



Research Brief for Resource Managers

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Fire Mosaics in Southern California and Baja California

Minnich, R.A. 1983. Fire mosaics in southern California and northern Baja California. Science 219:1287-1294.

In a comparative study of fire sizes north and south of the U.S./Mexican border Minnich (1983) demonstrated differences during a nine year period in non-forested landscapes that included chaparral, sage scrub and annual grassland. Using 1972-1980 Landsat imagery data, Minnich found that similar proportions of the shrubland landscape burned on both sides of the border (~8%), but there were twice as many fires in Mexico; thus average fire size was lower south of the border.

A map of fire sizes showed that both regions had a similar range in fire sizes during the 9 year study period (Fig. 1). However, none of these fires approached the size of some of the largest fires recorded by the USFS north of the border, in the time outside of the study period, but there were no records of such big fire events south of the border, in part because Mexico does not have similar written records of historical fires.

One striking difference between these regions was the observation that during the 9 year study period, two thirds of the area burned north of the border occurred after 1 September, whereas only about one fifth of the fires in Baja California burned in the fall. The Santa Ana wind season in southern California is in the fall and is associated with most of the acreage burned and thus there are marked differences in the importance of Santa Ana wind driven fires north and south of the

Management Implications

- The recent history of fire frequency and fire size differs north and south of the border.
- Most fires in southern California occur in the fall Santa Ana wind season whereas many fewer fires occur during that season south of the border.

border.

This study concluded that the only significant difference between these two regions that could account for differences in fire frequency and fire size was past fire management practices.

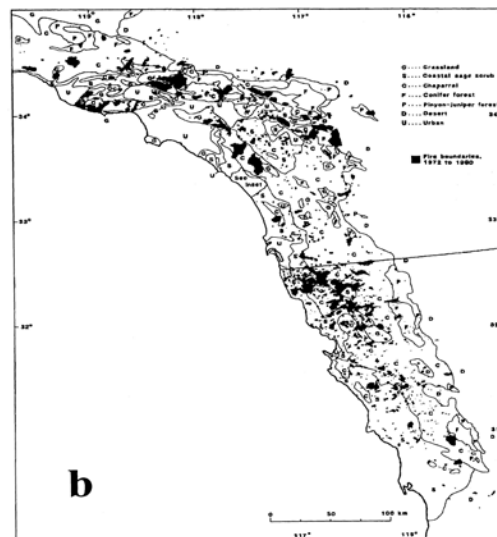


Fig. 1. Fire sizes during the nine year study using Landsat imagery.