Science Support for Adaptation and Mitigation

Two articles in EOS:

Dessai et al., 2009: *Do we need better Predictions to adapt to changing climate?*

Harrison and Stainforth, 2009: *Predicting Climate Change: Lessons from Reductionism, Emergence, and the Past*

Reductionism:

- Basic assumption: system can be described by a set of equations, and, if initial conditions are known, predicted.
- We first predict, then react/adapt

Reductionism does not work for climate impacts:

- Complex, continuously changing system, potentially unpredictable;
- Presence is different from the last 650,000 years (and future will be);
- Past has limited value for exploration of the future;
- System with unpredicted, emerging characteristics: surprises.

Emergence:

Monitoring and understand the trajectory of the system through well-observed, emerging properties.