

## Carbon Cycle Scientific Steering Group

### Terms of Reference

#### Purpose

This *terms-of-reference* describes the role of the Carbon Cycle Scientific Steering Group for the carbon cycle science program of the U.S. Climate Change Science Program. It addresses the relationship with the Carbon Cycle Interagency Working Group and provides specifics concerning CCSSG membership and meeting requirements.

#### Introduction

The U.S. Climate Change Science Program (CCSP) has a vision of collaboration among federal agencies that closely involves the scientific community. The goal of U.S. carbon cycle research is to understand the fate of carbon in the environment and how cycling of carbon might change in the future, including the role of and implications for societal actions. The program encompasses terrestrial, oceanic and atmospheric components, human dimensions, and societal concerns.

The Carbon Cycle Interagency Working Group (CCIWG), whose members represent carbon cycle research programs within the federal agencies, coordinates the development and execution of federal research programs in carbon cycle science. The CCIWG has established a CCSSG, a group of scientific experts involved in carbon cycle research and applications, and composed of people from all types of organizations (e.g., federal, state, university and non-government), to provide individual scientific inputs to the CCIWG regarding the current activities and future directions of the CCSP's carbon cycle science program. The establishment of the CCSSG is a demonstration of the commitment to involving scientists and other stakeholders to improve the quality and value of carbon cycle research supported by the federal government.

The Carbon Cycle Scientific Steering Group (CCSSG) interacts directly with the CCIWG and assists them by providing individual perspectives on science issues and research approaches for U.S. carbon cycle research. Their focus is on providing scientific assistance to the CCIWG in carrying out the U.S. carbon cycle science program plan established in the Strategic Plan for the U.S. CCSP

#### Role of the Carbon Cycle Scientific Steering Group

The purpose of the CCSSG is to provide broad, scientific and stakeholder input to the CCIWG as it coordinates carbon cycle science and applications within the U.S. federal government. The CCSSG is responsible for providing inputs to the CCIWG that aid them in ensuring that the U.S. Carbon Cycle Science Program remains coherent and addresses its science questions in an integrated way.

The responsibilities of the CCSSG are to:

- provide input on program relevance and perspectives of the scientific and stakeholder communities and, insofar as possible, the general public,
- identify research and applications questions; priorities; needed experiments,

- measurements and observations; new areas of emphasis and emerging issues;
- provide input on and assist the CCIWG with major carbon cycle science program and science management plans, implementation and strategy plans, and other important documents,
- assist with synthesis and integration of the multidisciplinary elements of the program;
- prepare or commission scientific reports to further develop new ideas and emerging issues,
- secure participation from a broad and diverse cross-section of scientists, research managers, and stakeholders in carbon cycle science program activities,
- assist in the communication of CCSP carbon cycle research, goals, objectives, and activities,
- provide input on and assist the CCIWG with coordination with other national and international programs,
- provide scientific assessment of the overall carbon cycle science program and inputs concerning its progress on achieving its research objectives,
- coordinate with the Scientific Steering Groups (SSGs) of the North American Carbon Program (NACP) and Ocean Carbon and Climate Change (OCCC) program,
- develop and stage CCIWG-sponsored workshops, joint workshops of NACP and OCCC, and other possible complementary proceedings,
- assist the CCIWG in the preparation of an annual report and provide assistance in developing carbon cycle program reports, and
- provide other information pertinent to the goals of the U.S. carbon cycle science program and the U.S. CCSP.

### **Membership**

Members of the CCSSG are appointed by the CCIWG, with the concurrence of the CCSSG Chair. Before appointing new members, the CCIWG consults with the CCSSG Chair and CCSSG members to identify qualified new members based on their scientific expertise, leadership qualities, and ability to represent the carbon cycle science perspectives of the federal agencies, academia, and other stakeholder institutions. Membership may be drawn from the scientific and applications community including, but not limited to, scientists from universities, colleges, private and public research institutions, organizations, federal and state agencies, and other appropriate organizations. However, CCIWG members are not eligible for membership on the CCSSG. CCSSG members will serve a term of three years, with approximately one third of the members rotating off each year in order to ensure openness, maintain integrity, and assure vitality in the group. Terms may be extended for one additional three-year period.

The CCSSG will be limited to no more than 20 people. Because of the unprecedented challenges anticipated in the synthesis and integration of carbon cycle science, it is crucial that the CCSSG membership represent a broad and balanced range of expertise. The CCSSG should have appropriate balance in disciplinary representation, research and applications expertise, institutional representation, and geographical coverage. Specifically, the combined membership must have expertise in carbon cycle science in terrestrial, hydrologic, oceanic, atmospheric and human dimensions, reflect a balance among researchers specializing in modeling, observations and experimental studies, and include an appropriate mix of scientists from federal agencies,

academic institutions, the private sector, and/or other stakeholder institutions. Some overlap in membership among CCSSG, NACP SSG and OCCC SSG is acceptable and desirable.

### **Chair**

The CCSSG Chair is appointed by the CCIWG. In selecting a new Chair, the CCIWG will consult with and seek the concurrence of the current Chair and CCSSG members. To promote continuity, a candidate Chair will first be sought from among existing CCSSG members. If a new Chair cannot be identified from among the existing members, then a person new to the group will be considered. The CCSSG Chair will serve for a **two**-year term. Within six months of the completion of a Chair's term, a new Chair will be selected or the present Chair's term will be renewed. A CCSSG Chair's term can be renewed for one additional 2-year term based on mutual agreement of the Chair, the CCSSG members and the CCIWG.

The primary function and duties of the Chair are:

- lead the CCSSG in completing its goals and objectives,
- moderate all CCSSG meetings using acceptable rules of order and decorum,
- work with the CCSSG and the CCIWG to set mutually agreeable dates, venues, agendas, and programs for CCSSG meetings,
- appoint subcommittees and make short-term assignments to CCSSG members during the course of business meetings, and provide oversight for the accomplishment and reporting of said activities,
- serve as a liaison with the co-Chairs of the CCIWG on important items between meetings and provide general liaison between the CCIWG and CCSSG, and
- appoint a temporary Chair from within the CCSSG in the event the Chair cannot attend a CCSSG meeting.

### **Meetings**

The CCSSG will convene approximately two times per year. Dates will be mutually agreed to by the CCSSG and the CCIWG. All meetings will be held with members of the CCIWG in attendance. The primary purpose of the meetings is for the CCSSG to discuss with the CCIWG scientific issues and opportunities focused on ensuring that the U.S. carbon cycle science program achieves its objectives. These discussions may address any of the topics outlined in the section above on the role of the CCSSG section. The agenda will be prepared by the chairs of the CCSSG and of the CCIWG. Agenda items may include presentations followed by open discussions, program updates by CCIWG members and its Co-Chairs, reports from subcommittees and the Chairs of the NACP and OCCC SSGs, and special briefings by third parties invited for that specific purpose. The CCIWG and/or its member agencies will cover allowable travel and meeting expenses for CCSSG members.

### **Amendments and Approval**

Amendments to these terms-of-reference may be proposed by either CCIWG or the CCSSG. Amendments will be approved through mutual agreement of the two bodies.