

The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 262786 EUFODOS

## A message from the editor

By *Stefanie Linser, Environment Agency Austria*

Dear EUFODOS users and project partners, welcome to the sixth issue of the EUFODOS Newsletter.

The project is now nearly in the mid of its contract period and the service providers are currently presenting their preliminary results to the respective users. Therefore, the forthcoming weeks provide the EUFODOS Service Network and all the users a challenge in the preparation and in discussions on Phase 1 results. Furthermore, the testcase leaders have to prepare and verify their results in order to present them at the Interim Meeting in June.

## EUFODOS - Assessing Forest Structural Parameters in Finland

By *H. Astola, T. Häme and H. Ahola, VTT and P. Susila, Stora Enso*

In North Europe forestry operations are based on economically, socially and environmentally sustainable forest management. In this context, satellite imagery is already used to support national inventories, the wood procurement planning and strategic investment decisions. The main remaining challenges for the Boreal region is to improve operational capability and to develop procedures that flexibly adapt to different combinations of ground reference and satellite data and that at the same time give a quality measure for the performance of the forest variable prediction.

### User Organisation

Stora Enso is the global rethinker of the biomaterials, paper, packaging and wood products industry. The annual production capacity of Stora Enso is 4.9 million tonnes of chemical pulp, 11.8 million tonnes of paper and board, 1.3 billion m<sup>2</sup> of corrugated packaging and 6.0 million m<sup>3</sup> of sawn wood products. The Group has some 30 000 employees in more than 35 countries worldwide. In 2011, 35.7 million m<sup>3</sup> of roundwood, chips and sawdust were delivered to Stora Enso's mills. In Europe, wood is procured from private forest-owners, state-owned forests and companies. Wood from tree plantations accounts for about 6 % of total wood consumption of Stora Enso, but the importance of plantation sources is increasing. Stora Enso has plantations in Brazil, Uruguay, China, Laos and Thailand.

Stora Enso's mission is to use and develop its expertise in renewable materials to meet the needs of its customers and many of today's global raw material challenges. Stora Enso makes building materials, packaging and paper which are recyclable, which store carbon, and which provide favourable alternatives to products made of non-renewable materials.

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## Contact

Secretariat,  
EUFODOS UEB

Stefanie Linser  
[stefanie.linser@umweltbundesamt.at](mailto:stefanie.linser@umweltbundesamt.at)

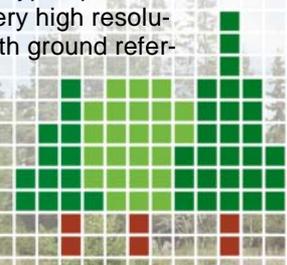
## VTT Service Case Areas and the Specific Products for the User

Accurate and precise information is a key element of all environmental processes. In EUFODOS the main focus in the test case of VTT Technical Research Centre of Finland is on the estimation of relevant forestry parameters in two regions, one in South-Eastern Finland and the other in Russia (Nizhniy Novgorod area). The approximate size of both of the target areas is 200 km x 200 km. The products for the designated area to be delivered include five downstream products including forest area map and stem volume maps by tree species, providing the estimates for sustainable harvesting volumes.



Finnish pine forest (Source VTT. Project: Social Forest Planning, <http://www.vtt.fi/sites/socialforest>)

The first estimate of the amount of wood resources will be obtained by using Geoland2 core products of forest density and three forest type classes (conifer, broad-leaved, and mixed forest). A more detailed study on selected areas of interest and on the applicability of other EO data types will include SPOT type optical data, RapidEye-optical data and VHR (very high resolution) optical data, all in combination with ground reference data.

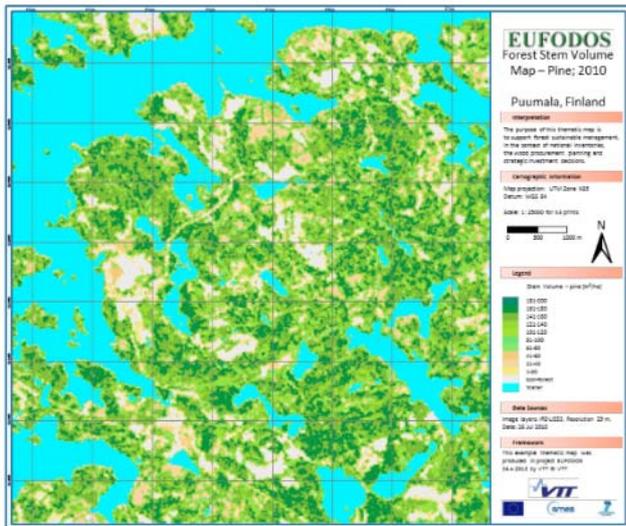




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The information supplied to the user will be:

- ...estimate of the forest stem volume by tree species
- ...assessment of the estimate accuracy
- ...forest damage/degradation assessment.



Example of a stem volume map for pine.



Example of a stem volume map for spruce

## Expected Benefits of EUFODOS

The downstream services to be developed in EUFODOS support the wide-area surveys for wood procurement planning and strategic investment planning. The improvements of existing methods regarding the assessment of economic forest functions helps the production of forest variable thematic maps to become more efficient and the product delivery times will shorten. The users and the service provider benefit from the development of the harmonized processing chains and

quality standards, and the developed methods are directly applicable in any monitoring of global forest resources.

The downstream service, combined with other information sources, supports the user to fulfil its policies of sustainable development in wood procurement by enabling forest resource mapping and operative monitoring with better accuracy and better reliability. The project may resolve the main present challenge in the user's operative monitoring system by developing a flexible approach to statistically estimate the accuracy of the estimation in several alternative implementations. Moreover, it gives the user the opportunity to network with the European actors that are involved in the mitigation of forest damage. Thus it can develop cooperation relationships that combine the needs of raw wood supply and knowledge of aging endangered forests that are susceptible to storm damage, for instance.

## Video on European forests on YouTube

The European Forest Institute (EFI) has recently released a new multimedia video on European forests 'European forests – central to the world we live in'. It gives an overall picture of Europe's most versatile ecological infrastructure, tracing a path from south to north and from west to east. All information is based on the reports *State of Europe's Forests 2011: Summary for policy makers* (Forest Europe), *Impacts of Climate Change on European Forests and Options for Adaptation*, Report to the European Commission Directorate-General for Agriculture and Rural Development, November 2008 (EFI, BOKU, INRA, IAFS) and *Europe's Forests at a Glance: A breath of fresh air in a changing climate* (European Environment Agency). The video is available at:

[www.youtube.com/watch?v=MaKKKdLc2g](http://www.youtube.com/watch?v=MaKKKdLc2g)

## Upcoming events

**International Forum on Satellite Earth Observation for Geohazard Risk Management**, 21<sup>st</sup>-23<sup>rd</sup> May 2012 in Santorini, Greece <http://www.int-geo-geo-hazard-forum-esa.org/>

**EARSel Workshop on Temporal Analysis of Satellite Images**, 24<sup>th</sup> – 25<sup>th</sup> 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>