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A SWAT MODEL FOR DENMARK

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ABSTRACT

The IMAGE alliance is an interdisciplinary consortium designed to establish a body of knowledge, which can provide a common ecosystem-based decision platform. Based on a series of integrated models, IMAGE aims to develop decision support tools and scenarios that describe the interplay between science and management of agriculture, fisheries, aquatic environments and welfare economics, with principal focus on the Danish marine waters within the Baltic Sea. The SWAT model has been chosen as the tool to model riverine water and nutrient loads from the drainage basin (area of Denmark 43,000 km²) to the sea. High intensive agriculture plays an important role in the drainage basin with 62% of the Danish land area being cultivated. Parameterization of the SWAT model is performed on a very detailed data set, containing e.g. information at the field and farm level of all Danish farms. Concurrently, modifications to SWAT, with particular focus on phosphorus cycling, are being performed and validated based on these data sets. For computational reasons the drainage basin is divided into seven regions, each with individual SWAT models. Our modeling concept and results will be demonstrated.



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