Virginia coastal communities share coastal flooding experience with Charleston at Knowledge Exchange event

The Charleston area in South Carolina and the Hampton Roads region of Virginia have common strengths – vibrant economies, historic neighborhoods, major military installations, and beautiful waterfronts.

They also share a problem, one that threatens all of those strengths -- frequent, persistent flooding. That’s what prompted the Hampton Roads and Charleston Coastal Resilience Knowledge Exchange June 15-16 in Charleston.

About 60 planners, engineers, emergency managers, non-profit leaders, and corporate officials from the two coastal regions gathered to discuss strategies for dealing with their shared challenge. The event was coordinated by the Charleston Resilience Network (CRN), a public-private collaboration formed in 2015 to foster science-based planning for the area. The S.C. Sea Grant Consortium is one of the network’s partnering organizations.

Charleston Mayor John Tecklenburg set the stage at the Knowledge Exchange with a brief welcome. “We all know that resilience means a lot of different things to different people – resilience to disaster, to wars, to economic downturns,” he said. “But in the next 100 years, there is nothing more pressing on the city of Charleston than sea level rise and its impact.”

Water levels have risen more than a foot in the Charleston harbor in the past century and are forecast to rise another 1.5-3 feet in the next 50 years. The Hampton Roads region, which includes the communities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, Suffolk, and Virginia Beach, is dealing with similar forecasts.

Nuisance flooding has been on the rise for years in both regions. Extreme astronomical tides as well as persistent weather fronts push seawater into streets, yards, and structures dozens of times each year. Extremely heavy rain events, called rain bombs, can cause minor flooding on their own and catastrophic flooding when combined with extreme tides.

“This is a threat that is creeping up, not coming suddenly,” said Brian Swets, planning administrator for Portsmouth, VA. “We don’t need to say the sky is falling. We have time to act if we plan responsibly.”

Knowledge Exchange speakers from Virginia discussed some of the preliminary steps they are taking to deal with the problem.

- Hampton Roads leaders began holding quarterly adaptation forums in 2013, which draw 60 to 80 people. These gatherings keep the various entities dealing with flooding issues up to date on what others are doing.
- In June 2015, experts from New Orleans and the Netherlands were invited to the Hampton Roads area to share their experiences in urban water management.
- Local leaders in Virginia worked with the state’s Department of Transportation to incorporate inundation-mapping tools in new road
designs. As a result, for instance, a bridge built on a section of I-64 was raised by five feet based on sea level rise projections.

- The region secured a federal grant to develop forward-looking floodplain maps for its four distinct watersheds covering the next 70 years.
- Some Virginia coastal communities called a timeout on new infrastructure projects which did not incorporate sea level rise considerations.

The coordinated resilience effort in Hampton Roads began a few years before a similar movement in the Charleston region. But the South Carolina effort has gained traction with the formation of the CRN, the city of Charleston’s adoption of a sea level rise strategy in 2015, and the city’s appointment of Mark Wilbert as director of emergency management and resilience in 2017.

In addition to the Knowledge Exchange, the CRN in early 2016 coordinated a symposium recapping the impacts of, and community response to, the October 2015 floods. More recently, the CRN has facilitated informal gatherings of municipal, state, corporate, and non-profit stakeholders to build network participation and encourage sharing of information on flood-related issues.

Dan Burger, the CRN chair and director of the Coastal Services Division in the Ocean and Coastal Resource Management office of S.C. Department of Health and Environmental Control, said the presentations and discussions at the Knowledge Exchange were just the start.

“We have our work cut out for us,” Burger said. “Now we need to engage the energy and the best minds to keep this momentum going.”