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A Continental Portugal wildfire database

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This paper works with a Continental Portugal wildfire database for 1980-2005, consisting of 450,000 fires. A large amount of errors are corrected in the original database, and we do preliminary statistics on the database. The data were provided by *Direcção Geral dos Recursos Florestais* (DGRF), the Portuguese Forest Service. Recorded information includes: (i) ignition/extinction date and time, (ii) district, county, and parish of wildfire (iii) spatial coordinates, (iv) vegetation type (forests, shrublands, agricultural), (v) burned area, (vi) land ownership (public or private), (vii) cause of the fire, and (viii) type of fire (single or reignition). The dataset records comprises a total of 3.0×10^6 ha of burnt area, or about 35% of Portugal's total area. This dataset is largely complete, although some data is not available for the whole period (e.g. ignition type). The DGRF dataset relies on *in situ* information provided by the Ministry of Agriculture and the National Civil Protection Service, and does satellite information is not taken into account.

The main objectives of this work were to (i) correct errors detected in the DGRF Portuguese fire database, (ii) identify suspicious records, (iii) provide a comprehensive description of the dataset, its limitations and potential, (iv) do preliminary statistics on the data. To detect errors in the data, we (i) evaluated the duration of each fire, (ii) examined the burnt area per hour, (iii) compared between wildfires with the same value of burnt area or duration. The values of some descriptive statistics for fires with the same burnt area were also computed, their temporal evolution with time evaluated and this information used to correct data errors. Three types of data inconsistencies were

found and corrected: (i) missing values, (ii) data errors, and (iii) errors that led one to classify the records as suspect. The original DGRF dataset underwent a sequence of procedures to correct dataset errors. Records affected by errors or considered suspicious were not directly excluded from the dataset, but rather ‘tagged’.

Finally, using both pre- and post-processed data, we examined for each of the 18 districts in Continental Portugal: (i) daily occurrences time series, (ii) daily burnt-area time series, (iii) frequency-area distributions.