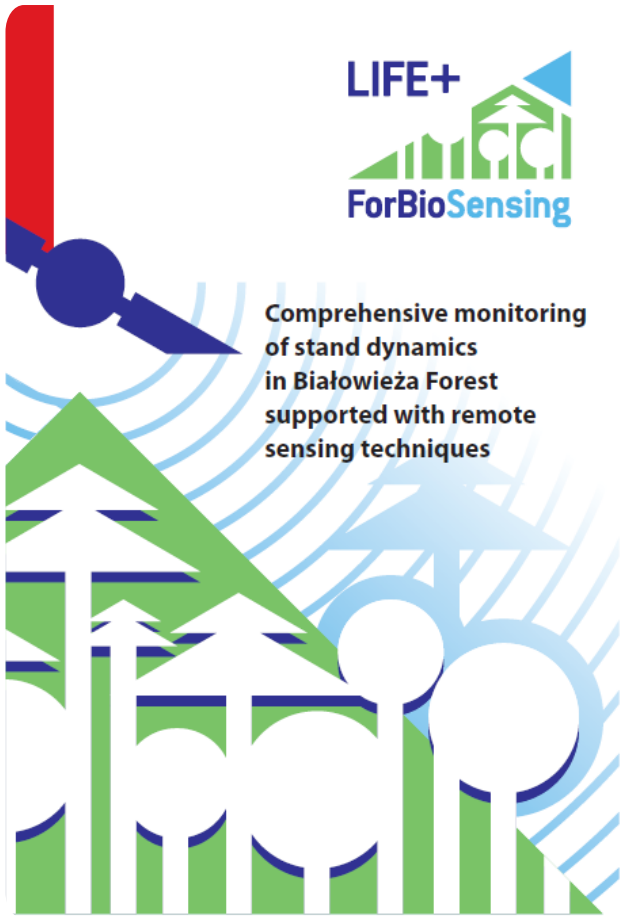
ForBioSensing | Comprehensive monitoring of stand dynamics in Białowieża Forest supported with remote sensing techniques



Comprehensive monitoring method of a large forest area with the use of innovative techniques and data.

Project activities were focused on a comprehensive representation of changes in forest stands and their dynamics (using different time series of remote sensing data) and the transition from spot monitoring (field measurements on sample plots) to large-scale monitoring. This will improve the efficiency of forest ecosystem protection and management measures. Project results have been presented in the form of publications and maps showing specific changes over the years. In addition, radio and television broadcasts, meetings, brochures and promotional films were used to inform the general public.

The main objectives of the project were:

- Monitoring of stand dynamics in Białowieża Forest (including analysis of tree species composition, monitoring of changes in the forest stand caused,

among others, by tree death)

- Analysis of natural forest regeneration and rejuvenation, including the role of gaps,
- Establishment/determination of the combination of different remote sensing techniques and data sets that are optimal for forest monitoring,
- Characteristics of the microclimate of the Białowieża Forest,
- Promotion of Białowieża Forest through the use of multimedia.

The main expected results of the project:

- Detailed analysis and maps showing in subsequent years, following information about the Białowieża Forest: Forest stand characteristics (growing stock and biomass, tree height, DBH, canopy cover and its diversity, forest diversity, tree species composition, vertical structure, biomass, etc.), location and size of dead trees, location and size of gaps, dynamics of natural forest regeneration and amount of lying dead wood.
- Map of plant communities with identification of different tree species;
- Development of monitoring methods for the dynamics of the Białowieża Forest using a small number of sample plots and additional remote sensing data covering the entire study area;
- Master tree ring chronology of the selected tree species in the Białowieża Forest;
- A unique geoportal containing created spatial data on the Białowieża Forest.

DETAILS

ORIGIN OF WOOD

--

TYPE OF WOOD

--

KIND OF WOOD CONCERNED

--

IMPACT ON ENVIRONMENT & BIODIVERSITY

--

INCOME EFFECT

--

EXPLOITATION POTENTIAL

--

HUB

Central-East Hub

ECONOMIC IMPACT

--

SPECIFIC KNOWLEDGE NEEDED

--

MOBILIZATION POTENTIAL

--

SUSTAINABILITY POTENTIAL - VALUE

--

EASE OF IMPLEMENTATION

--

EASE OF IMPLEMENTATION - EVALUATION

--

KEY PREREQUISITES

--

TYPE OF EVENT WHERE THIS BPI HAS BEEN FEATURED

--

JOB EFFECT

--

COSTS OF IMPLEMENTATION (EURO - €)

--

MORE DETAILS

CHALLENGE ADDRESSED

1.- Improve forest resilience and adaption to climate change

DOMAIN

Inventory, monitoring

TYPE OF SOLUTION

Data platforms, data hubs

KEYWORDS

stand dynamics monitoring; forestry; remote sensing; biodiversity

DIGITAL SOLUTION

Yes

INNOVATION

Yes

COUNTRY OF ORIGIN

Poland

SCALE OF APPLICATION

National

START AND END YEAR

2014 - 2022

CONTACT DATA

OWNER OR AUTHOR

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REFERENCES AND RESOURCES

MAIN WEBSITE

http://www.forbiosensing.pl/home

PROJECT WEBSITE

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RESOURCES

Stereńczak K., Mielcarek M., Modzelewska A., Kraszawski B., Fassnacht F.E., Hilszczański J. 2019. Intra-annual Ips typographus outbreak monitoring using a multi-temporal GIS analysis based on hyperspectral and ALS data in the Białowieża Forests. Forest Ecology and Management, 442: 105–116.

PROJECT REFERENCE

ForBioSensing project is co-funded by the European Commission under European Union financial instrument LIFE+ and by the National Fund for Environmental Protection and Water Management

LOGO OF BEST PRACTICE



LOGO OF MAIN ORGANIZATION



PROJECT UNDER WHICH THIS FACTSHEET HAS BEEN CREATED

Rosewood 4.0

POST DATE

21 Dec 2021





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A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY

