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Fire affects size and shape of Fabiana imbricata Shurblands in northwestern Patagonia

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Fire is a major environmental ecological agent acting in the landscape configuration and a factor that models vegetation in Mediterranean environments. Fire impacts differently in the landscape due to the intrinsic heterogeneity of the environments and the characteristics associated with each fire event. After fire, density of patches may be increased and the size of them may be reduced because fire generates areas of different successional stages. Landscape ecology seems to be the ideal theoretical approach to study the fire impact in fire prone environments. Landscape ecology has been greatly favoured by a significant progress in the last years of geographic information technologies (GIT) (remote sensing, GIS, GPS). The study area of this work is the San Ramon ranch (22,000 ha) located in Northwester Patagonia in the ecotone between the sub Antarctic forest in the West and the Patagonian steppe in the East. We studied sectors of the ranch with different fire recurrence in the last 40 years and we mapped Fabiana imbricata shrubland with GPS. This specie is a native shrub characteristic of Northwester Patagonia grasslands and its dynamic is not very known. Shrublands compete for the space with palatable grasses that are used for forage and livestock production, the main economic resource of the region. We analysed the mapped patches with GIS software, and we assessed landscape metrics to determine differences between sites with different fire recurrence. In the future we foresee the integrated use of satellite imagery with different resolution to add to GIS other important spatial variables (topography, hydrography, aspect, soil) to develop models that can explain landscape metrics, spatial configuration and the potential shrub invasion in the grassland.