ZMT LEIBNIZ CENTRE for Tropical Marine Research

BREMEN EARTH AND SOCIAL SCIENCE TALKS *(BEST)*

Photo: Dieuwke Hoeijmakers, ZMT

Seagrass global crisis – how to survive exposure to hypoxia and sulfide

Increasing anthropogenic pressure (industry, agriculture, aquaculture, and domestic waste) in coastal zones has resulted in global recession of seagrasses. The most common mechanism observed for seagrass decline under nutrient enrichment in shallow coastal zones is reduced light availability. Increased mineralization also affects seagrass survival because high levels of sulfides intrude into the plants causing their decline. Seagrasses, however, have developed several mechanisms against intruding sulfides, allowing them to survive in reduced sediments. Studies of seagrass performance show variation in sensitivity to sulfide intrusion. Some seagrasses, such as the temperate *Zostera marina* and the tropical *Thalassia hemprichii*, tolerate high sulfide intrusion, whereas the endemic Mediterranean species *Posidonia oceanica* shows high mortality under small amounts of sulfide intrusion. Possible implications of increasing eutrophication in coastal zones on the global distribution of seagrasses will be discussed.

Tuesday,
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from 17:00 at ZMT

Marianne Holmer

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Marianne Holmer is professor at the Department of Biology at University of Southern Denmark. Her research interests are in marine plant ecology and sediment biogeochemistry with particular interests in understanding ecosystem level dynamics of plants communities in response to resource, stress and disturbance gradients. Current research focuses on seagrass response to biogeochemical changes in temperate and tropical seagrass meadows in response to anthropogenic and natural disturbances. She has been head of department since 2010.