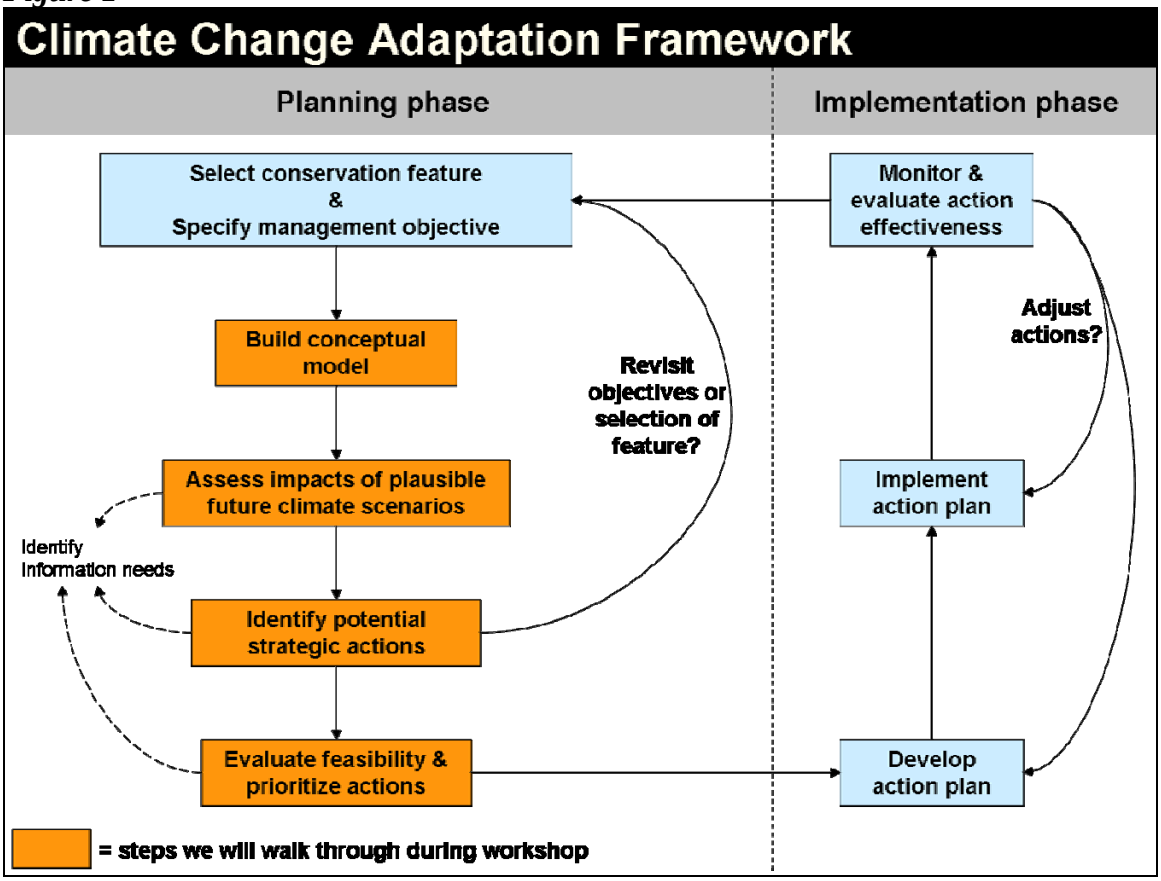
Climate Change Adaptation Framework

Bear River Climate Change Adaptation Workshop
Southwest Climate Change Initiative
May 26 and 27, 2010

At the workshop, we will present an iterative framework for developing strategic actions for climate change adaptation[1]. The climate change adaptation framework is designed for collaborative application in a given landscape by a multidisciplinary group of managers, conservation practitioners and scientists, and includes the following steps (Figure 1):

Figure 1



1) **Select feature targeted for conservation** (e.g., species, ecological processes, or ecosystems) and **specify an explicit, measurable management objective** for that feature;

[1] The Climate Change Adaptation Framework presented here is adapted from Cross et al. (in review) and The Nature Conservancy's "Conservation Action Planning Guidelines for Developing Strategies in the Face of Climate Change" (October 2009). The Cross et.al. paper can be found in this notebook's Background Papers.

2) **Build a conceptual model** that illustrates the climatic, physical, ecological, and socio-economic drivers that affect the selected feature;

3) **Assess impacts of plausible future climate scenarios**:

    a. Use the conceptual model to assess climate change impacts (i.e., develop hypotheses of change) by examining how specific changes in climate variables might directly or indirectly influence the selected feature, for each scenario of future climate conditions being considered.

    b. Consider how human responses to climate change (e.g., solar and wind power development, construction of dams for increased water storage, etc.) may influence the selected feature.

    c. Assess the likely impact of climate change relative to other known impacts or threats, and identify which climate-induced impacts are most critical to address to achieve the stated management objective.

4) **Identify potential strategic actions in light of climate change**:

    a. Identify intervention points—those places in the system that we can influence through management and conservation actions.

    b. Brainstorm potential strategic actions that can be taken at those intervention points to achieve the stated objective under each climate scenario.

    c. Determine whether the management objective or the selection of the feature needs to be revisited: Does climate change fundamentally change the landscape? Do the management objectives for that feature need to change? Will the feature even be found in the same location in the future? Does our view of the landscape and boundaries need to change?

5) **Evaluate feasibility of potential strategic actions and prioritize** according to factors such as: cost; social and political feasibility; potential for positive effects or risk of unintended negative consequences for other features or objectives; and robustness to uncertainty in future climate.

6) **Develop action plan** outlining priority strategic actions to be implemented.

7) **Implement action plan**;

8) **Monitor and evaluate action effectiveness** and progress toward objectives—adjust or reevaluate actions if needed to address system changes or ineffective actions.