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The Dutch Contribution to DANUBIUS-RI

Jos Brils [1,*]

[1] Deltares, Utrecht, The Netherlands
* Correspondence: Jos.Brils@deltares.nl;

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Abstract: The Rhine-Meuse-Scheldt Delta Supersite encompasses observation and experimentation equipment to improve predictions of biogeomorphology in deltas and covers 4 observation sites in the river Rhine (from Border Germany-Netherlands, where the Rhine enters the Netherlands till close to where the Rhine enters in the North Sea), 2 observation sites in the Dutch part of the Scheldt estuary and 3 observation sites along the North Sea coast. The Supersite research facilities support the interdisciplinary character of the research field at the interface of geomorphology, hydraulics, ecology, and engineering. What makes the Supersite unique is the concerted deployment within a coherent program of a backbone of a continuous observation network consisting of: (1) state-of-the art observation equipment to measure the slow but cumulative processes during normal conditions, as well as the peaks, reversals and additional processes occurring during extreme events; (2) a rapidly deployable set of specialized instruments, to cover floods, droughts and storms; (3) essential laboratory facilities for experimental biomorphological process studies to study events and conditions that are presently unobservable in the field and (4) a coherent open database of the measurement results to be used as the foundation for modelling studies and for experimental approaches. The Impact Node aims at scientifically underpinned improvement in the production and communication of societally relevant knowledge. Through a Productive Knowledge Interaction (PROD) Facility, this Node boosts interactions between experts, policymakers, and managers to quickly bring new insights to the world. The PROD facility provides a state-of-the-art environment, including advanced visualisation and data exchange technologies, to facilitate knowledge exchange. On the other hand, it provides an opportunity for social scientists to study the dynamics of science-science and science-policy/practice interactions in the field of river-sea systems management. The knowledge thus gained will improve the quality and effectiveness of these interactions. The involvement of a wide range of scientists, public officials, and stakeholders in well-organized knowledge interactions will also contribute to the effective dissemination, exploitation, and communication of DANUBIUS findings to policymakers, management authorities, and entrepreneurs.

Keywords: Rhine-Meuse-Scheldt Delta; Supersite Observations; Biogeomorphology; Rapidly Deployable Instruments; Productive Knowledge Interaction (PROD) Facility

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