

CHAPTER 13

REPORTING AND OUTREACH

from the

Strategic Plan for the Climate Change Science Program

By the agencies and staff of the
US Climate Change Science Program

Review draft dated 11 November 2002

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11 November 2002

Dear Colleague,

The Climate Change Science Program will hold the U.S. Climate Change Science Program Planning Workshop for Scientists and Stakeholders at the Marriott Wardman Park Hotel in Washington, D.C., from 3-5 December 2002. The purpose of the Workshop is to provide a comprehensive review of the discussion draft of the Strategic Plan for U.S. climate change and global change research. This Workshop will offer extensive opportunities for the scientific and stakeholder communities to provide comment and input to the Climate Change Science Program Strategic Plan. When finalized by April 2003, the Strategic Plan will provide the principal guidance for U.S. climate change and global change research during the next several years, subject to revisions as appropriate to respond to newly developed information and decision support tools.

We are writing to request your comments on the discussion draft of the Climate Change Science Program Strategic Plan. Comments on all elements of the plan from all communities are essential in order to improve the plan and identify gaps. In your review, we ask you to provide a perspective on the content, implications, and challenges outlined in the plan as well as suggestions for any alternate approaches you wish to have considered, and the types of climate and global change information required by policy makers and resource managers. We also ask that you comment on any inconsistencies within or across chapters, and omissions of important topics. For any shortcomings that you note in the draft, please propose specific remedies. To participate in the review it is not necessary that you review the entire plan.

We ask that comments be submitted by E-mail to <comments@climatescience.gov>. All comments submitted by 13 January 2003 will be posted on the <<http://www.climatescience.gov>> website for public review. While we are unable to promised detailed responses to individual comments, we confirm that all submitted comments will be given consideration during the development of the final version of the Strategic Plan.

Attached to this letter are instructions and format guidelines for submitting review comments. Following the instructions will ensure that your comments are properly processed and given appropriate consideration. If you wish to distribute copies of the plan to colleagues to participate in the review, please provide them with a copy of this letter as well as the attached instructions and format guidelines. We have posted the plan on the workshop website at <<http://www.climatescience.gov>>. PDF files for individual chapters of the plan can be downloaded from this site. If you have any questions, please contact: Sandy MacCracken at 1-202-419-3483 (voice), 1-202-223-3065 (fax), or via the address in the footer below.

We appreciate your contribution of time and expertise to this review, and look forward to your response.

Sincerely,

James R. Mahoney, Ph.D.
Assistant Secretary of Commerce for Oceans and Atmosphere, and
Director, U.S. Climate Change Science Program

Instructions For Submission of Strategic Plan Review Comments

Thank you for participating in the review process. Please follow the instructions for preparing and submitting your review. Using the format guidance described below will facilitate our processing of reviewer comments and assure that your comments are given appropriate consideration. An example of the format is also provided. Comments are due by **13 January, 2003**.

- Select the chapter(s) or sections of chapters which you wish to review. It is not necessary that you review the entire plan. In your comments, please consider the following issues:
 - **Overview:** overview on the content, implications, and challenges outlined in the plan;
 - **Agreement/Disagreement:** areas of agreement and disagreement, as appropriate;
 - **Suggestions :** suggestions for alternative approaches, if appropriate;
 - **Inconsistencies:** inconsistencies within or across chapters;
 - **Omissions :** omissions of important topics;
 - **Remedies:** specific remedies for identified shortcomings of the draft plan;
 - **Stakeholder climate information:** type of climate and global change information required by representative groups;
 - **Other:** other comments not covered above.
- Please do not comment on grammar, spelling, or punctuation. Professional copy editing will correct deficiencies in these areas for the final draft.
- Use the format guidance that follows for organizing your comments.
- Submit your comments by email to <comments@climatescience.gov> by 13 January, 2003.

Format Guidance for Comments

Please provide background information about yourself on the first page of your comments: your name(s), organization(s), area of expertise(s), mailing address(es), telephone and fax numbers, and email address(es).

- Overview comments on the chapter should follow your background information and should be numbered.
- Comments that are specific to particular pages, paragraphs or lines of the chapter should follow your overview comments and should identify the page and line numbers to which they apply.
- Comments that refer to a table or figure should identify the table or figure number. In the case of tables, please also identify the row and column to which the comment refers.
- Order your comments sequentially by page and line number.
- At the end of each comment, please insert your name and affiliation.

Format Example for Comments

I. Background Information

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II. Overview Comments on Chapter 5: Atmospheric Composition

First Overview Comment: (Comment)

Reviewer's name, affiliation: John Doe, University College

Second Overview Comment: (Comment)

Reviewer's name, affiliation: John Doe, University College

III. Specific Comments on Chapter 5: Atmospheric Composition

Page 57, Line 5: (Comment)

John Doe, University College

Page 58, Line 32 - Page 59, Line 5: (Comment)

John Doe, University College

Table 1-4, Row 3, Column 6: (Comment)

John Doe, University College

Please send comments by email to <comments@climatescience.gov>

Foreword

In February 2002 President George W. Bush announced the formation of a new management structure, the Climate Change Science Program (CCSP), to coordinate and direct the US research efforts in the areas of climate and global change. These research efforts include the US Global Change Research Program (USGCRP) authorized by the Global Change Research Act of 1990, and the Climate Change Research Initiative (CCRI) launched by the President in June 2001 to reduce significant uncertainties in climate science, improve global climate observing systems, and develop resources to support policymaking and resource management.

The President's Climate Change Research Initiative was launched to provide a distinct focus to the 13-year old Global Change Research Program. The CCRI focus is defined by a group of uncertainties about the global climate system that have been identified by policymakers and analyzed by the National Research Council in a 2001 report requested by the Administration.

The Climate Change Science Program aims to balance the near-term (2- to 4-year) focus of the CCRI with the breadth of the USGCRP, pursuing accelerated development of answers to the scientific aspects of key climate policy issues while continuing to seek advances in the knowledge of the physical, biological and chemical processes that influence the Earth system.

This *discussion draft* strategic plan has been prepared by the thirteen federal agencies participating in the CCSP, with input from a large number of scientific steering groups and coordination by the CCSP staff under the leadership of Dr. Richard H. Moss, to provide a vehicle to facilitate comments and suggestions by the scientific and stakeholder communities interested in climate and global change issues.

We welcome comments on this draft plan by all interested persons. Comments may be provided during the US Climate Change Science Program Planning Workshop for Scientists and Stakeholders being held in Washington, DC on December 3 – 5, 2002, and during a subsequent public comment period extending to January 13, 2003. Information about the Workshop and the written comment opportunities is available on the web site www.climatescience.gov. A specially formed committee of the National Research Council is also reviewing this draft plan, and will provide its analysis of the plan, the workshop and the written comments received after the workshop. A final version of the strategic plan, setting a path for the next few years of research under the CCSP, will be published by April 2003. We appreciate your assistance with this important process.

James R. Mahoney, Ph.D.
Assistant Secretary of Commerce for Oceans and Atmosphere, and
Director, Climate Change Science Program

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Acronyms

Authors and Contributors

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CHAPTER 13

REPORTING AND OUTREACH

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3. Reporting and Outreach for the Public
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The Climate Change Science Program (CCSP) focuses on establishing and applying priorities for climate change research so the Nation can address and evaluate global and climate change risks and opportunities. Improved coordination, reporting, and outreach among federal agencies are required to make research results and decision support resources more readily available and useful to stakeholders. This reporting and outreach plan consists of working with two kinds of stakeholders. The first includes those who need or are affected by climate information, including policymakers, resource managers, the scientific community, the private sector, non-governmental organizations (NGOs), and the international community. The second kind of stakeholder includes those involved in education—whether it is the general public, K-12 students, or those who communicate information (i.e., media, educators). As users of climate information, the needs of the stakeholders for reliable, accurate, and easily understood data should be taken into account in research planning and execution of this strategic plan.

With many near-term products identified in the CCSP strategic plan, especially in the Climate Change Research Initiative (CCRI) elements, it is especially important to integrate public information and outreach considerations at an early stage. In particular, an interagency inventory of outreach activities is required along with an interagency working group to address outreach issues and coordinate a plan.

1. Inventory of Existing Agency Activities

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Education and outreach on global change research occurs at many levels of the federal government. However, there is no routine and comprehensive interagency assessment of public information and outreach efforts. A relatively small portion of the overall public information and

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1 outreach effort occurs at the interagency level. An example is the Global Change Research
2 Information Office (GCRIIO) (www.gcrio.org), which responds to a large volume of inquiries
3 and contributes to the distribution of documents such as *Our Changing Planet*. The US
4 Global Change Research Program (USGCRP) coordination office also has sponsored limited
5 outreach activities that have included a monthly Congressional seminar series (May 1995
6 through July 2000), a website (www.usgcrp.gov), and responses to frequent information
7 requests from stakeholders. A significant amount of interagency outreach activity also is
8 associated with the working groups of the CCSP. In particular, numerous stakeholders,
9 especially within the research community, have been engaged in the preparation and reviews of
10 long-term strategic plans.

11
12 Reporting and outreach efforts are also individually pursued by each agency. Efforts include
13 activities in which agencies:

- 14 • Respond directly to inquiries from the public and other stakeholders;
- 15 • Maintain websites and listservs;
- 16 • Produce and distribute hardcopy documents and multimedia products;
- 17 • Conduct or sponsor briefings, lectures, and press conferences;
- 18 • Testify before Congress or other government bodies;
- 19 • Finance scholarships, fellowships, and internships;
- 20 • Support museum exhibits and other public displays;
- 21 • Sponsor, participate, or otherwise contribute to meetings attended by stakeholders;
- 22 • Provide scientifically-sound content for K-12 education activities; and
- 23 • Fund outreach efforts managed outside the federal government.

24
25 Overall, there is a need to survey the federal agencies so they can determine what is effective
26 and how to best facilitate outreach without duplicating efforts. A strategy is needed for
27 allocating responsibilities and ensuring participation, even when faced with competing agency
28 priorities. The CCSP will facilitate interagency coordination of outreach efforts so information
29 generated from federally-funded global change research is effectively disseminated and
30 communicated. The CCSP will also coordinate plans to communicate research results so
31 reporting and outreach activities produce more useful and timely information.
32

2. Reporting and Outreach for Decisionmakers

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34 Information developed by the CCSP will be used by decisionmakers in debating and selecting
35 possible strategies to mitigate and adapt to global change without unnecessarily compromising
36 the economy or energy security. Decisionmakers as defined in Chapter 4 are those who are
37 actively involved in policy at the national and regional level and those who are making
38 operational decisions for natural resources based on climate information. Reporting and
39 outreach for decisionmakers are a priority for the CCSP.

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2 **NATIONAL POLICYMAKERS AND THE INTERNATIONAL COMMUNITY**

3 The Global Change Research Act of 1990 established the USGCRP and calls upon officials to
4 “consult with actual and potential users of the results of the Program to ensure that such results
5 are useful in developing national and international policy responses to global change.” It
6 requires a plan that will “produce information readily usable by policymakers attempting to
7 formulate effective strategies for preventing, mitigating, and adapting to the effects of global
8 change.” The law furthermore mandates a Global Change Research Information Office
9 (GCRI) to disseminate useful scientific research information “to foreign governments,
10 businesses, and institutions, as well as the citizens of foreign countries.”

11
12 The communication of information on global and climate change research to Congress, the
13 Administration, and our international partners is critically important to ensure well-informed
14 discussion and decisions. In addition to publishing *Our Changing Planet* each fiscal year, the
15 CCSP will facilitate agency coordination to:

- 16 • Provide Congressional briefings on research results and program accomplishments as
17 needed;
- 18 • Provide a science and technology assessment report in cooperation with the National
19 Climate Change Technology Initiative (NCCTI); and
- 20 • Provide information and briefings to international partners.

21
22 **LOCAL/REGIONAL GOVERNMENTS, BUSINESSES, AND NGOS**

23 Local and regional governments, businesses, and NGOs need an awareness and understanding
24 of existing and planned resources and technologies available to support their decisions. They
25 require familiarity with the integration of science and technology that will emerge from the
26 coordination of the CCRI with NCCTI. National and regional decisionmakers need special
27 analysis of scenarios, model outputs, and climate data. They require state-of-the-art
28 observations of climate and climate variability. Researchers need to understand how uncertainty
29 is used in decisionmaking so that uncertainties are effectively communicated.

30
31 To ensure that these stakeholders have research and decision support resources, the CCSP will
32 facilitate agency coordination to:

- 33 • Supplement agency outreach with basic information (brochures, fact sheets) that links
34 their initiatives to the broader Program activities;
- 35 • Produce hardcopy and digital materials and make them available in a timely fashion and
36 indirectly through outreach activities sponsored by individual agencies and third parties;
- 37 • Coordinate outreach material by state to make the information more salient to each
38 state’s delegation; and
- 39 • Facilitate regional identification of key stakeholders through regional workshops,
40 regional integrated research, and regional briefings.

3. Reporting and Outreach for the Public

1
2 The general public is the largest and the most important audience for the communication of
3 reliable global change information. A well-informed citizenry is essential for responding
4 appropriately to the challenges posed by climate change and other global change issues.
5 Because it is critical that these audiences have access to clear, consistent, and accurate
6 information about global change research and its findings, the CCSP will work closely with
7 federal agencies to ensure reporting of relevant information in a useful and accessible format.
8

9 The CCSP and participating federal agencies will identify a range of activities and initiatives for
10 reporting useful global change information to the public. Information will be provided either
11 directly from the CCSP and federal agencies or indirectly (i.e., via media outlets) and will be
12 used not only to respond to public inquiries, but also to inform key constituents about the
13 importance that science can play in decision-making.
14

15 Many federal agencies already are effectively communicating with the media by providing
16 information about global and climate change science. With improved strategic coordination, the
17 CCSP and federal agencies can coordinate existing activities or identify new opportunities for
18 more effective media coverage.
19

20 The CCSP will facilitate agency coordination to:

- 21 • Release coordinated press releases. US Government agencies, working together
22 and/or with the CCSP, can develop joint media releases to report on new research
23 projects and results;
- 24 • Organize workshops for science journalists. This includes joint projects to educate
25 journalists so that they can provide more frequent and informed coverage of science
26 topics;
- 27 • Provide briefings for the general public. Using innovative information and
28 communications technologies, agencies can explore options to conduct virtual town hall
29 meetings or other public forums on issues relating to global change;
- 30 • Provide briefings for public officials. Opportunities to improve understanding among
31 officials from various levels of government would, in the long term, serve to stimulate
32 and inform valuable public discussion;
- 33 • Organize and compile web sites, fact sheets, and other public information materials.
34 There is a need for a centralized, Internet-based clearinghouse of reliable, accessible
35 information about global change science generated by other agencies.
- 36 • Provide articles for mainstream business, policy, and general science journals. The
37 CCSP could produce a series of articles, over the next 2-4 years, of potential interest to
38 the public and end-users of climate information.

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4. Outreach for K-12 Education

The importance of education has long been recognized by federal agencies, which individually have sponsored activities directed at teachers and students from kindergarten through twelfth grade (K-12). These range from the National Science Foundation’s very extensive efforts directed at educators to the National Aeronautics and Space Administration’s (NASA) Earth Science Enterprise (ESE) Education initiatives. They also include many websites such as those maintained by the Environmental Protection Agency (EPA). In addition, agencies have, to a limited extent, cosponsored collaborative K-12 educational initiatives such as the *Climate Change Partnership Education Program* initiated by the EPA, NASA, and the National Oceanic and Atmospheric Administration (NOAA).

Despite these programs, American school children are still not adequately educated in the sciences. According to the National Science Board’s *Science and Engineering Indicators 2002* (NSB, 2002), in mathematics and science “few students are attaining levels deemed Proficient or Advanced by a national panel of experts.” It furthermore says that “internationally, US student relative performance becomes increasingly weaker at higher grade levels.” Evidence suggests the problem rests not so much on the amount of classroom time devoted to science, but on the quality of the curriculum and instruction. Any federal effort to significantly improve global change education therefore will have to be strategically focused on teachers and the instructional resources they have available. In addition, because so many children access the Internet at home and at school, K-12 education initiatives also can effectively reach children directly through that medium.

To ensure that students and educators have the required resources, the CCSP will facilitate agency coordination to:

- Improve the reliability and quality of agency and other program activities, especially web-based initiatives that already are heavily used by students and teachers;
- Identify opportunities for collaboration among agencies and with other organizations to educate children;
- Participate in dialogues with the National Science Teacher Association (NSTA) and professional societies with K-12 programs to identify basic curriculum content that needs to be provided to educators at all grade levels;
- Fund CCSP representation at key educator conferences and include development of exhibits and handouts; and
- Fund development of games and activities that familiarize children with basic climate facts and concepts.

DRAFT

1 **References:**

2 NSB, 2002. National Science Board, [*Science & Engineering Indicators 2002*](#). (Arlington,
3 Virginia: National Science Foundation).

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Authors and Contributors

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PART III. COMMUNICATION, COOPERATION, AND MANAGEMENT

Chapter 13. Reporting and Outreach

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