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## Understanding and managing the Westerschelde synchronizing the physical system and the management system of a complex estuary

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**Abstract.** This article analyzes the relationship between the process of policy making, management and research and the way in which the Westerschelde estuary developed between 1985 and 2006. The Westerschelde has three core functions: economically: it makes the Antwerp accessible; ecologically: it generates habitats for certain species; and in terms of safety: its morphology helps preventing the hinterland from being flooded. We analyze how the processes of policymaking, management and analysis focused on these three areas and how they in turn affected the physical system of the Westerschelde.

We proceed to develop a framework for evaluating the policy making, management and research and how this impacts the Westerschelde. We apply this framework to twenty years of policy making on, management and research about the Westerschelde. We conclude that policy, management and research, due to learning effects, take the dynamics of the Westerschelde into account to a greater extent than they have in the past, but there exists a real probability for old routines to return.

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