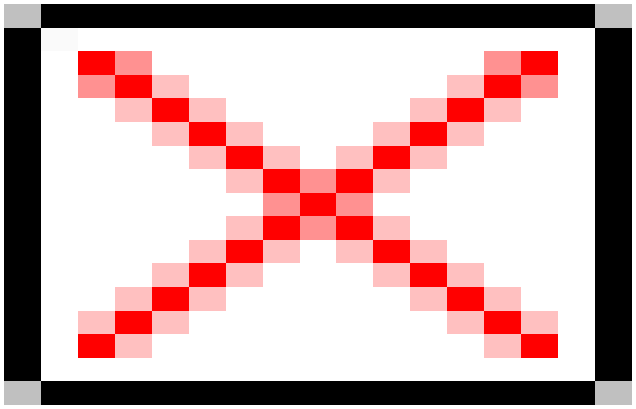
IMDC
Impact assessment / Climate change
Location:
Lanaken, Belgium
Client:
Hydraulic Engineering Laboratory



Project Contact Information

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Adapting the Maas River to the consequences of climate change

This assignment falls within the framework of the AMICE project, in which the Hydraulic Engineering Laboratory acts as the Flemish partner. AMICE unites the nations of the Meuse basin and its objective is to develop a strategy to adapt the Meuse to the impact of climate change (www.amice-project.eu).
The study consists of two parts, being firstly a bibliographic study of climate change and its impact on hydrology in the Meuse basin for high and low water scenarios, and secondly amending the extant hydraulic model of the Meuse (Mike11) and calculating the climate scenarios.

The overview of the literature covers the Flemish part of the Meuse basin (1,600 km²). Between Lanaken and Smeermaas the Meuse forms the border - the Grensmaas - between Belgium and the Netherlands for a period of 47 km. Thanks to the bibliographic study, it is possible to estimate the future characteristics and hydraulic behaviour of the Meuse basin.

The Meuse is a typical runoff river. Climate change will have an effect upon precipitation and consequently on the discharge. Precipitation will only fall in clustered patterns, with more and longer periods of rain in the winter and more and longer periods of dry weather in the summer.

In order to be able to estimate climate change on the one hand, and changes to water management and river constructions on the other, mathematical models are used. These models are employed to generate flood maps and make forecasts with regard to high and low water levels.

The Hydraulic Engineering Laboratory has a quasi-2D hydraulic model of the Meuse, designed in DHI Mike11. It was used to calculate various recurrent periods and climate scenarios, with the results being analysed.