionnaires to your students, and the follow-up questionnaire for you to complete. Please follow these steps:

1. Review the student questionnaires to ensure the 10-item knowledge assessment on the questionnaire is the same that you submitted to Liz Danter via email.
2. Administer the pre-lesson questionnaire to your students within the week preceding the introduction of the NOAA related lesson or activity. Please assist them with placing the correct student code on the questionnaire, so that the pre- and post-questionnaires may be correctly matched.
3. Administer the post-lesson questionnaire to your students the day after (or as close to the day after as possible) you complete the NOAA related lesson or activity.
4. Complete the teacher follow-up questionnaire following the use of the NOAA-related lesson/activity in your classroom.
5. Return the completed student questionnaires and your completed follow-up questionnaire in the postage-paid mailer as soon as you can.
6. Provide the address to which your stipend should be mailed. The stipend will be mailed upon receipt of your completed questionnaires.

Thank you again for your input. If you have any questions or require any assistance, contact Liz Danter by phone or email.

Sincerely,

Liz Danter
E. Danter Evaluation
205-296-3954
edanter@bellsouth.net

Bruce Moravchik
NOAA's Ocean Service
Communications and
Education Division

Cindy Renkas
Ocean Exploration
Education Specialist
NOAA

NOAA's

Learning Ocean Science and Exploration through an Online Environment

Student PRE-Lesson Survey (Grades 6-8)

Instructions: Thank you for taking part in this survey! By filling out this form, you are helping to make the National Oceanic and Atmospheric Administration's education programs better for other students. **Please tell us the truth when you answer the questions.** Your answers will not affect your grade in this class.

Later on, you will be asked by your teacher to complete another survey just like this one. We will match your answers to see if they have changed. We want your responses to be private, so we are asking you to provide a student code using your birth month, birth day, and last 4 digits of your telephone number. For example, if your birthday is January 3, and your phone number is 234-5678, your code would be: 01-03-5678. We will match your two surveys using the code you give us.

Fill in your Student Code (ask your teacher if you need help):

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Birth month (01-12)

Birth day (01-31)

Last four digits of your phone number

Paperwork Reduction Act Statement: Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Bruce Moravchik, NOAA National Ocean Service: Bruce.Moravchik@noaa.gov, PH: 301-713-3060 ext. 219. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Our questions for you:

Please tell us how much you agree with the following statements by circling the number that matches what you think.

For example, if you really agree with what the sentence says, circle the “5” in that line. If you kind of disagree with what the sentence says, circle a “2, and so on. **Only circle one number per each line!**

	I really disagree	I kind of disagree	I don't agree or disagree	I kind of agree	I really agree	This is not applicable to me
a. I like science in general.	1	2	3	4	5	0
b. I think ocean science is interesting.	1	2	3	4	5	0
c. I like using the Internet as part of my science assignments.	1	2	3	4	5	0
d. I like using scientific information from real ocean expeditions.	1	2	3	4	5	0
e. Using the Internet is a good way to learn science-related topics.	1	2	3	4	5	0
f. Ocean exploration is more fun for me than other kinds of science.	1	2	3	4	5	0
g. What I learn about ocean science now will be useful to me when I grow up.	1	2	3	4	5	0
h. It is my responsibility to help protect the ocean's resources.	1	2	3	4	5	0
i. When I grow up, I would like to be an ocean scientist.	1	2	3	4	5	0
j. I know a lot about ocean science.	1	2	3	4	5	0

NOAA's

Learning Ocean Science and Exploration through an Online Environment

Student POST-Lesson Survey (Grades 6-8)

Instructions: Thank you for taking part in this survey! By filling out this form, you are helping to make the National Oceanic and Atmospheric Administration's education programs better for other students. **Please tell us the truth when you answer the questions.** Your answers will not affect your grade in this class.

Remember, we are matching your answers with the form you completed earlier to see how your answers have changed. Please provide the same student code you used before, using your birth month, birth day, and last 4 digits of your telephone number. For example, if your birthday is January 3, and your phone number is 234-5678, your code would be: 01-03-5678.

Fill in your Student Code (ask your teacher if you need help):

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Birth month (01-12)

Birth day (01-31)

Last four digits of your phone number

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Our questions for you:

1. Please tell us how much you agree with the following statements by circling the number that matches what you think.

For example, if you really agree with what the sentence says, circle the “5” in that line. If you kind of disagree with what the sentence says, circle a “2, and so on. **Only circle one number per each line!**

	I really disagree	I kind of disagree	I don't agree or disagree	I kind of agree	I really agree	This is not applicable to me
a. I like science in general.	1	2	3	4	5	0
b. I think ocean science is interesting.	1	2	3	4	5	0
c. I like using the Internet as part of my science assignments.	1	2	3	4	5	0
d. I like using scientific information from real ocean expeditions.	1	2	3	4	5	0
e. Using the Internet is a good way to learn science-related topics.	1	2	3	4	5	0
f. Ocean exploration is more fun for me than other kinds of science.	1	2	3	4	5	0
g. What I learn about ocean science now will be useful to me when I grow up.	1	2	3	4	5	0
h. It is my responsibility to help protect the ocean's resources.	1	2	3	4	5	0
i. When I grow up, I would like to be an ocean scientist.	1	2	3	4	5	0
j. I know a lot about ocean science.	1	2	3	4	5	0

2. What have you learned about ocean science in general as a result of using NOAA online materials?

3. What have you learned about yourself as a result of studying ocean science?

4. On your own (without your teacher telling you to do so), have you looked for any additional information or Web sites related to ocean science? If so, what were they and why did you seek them out?

5. If you learned anything about ocean science that surprised you, please describe.

6. Did you share anything you learned about ocean science with someone outside of your classroom (for example, a friend, family member, etc.)?

NOAA's

Learning Ocean Science and Exploration through an Online Environment

Student PRE-Lesson Survey (Grades 9-12)

Instructions: Thank you for completing this questionnaire! By doing this, you are helping to improve the National Oceanic and Atmospheric Administration's (NOAA's) education programs. **Please be completely honest when you answer the questions.** Your answers are anonymous and your answers will not affect your grade.

Later, you will be asked by your teacher to complete another questionnaire similar to this one. We will match your answers to see if they have changed. In order to do this, but allow your responses to be anonymous, we are asking for you to provide a student code consisting of your birth month, birth day, and last 4 digits of your telephone number. For example, if your birthday is January 3, and your phone number is 234-5678, your code would be: 01-03-5678.

Your Student Code:

Birth month (01-12)		Birth day (01-31)			Last four digits of your phone number				

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1. Please tell us how much you agree with the following statements by circling the appropriate number.

	Strongly disagree		Neutral		Strongly agree	N/A
a. I like science in general.	1	2	3	4	5	0
b. I think ocean science is interesting.	1	2	3	4	5	0
c. I like using the Internet as part of my science assignments.	1	2	3	4	5	0
d. I like using scientific data from real ocean expeditions.	1	2	3	4	5	0
e. Using the Internet is a good way to learn science-related topics.	1	2	3	4	5	0
f. Ocean exploration is more real to me than other areas of science.	1	2	3	4	5	0
g. What I learn about ocean science now will be useful to me in the future.	1	2	3	4	5	0
h. It is my responsibility to help protect the ocean's resources.	1	2	3	4	5	0
i. I would like to pursue a career in the area of ocean sciences.	1	2	3	4	5	0
j. I am interested in participating in ocean-science related volunteer opportunities.	1	2	3	4	5	0
k. I know a lot about ocean science.	1	2	3	4	5	0

NOAA's

**Learning Ocean Science
and Exploration through an Online
Environment**

Student POST-Lesson Survey (Grades 9-12)

Instructions: Thank you for completing this questionnaire! By doing this, you are helping to improve the National Oceanic and Atmospheric Administration's (NOAA's) education programs. **Please be completely honest when you answer the questions.** Your answers are anonymous and your answers will not affect your grade.

Remember, we are matching your answers with the questionnaire you completed earlier to see how your answers have changed. Please provide your student code consisting of your birth month, birth day, and last 4 digits of your telephone number. For example, if your birthday is January 3, and your phone number is 234-5678, your code would be: 01-03-5678.

Your Student Code:

Birth month (01-12)		Birth day (01-31)			Last four digits of your phone number				

Paperwork Reduction Act Statement: Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Bruce Moravchik, NOAA National Ocean Service: Bruce.Moravchik@noaa.gov, PH: 301-713-3060 ext. 219. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

1. Please tell us how much you agree with the following statements by circling the appropriate number.

	Strongly disagree		Neutral		Strongly agree	N/A
a. I like science in general.	1	2	3	4	5	0
b. I think ocean science is interesting.	1	2	3	4	5	0
c. I like using the Internet as part of my science assignments.	1	2	3	4	5	0
d. I like using scientific data from real ocean expeditions.	1	2	3	4	5	0
e. Using the Internet is a good way to learn science-related topics.	1	2	3	4	5	0
f. Ocean exploration is more real to me than other areas of science.	1	2	3	4	5	0
g. What I learn about ocean science now will be useful to me in the future.	1	2	3	4	5	0
h. It is my responsibility to help protect the ocean's resources.	1	2	3	4	5	0
i. I would like to pursue a career in the area of ocean sciences.	1	2	3	4	5	0
j. I am interested in participating in ocean-science related volunteer opportunities.	1	2	3	4	5	0
k. I know a lot about ocean science.	1	2	3	4	5	0

2. What have you learned about ocean science in general as a result of using NOAA online materials?

4. What have you learned about yourself as a result of studying ocean science?

5. On your own (without your teacher telling you to do so), have you accessed any additional information or Web sites related to ocean science? If so, what were they and why did you seek them out?

6. If you learned anything about ocean science that surprised you, please describe.

7. Did you share anything you learned about ocean science with someone outside of your classroom (for example, a friend, family member, etc.)?

Your name_____

Learning Ocean Science and Exploration through an Online Environment

FOLLOW-UP QUESTIONNAIRE

Dear Workshop Participant:

Thank you for taking the time to complete this survey. Teacher involvement in this evaluation is integral to its success, and your opinion about NOAA's online educational products is valued greatly.

We are asking all of the teachers who participate in this workshop to provide feedback on your personal and your students' experiences with the online education resources offered by NOAA. The information we are collecting is essential to determining the educational value of this workshop and the products we create. In addition, as part of our efforts to continually improve the content and delivery of our workshops, we are also interested in any suggestions you may have for improvement.

Your responses to surveys are confidential. Only summaries of the data will be released in which no individual's answers can be identified. If you have any questions or comments, please feel free to ask the person administering the survey. You may also contact Liz Danter at edanter@bellsouth.net or 205-296-3954.

Thank you again for taking the time to provide us with this important information.

Sincerely,

Bruce Moravchik
Education Specialist
NOAA's Ocean Service
Communication and
Education

Cindy Renkas
Education Specialist
NOAA Research
Ocean Exploration

Part I. Your classroom experience with NOAA's Online Education Resources

Q1. Please describe the type of NOAA/NOS/OE related learning instruction or activity you conducted with your students in the classroom. Which specific NOS/OE sites were used? Which specific lessons and sections of each site were presented?

Q2. About how many total hours of NOAA/NOS/OE related learning instruction or activity did your students receive in the classroom? (check one only)

- none
- <1-5 hours
- 6-10 hours
- 11-20 hours
- 20+ hours

Q3. Typically, where did your students use the computer for NOAA/NOS/OE related learning instruction or activities? (check one only)

- Classroom
- Computer lab
- Media center
- Other:

Q4. Do the computers used by the students have: (check all that apply)

- Internet connection?
- A reliable Internet connection?
- A fast Internet connection?
- QuickTime and/or Windows Media Player software?

Q5. Do you have access to a single "teaching computer" connected to an LCD projector?

- Yes
- No (Skip to question #6)

Q5a. Is the projector located in:

- The classroom
- The computer lab
- The media center

- Other _____

Q5b. How often do you use the LCD projector in your teaching?

- Never
- Less than once a month
- Once or twice per month
- About once per week
- Several times per week

Q5c. Do you prefer:

- To use Internet materials “live” in the classroom with the LCD projector?
- To use the Internet materials “live” in the classroom with students on their own computers?
- To download/print the materials for later use?

Q6. How is the Web site being used in your teaching? (check all that apply)

- As homework
- Via each student on his/her own computer during class time
- Via each student on his/her own computer during “tech/computer” class time
- Via teacher presented projection during class time
- Via teacher use only, as a resource in preparing lessons

Q7. What factors, if any, have hindered your implementation of NOAA’s online education resources in your classes?

Part II. Your experience with and impression of the NOS and OE Web sites

Q8. How would you rate the NOAA/NOS/OE materials overall? Please circle the appropriate number.

	Poor	Fair	Good	Very Good	Excellent	N/A
a. Applicability of materials and activities to your school district’s learning standards.	1	2	3	4	5	0
b. Usefulness of materials for improving student ocean awareness.	1	2	3	4	5	0
c. Usefulness of materials for improving student ocean knowledge.	1	2	3	4	5	0
d. Usefulness of materials for	1	2	3	4	5	0

improving student ocean stewardship.						
--------------------------------------	--	--	--	--	--	--

NOS Web site: The following questions refer ONLY to the NOS Education Web site resources:
<http://oceanservice.noaa.gov/education>

Q9. Regarding the text of NOS Tutorials and Case Studies, are the students able to finish reading through a single main page of text without losing focus? (check the appropriate box)

The length of text on a single page was _____ for my students:

Too short		Just right		Too long

Q10. Are the students able to read and understand the material? (Check the appropriate box)

Generally, my students were able to read and understand the material _____:

- Without assistance
- Needed some assistance
- Needed a great deal of assistance

	Strongly disagree		Neutral		Strongly Agree	N/A
Q11. Tutorials and Case Studies (text)						
a. The glossary in the case studies was helpful (i.e., it helped explain the concepts in the text).	1	2	3	4	5	0
b. The glossary in the case studies was distracting (i.e., clicking forward and backward from the text to the terms caused focus to be lost).	1	2	3	4	5	0
Q12. Images:						
a. The images presented were helpful in explaining the concepts in the text.	1	2	3	4	5	0
b. The animations were easy to access and view.	1	2	3	4	5	0
c. The videos were easy to access and view.	1	2	3	4	5	0
d. Clicking on the small images to view larger versions of the images was useful for my students in comprehending the content.	1	2	3	4	5	0
e. Clicking on the small images to view larger versions of the images was distracting for my students in comprehending the content.	1	2	3	4	5	0
Q13. Links to Additional Content:						
a. The links to additional content in the online tutorials and case studies were helpful in preparing me to teach ocean science related	1	2	3	4	5	0

topics to my students.						
------------------------	--	--	--	--	--	--

Q13b. The links to additional content in the online tutorials and case studies were at a level that was _____ for my students: (check the appropriate box)

Too low	Just right			Too high

	Strongly disagree		Neutral		Strongly Agree	N/A
Q14. Lesson Plans:						
a. The lesson plans were easy to download and print out.	1	2	3	4	5	0
b. The lesson plans were easy to understand and implement with my class.	1	2	3	4	5	0
c. It easy to access the Web sites cited for use in the lesson plans.	1	2	3	4	5	0
d. The extensions to the lesson plan were helpful.	1	2	3	4	5	0

Q14e. The approximate time indicated in the lesson plan for **preparation** was:

Too short	Accurate			Too long

Q14f. The approximate time indicated in the lesson plan for **implementation** was:

Too short	Accurate			Too long

	Strongly disagree		Neutral		Strongly Agree	N/A
Q15. Additional materials:						
a. Addition of a photo gallery would be helpful to me as an educator.	1	2	3	4	5	0
b. Having all of the online resources available in downloadable printable versions would be helpful to me as an educator.	1	2	3	4	5	0

Q16. Which components of the NOS Web site do you see as being most useful to you? (Check all that apply)

- Online tutorials
- Road maps to resources
- Lesson plans
- Case studies
- Thinking like a scientist
- Working with real data
- Interactive quiz

OE Web site: The following questions refer ONLY to the OE Education Web site resources: [http:// www.oceanexplorer.noaa.gov](http://www.oceanexplorer.noaa.gov)

Q17. Did you use one or more specific OE lesson plan activities in your teaching? If yes, which one(s)?

Q18. About how much class time did you spend on these lesson plan activities?

Q19. Your comments about the activities you did:

Q20. Will you use these activities in your teaching again?

Q21. Do you have plans to use other specific OE lesson plans in the future? If so, which ones?

Q22. Please rate the following components of the OE EEM (Expedition Education Module).

	Not useful at all		Neutral		Extremely useful	N/A
a. Expedition Purpose	1	2	3	4	5	0
b. Lesson Plans	1	2	3	4	5	0
c. Multimedia Learning Objects	1	2	3	4	5	0
d. Career Connections/OceanAGE	1	2	3	4	5	0
e. Other Resources and Links	1	2	3	4	5	0

Q23. Please rate the following components of the OE Web site:

	Not useful at all		Neutral		Extremely useful	N/A
a. Explorations	1	2	3	4	5	0
b. Gallery	1	2	3	4	5	0
c. Technology	1	2	3	4	5	0
d. History	1	2	3	4	5	0
e. Library	1	2	3	4	5	0
f. Education	1	2	3	4	5	0
g. For Fun	1	2	3	4	5	0

Q24. Indicate the extent to which you disagree or agree with each of the following statements regarding the OE Web site:

	Strongly disagree		Neutral		Strongly agree	N/A
a. I have a clear idea of how I will continue to use the OE Web site in my teaching.	1	2	3	4	5	0
b. My students could independently read the textual information (such as the Expedition logs and OceanAGE scientist profiles) from the OE Web site.	1	2	3	4	5	0
c. Still and/or video images from the OE Web site enrich my teaching.	1	2	3	4	5	0
d. The OE Web site is a convenient source of lesson plans for my teaching.	1	2	3	4	5	0
e. I intend to regularly access the OE Web site for teaching information.	1	2	3	4	5	0
f. I intend to regularly access the OE Web site to view and/or print lesson plans.	1	2	3	4	5	0
g. (If applicable) I intend to regularly access the OE Web site while teaching, using an LCD projector or similar technology.	1	2	3	4	5	0
h. I find the OE Web site engaging.	1	2	3	4	5	0
i. I can easily navigate through the OE Web site.	1	2	3	4	5	0
j. My students can access the OE Web site at our school.	1	2	3	4	5	0
k. My students find the OE Web site interesting and engaging.	1	2	3	4	5	0
l. I know everything I need to know to use the OE Web site in my classroom.	1	2	3	4	5	0
m. The OE Web site provides information that I need.	1	2	3	4	5	0

Q25. Which, if any, OE Web site components do you plan to use in your future teaching? How do you plan to use these (e.g., as primary materials, enrichment, homework assignments, etc.)?

Part III. Your Students' Experience with the Web sites

Q26. Indicate the extent to which you agree with the following statements by circling the appropriate number.

As a result of my use of NOAA online education resources in the classroom....	Strongly disagree		Neutral		Strongly agree	N/A
a. My students enjoyed learning about ocean related topics.	1	2	3	4	5	0
b. My students are better prepared academically for the end-of-year state assessments.	1	2	3	4	5	0
c. My students are more engaged in their learning.	1	2	3	4	5	0
d. My students are more aware of the work of ocean scientists.	1	2	3	4	5	0
e. My students are more interested in ocean science related careers.	1	2	3	4	5	0

Q27. Do you think ocean exploration is an engaging topic for your students? If so, is it more engaging than other science topics? Why or why not?

Q28. How engaged were the majority of the students as they participated in the NOS/OE related activities? (Please check the appropriate box)

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Not engaged at all Extremely engaged

Q28a. By comparison, how engaged were these same students when they participated in a typical science related activity? (Please check the appropriate box)

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Not engaged at all Extremely engaged

Part IV. Reflections on your use of NOAA’s Online Education Resources

Q29. Please tell us how using both NOS and OE’s materials might have affected your work as a teacher.

	Strongly disagree		Neutral		Strongly agree	N/A
a. I have increased my own knowledge about ocean related topics through my work with NOAA’s online education resources.	1	2	3	4	5	0
b. I know how to use NOAA’s online education resources with my students.	1	2	3	4	5	0
c. My participation in this professional development has enabled me to improve my students’ learning about the ocean.	1	2	3	4	5	0
d. Using these resources in my classroom has increased my understanding of NOAA’s role in ocean science.	1	2	3	4	5	0
e. I have used components of NOAA’s online education resources as homework assignments.	1	2	3	4	5	0
f. I intend to regularly access NOAA’s online education resources.	1	2	3	4	5	0
g. I intend to use NOAA’s online education resources as I plan next year’s curriculum.	1	2	3	4	5	0

Q30. Do you think ocean exploration is an engaging topic? If so, is it more engaging than other science topics? Why or why not?

Q31. How did using these materials change your own understanding of the value of and need for ocean science education?

Q32. How did these materials change your understanding of the knowledge and skills necessary for your students to pursue careers in the area of ocean related careers?

Q33. Did you share any of the workshop information with other teachers? If yes, please describe what information you shared.

Q34. Any additional comments? *(use next page if needed)*

Paperwork Reduction Act Statement: Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Bruce Moravchik, NOAA National Ocean Service: Bruce.Moravchik@noaa.gov, PH: 301-713-3060 ext. 219. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval of this information collection; they also will become a matter of public record.

Dated: September 5, 2006.

Gwellnar Banks,

Management Analyst, Office of the Chief Information Officer.

[FR Doc. E6-15034 Filed 9-11-06; 8:45 am]

BILLING CODE 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

Proposed Information Collection; Comment Request; Professional Development Workshops and Formal Evaluation of NOAA Educational Materials

AGENCY: National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice.

SUMMARY: The Department of Commerce, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995.

DATES: Written comments must be submitted on or before November 13, 2006.

ADDRESSES: Direct all written comments to Diana Hynek, Departmental Paperwork Clearance Officer, Department of Commerce, Room 6625, 14th and Constitution Avenue, NW., Washington, DC 20230 (or via the Internet at dHynek@doc.gov).

FOR FURTHER INFORMATION CONTACT: Requests for additional information or copies of the information collection instrument and instructions should be directed to Bruce Moravchik, 301-713-3061 ext. 219 or Bruce.Moravchik@noaa.gov.

SUPPLEMENTARY INFORMATION:

I. Abstract

The project, *Professional Development Workshops and Formal Evaluation of NOAA Educational Materials*, has three primary goals:

(1) To provide a series of three one-day professional development opportunities whereby educators will learn more about coastal and ocean science, and about the wide variety of online tools and resources available to them via the NOAA Discovery Center and Ocean Explorer Web sites; (2) To develop and implement an outcomes-based evaluation of the three educator professional development workshops; and (3) To implement an outcomes-based evaluation of the online tools and resources available through the NOAA Discovery Center and Ocean Explorer Web sites.

II. Method of Collection

Paper pre- and post-workshop questionnaires will be collected on-site. Paper follow-up questionnaires will be collected via mail. Student questionnaires will be completed online. Focus groups will be completed on-site.

III. Data

OMB Number: None.

Form Number: None.

Type of Review: Regular submission.

Affected Public: Individuals or households.

Estimated Number of Respondents: 1,620.

Estimated Time Per Response: Workshop pre-questionnaire, 15 minutes; post-questionnaire, 30 minutes; follow-up questionnaire, 2 hours; student questionnaire, 30 minutes; focus group, 2 hours.

Estimated Total Annual Burden Hours: 1,035.

Estimated Total Annual Cost to Public: \$0.

IV. Request for Comments

Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden (including hours and cost) of the proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and/or

included in the request for OMB approval of this information collection; they also will become a matter of public record.

Dated: September 6, 2006.

Gwellnar Banks,

Management Analyst, Office of the Chief Information Officer.

[FR Doc. E6-15036 Filed 9-11-06; 8:45 am]

BILLING CODE 3510-JS-P

DEPARTMENT OF COMMERCE

Patent and Trademark Office

Initial Patent Applications

ACTION: Proposed collection; comment request.

SUMMARY: The United States Patent and Trademark Office (USPTO), as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on the revision of a continuing information collection, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)).

DATES: Written comments must be submitted on or before November 13, 2006.

ADDRESSES: You may submit comments by any of the following methods:

- E-mail: Susan.Brown@uspto.gov. Include "0651-0032 comment" in the subject line of the message.
- Fax: 571-273-0112, marked to the attention of Susan Brown.
- Mail: Susan K. Brown, Records Officer, Office of the Chief Information Officer, Architecture, Engineering and Technical Services, Data Architecture and Services Division, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.

• Federal e-Rulemaking Portal: <http://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT: Requests for additional information should be directed to the attention of Robert J. Spar, Director, Office of Patent Legal Administration, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450; by telephone at 571-272-7700; or by e-mail at bob.spar@uspto.gov.

SUPPLEMENTARY INFORMATION

I. Abstract

Article 1, Section 8, Clause 8 of the Constitution provides that Congress shall have the power * * * [t]o promote the progress of science and useful arts, by securing for limited times