Geophysical Research Abstracts
Vol. 17, EGU2015-10836, 2015
EGU General Assembly 2015


# Droughts and forest fires in Mediterranean Europe

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Most of the total burned area in Europe occurs in Mediterranean regions, with severe economic and environmental damage, life loss and an average of about 4500 km2 burned every year. A better understanding of the impacts on wildfires of environmental and socioeconomic changes is crucial to develop adequate measures of prevention, adaptation and mitigation in this area.

Here we focus on the impact of droughts on fires in European Mediterranean regions (Portugal, Spain, the south of France, Italy, Greece). This goal will be achieved through three specific supporting objectives:

(1) Understanding past changes in fires in this region (extending the study of [1]);

(2) Comparing and analyzing different drought indices (e.g. SPI, SPEI and SSI; see [2, 3] for more details on those indices);

(3) Modeling the interaction between drought and fires (following and extending the study of [4]). We develop relatively simple regression models that link the fire activity to the key climate drivers. These models could be used to estimate fire responses to different climate change projections and environmental and socioeconomic scenarios ([5]).

*References
[1] Turco M., Llasat M. C., Tudela A., Castro X., and Provenzale A. Brief communication Decreasing fires in a Mediterranean region (1970-2010, NE Spain). Natural Hazards and Earth System Science, 13(3):649–652, 2013.
[2] Zengchao H., AghaKouchak A., Nakhjiri N., and Farahmand A. Global Integrated Drought Monitoring and Prediction System. Scientific Data, 1:1–10, 2014.
[3] Vicente-Serrano, S. M., Beguería, S. and López-Moreno, J. I. A multiscalar drought index sensitive to global warming: The standardized precipitation evapotranspiration index. Journal of Climate, 23:1696–1718, 2010.
[4] Turco M., Llasat M. C., von Hardenberg J., and Provenzale A. Impact of climate variability on summer fires in a Mediterranean environment (northeastern Iberian Peninsula). Climatic Change, 116:665–678, 2013.
[5] Turco M., Llasat M. C., von Hardenberg J., and Provenzale A. Climate change impacts on wildfires in a Mediterranean environment. Climatic Change, 125:369–380, 2014.