

**PROTECTING FOREST BIODIVERSITY: UNDERSTANDING CLIMATE CHANGE
REFUGIA FOR MANAGEMENT (1F)**

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A substantial portion of Sierra Nevada floristic biodiversity occurs in various refugia. Cold-refugia (refugia) form at the intersection of relatively mesic areas and cold-air pools in basins and drainages from valleys up to mid-slope and north-facing slopes. Here, many species exist at the southern extent of their ranges and do not exist outside of these refugia at this latitude. Climate change's predicted increased warmth and amplified disturbances may cause local extirpation of some refugia species. Concomitantly, these regions may become climatic refugia for other species which are currently common in the region but may become rare and/or restricted to refugia with climate changes. Refugia not only have distinct communities, but they may also exhibit distinct ecological processes from surrounding areas, such as fire frequency or severity. I present a preliminary spatial analysis of cold-air pools with fire extent and severity. This study enhances land managers' ability to protect refugia biodiversity.

Key words: refugia, fire, climate change