Ecoregions and wildfire regimes in Continental Portugal

M. G. Pereira (1), R. M. Trigo (2), B. D. Malamud (3), C. C. DaCamara (2)

(1) Departamento de Física, Universidade de Trás-os-Montes e Alto Douro, Apartado 1013, 5001-801 Vila Real, Portugal, (gpereira@utad.pt), (2) Centro de Geofísica da Universidade de Lisboa, IDL, Lisbon, Portugal, (3) Department of Geography, King's College London, Strand, London WC2R 2LS, UK, (bruce.malamud@kcl.ac.uk)

This work focuses on a mainland Portuguese wildland fire database for 18 districts, 1980-2005, with Greater than 450,000 fires, collected by *Direcção Geral dos Recursos Florestais* (DGRF), the Portuguese Forest Service. Information about each fire occurrence includes information on location and type, date and time of the event and type of vegetation cover.

Previous versions of the dataset have been widely used to support a number of studies aiming to put into evidence the relation between wildfires and weather patterns. Here, as landscape characteristics also play a fundamental role in the extent and intensity of wildfire events, we have grouped fires events as a function of ecoregion. The importance of ecoregions arises not only from the fact that they confine similar ecosystems and environmental resources but also because they account for other factors such as topography, type of vegetation, climate and human land use.

We briefly report on the procedures adopted to identify and correct a small number of data errors as well as on those to organize fire records by ecoregions. For burnt area above a relatively low threshold, we show that wildfires exhibit robust frequency-area power-law behavior in each of the ecoregions. Results obtained for each ecoregion are examined and interpreted and we compare the results obtained with those based on the traditional administrative regions of the country.