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NAWPA COMMITTEE
CLIMATE CHANGE WORKING GROUP

CASE STUDY OF CLIMATE CHANGE IMPACTS AND SOLUTIONS

U.S. BUREAU OF LAND MANAGEMENT:

SOUTHERN NEVADA

KEY MESSAGE

BLM's Rapid Ecoregional Assessments (REAs) provide data and geospatial information on ecological values, conditions and trends in an ecoregion based on management questions regarding conservation elements and change agents, including climate change. A pilot project, built on REAs covering the Mojave Desert and Great Basin ecoregions of southern Nevada, considered potential application of the Yale Mapping Framework analyses for public land management.,

BACKGROUND:

The Yale Mapping Framework is guidance for integrating climate-change adaptation strategies into natural resource planning and policymaking. It provides menu options to assist resource managers in evaluating approaches and provides advice on models and available datasets. The Framework Matrix is built on three levels of ecological analysis and six broad adaptation objectives for biodiversity conservation and climate adaptation. The three levels of ecological analysis are: species and populations; ecosystems; and landscape. The major adaptation objectives: protect current patterns of biodiversity; protect large, intact, natural landscapes and ecological processes; protect the geophysical setting; identify and appropriately manage areas that will provide future climate space expected to be displaced by climate change; identify and project climate refugia; and, maintain and restore ecological connectivity.

PILOT PROJECT:

BLM resource management staff worked with NaureServe to formulate a series of specific management questions to be addressed for each analysis. Conservation elements, change agents and scenarios were selected. Scenarios spatially represent land use, management, and other change agents for different timeframes (REAs forecast conditions circa 2025 and 2060). One of the management questions addressed, for example, was 'By 2060, what proportion of conservation element distributions are likely to occur outside current distributions?'

UTILITY OF THE FRAMEWORK:

Diversity maps expressed as conservation value summaries were useful to understand biodiversity patterns and differences among areas. Gap analysis provided useful information to take a closer look at specific conservation elements. Tools to evaluate scenarios against conservation elements and maps with reports of potential impacts were also useful, especially to identify maladaptive responses to current and future biodiversity patterns.

Technical assistance for spatially based planning and step-by step guidance on how to apply the menu of approaches is under development. A manager's guide is intended to provide an overview of the Yale Framework (as adapted for BLM purposes) and provide practical recommendations for projects utilizing the guide. Correlating the framework to align with steps conducted during BLM planning will also improve the utility of the Yale Framework to land management.
For more information: <http://databasin.org/articles/b03c8f2329e644dd9a9bb0efc23cb17e>