Geophysical Research Abstracts
Vol. 12, EGU2010-15535, 2010
EGU General Assembly 2010


# Assessing fire risk in the Iberian Peninsula based on information from METOSAT-8

Teresa Calado (1,2), Malik Amraoui (3), and Carlos DaCamara (2)

(1) Centro de Geofísica da Universidade de Lisboa, Campo Grande, 1749-016 Lisboa, Portugal (mtcalado@fc.ul.pt, cdcamara@fc.ul.pt / 00351 217500977), (2) IM, Lisbon, Portugal, (3) Departamento de Física, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal (malik@utad.pt / 00351 259350480)

Rainy and mild winters followed by warm and dry summers make of Mediterranean Europe a region especially prone to the occurrence of fire episodes. It is therefore not surprising that the largest number of fires and amounts of burnt area are found to occur in southern European countries, namely Portugal and Spain.

Used alone or combined with vegetation and topographical information, meteorological parameters are on the basis of a variety of fire risk indices like the Fire Weather Index (FWI) that integrates the Canadian Forest Fire Weather Index System. Because of its high temporal resolution (every 15 minutes) the SEVIRI instrument on-board the MSG satellite series allows producing daily records of fire activity that are essential to establish classes of fire danger for different types of vegetation and different meteorological conditions.

We present and discuss results that are currently being obtained in the framework of the Satellite Application Facility for Land Surface Analysis (LSA SAF). Information on fire activity is combined with meteorological and vegetation information in order to produce daily maps of fire risk over the Iberian Peninsula. Fire activity is provided by the Fire Detection and Monitoring (FD&M) product which consists of an operational procedure that allows fire detection based on information from Meteosat-8/SEVIRI. Vegetation data are derived from the Global Land Cover (GLC) 2000 database and meteorological forecasts are supplied by ECMWF.

A statistical analysis is performed on the number of daily active fires that were identified during July and August of 2007-2009 and it is shown that observed values of daily active fires for the different ecosystems closely follow truncated Weibull distributions and that daily FWI may be used as a meteorological covariate to improve the quality of fit. Obtained statistical distributions are finally used to build up daily maps of fire risk over the Iberian Peninsula.