

Possible impacts of climate change on water resources (I002479)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course size (nominal values; actual values may depend on programme)
Credits 3.0 Study time 90 h Contact hrs 30.0 h

Course offerings in academic year 2020-2021

A (semester 2) English Gent

Lecturers in academic year 2020-2021

Schulz, Karsten
Holzmann, Hubert

WIEN03 lecturer-in-charge
WIEN03 co-lecturer

Offered in the following programmes in 2020-2021	crdts	offering
International Master of Science in Soils and Global Change (main subject Soil Biogeochemistry and Global Change)	3	A

Teaching languages

English

Keywords

Position of the course

Contents

This lecture series introduce the functioning of the earth system with a particular focus on the atmospheric and hydrological system. It integrates experts from the field of meteorology, hydrology, forestry and alpine hazard research. Their presentations provide knowledge about

- climate and weather at different spatial scales (including past and future trends),
- water cycle and water balance components and their interactions,
- global and regional climate models and weather forecast systems (e.g. ECMWF, ALADIN),
- soil, vegetation, atmosphere interactions with emphasis on evaporation processes,
- hydrological water balance models for climate change impact assessments,
- examples of cc-impact studies with respect to water resources, forestry and alpine hazards.

Initial competences

no previous knowledge expected

Final competences

After participation the students will have gained a deep understanding of the coupled atmospheric hydrological system, the impact if climate factors (precipitation, temperature) on evapotranspiration and runoff behaviour. They will be able to distinguish between hard and soft facts in climate change discussion and will gain knowledge about the reliability of expected boundary conditions of different climate change scenarios. Based on presented research results they will improve their understanding of the quantitative impact of climate change on runoff, forestry, alpine risks and its related aspects (hydropower capacity, snow cover and tourism, wood production etc.)

Conditions for credit contract

This course unit cannot be taken via a credit contract

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Lecture

Learning materials and price

e-learning course

References

Course content-related study coaching

Evaluation methods

end-of-term evaluation

Examination methods in case of periodic evaluation during the first examination period

Written examination

Examination methods in case of periodic evaluation during the second examination period

Written examination

Examination methods in case of permanent evaluation

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible

Calculation of the examination mark