# **National Observatory of Forests (NOF)**

# **SCERIN-3 Capacity Building Workshop**

# Brasov, 13-17 July 2015



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# Aim of the project

- The establishment and pilot operation of a National Forest Observatory (NOF) through the following main actions:
  - the collection of all available **forest management plans** of Greece, and
  - the development of internet-based services that will ensure accessibility to the developed forest information geodatabase.
- NOF is the first attempt to create a forest management plan database at a national level.
- It is based on a close collaboration of the Laboratory of Forest Management and Remote Sensing (AUTh) with the Greek Forest Service.

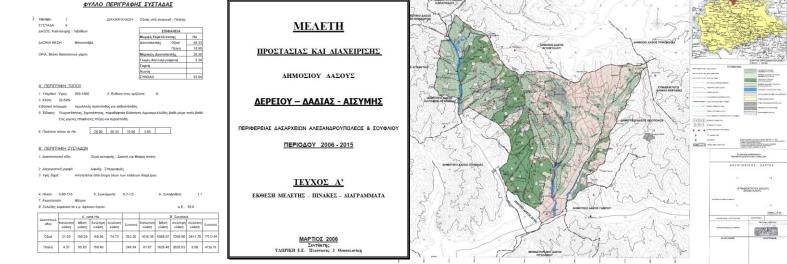




# **Forest management in Greece**

- □ Forest management plans are the main source of information for the Greek forest ecosystems.
- Both medium and long-term management planning of forests under public as well as private ownership is based on these plans.
- Management of forest complexes is based mainly on **10-year** plans.





3 NoF – SCERIN-3 Workshop , 13-17 July 2015, Brasov, Romania



# Project actions (phases)

Creation of an **inventory** (database) of all available forest management plans at a National level

Harmonization of the collected geographic datasets

Development of services: a dynamic php-based browsing service and a Web-GIS application

Pilot operation, support and maintenance of the system on behalf of the Greek Forest Service

### Innovativeness

- □ Formation of an Experts Advisory Group consisting of foresters working in the Forest Service and are specialised in GIS and Remote Sensing technologies.
- □ Active participation and contribution to the development of the final products (services).



# **Expected benefits**

- **Update, classification and harmonization** of forest information at a national level.
- □ Improvement of the way the Forest Service functions.
- **Enhanced** cooperation among local forest service departments.
- Promotion of the information included in the forest management plans, by making it visible through the developed online NOF services.
- **Ensure** equal-access to the forest management plans by the different stakeholders.
- Extraction of forest information and statistics at national level to support national and international obligations of the country (e.g. Kyoto Protocol, LULUCF, EUROSTAT).
- □ The **compatibility of the developed geodatabase** with existing international standards (e.g. INSPIRE directive, OGC standards).

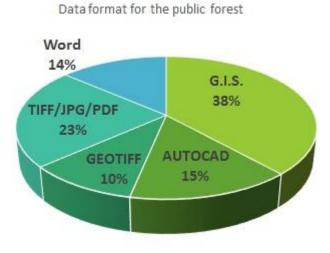
# 1<sup>st</sup> phase- Data Acquisition

#### In the beginning of the project

• **48** forest management plans were available to the Forest Service in digital format.

#### Today

- Information is available for **935** forest management plans, while
- **634** forest management can be accessed online.

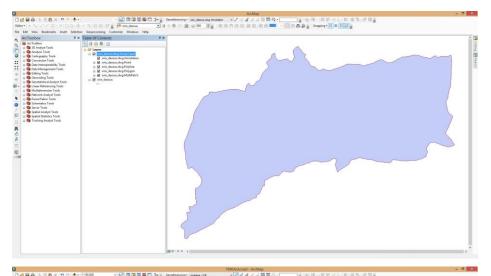


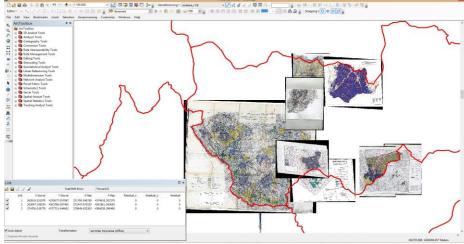


# 2<sup>nd</sup> phase – Harmonization of geographic data

#### **Basic Steps**

- Conversion of digital files to a common format (e.g., AutoCAD or Geotiff to shapefile).
- **II. Harmonization** of the attributes of the various geographic datasets (e.g., creation of common attributes, nomenclatures, field names etc.).





# 2<sup>nd</sup> phase – Harmonization of geographic data (2)

- □ The new database contains information from 935 management plans **nationwide** with the following attributes plan as suggested by the Experts Advisory Group:
  - 1. Administrative Region, Forest Department and Forest Service
  - 2. Ownership

- 3. Validity period
- 4. Start and expiration date
- 5. Official Order ID
- 6. Stocking (m<sup>2</sup>)
- 7. Annual increment (m<sup>2</sup>)
- 8. Timber product (m<sup>2</sup>)

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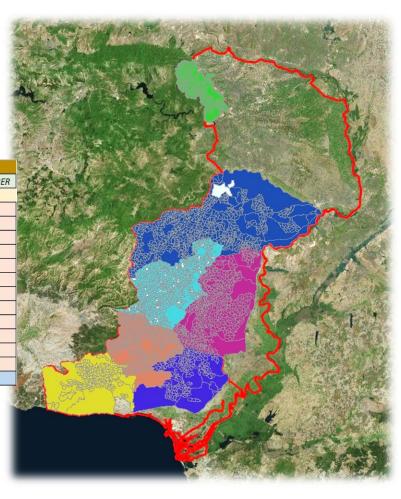


# 2<sup>nd</sup> phase – Harmonization of geographic data (3)

#### Pilot area in N. Greece (5 state forest complexes)

- □ Spatial information at forest stand scale.
- 85 fields with 2769 attribute records were created.

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# 3<sup>rd</sup> phase – Development of the two NOF services



FOREST MANAGEMENT





#### http://epad.web.auth.gr/



### 3<sup>rd</sup> phase – Development of the WebGIS application



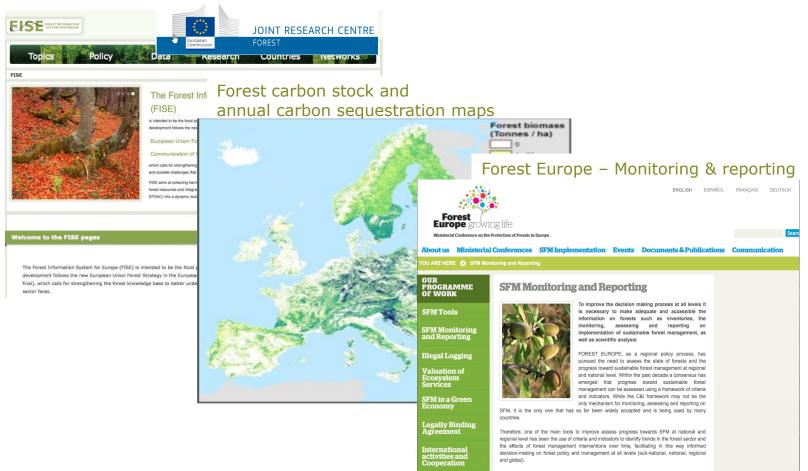
# **Problems**

- Difficulties in the collaboration with the local Forest Service Departments in relation to the acquisition of the forest management plans.
- Digital data: a big part of the collected data was in *tiff* and *jpeg* format (no vector or raster data).
- □ **Poor quality of the acquired geographic data,** which requires quality control and additional processing (e.g. poor georeferencing).
- □ There is a substantial number of management plans still in paper (non-digital).



# The Future

# To link NOF to the Forest Information System for Europe (FISE) developed by the JRC (discussions have already started)





# The Future (2)

- Integration of additional forest related spatial information (e.g. forest cadastral survey, forest road network)
- □ Forest monitoring with the use of **EO satellite data** (new ESA missions, Landsat-8, etc.)

