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News from the EUFODOS Team

By Mathias Schardt, Joanneum Research

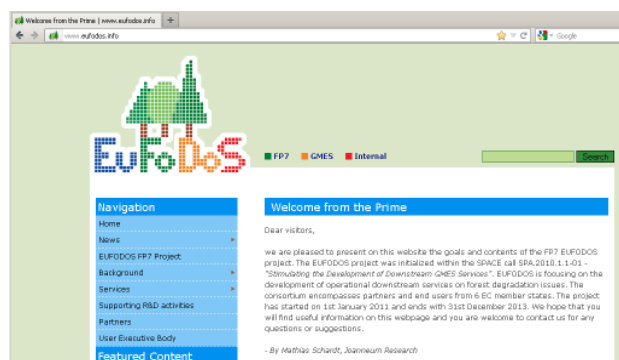
Dear users and EUFODOS partners, we are happy to present you the fifth issue of the Newsletter on the FP7 EUFODOS Project.

After the first project year the consortium is now preparing preliminary results and demonstration products. The services will be applied and tested together with the user and should be finished in June for the first phase.

User Utility Assessments will be undertaken within the forthcoming months and analysed in order to integrate their findings for further modifications of the Down Stream Service in the second phase. During these working steps the Service Providers are going to organise training sessions with their respective users as well.

Preparatory work already started for the next interim meeting in Vienna in June 2012, where the project lifetime reaches its halftime. A dedicated user workshop during this meeting will be aggregated with external users and should give important feedback for the second phase of EUFODOS.

Finally, we are pointing to the launched EUFODOS website www.eufodos.info, which will from now on be regularly updated with news and results.



EUFODOS - Forest fire monitoring in Bulgaria

By S. Tumbev, EFA and I. Philipov, ReSAC

The forest lands in Bulgaria comprise of 4 108 494 hectares and occupy 37 % of the territory of the country. 89% of those are wooded areas. Coniferous natural forests and plantations occupy 32 %, and the total area of deciduous forests is 68 % of the total wooded area of the country. About 1 million hectares of the forests are based on afforestation of eroded or erosion-threatened forest lands and abandoned agricultural lands.

All forest and other wooded land in the Republic of Bulgaria, irrespective of ownership, are under the responsibility of the Executive Forest Agency (EFA)

In this issue

- News from the EUFODOS Team
- Bulgarian Service Case
- EUFODOS Success Story
- Upcoming events

Contact

Secretariat,
EUFODOS UEB

Stefanie Linser
stefanie.linser@umweltbundesamt.at

an organisation within the Ministry of Agriculture and Food. EFAs forest policy is oriented towards the conservation, maintenance and increasing of forestry areas, their sustainable development and the protection of biodiversity, towards their multifunctional use combining the ecological, economical and social issues in the conditions of various ownerships and market economy.

Forest fire situation

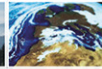
Forest fires have become a problem and a threat during the last ten years and in the period 1999 – 2001. These events proved to become a real disaster. The basic reasons for that development under consideration encompass:

- A global climate warming in the last decade;
- The social and economic changes in the country during the process of transition towards market economy;
- A change in the organisation in the forestry sector, which alters the forestry related activities;
- The unsuitable tree species composition (high percentage of coniferous plantations, untimely thinning of the plantations and young stands);
- Few and outdated fire-fighting equipment;
- The lack of a reliable fire reporting and forecasting system;
- The imperfect legislation (regulatory base) which causes the ineffective coordination between the different state and local authorities for the extinguishing of fires;
- Insufficient participation from the public organisations and the public as a whole.

During the last 10 years more than 150 000 ha of forests were affected from fires.

Demand for Forest Fire Monitoring

In February 2012 EFA signed a Service Level Agreement with ReSAC (the Bulgarian Remote Sensing Application Center) which specifies in transparent and measurable terms the Forest Downstream Service to be provided and the results to be attained in the implementation of EUFODOS on a national level.



The Downstream Services will be based on the processing and enhancement of the Forest Core Mapping Services and are summarised in the following three services:

1. Preparation and update of map and GIS database for the forest areas and forest area changes;
2. Preparation and update of map and GIS database for forest fire infrastructure;
3. Rapid mapping for disaster management.



Forest fire in a Bulgarian pine stand.

Specific Products based on User Needs

Within the project the following products will be provided for the user (Main specification and acceptability threshold is the accuracy level of 85 % (+/- 10 %) for thematic mapping of the forest area and a minimum mapping unit of 1 ha):

- Forest Area Map 2011/2012/2013 with three forest types: Coniferous forest, deciduous forest and shrub.
- Forest Density Map 2011/2013 with ten forest types.
- Forest Change Systems Map 2011/2013 with four forest types.

Service Area Specification

The proposed test site for downstream service development coincides with the borders of the State Forest Enterprises Zemen, Breznik and Tran. They are situated in the central parts of Western Bulgaria, in the south-western planning region (NUTS II).

The benefits of EUFODOS

By using the EUFODOS project results, EFA will influence the two main policy documents – the *National Forest Policy and Strategy 2006-2015* and the *Strategic Plan for the Development of the Forest Sector 2007 – 2011* (and its subsequent edition), as well as other

national and regional policy tools, concerning the forest fire prevention and fire fighting as these are major issues in the Bulgarian forestry. In addition, the development and updating of cross border action plans for forest fire fighting will significantly contribute to the improvement of the cooperation and coordination between the partner countries in terms of common forest fire prevention and fire fighting.

EUFODOS Success Story

By Klaus Granica, Joanneum Research

The Forestry Board (Landesforstdirektion) of Salzburg/ Austria is responsible for the forest managing tasks in its province. In the past years Salzburg had experienced a strong impact from storm events followed by bark beetle infestations. The planning and managing authorities have to react to this situation with planning measures and also with compensation fees for the forest owners. An important information for the fulfilment of these duties is to know where changes in the forest area occurred, and to derive the extension of these areas. Therefore, the authorities started to derive this information from aerial photography, but soon it came out that it was a cumbersome – finally impossible - task to detect all changes with this technique for a ten years period – i.e. changes between 2001 and 2011 – and over the entire province. The main reasons were a lack in time, personal resources and hence too high costs.

In order to obtain this missing information on changes they focused on the use of Earth Observation imagery. Thus, a flight campaign was organized using SPOT imagery, and finally, images were successfully recorded in the summer season 2011.

JOANNEUM RESEARCH derived the required information by using the "EUFODOS Change Detection" Toolbox. The results are currently evaluated by the experts from the Forestry Board.

Upcoming events

Sentinel-2 Preparatory Symposium, 23rd – 27th April 2012 in Frascati, Italy. <http://www.s2symposium.org>

EARSeL Workshop on Temporal Analysis of Satellite Images, 24th – 25th May 2012 in Mykonos, Greece. <http://www.earsel.org>

EUFODOS User Workshop, 21 June 2012 in Vienna, Austria. <http://www.eufodos.info>

ForestSat Conference, 11-14 September 2012 in Corvallis, Oregon, USA. <http://www.forestsat2012.com>