

Remote Sensing in ecology and conservation of mountain systems



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SMART ECOMOUNTAINS



11th Iberian Grid Conference
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1) Effect of post fire management on snow dynamics

2) Use of remote sensing for the monitoring of high mountain lakes

3) Use of drone flights to estimate the biomass of trees and monitor their growth

Salvage Logging: The typical managing forests after wildfire.

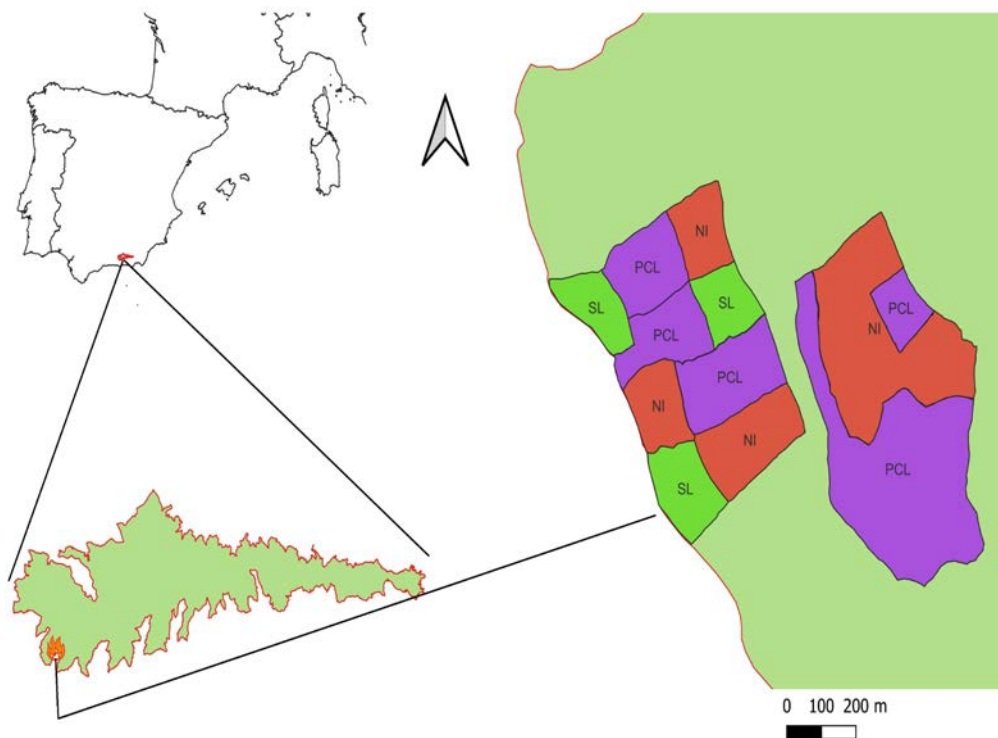
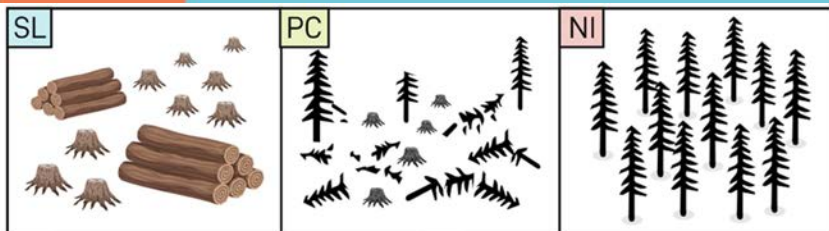


Negative impacts of salvage logging

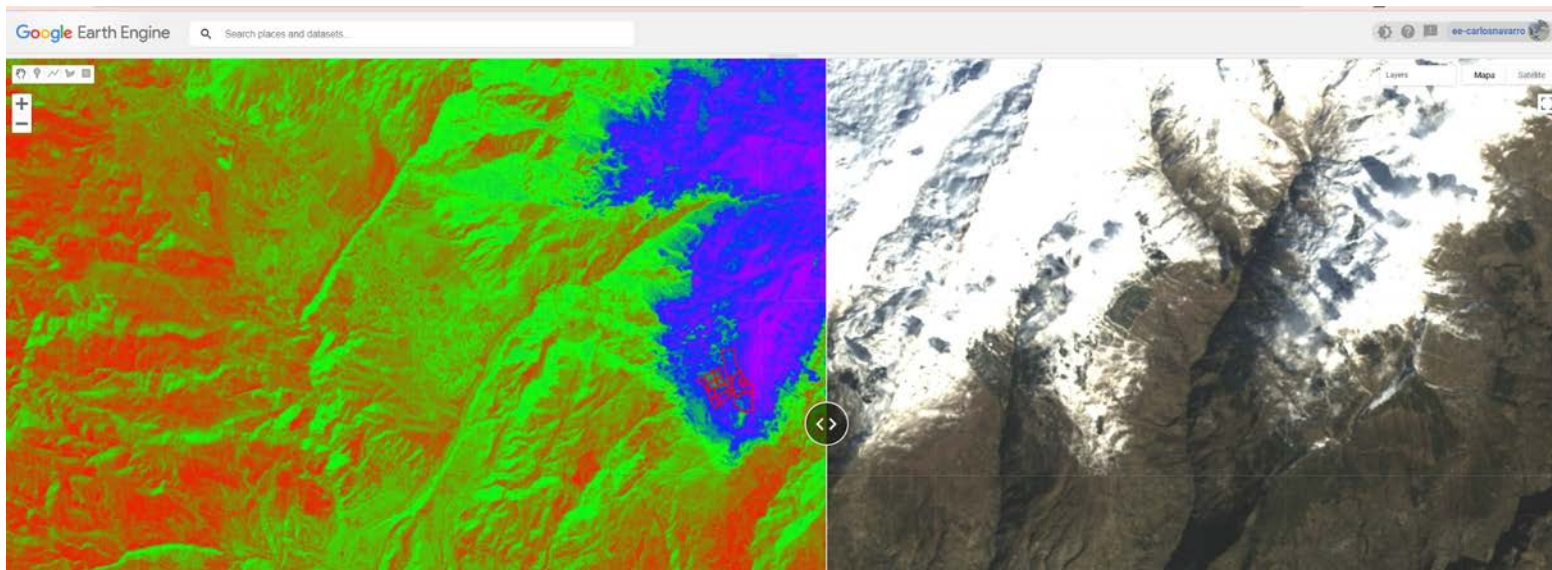
- Affects soil properties: Erosion and degradation (García-Orenes et al. 2017)
- More fuel available (Leverkus et al. 2020)
- Hinders the ecological recovery

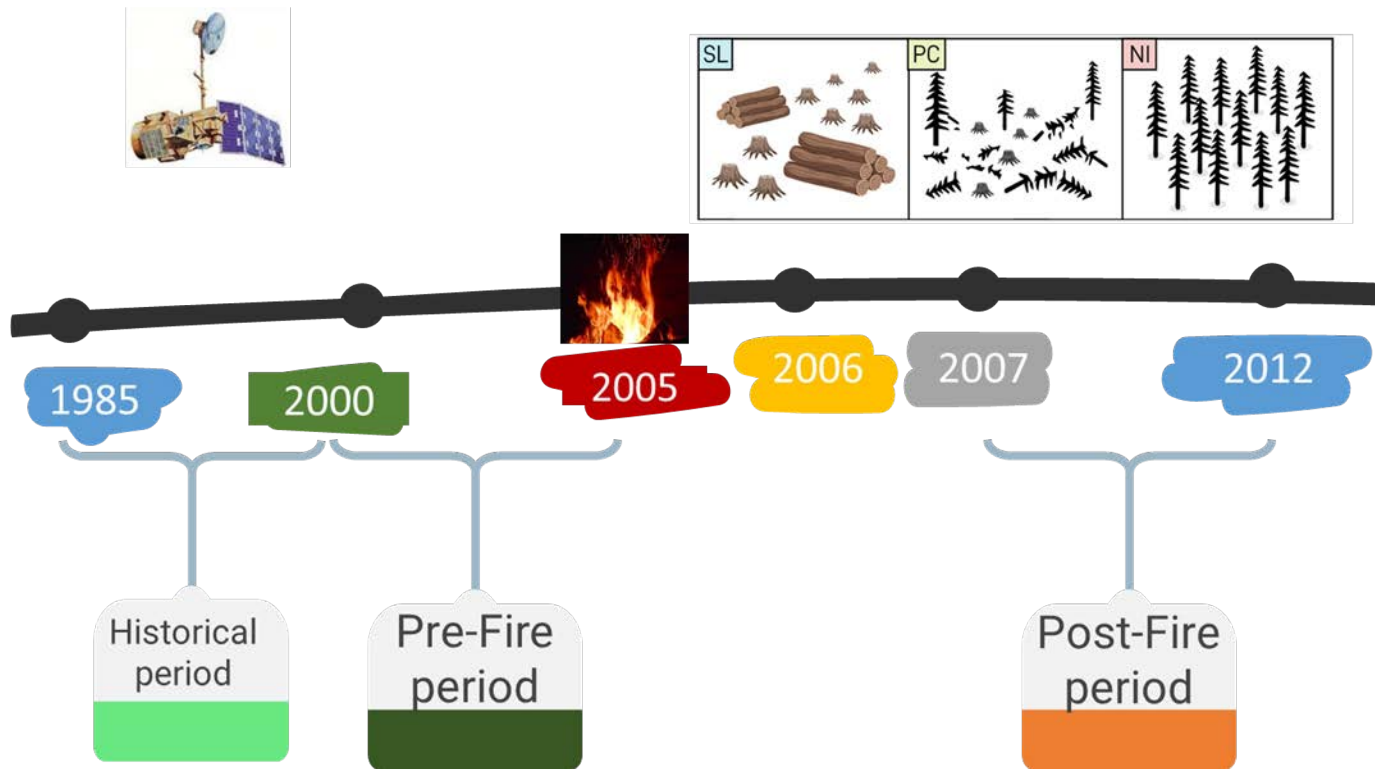
Objective

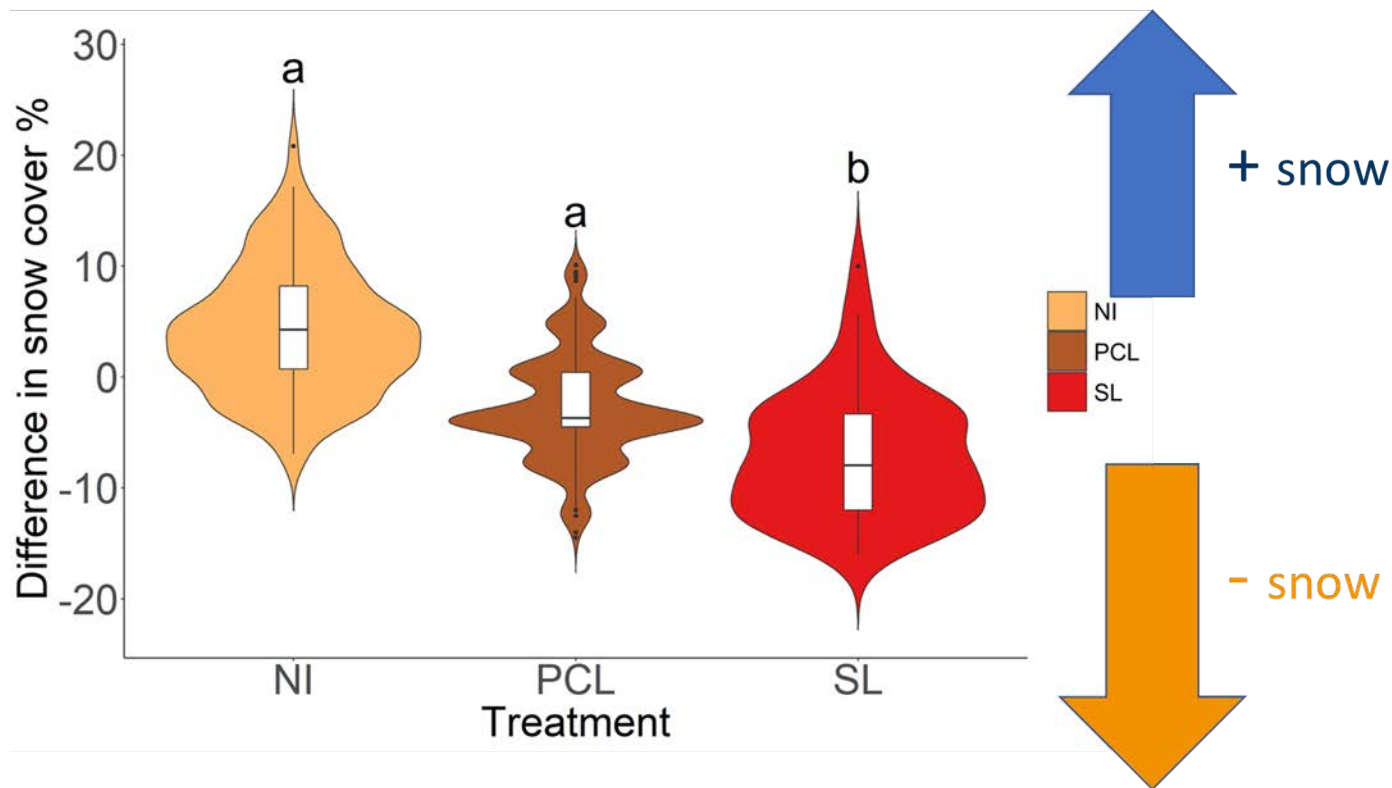
To assess the effect of salvage logging, after a wildfire on the duration of the snow cover



- Complete series of Landsat 5 SR(1985-2012) from Google Earth Engine platform
- We considered only the images of the November-May period
- Only images without clouds were considered, to improve comparisons between treatments
- NDSI index: **(Green – SWIR1) / (Green + SWIR1): (B2-B5/B2+B5)**



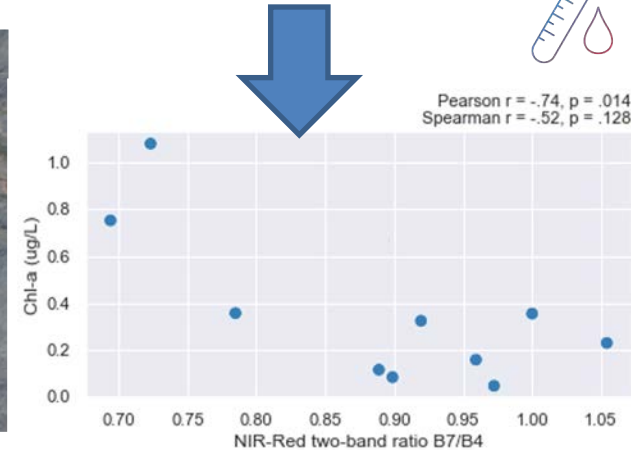
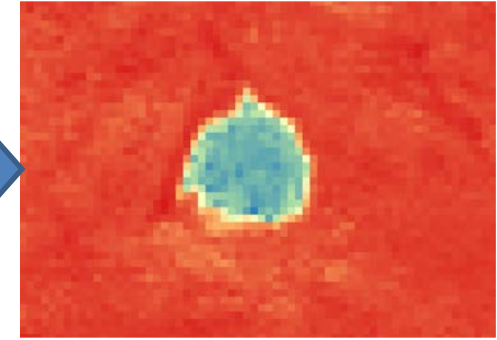




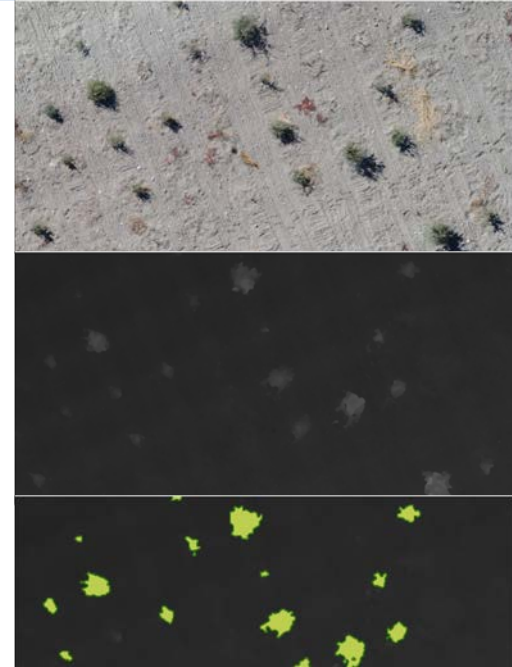
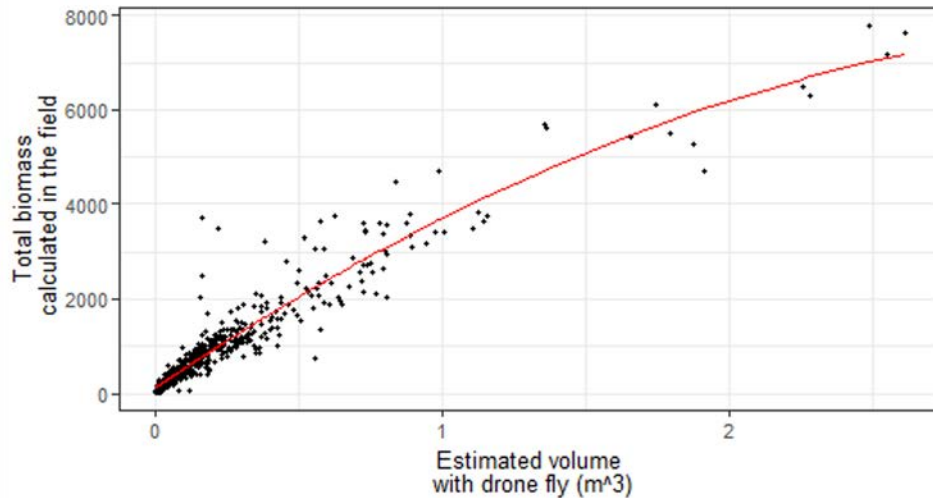
2) Use of remote sensing for the monitoring of high mountain lakes



- Assess performance of Sentinel-2 and Worldview 3 for chlorophyll-a prediction
- Field sampling campaigns for ground truthing
- Evaluating atmospheric corrections
- Literature review of spectral indices
- Regression models and analysis



3) Use of drone flights to estimate the biomass of trees and monitor their growth





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Thanks for your attention!

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