SATELLITE EVIDENCE OF DECREASING RESILIENCE IN MEDITERRANEAN PLANT COMMUNITIES AFTER RECURRENT WILDFIRES

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In this paper NDVI satellite measurements are used to monitor plant recovery after successive fires in large territories and for long time series. This study employs more than 100 79 x 30 m pixel resolution satellite images acquired through 24 years. NDVI patterns after fire along the 1975-98 period in Catalonia (N.E. Spain) show that plant cover regrowth is negatively affected by fire recurrence. This trend is observed several years after burning, but not immediately following fire. Plant cover after the second fire significantly increased with longer intervals of time between fires. There is also a positive correlation between post-fire NDVI and mean rainfall and a negative correlation with solar radiation. Forests dominated by the resprouter tree *Quercus* spp. were more resilient to fire but they experienced a larger decrease of resilience after the second fire than forests formerly dominated by non resprouting, seedlings recruiter *Pinus* spp. We conclude that the use of NDVI may help to gain further insights in the controls of post-fire dynamics through the analyses of large regions and long temporal series.

Note: This paper will be orally presented (paper abstract).