Module name	**Climatology and Hydrology**
Module number	CMS-TRK-ES7
Senior Lecturer	PD Dr Thomas Wöhling thomas.woehling@tu-dresden.de
Qualification objectives	Students are able to critically analyse meteorological and hydrological information and use it for water management tasks such as planning, sizing, management and facilities. They know essential processes in the atmosphere and the hydrosphere, as well as methods for their observation and modelling, in particular basic principles and estimation methods for all components of the water balance.
Contents	The content of the module is the basics of the processes in the atmosphere and hydrosphere, energy and water balance on a physical basis, radiation, precipitation, evaporation, above-ground and underground run-off, and water and energy reservoirs. Other contents include the climate of the boundary layer based on site characteristics, radiation, energy and water balance and exemplary land use, as well as the macroclimate, its foundations and its variability.
Forms of teaching and learning	The module includes lectures of 4 SWS and self-study. The teaching language of the lectures can be German or English and will be specifically determined by the lecturer at the beginning of each semester and announced in the usual way.
Eligibility for participation	Knowledge of the basics of physics and mathematics at bachelor's level is required.
Usability	In the Masters Course Computational Modeling and Simulation, the module is a compulsory voting 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 120-minute away day. 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 winter semester.

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