

Incorporating Climate Change Information into NEPA Analysis

Adaptation Implementation Workshop

January 20-21, 2016

**U.S. Forest Service Pacific Southwest Research Station
Riverside, CA**



Levels of Planning

- **Forest Planning** (~15-year horizon)
 - Assessment, plan components, monitoring
- **Program Strategies** (~5-year horizon)
 - Examples: grazing operation plans, fire plans, conservation strategies
- **Project Design** (design features, mitigations)
 - Detailed on-the-ground actions



Southern California National Forest Land Management Plans

Monitoring for Climate Change and
Other Stressors



Transition to the New Planning Rule

36 CFR 219.12

- Among other requirements, the plan monitoring program must have questions and indicators that address:
 - “Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.”
- The transition must be accomplished by May 9, 2016, and will include a public comment period this spring.

Goals

Community Protection

- [Goal 1.1](#) - Improve the ability of southern California communities to limit loss of life and property and recover from the high intensity wildland fires that are a natural part of this state's ecosystem

Restoration of Forest Health

- [Goal: 1.2](#) - Restore forest health where alteration of natural fire regimes have put human and natural resource values at risk

Invasive Species

- [Goal 2.1](#) - Reverse the trend of increasing loss of natural resource values due to invasive species

Managed Recreation in a Natural Setting

- [Goal 3.1](#) - Provide for Public Use and Natural Resource Protection

Wilderness

- [Goal 3.2](#) - Retain a Natural Evolving Character within Wilderness

Goals

Energy and Minerals Production

- [Goal 4.1a](#) - Administer Minerals and Energy Resource Development while protecting ecosystem health
- [Goal 4.1b](#) - Administer Renewable Energy Resource developments while protecting ecosystem health

Watershed Function

- [Goal 5.1](#) - Improve watershed conditions through cooperative management

Riparian Condition

- [Goal 5.2](#) - Improve riparian conditions

Rangeland Condition

- [Goal 6.1](#) - Move toward improved rangeland conditions as indicated by key range sites

Biological Resource Condition

- [Goal 6.2](#) - Provide ecological conditions to sustain viable populations of native and desired nonnative species

Natural Areas in an Urban Context

- [Goal 7.1](#) - Retain natural areas as a core for a regional network while focusing the built environment into the minimum land area needed to support growing public needs

Climate Change Monitoring Questions being Considered

- Are wildfires becoming larger, more frequent, or more severe, and is there a seasonal shift in fire activity?
- Are chaparral and coastal sage scrub vegetation communities type converting to non-native annual grasslands?
- Are fire regimes becoming more departed from the natural range of variation?
- How do streamflows compare with historical records?
- Is tree mortality increasing across the landscape, and is it distributed evenly across elevations?

Adaptation Implementation Workshop:

Day 2

- Focused on integrating climate change information into on-the-ground projects
 - How might project goals and resource(s) of concern be vulnerable?
 - How are project actions addressing vulnerabilities?
 - What are additional project actions that could be considered to help avoid and/or minimize climate impacts?



Climate Change Considerations in Project-level NEPA analysis

- EA and EIS development
- Link NEPA document elements with “critical climate questions” and sources of information to answer them
- Provide examples from other NEPA documents showing effective incorporation of climate change
- Provide regionally-targeted and/or topic-related version



	Description	Critical Climate-Related Questions	Information Sources (EcoAdapt & Others)
Purpose and Need	<p>Articulate the purpose of the initiative/project and why the action is needed</p>	<p><i>Need:</i></p> <ul style="list-style-type: none"> • Will exposure to climate change likely result in impacts to the resource(s) of concern? <ul style="list-style-type: none"> ○ What are the relevant projected climate changes for the project geographic area and/or resource(s) of concern? ○ What are the direct effects of climate change on the resource(s)? Indirect effects? ○ Could climate change exacerbate the impacts of or be exacerbated by other threats (e.g., land use conversion, invasive species, demand for water)? How? <p><i>Purpose:</i></p> <ul style="list-style-type: none"> • How will this initiative/project address the climate impacts or threats articulated by the project need? <ul style="list-style-type: none"> ○ Consider what climate impacts or vulnerabilities may be minimized or avoided through implementation of this project 	<p><i>Need:</i></p> <ul style="list-style-type: none"> • Habitat vulnerability assessment summaries • Climate changes table • Habitat vulnerability assessment report (for complete literature review) – <i>Coming soon!</i> • California Climate Commons <p><i>Purpose:</i></p> <ul style="list-style-type: none"> • Adaptation summaries • Habitat adaptation strategies report (for complete review) – <i>Coming soon!</i>

Climate Change and Project-level NEPA

EXAMPLES

[Draft Environmental Impact Statement for Greys Mountain Ecological Restoration Project](#)

No Action Alternative: There would be no direct effects to late seral, closed canopy coniferous habitat under this alternative. There is a potential for indirect effects under the no action alternative, as the continued immediate threat of wildfire would remain unabated. In failing to make an attempt at density management of the stands, the eventual changes through drought stress and subsequent insect and disease mortality acceleration would exacerbate the threat of stand replacing fire. Additionally, the high probability of a drying climate throughout the Western United States would have the potential to further compound these effects.

Alternative 2/Proposed Action: Channel stabilization and conifer removal would improve hydrologic function of the meadows and would have a beneficial effect on the watershed. Meadow condition would move towards upper moderate or high ecological condition where late successional species are well represented on the site, which is the desired condition. Restoration effects in the long term may improve resiliency of the meadow and riparian vegetation in relation to climate change.

Alternative 2/Proposed Action: Alternative 2 actions attempt to change forest structure so that the forest is capable of surviving climate changes as well as reduce fuels to adapt fire behavior that occurs under current climate and ignition conditions.



Adaptation Implementation Workshop: Day 2

Starts at 9:00 am

Includes:

- Integrating climate into on-the-ground projects
 - Evaluating vulnerabilities, developing adaptation responses
 - Utilizing spatial information for implementation
 - Climate change and project monitoring indicators
- Practical applications – creating useful products

