

National Research Council Review  
of the *Strategic Plan* for the  
Climate Change Science Program

**Chapter 8 - Ecosystems**

**Steve Shafer, USDA**

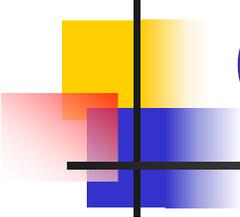
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US Climate Change  
Science Program  
[www.climatescience.gov](http://www.climatescience.gov)



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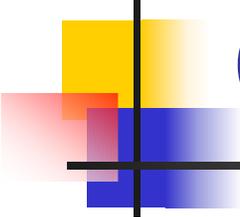


# Chapter 8 Goals

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Understand and be able to project:

- Potential effects of global change on ecosystems
- Goods and services ecosystems provide
- Ecosystems links to the climate system



# Chapter 8 Questions

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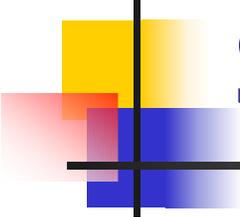
- What are the most important feedbacks between ecological systems and global change (especially climate), and what are their quantitative relationships?
- What are the potential consequences of global change for ecological systems?
- What are the options for sustaining and improving ecological systems and related goods and services, given projected global changes?

# Public and NRC Review Comments

- Over 240 comments (48 pages) from public peer review
- Public comments fell into “Themes” that were consistent with NRC comments and posed the same challenges

# Preliminary Screening of Public Comments: Categories of WG responses (*not mutually exclusive*)

1. A comment – good point, but not a call for revision (may or may not lead to revision) 33
2. Prioritization issue (guidance from CCSP) 11
3. Linkages with other science elements (guidance from CCSP) 12
4. Potentially valid recommendation for revision - Agency reps developed consensus on how to revise (revision as appropriate) 161
5. Issue is already covered elsewhere in the chapter (may or may not lead to revision) 22
6. Vague comment (may or many not lead to revision) 4
7. Issue unrelated to Ecosystems chapter (no revision) 14
8. Reviewer is in error (no revision) 1



# Summary of changes

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- The overarching questions remained the same
- The three questions that provided the chapter's framework remained the same
- Details were changed to reflect reviewer comments
  - Illustrative research questions
  - Research needs
  - Milestones, etc.
- Graphics added

# *NRC Comments*

## Challenge #1: Need for prioritization of research

- More cohesive and strategic organizing framework that places clear priority on predicting ecosystem impacts
- Sequence the research in ways that reflect the urgency of information need for decision makers
- Does not consistently target research toward the most pressing information gaps.

# *NRC Comments*

## Challenge #2: Gaps or lack of integration in important research areas

- Lacks coverage of the linkages between ecosystem condition and human societies
- Ambiguities about the ecosystem observing system
- Chapter misses the opportunity to integrate scientific analyses of ecosystem function into ongoing efforts to manage ecosystems for societal benefit
- No program of research is provided to better understand interactions of climate change with other global change processes

# *NRC Comments*

## Challenge #3: New resources required for credible program

- Ambitious timeline for deliverables
- Significant new resources are needed to present a credible build-out plan and/or provide a much more tightly organized and strategic focus to achieve the longer-term objectives in the area of ecosystems

