

Charge to Science Planning Breakouts

Develop a list of science elements that would be important to pursue to meet each of the four science goals.

The science elements (or sub-goals):

- Are the elements necessary to achieve the goals
- Should be relatively specific and feasible
- Are intended to better articulate the goals

For each element, draft at least 1 sentence (up to several):

- to connect the importance of the science element/activity to the goal;
- to explain why this makes sense for CLIVAR to lead;
- to list what we could build on nationally or internationally; and
- to offer ideas on implementation.

Toward the end of the discussion, the elements should be prioritized.

Example: *drawn from CCSP*

GOAL: Provide clear and timely explanation of past and current variations observed in atmospheric CO₂ and CH₄ – and the uncertainties surrounding them.

Sub-Goal 1: *Establish a continuity plan and continue expansion of carbon observing networks*

Sub-Goal 2: *Conduct manipulative experiments and process studies to provide mechanistic understanding of responses and feedbacks to changing greenhouse gas concentrations and climate*

...

Mission Statement

U.S. 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. U.S. CLIVAR serves the climate community through the coordination and facilitation of research on outstanding climate questions.

Goal 1

Improve understanding of the processes of climate variability and change in the past, present and future.

Draft Science Plan Elements

- Develop syntheses of critical climate parameters
- Sustain and improve the global climate observing system
- ...

Goal 2

Reduce and better quantify uncertainties in the predictions of climate variability and change that derive from general circulation models.

Draft Science Plan Elements

- Improve model representation of the physical processes that determine the mean climate and its variations
- Advance capabilities on climate prediction
- ...

Goal 3

Improve practices in the development, validation, provision and uses of climate information and forecasts.

Draft Science Plan Elements

- Foster coordinated participation and exchange of knowledge within the U.S. and international climate science and applications communities.
- Engage modelers and observationalists in strategies for the development and improvement of the global climate observing system for validation of climate information and forecasts
- Develop new communication strategies and strengthen existing pathways to disseminate CLIVAR science
- Assess the relative significance of advancements in climate information and forecasts to address decision-maker needs

Goal 4

Strengthen connections between the U.S. climate and other Earth science communities with an interest in climate variability (the carbon-flux and ocean-biology communities, etc.).

Draft Science Plan Elements:

- Foster opportunities that encourage interdisciplinary research between the U.S. climate community and the U.S. and international Earth-sciences communities (e.g., Working Groups, workshops, agency program foci, etc.)
- Improve and facilitate data availability and exchange between communities
- ...