



7-10 September, Sofia, Bulgaria

Workshop Background



The **Land Surface** plays an important role in determining weather conditions and seasonal to inter-annual climate variations through vegetation functioning and the resulting feedbacks. Extremes of weather and climate may provoke land surface natural hazards like **Drought and Fires**, which are of a global concern. The prevention of these severe natural phenomena requires a correct quantification of fire-related events as well as understanding the land-cover change effects and consequent various related biophysical and biogeochemical interactions.

Forest and wild-land fires in South-East Europe (SEE) have raised as a major suffer during the last years. Becoming more prominent in the region of SEE due to the local and place specific land-use and land-cover changes, these processes are accelerated by both:

MEDITERRANEAN CLIMATE that leads to high levels of vegetation stress of heterogeneous land cover and the

CLIMATE CHANGE expected outcome (4th IPCC Report) of increased frequency and intensity of extreme weather-related events along to the prescribed temperature increase and precipitation decrease in Southern Europe.

Meteosat Second Generation has the potential to provide **data for Land Surface Research and Applications** for the geographical areas of SEE. Spectral, radiometric and spatial characteristics of MSG SEVIRI radiometer enable quantification of land surface parameters and processes, in addition to those of the atmosphere. For natural hazards risk prevention and reduction, the remote sensing of Drought- and Fire- related land surface processes is an important alternative tool to the Earth observations.

The Aim of the workshop is to promote operational use of satellite data and products by the National Meteorological Institutions of South-East Europe for risk assessment and early warning of weather and climate extremes related to Drought and Fire problems and thus to contribute to the mitigation of the disaster effects. A training part will be devoted to highly advanced concepts and techniques of using satellite data in the warning and forecast process. The workshop will provide a forum for exchange knowledge and experience between meteorologists, developers of related satellite products and the primary end-users in the region. The following specific problems are addressed:

Problem 1. MSG SIVIRI data and products for vegetation fires detection and monitoring.

Problem 2. MSG products for Land Surface Analyses, drought & fires applications.

Problem 3. Satellite detections of fire disturbance essential climate variables (ECVs).

Problem 4. Synergy between MSG and polar satellite sensors like MODIS data as well as ground observations:

- Validation of products.
- Fire risk assessment and fire weather forecasting.

Problem 5. Operational dissemination, receiving and processing of satellite data and products in SEE region:

- Integrated system for local vegetation fire monitoring.
- Introduction to the Global fire monitoring for real-time applications.
- Transborder effects and networking possibilities in natural hazards services.
- Building the background for the development of SEE early warning system for weather and climate extremes related to Drought & Fires.

International Concern. Fire's influence on and response to the changing global climate has become an international issue. The EUMETSAT-NIMH Workshop in Sofia 7-10 September 2009 will contribute to the implementation of WMO and the European Commission strategies in supporting the SEE countries to reduce the risk of natural disasters. It would be a contribution in activities of GOF-C-GOLD to expand the use of meteorological geostationary satellites for the management of non-weather hazards, as well as to initiate a globally coordinated warning system for fire and monitoring for forest conversion.

Organization. The Workshop format includes lectures, posters and exercises. Experienced fire monitoring systems developed and used (for South America, regional and global monitoring systems) will be presented and possibilities for SEE region adaptation and networking will be discussed.

The core lecturers are:

Dr. Alberto Setzer, INPE, Space Research Institute, Brazil
Dr. Hans-Joachims Lutz, Dr. Jochen Kerkmann, Jose Prieto, Sauli Joro, EUMETSAT
Dr. Ivan Csiszar, NOAA/NESDIS Satellite Applications & Research, USA
Dr. Louis Giglio, SSAI/UM, USA
Dr. Carlos Da Camara, IDL; Dr. Teresa Calado, Malik Amraoi, UTAD; IDL/IM; Nuno Moreira, IM, Portugal
Dr. Julia Stoyanova, NIMH, Bulgaria
Dr. Ibrahim Sonmez, TSMS, Turkey

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