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Research, Cooperation, a Vision for Combatting Rising Seas

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Joshua Behr: Research, cooperation, a vision for combatting rising seas

By Joshua Behr

Mar 6, 2016

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HAMPTON ROADS' changing climate holds enormous implications. These changes have the potential to fundamentally alter our physical landscape, economy, national readiness and quality of life. Responding to a changing climate is daunting, but we are making headway. There is reason for optimism.

Old Dominion University has long produced cutting-edge research that advances the science of oceanography, climatology and geophysics. But the university is also at the forefront in deepening our understanding of the social, economic and health impacts of these changes and has articulated an approach to building resiliency. For example, we have combined the physical modeling of storm impacts with the economic health and well-being of vulnerable populations.

The approach emerging from ODU emphasizes the intersection of the physical, engineering and social sciences by recognizing that Hampton Roads is a “system of systems” — not only critical infrastructure like transportation, communications and water, but also critical social, economic and health systems. Through investment in mitigation and adaptation strategies, we can toughen these critical systems and, in turn, strengthen our region's resilience.

We must stay focused on the primary fronts.

Continue to mitigate storm-related risks, meaning that we must make less severe the immediate- and mid-term consequences of larger storm events. Our coastal region historically is subject to tropical storms, Nor'easters and hurricanes. Localities and the state have increased their investments in emergency operations centers and other critical infrastructure, as well as planning and exercising response, logistics and communications.

Continue to take adaptive measures. Last year, the General Assembly directed Hampton Roads localities to incorporate in their comprehensive planning processes strategies to combat sea-level rise and recurrent flooding. Comprehensive planning efforts include measures to halt development in certain low-lying areas, protection of other areas through stormwater improvements or coastal barriers, and greater efforts to increase elevations and flood-proof homes.

Work toward longer-term, enhanced resilience. Resilience is the ability of our systems, on the whole, to withstand and recover from a shock inflicted by a hazard, as well as the ability of the region to evolve and adapt with a changing environment.

Enhanced resilience is more than hardening critical infrastructure and exercising emergency response and recovery efforts. It includes establishing a vision to re-shape the community and redefine land use in ways that will make the region more livable.

Adopting such a vision can help guide recovery efforts. Resilience is more than maintaining or rebuilding on the same footprints. It's striving for an environment built to last, incorporating venues that enhance livability, sustainability and quality of life.

Beginning with small gatherings of scientists, citizens and community and government leaders, efforts to build regional resilience have garnered federal attention. The White House's support for the intergovernmental coordinating project that brought together federal, state and local agencies within the region — and the region's recent successful response to the National Disaster Resiliency Competition, which drew more than \$120 million in part to support infrastructure and solutions in Norfolk's Chesterfield Heights — are good illustrations.

The region's efforts thus far exhibit what is best about America: a belief that we can tackle any problem, an ability to engage and harness our collective ingenuity and an unyielding optimism for the future. Are we better off today than we were a decade ago? Clearly, there is a heightened level of awareness, concrete evidence of local and regional efforts to incorporate sea level rise into planning and the beginning of an alignment of resources to address adaptation.

Much work remains to be done, but many indicators suggest we are heading in the right direction.

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