Module name	**Applied Remote Sensing for Environmental Research**
Module number	CMS-TRK-ED3
Senior Lecturer	Prof. Dr. Matthias Forkel matthias.forkel@tu-dresden.de
Qualification objectives	Students are able to work independently on an environmental research project using remote sensing data and methods and to present the results to a specialised audience.
Contents	The module will include the planning, execution and presentation of an exploratory environmental research project, methods for processing and correcting optical and radar remote sensing data, methods for time-series and change analysis, image analysis, machine learning and inversion of radiation transfer models, thematic application references on forestry and hydrosciences, ecology, forest fire and climate research, and the use of literature management and version control systems.
Forms of teaching and learning	The module includes seminars of 1 SWS and self-study. The teaching language of the seminars may be German or English and will be specifically determined by the teacher at the beginning of each semester and announced in the usual manner.
Eligibility for participation	Knowledge of a script-based programming language at bachelor's level is required, as well as the skills to be acquired in the modules CMS-TRK-ES4 Environmental and Climate Remote Sensing, CMS-TRK-ED2 Image Analysis and Machine Learning in Environmental Remote Sensing and CMS-TRK-ED6 Retrieval of Land Surface Properties from Optical and Microwave Remote Sensing.
Usability	In the Masters Course Computational Modeling and Simulation, the module is an optional module in the Track Computational Environmental Science and Engineering, to be selected in accordance with Annex 2 to the Specific Examination Regulations. The module cannot be chosen in the Master's Course Computational Modeling and Simulation if this or a module with substantially the same content from a Course with which the entry conditions under § 3 of the Studienordnung have been met has already been completed. The module provides the pre-requisites for the modules it designates under the pre-requisites for participation.
Conditions for the award of credits	Credits are awarded when the module test is passed. The module test consists of a complex performance of 95 hours. The language of the test will be English.
Credits and marks	The module allows 5 credit points to be obtained. The module score corresponds to the test performance score.
Frequency of the	The module is offered every semester.

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Workload	The total workload is 150 hours.
Duration of the module	The module covers 1 semester.