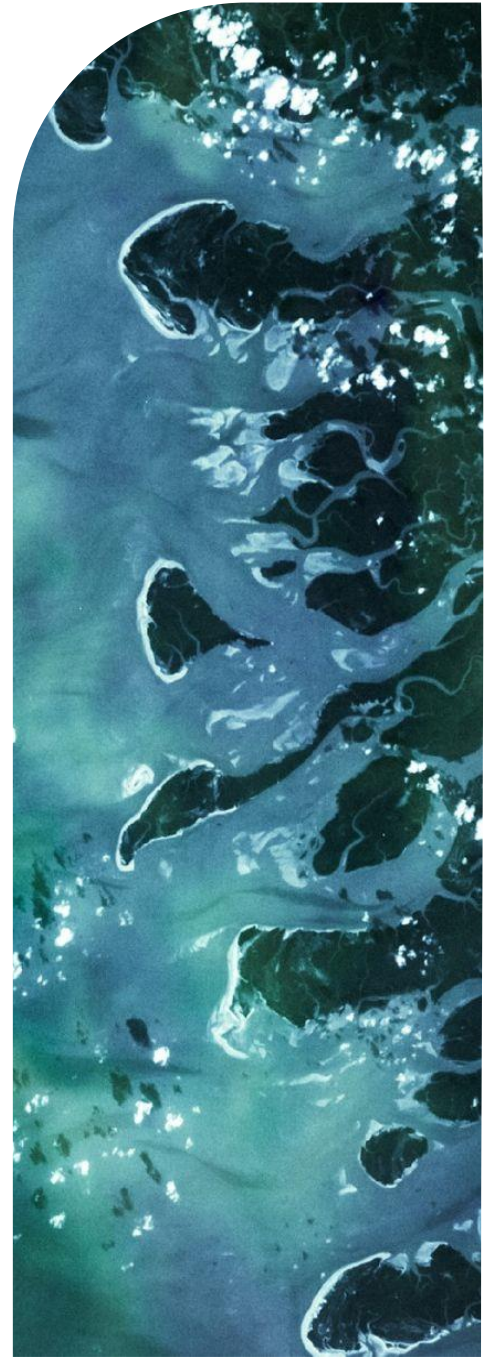


Scoping Study of the Vechte, Berkel and Oude IJssel river basins

Management summary, 5 July 2024



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Summary

This report presents the results of the scoping study for the Vechte, Oude IJssel (Issel) and Berkel river basins in the framework of the JCAR ATRACE program (*Joint Cooperation programme for Applied scientific Research on flood and drought risk management in regional river basins*).

The objectives of the scoping study are:

- To describe the current status of the knowledge base of the extended Vechte Basin¹.
- To describe current management of floods and droughts in the extended Vechte Basin.
- To identify the knowledge gaps, where research could help to improve the transboundary management of floods and droughts.

The report provides a description of the water system, from a physical and an institutional perspective. The relevant sectors that are affected by floods and droughts are also covered. An inventory is presented of relevant data and computational models and an overview is given of the institutions, arrangements and planning regarding flood – and drought management for both countries. The description and inventory form the starting points of the scoping study. The presented information is mostly taken from existing reports and interviews with relevant stakeholders.

This report combines all available information to assess the status of flood and drought risk and their transboundary management challenges. Both flood and drought risk are expected to increase in the future due to climate change and socio-economic developments, such as land use change and economic growth.

There are some examples of successful transboundary cooperation in flood risk management in the study area, such as the joint flood forecasting system for the Vechte river and the establishment of the *transboundary platform for regional water management* (GPRW). Through this GPRW, several joint projects have been initiated such as INTERREG project Living Vechte-Dinkel. This project resulted in transboundary flood plain restoration in the Vechte region.

¹ In this report we further refer to the three river basins Vechte, Oude IJssel and Berkel as the *extended* Vechte basin.

Furthermore, in the interviews the German actors highlighted the importance of learning from the Dutch knowledge and experiences regarding water retention measures such as retaining water on agricultural fields using small weirs. The GPRW is a good example of transboundary cooperation, but some participants feel that the effectiveness could be further increased. On the Dutch side, the regional water authorities represent all the important authorities. On the German side, stakeholders from the lower level water authorities participate, but the highest level does not, which leads to longer coordination processes.

However, despite many good examples, cross-border cooperation in the area is often limited to the exchange of information; while joint analysis and planning of risk management or preparedness is needed. In particular, the need for increased transboundary cooperation in drought risk management was recognized after the recent drought years in the area (2018, 2019, 2020, 2022), but so far this has not been implemented.

Differences in data and models are seen as one of the obstacles in transboundary cooperation. A transboundary network of relevant stakeholders on this topic is not established yet, but the recent submission of a joint INTERREG proposal on sustainable groundwater management can be seen as a first step.

The report concludes with the identification of the most important knowledge gaps, mentioned in the interviews. Based on these knowledge gaps, the following activities have been identified that could be considered as part of follow-up JCAR ATRACE activities or in other projects, in this suggested order:

1. A quantitative **water system analysis** to assess transboundary interaction during normal circumstances and a **transboundary stress-test** for extreme flood and drought events, including an assessment of the impacts of possible interventions. We think this should be one of the first joint activities, to initiate further preparedness for extreme conditions and it could help to prioritize further research and planning.
2. It is recommended to start a **comprehensive basin-wide evaluation of the 2023 / 2024 high water event**, including governance related to preparedness. The evaluation may lead to more insights based on empirical evidence and can provide detailed lessons on how the transboundary coordination may be improved. If possible, this maybe an integrated step in the before mentioned stress-test.

3. **Definition study** for joint development of future-robust flood and drought **forecasting system**, that provides actionable information, also under extreme conditions. This includes an improvement of the monitoring network. The importance of this activity lies in the integration of flood and drought forecasting and in improvement of transboundary forecasting during extreme events.
4. An **evaluation study** of the leverage of all actors for transboundary cooperation within the **current governance framework** and possibilities to adapt this framework for **more effective cooperation** in the longer term.
5. **Quantitative impact assessment** of catchment-scale **sponge functioning** measures and **other** (nature-based) **solutions**. This kind of intervention has the potential to reduce flood and drought risk to certain limits, and has a strong transboundary character as these measures are most effective if applied in the upstream parts of catchments.
6. Establishing a **transboundary groundwater monitoring network** could be a first step towards a comprehensive transboundary drought management strategy. Transboundary insights in (trends associated with) groundwater availability is an important element of a joint analysis and formulation of a strategy to manage drought risk.

The GPRW could be an effective platform to identify, shape and guide these joint activities. However, this would require an extension of the number of participating governmental and non-governmental stakeholders as well as an expansion of their time and financial budgets for cross-border tasks.

