Remote sensing based assessment of woody biomass and carbon storage in forests

RemBioFor

R&D project, which aim is to work out the complex method of defining selected forest stand descriptions as well as aboveground biomass and carbon sequestration, based on the use of remote sensing for the purposes of forest management planning.

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Among main goals were:

- acquisition and processing of remote sensing, laboratory and field data,
- determining the amount of biomass and carbon in the forest based on radar data,
- development of methods for the inventory of selected stand descriptions, growing stock and biomass with the use of active remote sensing techniques,
- local correction of dendrometric volume equations based on terrestrial laser scanning data (TLS),
- development of the merchantable volume conversion factors into biomass and carbon.

Results of the project allow to: reduce time needed to carry out the work of the forest management, especially inventory of growing stock; obtain higher accuracy of the CO_2 balance, biomass and annual allowable cut calculations; determine growing stock for any forest area; reduce cost of field work in forest management.

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

Study visit (T2.3)

JOB EFFECT

--

COSTS OF IMPLEMENTATION (EURO - €)

--

MORE DETAILS

CHALLENGE ADDRESSED

1.- Improve forest resilience and adaption to climate change

DOMAIN

Inventory, monitoring

Forest management, ecosystem, resilience

Research and development

TYPE OF SOLUTION

Modelling, simulation, optimization

KEYWORDS

remote sensing techniques; carbon sequestration; forestry

DIGITAL SOLUTION

Yes

INNOVATION

Yes

COUNTRY OF ORIGIN

Poland

SCALE OF APPLICATION

National

START AND END YEAR

2015 - 2018

CONTACT DATA

OWNER OR AUTHOR

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REFERENCES AND RESOURCES

MAIN WEBSITE

http://rembiofor.pl/en/

PROJECT WEBSITE

RESOURCES

Parkitna K., Krok G., Lisańczuk M., Mitelsztedt K., Ukalski K., Magnussen S., Markiewicz A., Miścicki S., Stereńczak K. 2021. Modelling growing stock volume of forest stands with the use of selected LiDAR Area Based Approaches in various predictive models. Forestry: An International Journal of Forest Research

http://rembiofor.pl/en/

PROJECT REFERENCE

Remote sensing based assessment of woody biomass and carbon storage in forests (REMBIOFOR), National Centre for Research and Development within the program „Natural environment, agriculture and forestry” BIOSTRATEG, agreement no. BIOSTRATEG1/267755/4/NCBR/2015

LOGO OF BEST PRACTICE

LOGO OF MAIN ORGANIZATION

PROJECT UNDER WHICH THIS FACTSHEET HAS BEEN CREATED

Rosewood 4.0

POST DATE

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