Climate Adaptation: Decision Making Under Deep Uncertainty

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Adaptation to Climate Change is a Vexing Problem

• We know the climate is changing and will continue to change
• At best we know that certain key variables will increase
  – Temperature
  – Sea level
  – Hydrologic cycle
• We are uncertain about many aspects of climate change including:
  – Magnitude of change in climate
  – Direction of key variables (e.g., annual precipitation in many locations)
  – Climate variability
• In addition, there are critical uncertainties about other factors that will affect vulnerability, e.g.:
  – Socioeconomic conditions
  – Government
  – Environment
Deep uncertainty is when there is not agreement or epistemic uncertainty on such matters as:

- Key probabilities
  - e.g., emissions scenarios
- Understanding of the system
  - e.g., how quickly can ice sheets melt
- Other factors
  - e.g., future societal, technological, governing conditions
Approaches for Addressing Deep Uncertainty

- Robust Decision Making
- Decision Scaling
- Adaptation Pathways
- Others....

Society for Decision Making Under Deep Uncertainty

http://www.deepuncertainty.org/
Where does DMDU stand?

- Theory
- Tools
- Applications

Where is DMDU going?
Today’s Outstanding Panel

David Behar
- Climate Program Director
  *San Francisco Public Utilities Commission*

Dr. Robert Lempert
- RAND Corporation; Director of Pardee Center for Longer Range Global Policy and the Future Human Condition

Sarah Freeman and Dr. Casey Brown
- Ms. Freeman has 10 years of experience on adaptation; pursuing Ph.D. at U-Mass Amherst
- Dr. Brown serves at the Dept. of Civil Engineering at U-Mass Amherst
Presentations

• Behar will address how SFPUC is using DMDU

• Lempert will speak on applications of DMDU to support adaptation decision making

• Freeman/Brown will discuss where DMDU may be going

• Discussion on perceptions and future of DMDU
  • We would like to hear your views
Contact

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