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Fire Detection and Monitoring over Greece in 2007 summer period using MSG satellite data

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Greece is one of the highest risk Mediterranean countries with respect to wildfires. Specifically in summer 2007 more than 200.000 hectares of vegetated land was burnt. Meteosat Second Generation (MSG) geostationary satellite carries the only remote sensing sensor (SEVIRI) which allows for a 15-minute observation of Europe. Since last summer ISARS-NOA has been operating an MSG receiving station, which provided us with time series of outburst and evolution of hot spots during day and night. MSG data from all available SEVIRI sensor bands were evaluated in order to adjust the methods and algorithms to the Greek reality as follows. State of the art algorithms were applied to 2007summer data in order to assess the fire detection reliability. The detected fire fronts were superimposed onto a map, and information from MODIS and alarms from the fire brigade were used as a spatial-temporal “ground truth”. The algorithms were subsequently benchmarked, by comparing false alarms with local temperatures measured in situ. Our effort is towards a reliable well-proven system that may complement hot spot detection and subsequent fire expansion follow up in Greece.