Module name	**Climate Change**
Module number	CMS-TRK-ES1
Senior Lecturer	Prof. Dr. Matthias Mauder matthias.mauder@tu-dresden.de
Qualification objectives	Students have a systemic understanding of climate change through the integration of climate processes. They are familiar with complex contexts, have a better understanding of the conflict between climate issues and natural resources, and are familiar with the Earth-Atmosphere system.
Contents	The module will address climate change and its interactions with atmospheric tracers and vegetation, the management of limited resources in the context of a changing world, climate change as an essential component of global change. The module will also cover the state of play of climate science, in particular data, methods and results, including interactions with the hydrosphere and biosphere, as well as the development of the palaeo-climate and recent climate change.
Forms of teaching and learning	The module includes lectures for 2 SWS, seminars for 2 SWS and self-study. The teaching language of lectures and 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	Bachelor-level knowledge of mathematics, physics and chemistry is required.
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 exam consists of a 90-minute walk-in exam and a 30-minute non-public oral exam performance as a group exam. Both audit services are relevant to success. The language of the test will be English.
Credits and marks	The module allows 5 credit points to be obtained. The module score is the unweighted average of the scores for the individual audit services.

Frequency of the module	The module is offered every summer semester.
Workload	The total workload is 150 hours.
Duration of the module	The module covers 1 semester.