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.

The aim of the project was 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.

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.

DéTAILS

ORIGINE DU BOIS

--

TYPE DE BOIS

--

TYPE DE BOIS CONCERNé

--

IMPACT SUR L'ENVIRONNEMENT ET LA BIODIVERSITé

--

EFFET SUR LE REVENU

--

POTENTIEL D'EXPLOITATION

--

HUB

Centre-Est

IMPACT éCONOMIQUE

--

CONNAISSANCES SPéCIFIQUES REQUISES

--

POTENTIEL DE MOBILISATION

--

POTENTIEL DE DURABILITé - VALEUR

--

FACILITé D'IMPLéMENTATION

--

FACILITé D'IMPLéMENTATION - ÉVALUATION

--

PRéREQUIS CLéS

--

TYPE D'éVéNEMENT Où CETTE ICPE A éTé PRéSENTéE

Visite d'étude (T2.3)

EFFET SUR L'EMPLOI

--

COûTS D'IMPLéMENTATION (EURO - €)

--

PLUS DE DéTAILS

DéFI CONCERNé

1. Améliorer la résilience de la forêt et son adaptation au changement climatique

DOMAINE

Inventaire, diagnostic, monitoring

Getsion forestière, sylviculture, services écosystémiques, résilience

Recherche et développement

TYPE DE SOLUTION

Modélisation, DSS, simulation, optimisation

MOTS-CLéS

remote sensing techniques; carbon sequestration; forestry

SOLUTION DIGITALE

Oui

INNOVATION

Oui

PAYS D'ORIGINE

Pologne

ECHELLE D'APPLICATION

Nationale

DéBUT ET FIN D'ANNéE

2015 - 2018

INFORMATIONS DE CONTACT

PROPRIéTAIRE OU AUTEUR

Instytut Badawczy Leśnictwa

Krzysztof Stereńczak

K.Sterenczak@ibles.waw.pl

https://www.ibles.pl/

RAPPORTEUR

Łukasiewicz Research Network - Wood Technology Institute (ITD)

Dobrochna Augustyniak-Wysocka

dobrochna.augustyniak@itd.lukasiewicz.gov.pl

REFERENCES AND RESOURCES

SITE WEB PRINCIPAL

http://rembiofor.pl/en/

RESSOURCES

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

SITE WEB DU PROJET

http://rembiofor.pl/en/

RéFéRENCE DU PROJET

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 DE LA BONNE PRATIQUE

LOGO DE L'ORGANISATION PRINCIPALE

PROJET SOUS LEQUEL CETTE FICHE D'INFORMATION A éTé CRééE

Rosewood 4.0

DATE DE PUBLICATION

12 aoû 2021

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 862681

A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY