

## D220.4 Report on Coordinated Actions with GMES Core – Phase 2

**EUFODOS** – Improved Information of Forest Structure and Damages

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**EXECUTIVE SUMMARY**


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This 'Report on Coordinated Actions with GMES Core - Phase 2' (D220.4) focuses on describing the development of formalised institutional arrangements and/or interfaces between the EUFODOS consortium and the providers of GMES Core Services and other relevant data sources, in cases where such are needed. Data access conditions and procedures for other relevant Forest Downstream service input data, which are available free of charge and without restrictions, have already been described in the previous report D220-3.

This current Phase 2 report further describes the activities of the EUFODOS Service Providers (SP's) and the User Executive Body (UEB) towards and together with the core services for coordinating similar activities between the various GMES Land related programmes. This comprises close collaboration especially with the GIO-Land consortia, the FP7 geoland2 consortium, as well as involvement in the GMES Land stakeholder platforms by attending relevant workshops and conferences, holding meetings with related projects to discuss common issues (from management to technical aspects) and developing a coordinated communication towards users.

This report is structured as follows: The next chapters 2 and 3 provide an overview on the establishment of institutional links between EUFODOS and core / other services, whereas chapter 4 collects the feedback towards the core services and chapter 5 describes the activities conducted and planned in the frame of the EUFODOS involvement in the European GMES stakeholder platforms.

In December 2012, GMES (Global Monitoring for Environment and Security), being the key European Programme for the establishment of an autonomous European capacity for Earth Observation, has been re-named Copernicus. For the purpose of this document the names GMES and Copernicus are used as synonyms.

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## 1. Introduction

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This document is the 'Report on Coordinated Actions with the GMES Core - Phase 2', prepared by the EUFODOS (European Forest Downstream Services) project under the EU Seventh Framework Programme. It has been produced by GAF AG as the WP lead of WP 220 "Co-ordination with GMES Core and Analysis of Core Products and Existing Systems". The feedback of all partners is appreciated to keep this document continuously up-to-date.

The WP 220 aims amongst other issues "to develop the relevant institutional arrangements / interfaces between the FDS consortium and the GMES Core Service Providers" and to establish common and coordinated data access mechanisms, as well as to establish "the relevant organisational modalities for accessing the Forest Core products". This is considered a key prerequisite for effective implementation of GMES Forest downstream projects and operational services.

Whereas the previous report of WP 220, 'Assessment Report of Downstream Inputs - Phase 2' (D220.3), is presenting an overview of specifications, interoperability and access conditions of all input Earth Observation (EO) data and thematic core products together with relevant in-situ and ancillary data, this fourth and final report of WP 220 on "Coordinated Actions with GMES Core" (D220.4) focuses on separately describing the status of additional formalised institutional arrangements and/or interfaces between the EUFODOS consortium and the providers of GMES Core Services and other relevant data sources, in cases where such separate formal agreements are required. For data which are available free of charge and without restrictions, the data access conditions and procedures for relevant Forest Downstream service input data have been already described in the previous report D220.3 and will not be repeated here.

This report further describes the activities of the EUFODOS Service Providers (SP's) and the User Executive Body (UEB) towards and together with the core services for coordinating similar activities between the various GMES Land related programmes. The aim is to not only avoid duplication but to develop synergies between these various efforts which often have a common user community, similar user-segments (targeting similar policies), and similar services/products. This activity comprises close collaboration especially with the GIO-Land consortia, the FP7 geoland2 consortium, as well as involvement in the GMES Land stakeholder platforms by attending relevant workshops and conferences, holding meetings with related projects to discuss common issues (from management to technical aspects) and developing a coordinated communication towards users in order to avoid confusion amongst them.

This report is structured as follows: The next chapters 2 and 3 provide an overview on the establishment of institutional links between EUFODOS and core / other services, whereas chapter 4 collects the feedback towards the core services and chapter 5 describes the activities conducted and planned in the frame of the EUFODOS involvement in the European GMES stakeholder platforms.

In December 2012, GMES (Global Monitoring for Environment and Security), being the key European Programme for the establishment of an autonomous European capacity for Earth Observation, has been re-named Copernicus. For the purpose of this document the names GMES and Copernicus are used as synonyms.

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## 2. Establishment of Institutional Links between EUFODOS and Core Services

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This chapter focuses on describing the coordination actions undertaken for the establishment of institutional arrangements and/or interfaces between the EUFODOS consortium and the providers of core EO data and GMES Core Service products.

### 2.1 The Data Warehouse

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As for all FP7 projects, the access to the datasets of the Data Warehouse (DWH) is subject to signature of a sub-license between ESA and each single requesting entity. This requires both service providers and the users involved in EUFODOS who want to access the Data Warehouse's EO data to sign the agreement separately. This sub-license comprises general terms & conditions for data usage as well as GCME-specific regulations.

The communication with ESA on the data licensing has been formalised via the Coordinator Joanneum Research, who had also forwarded the sub-license template to all EUFODOS partners in June 2011. The SP's and some users returned the duly signed sub-license to Joanneum and Joanneum forwarded the signed licenses to ESA. In early July 2011, ESA informed that it is ready to accept data orders for data from the DWH. By early 2013, several orders have taken place already, the status of which is documented in ESA's Data Access Portfolio (DAP) document version 2.6 (ESA 2013). See also EUFODOS Deliverable D220.3, section 2.2 (Data Warehouse).

The interface for ordering, enquiring on order status, and general enquiries is the CDS-SCI Team (GSC-DA Services Coordinated Interface - [gmesdata@eo.esa.int](mailto:gmesdata@eo.esa.int)). The CDS-SCI Team is in charge of:

- Order handling
- Handling of enquiries, complaints and requests for investigations on products and services
- Coordination of coverage generation

Ordering of data, especially of ADDITIONAL datasets, has to be done via filling a *Service Project off-line Data Request Form* (SPDRF), which was provided to all partners by the EUFODOS Coordinator in July 2011. The form has to be filled in and sent to CDS-SCI Access, completed by a SHP shapefile of the required Aol (Area of interest). Alternatively, a KML or KMZ file is accepted.

As alternative, for ESA data requests it is also possible to use the EOLI-SA tool to prepare the orders and attach the generated shop cart to the order form sent to the CDS-SCI. The EOLI-SA tool can be downloaded from <http://earth.esa.int/EOLi/EOLi.html> and the "Regular User" environment shall be used to access the ESA GCM catalogue, logging in as anonymous user.

The data are provided via the GSC-DA web portal (<http://gmesdata.esa.int>), which is the focal point for the GMES Services where to find information about data availability and accessibility. Further details are given in the Report D220-3 'Assessment Report of DS inputs - Phase 2'. A single data access account at the CDS Core Infrastructure (CDS-CI) is provided per Service Project. The Hostname, User Name and Password for the ESA ODA (Online Data Access) was provided by ESA in early July 2011. The account must however only be used by partners having signed the DWH License Agreement.

In principle, each order originator is responsible for regularly checking the directory corresponding to their specific dataset, where data will be uploaded. Since a common per-project quota applies for all ADDITIONAL data sets, it was commonly agreed in the EUFODOS 6M teleconference on 21<sup>st</sup> July 2011, that coordination between the individual partner needs and requests for ADD datasets is handled via the EUFODOS coordinator, in order to ensure compliance to the quota and a fair distribution between the partners.

Whilst the CDS-SCI is the operational interface for day-to-day operations, ESA's Account Manager of the Project ([GMES.Account.Manager@esa.int](mailto:GMES.Account.Manager@esa.int)) will remain at the project's disposal for:

- Regular review of the suitability of the defined and generated DAP Datasets, e.g. clarification of requirements and analysis of alternatives
- Approval of the deviations from the DAP after analysis of impact and identification of technical/financial solution
- Authorisation of data ordering in case of quota exhaustion
- Collection of Customer feedback and suggestions for improvement
- Escalation of issues

## 2.2 The FP7 geoland2 project

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The collaboration and coordination with the FP7 GMES Land core project geoland2 had started already in the early EUFODOS proposal preparation phase. The EUFODOS demo sites had as far as possible been aligned with the original 9 planned EUROLAND task demonstration sites of geoland2, where mapping the HR Forest Layer product suite was foreseen. In mid-2010, when EUFODOS entered into the negotiation and project preparation phase, an additional opportunity arose with the expansion of the geoland2 Forest demonstration activities and test sites, as requested by EC and the Member States. The set of geoland2 Forest demo sites had to be re-designed in order to address sites in all 27 EU countries (+Croatia) with cross-border test sites. Through direct consultation and collaboration between the EUFODOS coordinator Joanneum Research and the geoland2 Forest Task Manager GAF AG, the EUFODOS data needs were further taken into account, leading to another as-far-as-possible consideration of the EUFODOS core data needs. For example, the geoland2 test site in Poland/Czech Republic was explicitly rearranged such as to fully cover the EUFODOS Polish test site.

An official contact had been established between the EUFODOS Coordinator and the geoland2 Coordinator and it was agreed that any requests for Forest-related data and documents can be handled via the geoland2 Forest Task Manager GAF AG, who can directly establish contact also with other geoland2 Forest Service Providers or other partners as required. This procedure has been mutually agreed and accepted. Taking into account the mutual involvement of the parties in both projects, this achievement is considered sufficient and no separate MoU needed.

The geoland2 Forest data are hosted locally by the data originators (i.e. Service Providers), following the INSPIRE principle of decentralised data responsibility and maintenance. They are made available as Web Map Services (WMS) to a central geoland2 Spatial Data Infrastructure (SDI). This SDI allows external users to search, browse and view all available geoland2 products from all project tasks on a central web portal. It can be accessed via: <http://www.geoland2.eu/portal/>. The geoland2 HR Forest Layer products are available under the “Euroland products” section.

Beyond that viewing capacity, the geoland2 EUROLAND/Forest task pursues a generally free and open data access policy for non-commercial purposes. Contact details and applicable individual data access policies per product and demonstration site are provided in detail in the Assessment Report of DS Inputs’ (D220.3). All geoland2 HR Forest Layer demonstration data are made available for non-commercial purposes on request free-of-charge. Exceptions may be granted individually on a case-by-case basis also in case of commercial applications. A Data Use Agreement has to be signed in order to allow geoland2 to „keep track of people who are interested in geoland2 Forest services as well as to make sure that the terms of use have been read, understood and accepted.” (ref.: geoland2 Forest Data Use Agreement). The detailed terms are described in D220.3. After reception of such duly signed Data Use Agreement, the respective Forest Service Provider in charge of a certain demo site (as detailed in D220.3) will provide further access details (e.g. FTP access).

Several products from geoland2 have been provided to the EUFODOS service providers meanwhile. Thus the collaboration with geoland2 can be considered as fully established and working well. This continues to apply also beyond the official lifetime of the project geoland2 (end-2012).

## 2.3 The GIO-Land project

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The draft GIO Implementation Plan by EEA foresaw to “provide online public access to images and GIO Land service products, download services and archive data” (EEA 2010). This should imply “searching for information and download of data from archives. The data dissemination service will use and adapt existing

infrastructures (EEA and its Topic Centres, ESA, EUROSTAT and JRC). For input data download, services will also make use of the data access facilitation process of GISC project.” (EEA 2010). Further to some intermediate access steps, as final output a GIO land service website is foreseen which provides full access to images, in-situ, ancillary data and service products.

No more-recent information is available on the final GIO data access policy by early 2013, except that the European Commission generally pursues and prepares a “free and open” access policy to all GMES data, which is deemed to also cover the GIO-Land HR Layers. A direct link and further communication of all developments to the project EUFODOS will be ensured by the direct involvement of GAF as a service provider in GIO-Land.

Since several restrictions apply to the further distribution of internal knowledge that GAF has from this involvement in GIO, separate communications have been established between GAF and EEA on which service and product specifications and further project information may be officially communicated to Downstream projects and the public. This has also led to a EUFODOS newsletter publication (EUFODOS 2013), providing all the necessary insight. This is further detailed in D220.3.

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## 2.4 The FP7 SAFER project

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GMES ERCS services and products from SAFER were available in their pre-operational configuration only until December 2011. In continuation of the SAFER project, the ERCS service portfolio was largely transferred to operations in the GMES Initial Operations (GIO) phase, starting in 2012 (see section 2.5. For consistency and documentation reasons, this section on FP7 SAFER is however kept.

As described in the Report D220.3 ‘Assessment Report of DS inputs - Phase 2’, parts of the SAFER product portfolio (i.e. pre-disaster reference maps) constituted a potential input to Forest DS services, whereas other parts (i.e. storm and fire damage assessments) may have constituted a potential thematic overlap, though fire damage assessment is not a foreseen service in the EUFODOS project. As analysed in D220.3, it appears that the vast majority of SAFER service activations was on flooding events, but also some activations on fire damage assessment (for heath land, shrub land, but also woodland areas) occurred. There is however no indication that a dedicated Forest storm damage assessment was ever activated by SAFER, though this service type potentially also constituted part of the service portfolio.

The SAFER Coordinator has repeatedly been contacted both by the EUFODOS Coordinator and WP 220 to confirm the above observations. A close observation of the SAFER service activations as published under <http://safer.emergencyresponse.eu/> (→ Latest activations) had been recommended nevertheless.

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## 2.5 The GIO-Emergency Management Service

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As described in D220.3, the product and service portfolio of the GIO-EMS comprises also reference and delineation maps similar to the type of services provided by EUFODOS. Specifically, burnt area maps are mentioned which are likely to be related also to forest areas.

Therefore an information exchange of EUFODOS with the future GIO-EMS follow-up services under GIO has been established by the WP 220 lead to avoid potential duplications in storm damage assessment during this operational phase of the GIO-EMS from the beginning. It has been agreed that the GIO-EMS shall inform EUFODOS immediately in case of activations in relation to Forest damage (by storm, fires, insects, etc.) within Europe. This procedure is deemed to avoid duplications in EO data orders and damage mapping.

As regards potential access of the EUFODOS project to products derived by the GIO-EMS service, the user categories as specified in GIO-EMS (2012a) and GIO-EMS (2012b) do not foresee that a Downstream service like EUFODOS could activate a service or obtain mapping results, as it does not fall under the specified categories of authorised users (for details see D220.3). An exception may be given if EUFODOS service providers can get access to GIO-EMS products via their regional users, since public entities may get access to relevant GIO-EMS results via their National Focal Points (NFP’s), which are in charge of further dissemination of products to regional authorities.

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### 3. Establishment of institutional links between EUFODOS and other Services

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Two services providing potentially useful in-situ data have been identified in the “Assessment Report of DS Inputs - Phase 2” (D220.3), for which data and information are not directly and fully freely accessible. In these cases further institutional links and/or agreements are required. The results or the progress in setting up such agreements are described in the following sections.

#### 3.1 The LUCAS Survey

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GAF had received the full set of European-wide LUCAS data (point shapefiles with all LU/LC-related attributes and in-situ photos per plot) for 2009 and 2006 upon finalisation of the 2009 survey, already in the FP7 geoland2 project in early 2011. In the frame of the EUFODOS WP 220, EUROSTAT has been asked for an extension of the use license also for the EUFODOS consortium partners. EUROSTAT has informed that a general decision had been taken by EUROSTAT earlier this year that in principle all LUCAS data are made freely available, and EUFODOS is granted a full use right accordingly. One use condition applies however together with the data, which has to be strictly adhered to:

*“In case that LUCAS data will be published or otherwise further disseminated, it must be ensured that on all photos any faces, car register plates, or any other items that could compromise confidentiality and personal data protection issues are blurred. While for LUCAS 2009, the contractors were obliged to ensure this, the situation is less clear for LUCAS 2006 and special attention has to be paid to this.”*

Partners have been informed by the EUFODOS Coordinator in July 2011 on the LUCAS availability and on the possibility to get a copy of the dataset. If partners are interested, they should clearly specify their data need (countries, acquisition times) and send a mobile hard disc to GAF who will copy the data and send the device back.

#### 3.2 ICP Forests and the Life+ FUTMON project

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Data management for both the ICP Forests programme and the Life+ FutMon projects is presently carried out at the Programme Co-ordinating Centre (PCC) of ICP Forests in Hamburg, Germany. Data are made available on request for external data users through the PCC. Data requests must amongst other things include the purpose of a planned study, its time frame, and a declaration that the data will not be submitted to other parties.

An initial contact to the ICP Forests had been established by the EUFODOS partner RapidEye and followed up by the Coordinator Joanneum Research. All EUFODOS service providers were asked to specify their need for Level I or Level II plot data and the area extent. However, only ALU-FR and RapidEye identified such need for their service cases in the end, since the other service providers will get the most relevant ancillary and in-situ data from their national users. The contact was agreed to be directly with the PCC for both requesting partners.

Finally it turned out however that – as suspected already in the D220.1 Report, restrictions apply wrt. information on the exact locations of the sample plots, since many of them are aligned with the NFI plots. Actually the spatial accuracy of the plot locations is given only with 0.5° uncertainty, which is unacceptable for any kind of Forest Downstream services. So, the data from ICP Forests and FutMon are not explored further.

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## 4. Feedback to Core Services

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Especially in case of the Land and Emergency services, the GMES Core Services have been transferred to (initial) operations. Feedback to the Core services is deemed an essential output of EUFODOS and input to the core services, with the aim to potentially support the evolution of future upcoming additional operational GMES services.

Such feedback has been based on issues, pros and cons collected and analysed by the EUFODOS SP's in WP 310 'Method for Utilizing Core Service Products' and is documented in detail in the EUFODOS Deliverable D310.1 "Methodology for Utilizing Core Service Products", Issue 1 (Aug. 2011), which is also scheduled for update in December 2012.

D310.1 pays specific attention to the availability and thematic suitability of the Forest core service product specifications as well as to the utility for Downstream service operations and the potential for integration into the processing chain. Also limitations of the HR Forest Layer use as well as desired improvements of the product specifications are discussed.

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## 5. Involvement in GMES Land Stakeholder Platforms

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This chapter focuses on describing the involvement of EUFODOS in the various GMES Land stakeholder platforms. It addresses user platforms as well as service provider associations and the scientific community, and gives an overview on past and forthcoming conference and workshop participations. The involvement is typically realised either via the EUFODOS Coordinator, the User Executive Body (UEB) or individual SP's.

### 5.1 European User Platforms

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In this section, mainly the GMES Land User Platform initiated by geoland2, and the EIONET Action Group on Land Monitoring in Europe (EAGLE) are described as the currently existing overarching user associations on European level. Of course within EUFODOS, there is also the UEB, which is however not separately described here as it is an integral component of the EUFODOS project.

#### 5.1.1 The GMES Land User Platform

The GMES Land User Platform is a loose community of GMES Land user entities, initiated by the FP7 project geoland2 and coordinated by the European Topic Centre on Spatial Information and Analysis (ETC-SIA) with support of the European Forest Institute (EFI), both being geoland2 beneficiaries. The role of the ETC-SIA, representing the EEA, is to create a direct link and communication platform between all involved GMES Land stakeholders and especially users, from local to European and global level. The EFI is a member of the Forest tasks of geoland2 and closely coordinates with ETC-SIA.

The main activities of the GMES Land User Platform comprise:

- Collecting and compiling user requirements in support of the Land core service development
- Organise user workshops
- Conducting and evaluating User Utility Assessments (UUA's) with the users in order to evaluate the quality and the usefulness of the products wrt. the user requirements.
- Evaluating training sessions conducted between SP's and users
- Regular Newsletter publication

Especially the GMES Land User Newsletters provide a valuable means to receive the latest information on developments in the fields of GMES and Land Core / Downstream services, related data, activities and events. The Newsletter archive is available from <http://sia.eionet.europa.eu/GMES-Newsletter/>. Both the EUFODOS Coordinator Joanneum and GAF have subscribed to it, ensuring a timely information distribution to the EUFODOS partners.

A direct interaction and close information exchange with the GMES Land User Platform is given through the involvement of Joanneum Research, VTT and GAF into geoland2. This collaboration has already led to the publication of an article about the EUFODOS project and its objectives in the GMES Land User Newsletter, Issue 14 of April 2011, see Figure 1. This Newsletter has a distribution of several hundreds of key stakeholders, both users and decision makers, in the whole European GMES Land domain.

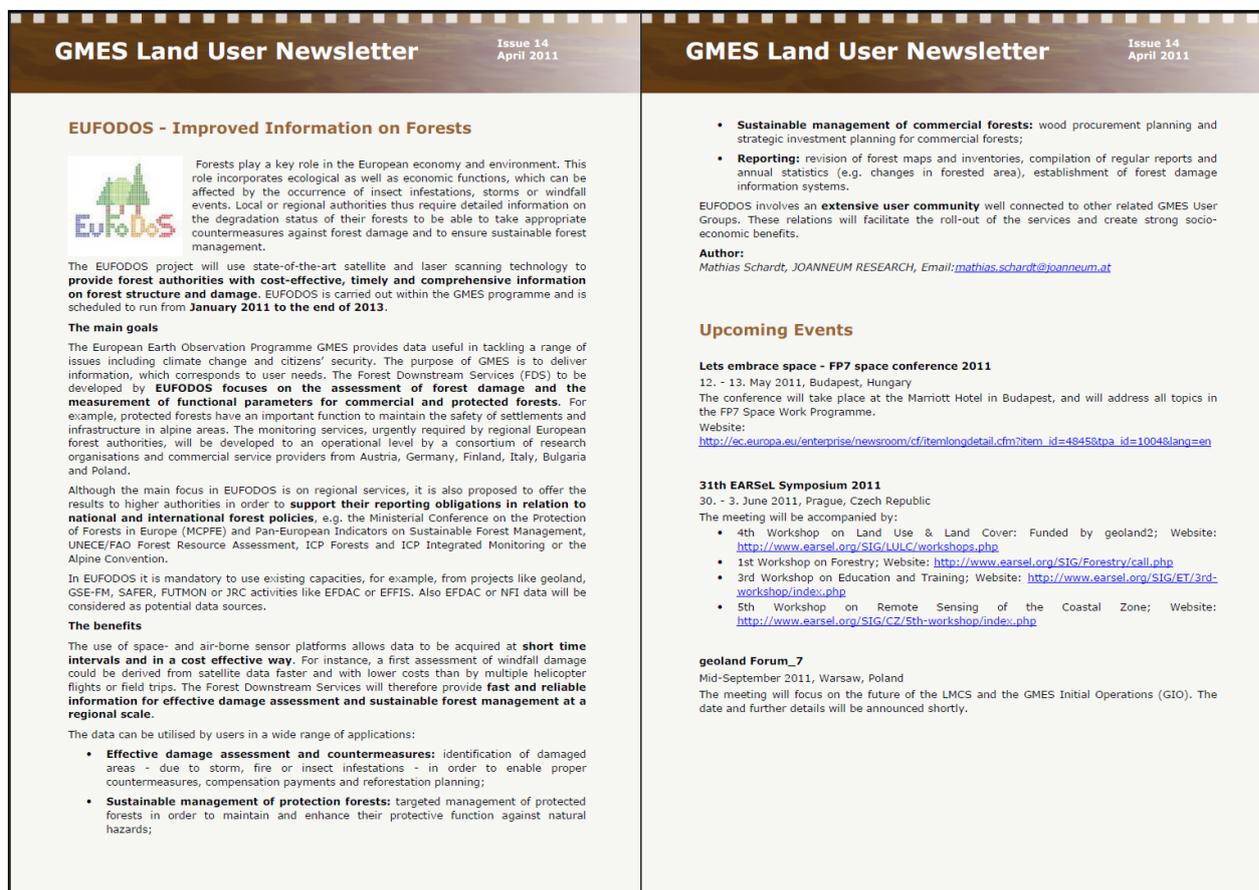


Figure 1: Excerpt from GMES Land User Newsletter, Issue 14 (Source: geoland2, ETC-SIA)

The activities of the GMES Land User Platform will however be coming to an end with the end of the project geoland2 in end-2012 / early 2013. It is expected however that certain elements (e.g. the Newsletter) will endure and be continued under different responsibility.

### 5.1.2 *The EIONET Action Group on Land Monitoring in Europe (EAGLE)*

In late 2009, the 'EIONET Group on Data Models for Land Monitoring' was created, evolving during 2010 towards the 'EIONET Action Group on Land Monitoring in Europe' (EAGLE). It primarily aims at providing guidelines for the development and implementation of a European Data Model for Land Monitoring, and at supporting the definition of the operational Land services' perimeter.

The EAGLE group, representing the Member State requirements side, has become the most important user counterpart of the FP7 Land Core project geoland2 in the definition of the operational GMES Land core services. Specifically, the HR Layers and amongst them, the HR Forest Layer, have been extensively discussed between geoland2 and the EAGLE group in some dedicated joint meetings.

Though a direct interaction of EUFODOS with EAGLE seems neither necessary nor easily possible, a certain information exchange possibility is nevertheless given via the geoland2 Forest task manager GAF.

## 5.2 **European Service Provider Associations**

It is considered very important to keep a close link to European Service Provision industry representing bodies in order to contribute working towards a future sustainable setup of GMES services. Relevant links to EUFODOS are described in the following section.

### 5.2.1 *European Association of Remote Sensing Companies (EARSC)*

The European Association of Remote Sensing Companies (EARSC) is a non-profit organisation created in 1989. EARSC aims to be the principal voice of the European Remote Sensing Industry. EARSC's mission is to foster the development of the European geo-information service industry and to contribute to the creation of a sustainable market for geo-information services. This includes specifically raising potential customers' awareness and acceptance of EO and remote sensing solutions, and improving market access for EARSC members.

These aims are pursued by a regular series of workshops together with decision makers from EC and the DG's, ESA, the EP, MS's and regions. Topics include GMES services and future operations, EO business models, QA and Certification, INSPIRE, etc. EARSC also regularly issues well-recognised position papers on behalf of the European commercial remote sensing industry on actual critical issues, e.g. on tendering recommendations for GMES services.

Thus EARSC is one of the most representative and influential groups in terms of working towards future sustainable setup of GMES services. In this context it is very beneficial that the three EUFODOS service providers GAF, RapidEye and ReSAC are members of EARSC. This ensures a smooth information flow to EUFODOS and will also enable to participation to important upcoming debates, workshops and opinion forming actions.

### 5.2.2 *Service Provider Network (SPN)*

In the project definition phase of the FP7 project geoland2 another Land Service Provider Network (SPN) was formed in 2008, which formally became a beneficiary of the geoland2 project subsequently. It comprised eight SP's from industry and SME's. The so-far conducted activities comprise the publication of dedicated position papers on fair procurement and studies on product quality / certification. Further activities have focused on further promotion of the HR Layer products through a series of regional country workshops.

However none of the EUFODOS partners has become a member of this association. Actually, it has been considered far less representative for the European remote sensing and service providing industry than EARSC (see section 5.2.1), and its influence is deemed rather limited. Therefore this organisation has not been paid further attention to.

### 5.3 Scientific Community

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It is considered very important to keep a close link to the scientific community for the further evolution of the EUFODOS services. Relevant links to EUFODOS are described in the following section.

#### 5.3.1 European Association of Remote Sensing Laboratories (EARSeL)

The European Association of Remote Sensing Laboratories (EARSeL) was founded in 1977 as a scientific network of European remote sensing entities from academia and the commercial / industrial sector. Currently, there are about 250 member laboratories from 30 countries (amongst which 26 European countries). EARSeL's activities are supported by ESA, the Council of Europe and the European Commission.

The primary activities of EARSeL are:

- “stimulating and promoting education and training related to remote sensing and Earth observation,
- initiating and co-ordinating application-oriented research,
- forming a bridge between technology and applications of interest to the wide user community,
- assisting the sponsoring agencies in the development of new sensors and systems and in any technical matters of relevance,
- providing a network of experts for the agencies in Europe,
- carrying out joint research projects on the use of remote sensing for research, monitoring and education,
- promoting co-operation between remote sensing experts and the environmental managers and decision-makers.” (Source: <http://www.earsel.org/?target=earsel/earsel>)

The main scientific efforts of EARSeL are achieved by Special Interest Groups (SIG's), which encourage co-operation and foster innovative applications of remote sensing. The SIG's feature a great acceptance in the scientific community, mainly because they constitute a means to understand and evaluate the major problems to be tackled in the future by the scientific community.

The SIG's organise regular workshops and specialist meetings, the reports and proceedings of which are published. The conclusions and specific recommendations are presented to the sponsoring agencies and other relevant institutions. Currently there are 15 SIG's, from which certainly the groups on Land Use & Land Cover, Forestry, and Forest Fires are the most relevant to Forest Downstream Services.

EARSeL publishes quarterly Newsletters, Proceedings of Symposia and Workshops, a Book Series on Remote Sensing and Digital Image Processing as well as the peer-reviewed EARSeL eProceedings. These publications together with the SIG's and regular workshops constitute a valuable source of information on the latest state of the art in remote sensing and image processing.

Since the Coordinator Joanneum Research plus four other EUFODOS partners (VTT, GAF, ALU-FR and EURAC) are EARSeL members, the information flow is direct and straightforward. Additionally, a direct link exists to EARSeL via their geoland2 participation.

### 5.4 Conference Participation

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The following Table 1 gives an overview of the most relevant currently known upcoming conferences, workshops, scientific meetings and other events which EUFODOS may consider participation to as well as an inventory of past events. It also gives contacts and provides a rationale for the recommendation to participate.

Table 1: Overview on attended and upcoming important conferences and events

Lets embrace space – FP7 space conference 2011	
Date:	12 <sup>th</sup> - 13 <sup>th</sup> May 2011
Place & Venue	Budapest, Hungary
Organiser:	FP7 geoland2 project
Addressed Audience:	The full GMES and Space Stakeholder Community, i.e. Decision Makers, Users, Service Providers, Downstream services and related / parallel projects
Website:	<a href="http://www.gmes-geoland.info">http://www.gmes-geoland.info</a>
Rationale for participating:	Addressed all topics of the FP7 Space Work Programme
Participants	Joanneum, GAF
31 <sup>st</sup> EARSeL Symposium 2011	
Date:	30 <sup>th</sup> May – 3 <sup>rd</sup> June 2011
Place & Venue	Warsaw, Poland
Organiser:	EARSeL
Addressed Audience:	Scientific remote sensing community
Website:	<a href="http://www.gmes-geoland.info">http://www.gmes-geoland.info</a>
Rationale for participating:	1 <sup>st</sup> Workshop of the SIG on Forestry; 4 <sup>th</sup> Workshop of SIG on LU/LC
Participants	Joanneum
geoland Forum 7	
Date:	14 <sup>th</sup> - 15 <sup>th</sup> September 2011
Place & Venue	Warsaw, Poland
Organiser:	FP7 geoland2 project
Addressed Audience:	GMES Land Stakeholder Community, i.e. Decision Makers, Users, Service Providers, Downstream services and related / parallel projects
Website:	<a href="http://www.gmes-geoland.info">http://www.gmes-geoland.info</a>
Rationale for participating:	Opportunity for direct information exchange with Core Service Providers and decision makers; opportunity for presentation of EUFODOS to the whole GMES Land community
Participants	Joanneum, VTT
GMES workshop on Access to Reference Data / in-situ (for Land and other services)	
Date:	26 <sup>th</sup> September 2011
Place & Venue	Brussels, Belgium
Organiser:	GISC (GMES In-Situ Component) project, coordinated by EEA
Addressed Audience:	GMES Stakeholders, Service developers and providers in need of in-situ data
Website:	<a href="http://gisc.ew.eea.europa.eu/gisc-project/meetings/2011/september-2011/gmes-workshop-access-reference-data-situ-land-and-other-services">http://gisc.ew.eea.europa.eu/gisc-project/meetings/2011/september-2011/gmes-workshop-access-reference-data-situ-land-and-other-services</a>
Rationale for participating:	Coordination with GISC project; communicate future operational Forest DS data needs
Participants	none

EUFODOS User Workshop	
Date:	29 <sup>th</sup> June 2012
Place & Venue	Vienna, Austria
Organiser:	Environment Agency of Austria (EAA)
Addressed Audience:	All EUFODOS users
Website:	N/A
Rationale for participating:	Raising the interest of current users on services offered in other service cases and enabling a user based discussion on the services provided in EUFODOS Phase 1
Participants	All EUFODOS service providers and users
ForestSat 2012	
Date:	11 <sup>th</sup> – 14 <sup>th</sup> September 2012
Place & Venue	Corvallis, Oregon, USA
Organiser:	Oregon State University, USDA Forest Service
Addressed Audience:	Forest scientific community
Website:	<a href="http://2012forestsat.com/">http://2012forestsat.com/</a>
Rationale for participating:	Direct information exchange with scientific community on state-of-the-art Forest monitoring techniques
geoland Forum 8	
Date:	18 <sup>th</sup> – 19 <sup>th</sup> October 2012
Place & Venue	Copenhagen, Denmark
Organiser:	FP7 geoland2 project
Addressed Audience:	GMES Land Stakeholder Community, i.e. Decision Makers, Users, Service Providers, Downstream services and related / parallel projects
Website:	<a href="http://www.gmes-geoland.info/news-events/news/news-details/archive/2012/10/successful-geoland-8-forum-in-copenhagen.html">http://www.gmes-geoland.info/news-events/news/news-details/archive/2012/10/successful-geoland-8-forum-in-copenhagen.html</a>
Rationale for participating:	Direct information exchange with GIO and geoland2 Core Service Providers and decision makers, EEA, EC; presentation of EUFODOS to the whole GMES Land community
Participants	Joanneum, GAF, VTT, ThüringenForst
Participants	Joanneum
7 <sup>th</sup> Dresden Symposium on Hazard, Detection and Management	
Date:	3 <sup>rd</sup> - 8 <sup>th</sup> March 2013
Place & Venue	Dresden, Germany
Organiser:	Dresden University of Technology
Addressed Audience:	Science; Decision makers
Website:	<a href="http://tu-dresden.de/die_tu_dresden/fakultaeten/fakultaet_elektrotechnik_und_informationstechnik/ihtm/hdm">http://tu-dresden.de/die_tu_dresden/fakultaeten/fakultaet_elektrotechnik_und_informationstechnik/ihtm/hdm</a>
Rationale for participating:	Promotion of EUFODOS services to stakeholders from science and authorities responsible for detection / prevention and mitigation of natural and man-made hazards

EGU General Assembly 2013	
Date:	7 <sup>th</sup> – 12 <sup>th</sup> April 2013
Place & Venue	Vienna, Austria
Organiser:	Dresden University of Technology
Addressed Audience:	International eosciences community
Website:	<a href="http://www.egu2013.eu/">http://www.egu2013.eu/</a>
Rationale for participating:	Direct information exchange with scientific community on state-of-the-art developments in geosciences with focus on forestry

## 6. ANNEX

### 6.1 Abbreviations & Acronyms

Aol	Area of Interest
B&W	Black and White
C	SAR C-Band
CDS-CI	Coordinated Data Access System – Core Infrastructure
CDS-SCI	Coordinated Data Access System – Coordinated Interface
CO	Confidential
DAP	Data Access Portfolio
DG	Directorate General (of the European Commission)
DS	Downstream
DWH	Data Warehouse
EAA	Environment Agency of Austria
EAGLE	EIONET Action Group on Land Monitoring in Europe
EARSC	European Association of Remote Sensing Companies
EARSeL	European Association of Remote Sensing Laboratories
EEA	European Environmental Agency
EC	European Commission
EF	EUFODOS
EFI	European Forest Institute
EFDAC	European Forest Data Center
EFFIS	European Forest Fire Information System
EGU	European Geosciences Union
EO	Earth Observation
EOLI-SA	Earth Observation Link Stand Alone (client)
EP	European Parliament
ERCS	Emergency Response Core Service
ESA	European Space Agency
ETC-SIA	European Topic Centre on Spatial Information and Analysis
EU	European Union
EUFODOS	European Forest Downstream Service
EURAC	Accademia Europea di Bolzano
EUROLAND	European Land Cover (task of geoland2)
EUROSTAT	Statistical Office of the European Union
E/W	East/West
FAO	Food and Agriculture Organisation (of the UN)
FDS	Forest Downstream Service
FP7	7 <sup>th</sup> Framework Programme of the EU
FTP	File Transfer Protocol
FutMon	Further Development and Implementation of an EU-Level Forest Monitoring System
GAF	a German service provider company
Geo	Geometry
GCM	GMES Contributing Mission
GCME	GMES Contributing Mission Entity
geoland2	FP7 GMES Land core project
GIO	GMES Initial Operations

GISC	GMES In-Situ Component
GMES	Global Monitoring for Environment and Security
GSC-DA	GMES Space Component Data Access
GSE	GMES Service Element
GSE FM	GMES Service Element Forest Monitoring
GSP	GMES Space Project
HR	High Resolution
ICP Forests	International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests
INSPIRE	Infrastructure for Spatial Information in Europe
JRC	Joint Research Centre
KML	Keyhole Markup Language (file format)
KMZ	compressed (zipped) KML
L	SAR L-Band
Lat	Latitude
LMCS	Land Monitoring Core Service
Long	Longitude
LUCAS	Land Use/Cover Area Frame Survey
MCPFE	Ministerial Conference on the Protection of Forests in Europe
MoU	Memorandum of Understanding
MS	Member State (of the EU)
NFI	National Forest Inventory
N/S	North/South
MS	multispectral
ODA	Online Data Access
ortho	ortho-corrected
P	panchromatic
PCC	Programme Co-ordinating Center of ICP Forests
PP	Restricted to other programme participants (document dissemination status)
PU	Public (document dissemination status)
QA	Quality Assurance
QB	QuickBird
Rad	Radiometry
RE	Restricted to a group specified by the consortium (document dissemination status)
ReSAC	Remote Sensing Application Center, a Bulgarian service provider
SAFER	FP7 GMES Emergency Response core project
SDI	Spatial Data Infrastructure
SHP	Shape (file format)
SIG	Special Interest Group (of EARSeL)
SME	Small and Medium Enterprises
SP	Service Provider
SPDRF	Service Project Offline Data Request Form
SPN	Service Provider Network
SWIR	Short-Wave Infrared
UEB	User Executive Body
UNECE	United Nations Economic Commission for Europe
UUA	User Utility Assessment
VNIR	Visible and Near Infrared
VTT	the Technical Research Centre of Finland
WMS	Web Map Server
WP	Work Package

X	SAR X-Band
XLS	Microsoft Excel data format

## 6.2 References

- EC (2011): Work Programme 2011 – European Earth monitoring programme (GMES) and its initial operations (2011 – 2013). European Commission Communication C(2011)1514 of 9 March 2011, 19 pp., Download URL: [http://ec.europa.eu/enterprise/policies/space/files/gmes/gio\\_wp2011\\_comm\\_c\\_2011\\_annexe\\_en.pdf](http://ec.europa.eu/enterprise/policies/space/files/gmes/gio_wp2011_comm_c_2011_annexe_en.pdf) (status: 14<sup>th</sup> July 2011)
- EEA (2010): GIO Land Monitoring Implementation Plan 2011-2013 – EEA's Proposal for Continental and Local Component. Draft version 11 (Oct. 2010), 78 pp. Download URL: <http://ew.eea.europa.eu/meetings-and-events/sharing-environmental-information/background-documents/session-3-eea-draft-gio-land-monitoring-implementation-plan-2011-2013.pdf/download> (Status: 14<sup>th</sup> July 2011)
- ESA (2013): GMES Space Component Data Access Portfolio: Data Warehouse 2011-2014. Issue 2.6, 141 pp., Download URL: [http://gmesdata.esa.int/c/document\\_library/get\\_file?uuid=9f57e0f4-af57-43ca-aa26-b9418fbf40ea&groupId=10725](http://gmesdata.esa.int/c/document_library/get_file?uuid=9f57e0f4-af57-43ca-aa26-b9418fbf40ea&groupId=10725) (status: 17<sup>th</sup> January 2013)
- EUFODOS (2013): Newsletter Issue 9 (Jan. 2013), 2pp. Download URL: [http://www.eufodos.info/sites/default/files/downloads/EUFODOS\\_Newsletter09\\_0113.pdf](http://www.eufodos.info/sites/default/files/downloads/EUFODOS_Newsletter09_0113.pdf) (Status: 20<sup>th</sup> January 2013)
- GIO-EMS (2012a): GMES Initial Operations Emergency Management Service - Mapping: quick start guide, 2pp. Download URL: [http://portal.ems-gmes.eu/frontend/files/GIO\\_EMS-Mapping\\_Quick\\_Start\\_Guide.pdf](http://portal.ems-gmes.eu/frontend/files/GIO_EMS-Mapping_Quick_Start_Guide.pdf) (Status: 20<sup>th</sup> January 2013)
- GIO-EMS (2012b): Data and dissemination policy of the GIO EMS - Mapping products. 3pp., Download URL: [http://portal.ems-gmes.eu/frontend/files/Data\\_and%20dissemination\\_policy\\_of\\_%20the\\_GIO\\_EMS.pdf](http://portal.ems-gmes.eu/frontend/files/Data_and%20dissemination_policy_of_%20the_GIO_EMS.pdf) (Status: 20<sup>th</sup> January 2013)

**6.3 Data Warehouse – Service Project off-line Data Request Form**

SERVICE PROJECT OFF-LINE DATA REQUEST FORM	
Date (dd/mm/yyyy):	
<b>GSP member information</b>	
Last Name, first name	
GMES Service Project	
E-mail address	

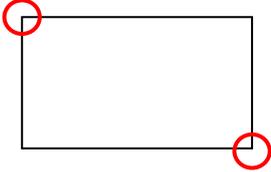
Requested data parameters	
DAP ID (as per DAPV.2, e.g DWH_...)	
Sensor resolution	
Acquisition parameters P = Panchromatic. MS = Multispectral (VNIR, SWIR, VNIR/SWIR) P+MS = Pan. & MS X = SAR X-band. C = SAR C-band. L = SAR L-band  Polarization, orbit direction, max incidence angle  Maximum cloud cover	
Product type B&W (PAN), Pansharp, Bundle  Stereo/no Stereo  Rad corrected only, Rad+Geo corrected, ortho ready, ortho	

Data Type (select 1 option)	
<input type="checkbox"/> New Data	
<input type="checkbox"/> Archived Data	

Service Type (select 1 option)		
<input type="checkbox"/> Coverage Complete imagery coverage over the AOI 1 coverage will provide a full coverage of imagery over the AOI, which may require just one image, or two or more images (may be on different dates), dependent on the AOI size	Quantity (1 or more)	

<input type="checkbox"/> Image Scene over the AOI, may or may not provide full AOI coverage, dependent on image and AOI size	Quantity (1 or more)	
<input type="checkbox"/> Number of coverages Multiple time periods, each providing 1 coverage over the AOI	Quantity (2 or more)	
<input type="checkbox"/> Interferometric acquisitions Multiple imagery coverage over the AOI with identical parameters	Quantity (2 or more)	

Acquisition Window (complete 1 row; copy and paste row for multiple acquisition windows)				
New	From:		To:	
Archive	From:		To:	

Area of interest (complete (a), (b) or (c))		
Geographical location	Geographical Coordinates in Degrees, minutes, seconds	
Area of interest name:	(a) Centre Point Lat .....°.....' ...." (N/S) Long .....° ... ' ...." (E/W) Max Radius .....(Km)	(b) Upper left Lat .....°.....' ...." (N/S) Long .....° ... ' ...." (E/W) 
		Lower right Lat... ..°.....' ...." (N/S) Long ...° ..... ' ...." (E/W)
(c) Refer to attached shapefile/KML: filename:		

Additional Comments or Special instructions