

**CHAPTER 15**  
**PROGRAM MANAGEMENT AND REVIEW**

*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**

**Contents**

- Letter from 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
- Excerpts from the Strategic Plan:
  - Foreword
  - Table of Contents
  - Text of Chapter or Section

US Climate Change Science Program  
1717 Pennsylvania Ave., NW  
Suite 250  
Washington, DC 20006  
Tel: +1 202 223 6262  
Fax: +1 202 223 3065

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](mailto: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**

**Name(s):** John Doe

**Organization(s):** University College

**Mailing Address(es):** 101 1<sup>st</sup> Street, New York, New York, 10001

**Phone (s):** 800-555-5555

**Fax(es):** 800-555-6666

**E-mail(s):** John.Doe@univ.edu

**Area of Expertise:** Atmospheric Composition

### **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](http://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

# **Table of Contents of the Strategic Plan for the Climate Change Science Program**

Chapter 1. Introduction

## **Part I. The CCRI**

- Overview
- Chapter 2. Research Focused on Key Climate Change Uncertainties
- Chapter 3. Climate Quality Observations, Monitoring, and Data Management
- Chapter 4. Decision Support Resources

## **Part II. The USGCRP**

- Overview
- Chapter 5. Atmospheric Composition
- Chapter 6. Climate Variability and Change
- Chapter 7. Water Cycle
- Chapter 8. Land Use/Land Cover Change
- Chapter 9. Carbon Cycle
- Chapter 10. Ecosystems
- Chapter 11. Human Contributions and Responses to Environmental Change
- Chapter 12. Grand Challenges in Modeling, Observations, and Information Systems

## **Part III. Communication, Cooperation, and Management**

- Chapter 13. Reporting and Outreach
- Chapter 14. International Research and Cooperation
- Chapter 15. Program Management and Review

Acronyms

Authors and Contributors

1

## CHAPTER 15

2

### PROGRAM MANAGEMENT AND REVIEW

3

#### This chapter's contents...

1. Mechanisms for Successful Management: Scientific Guidance, Interagency Planning and Implementation, and Program Integration

4

5 The Climate Change Science Program (CCSP) oversees and coordinates the Climate Change  
6 Research Initiative (CCRI) and the US Global Change Research Program (USGCRP). The  
7 CCSP has joint membership with the Subcommittee on Global Change Research, the  
8 interagency body responsible for coordinating the USGCRP. In the CCSP, responsibility for  
9 implementation of different components of the research program is distributed across  
10 participating federal departments and agencies. The basic rationale for this distributed  
11 organization is that the issues of climate and global change are complex and wide ranging and  
12 thus extend beyond the mission, resources, and expertise of any single agency.

13

14 In June 2001, in response to evaluations of the USGCRP that raised questions about the ability  
15 of the existing interagency mechanism to develop adequate focus, President Bush requested that  
16 the Secretary of Commerce take the lead in reviewing the arrangements for coordinating climate  
17 and global change research. In February 2002, the President announced a new management  
18 structure for federal climate change science and technology development to improve the  
19 research support for decisionmaking and to increase accountability.

20

21 At the highest level, the new structure includes the Executive Office of the President, with a  
22 combined National Security Council (NSC), Domestic Policy Council (DPC), and National  
23 Economic Council (NEC) panel responsible for program review. The Chair of this panel is the  
24 National Security Advisor or other Presidential appointee and reports to the President. The  
25 **Committee on Climate Change Science and Technology Integration** was developed to  
26 oversee the federal climate change science and technology programs. The Committee is a  
27 cabinet-level body that, in coordination with the Office of Management and Budget, provides  
28 recommendations concerning climate science and technology to the President and, if needed,  
29 recommends the transfer of funding and programs across agency boundaries.

30

31 The **Interagency Working Group on Climate Change Science and Technology** reports to  
32 the Committee. The Working Group is composed of departmental and agency representatives  
33 at the Deputy Secretary level. It will review all federal programs that contribute to climate  
34 change science and technology and will make recommendations to the Committee about the

## DRAFT

1 funding level and focus of these programs to advance a climate change science and technology  
2 program that contributes to the enhanced understanding needed to better support policy and  
3 management decisions.

4  
5 The **Climate Change Science Program (CCSP)** reports to the Working Group. Its  
6 membership includes representatives from all agencies that have a research mission in climate  
7 and global change. The CCSP is responsible for effective management of the coordinated  
8 interagency research program, oversees the interagency groups responsible for each major  
9 research program element listed in this Strategic Plan (i.e., Atmospheric Composition, Climate  
10 Variability and Change, Water Cycle, Land Use/Land Cover Change, Carbon Cycle,  
11 Ecosystems, and Human Contributions and Responses to Environmental Change), and interacts  
12 with various external advisory groups. The **Climate Change Technology Program (CCTP)**  
13 is an interagency program that will coordinate and develop a comprehensive, multi-year,  
14 integrated climate change technology R&D program for the United States.

15  
16 The USGCRP has a decade of experience and has established a number of successful methods  
17 for planning and implementing interagency programs to support research on complex climate  
18 and global change issues. While approaches used in the past provide a good foundation for the  
19 future, new mechanisms for improved coordination and integration are being developed. This  
20 section of the strategic plan provides a framework for management of climate and global change  
21 research by the CCSP in the next decade.

### **1. Mechanisms for Successful Management: Scientific Guidance, Interagency Planning and Implementation, and Program Integration**

22  
23  
24 The CCSP incorporates three mechanisms for management of the program:

- 25 • Scientific guidance;
- 26 • Interagency planning and implementation; and
- 27 • Program integration by the CCSP.

28  
29 The interaction of these three management elements is critical for improving the scientific  
30 planning, the effectiveness of interagency management, and the focus of climate and global  
31 change research to support governmental and non-governmental needs.

#### **SCIENTIFIC GUIDANCE**

32  
33  
34 The US and international science communities bring essential expertise to the CCSP activities.  
35 Relevant committees and boards of the National Academy of Sciences, in particular, will be  
36 asked to provide scientific guidance.

37  
38 Scientific Steering Committees (SSCs) will be established for each research program element to  
39 assist the agencies by developing detailed science plans that describe in greater detail than is  
40 possible in this Strategic Plan the research that is required to address the questions in each of



## DRAFT

1 the research program elements. An example of a detailed science plan is the *U.S. Carbon*  
2 *Cycle Science Plan* (Sarmiento et al., 1999). This science plan was requested by several  
3 agencies participating in the USGCRP and was developed by a Carbon and Climate Working  
4 Group that drew on the expertise of the entire US carbon cycle science community through  
5 workshops. It was subsequently published and serves as detailed scientific guidance for  
6 USGCRP activities in this area. Scientific plans have been developed or are being developed  
7 for the other CCSP research program elements as well to guide research efforts.

8  
9 The science review of implementation plans and progress towards achieving objectives is also  
10 essential. This will provide crucial information for both the program managers and the CCSP in  
11 evaluating whether the CCRI and USGCRP are making progress toward their goals.

### 12 13 **INTERAGENCY PLANNING AND IMPLEMENTATION**

14 The CCSP draws on the strengths of many agencies and departments. It requires a significant  
15 degree of coordination, however, to ensure that research planned and implemented across these  
16 departments and agencies supports agreed-upon scientific objectives.

17  
18 At the level of individual research program elements, interagency committees of program  
19 managers work together to ensure that the science plans for each element inform departmental  
20 and agency budget priorities and are translated into implementation plans that explain how  
21 research efforts will achieve specific deliverables. The CCSP will oversee development of an  
22 interagency implementation plan for each research program element. The implementation plans  
23 will identify and prioritize the scientific programs necessary to meet the key science objectives  
24 and the roles of each participating agency. They will also provide generalized timelines and  
25 budget estimates for the investments necessary to carry out the activities, noting any critical  
26 dependencies. Each implementation plan will also prioritize the observations and/or observing  
27 systems necessary to meet the goals of the research as well as critical modeling efforts and/or  
28 information-management issues. These priorities will inform the choices that will need to be  
29 made by agencies and by CCSP as a whole.

30  
31 Each implementation plan will be developed by an interagency working group, reviewed by  
32 external scientists, and approved by the CCSP. This process assures the agreement of agencies  
33 to the overall timelines and budget priorities as well as transparency and credibility to the  
34 planning process. This process also provides a mechanism for identifying any critical  
35 dependencies requiring action by the CCSP and by those responsible for agency budgets. The  
36 implementation plans will be updated and revised regularly in order to ensure that they reflect  
37 evolving scientific discovery, agency participation, and budget priorities.

38  
39 These interagency working groups will also be responsible for providing program-level  
40 coordination for budgets, joint announcements of opportunity for the scientific research  
41 community, coordinated studies by agency staff, and periodic evaluation of progress toward the  
42 scientific goals.

43

## DRAFT

1 The coordination of the CCSP is facilitated by the CCSP Office, consisting of a Director (a  
2 Department of Commerce detailee) and staff. The office is supported on a shared-cost basis by  
3 the participating agencies and by the allocated time of agency staff.

### 4 5 **CCSP INTEGRATION**

6 This draft Strategic Plan describes the important questions and goals for research over the next  
7 decade. The CCSP has responsibility for periodically reviewing these questions and goals and  
8 ensuring that program objectives are met. This responsibility includes an annual cycle of  
9 program and budget review.

10  
11 The CCSP will adopt a problem-driven rather than a disciplinary approach in setting priorities  
12 and sequencing investments, identifying for early action and support those projects and activities  
13 that meet agreed-upon criteria in the following areas:

- 14 • Relevance/Contribution;
- 15 • Scientific Merit;
- 16 • Readiness;
- 17 • Deliverables;
- 18 • Linkages; and
- 19 • Costs.

20  
21 Some projects and activities may be identified for early implementation because they lay the  
22 foundation for subsequent work in other areas or are ready for implementation due to prior  
23 planning. The CCSP will also ensure periodic program reviews and evaluations involving both  
24 internal and external partners, including the scientific research community and other users of  
25 climate and global change information. Individual agencies will enable external review of their  
26 research strategies and plans (e.g., by the National Research Council (NRC) and Federal  
27 Advisory Committee Act (FACA) advisory committees) to ensure quality, relevance, and  
28 timeliness of the CCSP and its agencies' goals.

29  
30 Developing answers to the questions posed in the draft Strategic Plan will require integration of  
31 research conducted or supported by different departments and agencies. The past decade has  
32 shown that the research on climate and global change often includes components that do not fall  
33 neatly into the core mission of any one of the participating agencies, are entirely new program  
34 needs, or are key to the integration of separate agency activities. An example is the  
35 development of comprehensive climate and Earth-system modeling necessary for projecting  
36 climate change and assessing its impacts on natural and human systems. Other examples include  
37 developing decision support resources for natural resource management and policy decisions  
38 and preparation of integrated products such as the proposed periodic CCSP reports.

39  
40 One necessary approach for addressing such integrating activities is to develop a mechanism  
41 that allows functions that are not central to the core missions of the participating agencies, but  
42 that are highly relevant, to be fostered. Some functions might be of short-duration but critical to

## DRAFT

1 integration. Others might be long-term efforts that eventually lead to the transition of multi-  
2 agency research activities to operational activities associated with a specific agency.  
3

### 4 **References:**

5 Sarmiento et al., 1999. Sarmiento et al., Carbon and Climate Working Group of the  
6 USGCRP, [\*US Carbon Cycle Science Plan\*](#) (Washington, DC: USGCRP).