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.

DETAILS

HERKUNFT DES HOLZES

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ART DES HOLZES

--

ART DES BETROFFENEN HOLZES

--

AUSWIRKUNGEN AUF UMWELT UND BIODIVERSITäT

--

EINKOMMENSEFFEKT

--

VERWERTUNGSPOTENZIAL

--

NABE

Drehscheibe Mitte-Ost

WIRTSCHAFTLICHE AUSWIRKUNGEN

--

SPEZIFISCHES WISSEN ERFORDERLICH

--

MOBILISIERUNGSPOTENZIAL

--

POTENZIAL FüR NACHHALTIGKEIT - WERT

--

LEICHTE IMPLEMENTIERUNG

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LEICHTE IMPLEMENTIERUNG - BEWERTUNG

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WICHTIGE VORAUSSETZUNGEN

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ART DER VERANSTALTUNG, AUF DER DIESE BPI VORGESTELLT WURDE

Studienaufenthalt (T2.3)

ARBEITSPLATZEFFEKT

--

KOSTEN DER IMPLEMENTIERUNG (EURO - €)

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MEHR DETAILS

ANGESPROCHENE HERAUSFORDERUNG

1. Verbesserung der Widerstandsfähigkeit der Wälder und ihrer Anpassung an den Klimawandel

DOMäNE

Bestandsaufnahme, Bewertung, Überwachung

Waldmanagement, Waldbau, Ökosystemleistungen, Resilienz

Forschung und Entwicklung

ART DER LöSUNG

Modellierung, DSS, Simulation, Optimierung

SCHLüSSELWöRTER

remote sensing techniques; carbon sequestration; forestry

DIGITALE LöSUNG

Ja

INNOVATION

Ja

HERKUNFTSLAND

Polen

UMFANG DER ANWENDUNG

National

ANFANGS- UND ENDJAHR

2015 - 2018

KONTAKTDATEN

EIGENTüMER ODER AUTOR

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REFERENCES AND RESOURCES

HAUPT-WEBSITE

http://rembiofor.pl/en/

RESSOURCEN

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

PROJEKT-WEBSITE

http://rembiofor.pl/en/

PROJEKT-REFERENZ

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 DER BEST PRACTICE

LOGO DER HAUPTORGANISATION

PROJEKT, IN DESSEN RAHMEN DIESES FACTSHEET ERSTELLT WURDE

Rosewood 4.0

BEITRAGSDATUM

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A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY