

Abstract for:

**Location and Distribution of Western Juniper (*Juniperus Occidentalis*)
within and adjacent to Desolation Wilderness Area, California**

This is a remote sensing study within and adjacent to the Desolation Wilderness Area, California. The study is specifically centered upon the northeastern corner of Desolation Valley and Lake Aloha, 38°52'30" north latitude, 120°07'30" west longitude. Primary emphasis is placed upon location, classification and symbolization of the small and isolated groves of western juniper trees (*juniperus occidentalis*), in comparison to and in contrast with more common and denser growing tree species, such as lodgepole pine (*pinus contorta*) and red fir (*abies magnifica*). The problem of changes to the limits and distribution of junipers, within arid and semi-arid rangeland, where water and acreage are at a premium, is one example of how such data and studies similar to this may prove quite valuable. Tracking such changes and species at the "margins" of their limits and distribution may also be valuable to those studying the potential effects of climate change. The supervised classification tools in Esri's ArcMap/ArcGIS software were used in conjunction with four-band digital orthophoto quadrangle maps. This study is concluded with a discussion comparing the supervised classification technique outlined above with other techniques, such as Lidar and hyperspectral sensors, which may prove useful in lieu of, or in combination with, the methods utilized here.