

The Baton Rouge-based Water Institute of the Gulf will work with Deltares, a Netherlands-based water think tank, to develop a variety of coastal protection and restoration solutions that can be used in both countries and other locations around the world, the two organizations announced Monday.

At a ceremony at the state Coastal Protection and Restoration Authority building, where representatives of the two organizations, accompanied by Gov. John Bel Edwards, signed a memorandum of understanding, the institutes committed to conducting research aimed at seven key water resource areas. The agreement follows a series of more limited agreements between the two since the Water Institute was created in 2011.

"We've reached a critical crossroads for preserving Louisiana's coastline and our very way of life there," Edwards said in a news release announcing the agreement. "By combining forces with private research institutions, such as The Water Institute of the Gulf and Deltares, this MOU will help us establish a beachhead for mission success. As we work to save hundreds of square miles of Louisiana's coast, we will attract thousands of jobs across the state and build the Water Campus as a global leader in the water management sector."

The agreement focus areas include:

Integrated strategic water resources planning, including research on the effects of flooding and drought, and water pollution on communities, businesses and households.

Coastal and deltaic dynamics and forecasting, aimed at explaining the human-caused pressures being felt by these densely populated, but often rapidly-changing areas. This work will focus on tools to assist in ecosystem management, evaluation of restoration effectiveness and sediment management.

Nature-based solutions, including development of training, methods, models and tools to predict the benefits of nature-based solutions in support of water defense, adaptation and restoration planning. This goal aims at supporting countries and communities at local, national and regional levels.

Sediment strategies for coasts, with a focus on both mainland and barrier island sandy shorelines, and their management.

Operational watershed management, focusing on lowland river and coastal zone watersheds, including forecast modeling of events on timescales ranging from hours to months, collecting data on scientific and socioeconomic issues, including floods, storms and river control projects and diversions.

Software for continuing education, development and capabilities, including hands-on workshops and short courses for students, practitioners and managers.

Real-time monitoring of levees, aimed at establishing and maintaining flood safety standards for complex levee systems like those in Louisiana and the Netherlands.

"Because of our unique geography and challenges in Louisiana, we have been forced to learn quickly about adaptation for the sake of survival. We have relied for years on the experience of and partnership with our colleagues at Deltares," said Justin Ehrenwerth, president and CEO of The Water Institute.

"There is an acceleration of need for global expertise and innovations on water and subsoil," said Maarten Smits, managing director of Deltares. "We are pleased to partner with The Water Institute, our

peer organization that has done critically important work in a state where we see many parallels, and an organization with which we have already partnered to do great work."

The memorandum of understanding also calls for the Water Institute to review whether a merger with Deltares' United States office might be advisable. No date was set for making a decision.

The Water Institute has served as the think tank for the Coastal Protection and Restoration Authority, providing a variety of research services for the state's coastal master plan and its individual projects. Deltares has assisted in several of those efforts, and its scientists also have assisted the Army Corps of Engineers in the development of its levee upgrades and restoration projects in Louisiana and elsewhere.

"The knowledge transfer between these two world-class organizations will leverage expertise in water management, ecosystem restoration, storm protection and community resilience, and is a classic win-win for this important, growing sector of Louisiana's economy and the pressing need for this expertise worldwide," said Johnny Bradberry, executive assistant to Edwards for coastal activities and chairman of the CPRA.

The agreement also is seen as a continuation of efforts to brand Louisiana as a world resource for water management expertise.

"This association with Deltares, a globally renowned organization, enhances the model for excellence that we're establishing at the Water Campus and across Louisiana," said Don Pierson, secretary of the Louisiana Department of Economic Development.