Ecological Economics

Centos
Oldenburg Center for Sustainability Economics and Management

Groundwater salinisation following sea level rise

Abstract: In coastal areas, salinity in groundwater – which is a major supply of drinking water – as a consequence of sea level rise is noticeable. Slow current velocity in the subsoil cause it and society and decision makers hardly take it into consideration. The aim of the project is to examine the extent of groundwater salinisation at the North Sea coast and to develop strategies for a societal approach as well as counteractions.

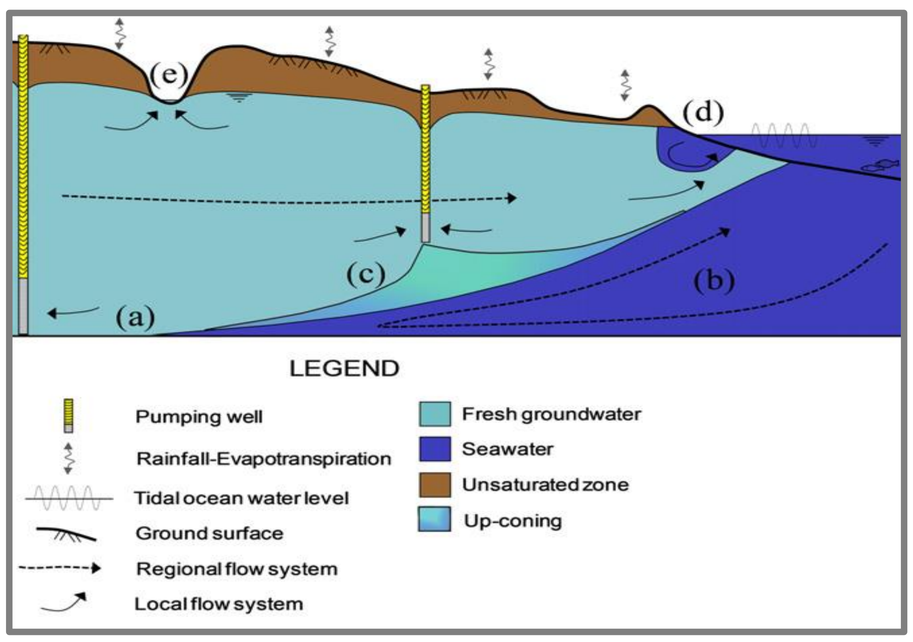

Figure: *Seawater intrusion into a coastal aquifer (Werner et al. 2013).*

Interdisciplinary Project

The interdisciplinary project “Groundwater salinisation following a sea level rise as a societal challenge of climate adaption – The case of North-Western Germany” is going to be conducted in cooperation with the research team „Hydrogeology and Landscape Hydrology“ headed by Prof. Dr. Gudrun Massmann for three years starting in the autumn 2016.

Actors in focus

Models are to be developed in order to depict and predict current as well as future flow conditions and groundwater salinities. The analysis of the socio-economic consequences will be interlocked with these models to reveal suitable countermeasures. A special focus is put on perception patterns, knowledge and learning processes of societal actors as well as the costs caused by salinisation.

Sea Level Change and Society

The research project is integrated in the newly established priority program „SeaLevel“ (Regional Sea Level Change and Society) by the German Research Foundation (DFG).
As an interdisciplinary project, scientific modeling is combined with social science analyses and the participation of local actors in the German North-West region. The DFG supports the project with 475,000 € in the next three years.

Further Research Aspects

In 2017, two more research projects are going to start. The project RELEEZE is funded by the BMBF and will deal with societal adaption processes to the disappearance of natural coastal protection at the North Sea in Lower Saxony.
The project ECOSOLAR is funded by the DAAD and BMBF and the research object are urban gardening activities in Tanzania and South Africa.

Prof. Dr. Bernd Siebenhüner

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Field of Activity

- Ecological Economics
- Social learning & collective learning processes
- International Environmental Policies
- Ecosystem Services
- Transdisciplinary and participative Methods

Regular Courses

- International Sustainability Management
- Environmental and Sustainability Policies
- Corporate Ecological Policies
- Ecological Economics
- International Environmental Governance
- Practical Projects in Sustainability Economics and Management
- Colloquium for Bachelor-, Master- and PhD-Students

Selected Publications

Siebenhüner, B./ Rodela, R./ & Ecker, F. (2016): Social learning research in ecological economics: A survey. Environmental Science & Policy, 55(1), p. 116-126.
Von Gleich, A./ Siebenhüner, B. (Hrsg.) (2015): Regionale Klimaanpassung im Küstenraum. Marburg: Metropolis.