



DOKTORSKÝ STUDIJNÍ PROGRAM / DOCTORAL STUDY PROGRAM

VYPSÁNÍ TÉMATU / LISTING OF TOPIC

Studijní program / Study Program: **Exploitation and Conservation of Natural Resources**

Katedra / Department of: **Soil Science and Soil Protection**

Školitel, email / Supervisor, e-mail: **Doc. Ing. Lenka Pavlů, Ph.D., pavlu@af.czu.cz**

Konzultant, e-mail / Co-supervisor, e-mail: **Prof. Dr. Ing. Luboš Borůvka, boruvka@af.czu.cz**

RNDr. Václav Tejnecký, Ph.D., tejnecky@af.czu.cz

Forma studia / Form of Study: **Full_time**

Téma / Topic: Temporal development of forest soil properties in the Czech Republic

Hypotézy / Hypotheses: Forest soil properties have undergone significant changes in recent decades. The effect of various factors on these changes can be determined. Based on the previous development, changes of soil properties in near future can be predicted.

Anotace / Summary: The main objective of the thesis will be to evaluate the current state and the former development of forest soil properties in the context of ongoing climate change and to determine their potential for future forest management. The partial goals are: 1) To evaluate current state and development of nutrient content and stocks, acidification, stoichiometric element ratios, C sequestration etc.; 2) To analyze the effect of major factors controlling the changes of forest soil (climate, topography, vegetation, etc.); 3) To predict development of forest soil properties for near future under different scenarios.

The work will include: 1) Analysis of existing legacy data on forest soil properties (e.g. results of several national forest soils surveys, ICP-Forest and BioSoil monitoring); 2) Soil sample collection on selected locations and their laboratory analysis for current state assessment, specific soil properties etc.; 3) Statistical analysis of the effect of potential driving factors on the changes of soil properties in the last decades; and 4) Prediction of forest soil property development in near future under various scenarios of climate change, forest tree species composition changes etc.

V / In Praze

dne / Date: 24.11.2025

Podpis školitele / Signature of the Supervisor:

Podpis konzultantů / Signature of the Co-supervisors:

Podpis vedoucího katedry/*Signature of the Head of the Department:*

Příloha/Attachement: Finanční plán u témat vypsaných pro prezenční formu studia/*Financial plan for topics listed for full-time study*