

Overview of Science Planning

July 17, 2012

Newport Beach, California

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Scientific Steering Committee

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- increasing demand for information to support policy decisions;
- increased public awareness of the importance of climate variability and change to future prosperity; and
- shifting emphasis of national and international research, policy, and funding priorities.

Purpose of a New Science Plan

The SSC is therefore undertaking an examination of progress made and priority science questions and research needs remaining to be addressed

- to improve understanding and prediction of global climate variability and change,
- to reinvigorate the U.S. science community interest in and engagement of US CLIVAR (particularly stressing grass-roots efforts and the creation of opportunities for young scientists), and
- to bolster funding commitments by US agencies to achieve their mission objectives.

Launching the Planning Effort

In January 2012 the U.S. CLIVAR SSC initiated a two-year effort to draft, edit and publish a new Science Plan to guide climate research for the 15-year period post-2014.

To inform the planning effort, the SSC invited presentations on:

- funding agency interests and needs,
- changing international and national program directions and priorities, and
- progress achieved over the past 15 years toward stated goals/objectives
- priority research topics and science questions framing the future program

In light of this information, we began to:

- determine the scope and presentation format of the Plan
- develop a timeline and set of activities necessary to develop the Plan
- capture key discussion points and draft content for the Plan

During the planning process, the SSC will endeavor to engage broader research community input and review

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Name? The SSC discussed whether to retain the U.S. CLIVAR name or identify a new program name, perhaps to align with the changing International CLIVAR program, e.g., CLIMAR.

Decision: At this time retain U.S. CLIVAR as the program name, given brand recognition by the U.S. science community and the programs' trajectory focusing on the broader climate system.

Draft Mission and Goals (latest version)

Mission Statement

US CLIVAR addresses the understanding, modeling, and prediction of climate variability and its impacts on seasonal-to-centennial timescales, with emphasis on the role of the ocean and its interaction with other elements of the Earth system. US CLIVAR serves the climate community through the coordination and facilitation of research on outstanding climate questions.

Goals

1. Improve understanding of the processes of climate variability and change in the past, present and future.
2. Reduce and better quantify uncertainties in the predictions of climate variability and change that derive from general circulation models.
3. Improve practices in the development, validation, provision and uses of climate information and forecasts.
4. Strengthen connections between the US climate and other Earth science communities with an interest in climate variability (the carbon-flux and ocean-biology communities, etc.).

Draft Outline and Writing Assignments

Chapter 1. Introduction (SSC & Panels)

- Present state-of-the-science understanding of the climate system variability and predictability, with particular emphasis on the role of the ocean

Chapter 2. History and Context (Project Office, SSC and Panels)

- Summarize the 1990s-2000 science and implementation planning, progress made since those plans were issued, and the overall context in which our new Plan is being developed

Chapter 3. Fundamental Science Questions (SSC and Panels)

- Enumerate and explain the overriding questions that guide the new research agenda

Chapter 4. Science Plan Goals (SSC and Panels)

- Identify specific goals and achievable objectives

Chapter 5. Science Plan Elements (SSC and Panels)

- Outline the primary research elements that must be pursued to achieve these goals

Chapter 6. Interdisciplinary Interaction (SSC and Panels)

- Describe cross-disciplinary nature of science questions and identify interdisciplinary science needs

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Chapter 7. Interagency Collaboration (Project Office)

- Describe how science goals and objectives support multiple funding agency missions and motivate interagency collaborative sponsorship

Chapter 8. International Cooperation and Coordination (Project Office)

- Describe international context, drawing from new International Plan
- Enumerate benefits of coordinating multi-country commitments to shared priority research topics
- Emphasize benefits of U.S. contributions to capacity building

Chapter 9. Implementation Approaches (SSC and Project Office)

- Highlight successful/potential implementation strategies (e.g., climate process teams, working groups, rapid small awards, science meetings/workshops, student/postdoc/early career scientist opportunities)

Chapter 10. Program Infrastructure (Project Office and SSC)

- Identify critical underpinning infrastructure upon which U.S. CLIVAR research relies (e.g., modeling centers, high-performance computing, ship/aircraft, routine/in-situ and remote sensing observing systems, assessments and applications projects)
- -Describe the purpose and enabling activities of the project office

Engaging the Panels

Following the January SSC meeting, the Panels have met to

- Review and edit the draft mission statement and goals (Chapter 1,4)
- Develop science elements for the four goals (Chapter 5)

During the Summit, panelists will be engaged to

- Further develop the science elements for the goals, with intent of capturing comprehensive input for drafting Chapter 5 (Thursday afternoon).
- Identify and prioritize advances of U.S. CLIVAR over the past 15 years for inclusion in the Chapter 2 (for the next 45 minutes)

Priority Achievements Exercise

“What are the most important achievements / deliverables of U.S. CLIVAR over the past 15 years and how will they inform the next 15?”

- Break into panels
- Review draft list
- Identify additional achievements: scientific and programmatic
- Prioritize, describing importance and how each will inform future program
- Reconvene in plenary with brief reports by panel co-chairs