

S147 Geo-Ecological Regional Processes**Coordinator:** Prof. Dr. H.-R. Bork**Teaching Staff:** Prof. Dr. H.-R. Bork, Prof. Dr. K. Dierßen**Section for SSE:** E - Open Studies**Status for SSE:** Elective**Section for EM:** B7 - Human Development in Landscapes**Status for EM:** Elective**Contact time overall:** 52 hours**Credit points:** 6 ECTS**Term (Semester):** 1 Winter**Independent study:** 128 hours**Prerequisites:** None**Language of tuition:** English**Overall workload:** 180 hours**Class size:** 25**Teaching Units:****Lecture - Geo-Ecological Regional Processes****Teaching Staff:** Prof. Dr. H.-R. Bork, Prof. Dr. K. Dierßen**Contact time:** 52

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Teaching Staff:**Contact time:**

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Teaching Staff:**Contact time:****Competences the module has been designed to develop:****Mastery of subject matter:** strong**Problem solving competences:** minor**Mastery of methods:** strong**Communication competences:** minor**Application of knowledge and understanding:** minor**Learning competences:** minor

S147

Geo-Ecological Regional Processes

Content:

Principles of geomorphology, quaternary geology and soil forming: The regionalised application of adapted methods for geomorphology and quaternary geology at site level and local and regional scales based on case studies from different continents. Regional impact of cultivation measures and conservation concepts based on erosion events, desertification and salinisation processes.

Principles of geo-botany: plant communities as result of site dependent parameters and plants as habitat forming factors. Characteristics of phytosociological units, identification of threats and conservation measures considering site specific conditions and transregional matter flux.

Learning outcomes:

Geo-scientific-processes: students are familiar with regional and local geomorphological, geological and soil forming processes and they are able to interpret interaction between them and hydrological and climatic systems for the formation of landscape typical structures

Geo-botanic processes: students know the fundamental and specific interactions between sites, plants and plant communities. They are able to identify the availability of resources and their vulnerability to anthropogenic use.

References:

CD includes the whole PowerPoint presentation as well as further digital explanations and the relevant publications

Mieth, A. & H.-R. Bork (2004): Easter Island – Rapa Nui. Kiel

Bork, H.-R. & A. Mieth (2005): Catastrophe on an enchanted island: Floreana, Galápagos, Ecuador. *Rapa Nui Journal* 19/1: 25-29. Los Osos

Dreibrodt, S. & H.-R. Bork (2005): Historical soil erosion and landscape development at Lake Belau (North Germany). *Zeitschrift f. Geomorphologie. N.F. Suppl.* 139: 101-128.

Vanwalleghem et al. (2005): Rapid development and infilling of a historical gully under cropland, central Belgium. *Catena* 63: 221-243

Mieth, A. & H.-R. Bork (2010): Humans, climate or introduced rats – which is to blame for the woodland destruction on Rapa Nui (Easter Island)? *J. of Archaeological Science* 37: 417-426

Dreibrodt, S., C. Lubos, B. Terhorst, B. Damm & H.-R. Bork (2010): Historical soil erosion by water in Germany: Scales and archives, chronology, research perspectives – a review. *Quaternary International* 222/1-2: 80-95

Dahlke, C. & H.-R. Bork (2012): Soil erosion and soil carbon on the Chinese Loess Plateau. In: *Recarbonization of the Biosphere - Ecosystems and the Global Carbon Cycle*. 83-98. Dordrecht (Springer)

Lubos, C., S. Dreibrodt, V. Robin, O. Nelle, S. Khamnueva, I. Richling, U. Bultmann & H.-R. Bork (2013): Settlement and environmental history of a multilayered settlement mound in Niederröblingen (central Germany) – a multi-proxy approach. *J. of Archaeological Science* 40: 79-98

Recommended previous knowledge:

None

Teaching media:

PPT

Assessment:

Oral examination: 100%

Contact details of module coordinator:

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