Geophysical Research Abstracts
Vol. 14, EGU2012-14059-2, 2012
EGU General Assembly 2012

Application of Integrated Control of Linked Water and Waste Water Systems in the Hoeksche Waard

A. van Loenen (1), K.-J. van Heeringen (1), and B. Mol (2)

(1) Deltares, Inland Water Systems - Operational Water Management, Delft, The Netherlands (albrecht.weerts@deltares.nl),
(2) Waterboard Hollandse delta, PO BOX, 4103, 2980 GC, Ridderkerk

Presented is a project in which an experimental integrated automatic control system for sewer systems and open water is developed for a rural region in The Netherlands, containing five municipalities and one water board. The goal of the project is to improve the water quality through increased cooperation between the authorities.
The most effective method for realizing the water quality goals is to reduce the number of sewer spills, and to position the spills on locations less sensitive to sewer spills. In the project, three main methods are used to reduce the number of sewer spills: The first method involves optimizing the use of the available storage in the sewer system; the control of the pumps aim at keeping the filling rates of the sewer subsystems equal. A second method entails increasing the inflow of the Waste Water Treatment Plants during heavy rainfall events without disturbing the treatment process. The third method is about controlling the system in such a way that spills occur at less sensitive locations, thus avoiding spills in ecologically valuable waterbodies. All these methods require an extensive sensor network and centrally real-time controlled systems (RTC). An extensive study of the waste water chain constitutes the basis for the deployment of the automatic central control. The project has resulted so far in an extensive knowledge on the functioning of the waste water systems and an increased cooperation between water authorities. Preliminary results on the central control indicate that the number and volume of spills have decreased.