



Wildfires and land cover / land use changes in Europe

Joana Parente (1), Marj Tonini (2), Mário Pereira (1,3)

(1) CITAB, UTAD, Vila Real, Portugal (joanaparente@utad.pt, gpereira@utad.pt), (2) IDYST, Faculty of Geosciences and Environment, University of Lausanne, Lausanne, Switzerland (marj.tonini@unil.ch), (3) IDL, Faculdade de Ciências da Universidade de Lisboa, Portugal (gpereira@utad.pt)

In the last decades, Europe undergone significant land cover/land use changes (LCLUC). These changes were associated with socioeconomic development, population dynamics and demographic trends such as urbanization, migration, rural abandonment, and the ageing of rural population. In the same period, this continent was affected by a large number of wildfires that burn vast areas of forest, agricultural land and natural vegetation, mainly in Mediterranean Europe. The main focus of this study was to assess how much of these LCLUC are caused by wildfires and how LCLUC are associated with the different trends observed in fire incidence measures, at regional level. We used all available CORINE land cover inventories, burnt area mappings and European fire databases to identify and characterize LCLUC, the impact of wildfires on these changes and the role of LCLUC in the trends observed in the incidence of fire. This research identifies the LCLUC regional patterns and provides a quantitative assessment of the relationship between LCLUC and wildfires in Europe. Obtained results quantify the impact of wildfires on LCLUC and reveals that fire management can benefit from a better landscape management.

Acknowledgements

This work is funded by INTERACT project -“Integrative Research in Environment, Agro-Chains and Technology”, no. NORTE-01-0145-FEDER-000017, in its line of research entitled BEST, co-financed by the European Regional Development Fund (ERDF) through NORTE 2020 (North Regional Operational Program 2014/2020) and supported by: (i) project FIREXTR- Prevent and prepare society for extreme fire events: the challenge of seeing the “forest” and not just the “trees”, co-financed by the European Regional Development Fund (ERDF) through the COMPETE 2020 - Operational Program Competitiveness and Internationalization (POCI Ref: 16702) and national funds by FCT-Portuguese Foundation for Science and Technology (FCT Ref: PTDC/ATPGEO/0462/2014; and, (ii) European Investment Funds by FEDER/COMPETE/POCI- Operational Competitiveness and Internationalization Programme, under Project POCI-01-0145-FEDER-006958 and National Funds by FCT - Portuguese Foundation for Science and Technology, under the project UID/AGR/04033/2013.