Web-based Forest Monitoring Tools
Using OGC Services

Daniel McInerney, Gonçalo Revez, Lucy Bastin, José I. Barredo, Carlos Figueiredo, Jesús San Miguel

Forest Resources & Climate Unit,
Institute for Environment & Sustainability
EC-Joint Research Centre

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Introduction

Overview of EuroGEOSS Forest Web-based tools

• Initial Operating Capacities
• Forest Data Resources
• Advanced Operating Capacities

Conclusion
Pre-EuroGEOSS

- In Europe, many forest datasets existed, but were not easily discoverable nor accessible

- Rarely were they published using OGC Standards such as CSW, WMS, WFS or WCS

Since then we have improved the availability, access and use of EU Forest datasets using OGC Web Services
Metadata Catalogue

- EFDAC Metadata Catalogue
- Other catalogues
- Harvesting tests

Map Viewer

- WMS/WFS/WCS services
- Forestry
- Biodiversity
- Droughts
Main forest data services include:

- **EFDAC**: Forest Maps, Forest Health/Forest Condition
- **EFFIS**: FWI, Burnt Areas, Locations of Forest Fires
- **e-FOREST**: Harmonised European National Forest Inventory Data
- **FAO FRA**: global forest datasets
- **EuroPARC**: Distribution of national parks, protected areas in Spain
European Forest Data Centre

Forest Focus database + BIOSOIL datasets
(forest condition, forest fragmentation)

EFFIS

MS Forest monitoring services

European Forest Resources

MS Forest fire and Civil Protection services
Fire Weather Index,
Fire Hotspots & Burnt Area Maps

Metadata Catalogue

EC-JRC Forest Data Sets;
Applications;
Web Services

Related:
Documents
Projects
Links
Systems

E-forest platform
EU NFIs, MCPFE, FAO

1990
2000
2006
Harmonised National Forest Inventory (NFI) data from 22 EU Member States

Platform developed to analyse and produce estimates of forest area, species distributions & basal area

Data available as WMS & WCS
EuroGEOSS Forest Architecture

EuroGEOSS Forest Data Portal

Web-based Map Viewer

Metadata Catalogue

GEOSS Service Factory

WPS

Ad-Hoc Service

Spanish Services

EuroPARC

IDEE SDI Portal

Otalex

MARM
Use Cases were developed within the Advanced Operating Capacities to:

- Allow the end-user to process distributed forest datasets using Web Processing Services
Analysing Forest Change
  Calculate forest loss, gain and stability in area
  Validation of the global forest cover dataset (TREES)

Forest Fire Analysis
  Calculation of Burnt Areas in Protected Areas & impacts on forest / landcover types

Global Forest Change Analysis
  FAO Forest Resources Analysis Trends

Cross-Thematic
  Statistical comparison of EDO Drought and EFFIS Fire Weather Index (FWI)
## Scales of Use Case Scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Local</th>
<th>Regional</th>
<th>National</th>
<th>European / Global</th>
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<tbody>
<tr>
<td>Forest Change</td>
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<tr>
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<tr>
<td>Drought Comparison</td>
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FOR EACH POINT AT THE CONFLUENCE OF THE LAT/LONG SATELLITE DATA IS USED TO CREATE FOREST CHANGE MAPS
Forestry is cross-thematic between many of the GEOSS Societal Benefit Areas:
- Agriculture;
- Energy;
- Biodiversity and Ecosystems (...and others)

Up-to-date forest resource information required from local through to national and continental scales

Required as inputs into models to answer multidisciplinary environmental questions for better planning and management of natural resources

EuroGEOSS has improved the interoperable access to European (& soon global) forest resource information