

WHO WE ARE

At Kiel University, individual and collaborative interdisciplinary research is actively promoted in coordinated academic projects and teaching. The Department of Ecosystem Management within the Institute for Natural Resource Conservation at CAU Kiel (<https://www.ecosystem-management.uni-kiel.de>) aims at research and development of integrative approaches to social-ecological systems sciences and theories and applied environmental management in various landscapes, coastal zones and marine areas. Staff members have been coordinating and involved in various R & D projects, including EU integrated projects and are active in the Ecosystem Services Partnership (ESP) and the International Association for Landscape Ecology (IALE). The Department holds a considerable record of publications, research projects and teaching, especially related to ecosystem services and their mapping. The ES “matrix” approach, assessing ecosystem service supply and demand in different land cover types, has originally been developed and intensively applied here. The Department consists of 10 staff members, the whole Institute of Natural Resource Conservation has about 50 employees.

OUR EXPERIENCE

- ★ **Human-environmental systems analysis:** Integrative assessments of ecosystems and socio-economic systems, linking ecological integrity and human welfare within adaptive management cycles
- ★ **Ecosystem services:** Quantification, indication, modelling and mapping of ecological functions and ecosystem goods and services, integrating supply, demand and budgets
- ★ **Landscape analysis:** Integration of ecological and human structures and functions at the landscape scale for the analysis and modeling of ecosystem properties and their development
- ★ **Long-term ecological research:** Long-term research (LTER) on the permanent observation plot “Bornhöved Lakes District” (near Kiel) of the European environmental monitoring in forests as parts of the ICP-Forests and LTER
- ★ **Ecosystem theory:** Analysis of ecological interactions basing upon thermodynamics, hierarchy theory, orientor theory and the gradient principle
- ★ **Integrated Coastal Zone Management ICZM:** Modelling of human impacts on coastal zones, supporting decision making processes for a sustainable use, development and protection of coastal areas and their resources
- ★ **Ecological and socio-economic indication:** Derivation of integrated indicator frameworks, quantification of holistic indicator sets and indication of ecological integrity, resilience and adaptability



WHAT WE DO IN ESMERALDA

- ★ Developing and testing of ecosystem services mapping and assessment methods
- ★ Work in ESMERALDA case study “Bornhöved Lakes District”
- ★ Dissemination of project results

WE ARE ALSO INVOLVED IN

Ecosystem Services Partnership ESP, International Association for Landscape Ecology IALE, EnvEurope, LTER



Prof. Dr.
Felix Müller

- ★ Ecosystem analysis and modelling
- ★ Ecosystem services and theories
- ★ Head of the Department of Ecosystem Management
- ★ Scientific involvement in the projects SECOS Synthese and BACOSA II on marine and coastal ecosystem services



Dr.
Marion
Kruse

- ★ Human-environmental interactions
- ★ Ecosystem function and service indication, mapping and modelling
- ★ Scientific involvement in the project SECOS Synthese on marine ecosystem services



Sabine
Bicking

- ★ Application and testing of ecosystem services mapping and assessment methods
- ★ Mapping ecosystem services in the German ESMERALDA case study area