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Amber Kennedy
Old Dominion University

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ODU Highlights Climate Resilience Leadership During Legislators’ Visit to Campus

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By Amber Kennedy

Old Dominion University researchers shared projections of Virginia’s future if leaders take a “business as usual” approach to addressing climate change during a meeting Monday with legislators and former Gov. Terry McAuliffe, who is seeking a second term.

ODU President Brian O. Hemphill, Ph.D., hosted McAuliffe, who was joined by U.S. Rep. Bobby Scott, Virginia House Del. Angelia Williams Graves and Norfolk Councilwoman Andria P. McClellan, for a tour of ODU’s College of Sciences Major Instrumentation Center (COSMIC) Laboratory and a presentation from climate resilience experts.

The visit provided a chance to showcase the important research by ODU and its partners to not only monitor climate change impacts, but also play a role in developing innovative solutions to reduce risk and create economic opportunity.

The researchers advocated for developing climate strategies and implementation plans for the next 30, 60 and 90 years. Those strategies need to consider issues of equity and justice, they said, noting many of the worst impacts of climate change are felt by marginalized communities who live in flood-prone areas or face the pressure of gentrification pricing them out of higher-elevation neighborhoods.

Jessica Whitehead, the Joan P. Brock endowed executive director of the Institute for Coastal Adaptation and Resilience (ICAR), encouraged leaders to think about the impact of climate change not just from an economic perspective, but an equity perspective.

"Somebody who desperately wants to remain in their home because that’s been their home for 50 years, even if their home is only worth $50,000 or $75,000, that’s everything to them," she said. "How do we put a cost on that?"

Regional and statewide solutions will require significant investment. McClellan pointed out many localities have allocated funding to their improvement projects, but no planning funds are dedicated to a regional approach. It’s extraordinarily expensive, she said, but it’s also a matter of national security due to the large military presence in Hampton Roads.
Beginning the tour in the COSMIC Lab, Rodger Harvey, professor of ocean and earth sciences, explained how the lab’s instruments provide analytical services for research addressing climate change. The shared instrumentation supports collaborative research between ODU faculty, students and staff, government agencies and private companies.

Following the lab tour, Whitehead detailed what the future could hold for Hampton Roads and other parts of Virginia if significant actions are not taken.

In a series of maps, Whitehead showed how interdisciplinary collaborations across the University have helped document flooding, rainfall and sea level rise scenarios. One map estimated how neighborhoods would have been affected if Hurricane Florence, a powerful storm that caused catastrophic damage in the Carolinas in 2018, had hit Hampton Roads directly. The map, designed by Assistant Director of Geospatial and Visual Systems George McLeod, shows many of Norfolk’s neighborhoods would have completely flooded. Another map showed how, by 2080, infrastructure would be significantly impacted by sea level rise.

The goal, Whitehead said, is to move beyond focusing on resilient projects and instead toward building resilient systems, which is where ICAR can offer solutions. Launched in 2018, ICAR leverages ODU faculty to lead research, education and community partnerships to develop solutions for coastal communities. With a focus on four main pillars of resilience leadership - sea level rise and climate science; flooding and the built environment; social science and policy; and health dimensions - ICAR can educate current and future leaders who have a role in determining resiliency strategies in their regions. This approach to resilience training didn’t previously exist, Whitehead said, but presents a huge opportunity for ODU to lead in the field.

Carol Considine, director of Applied Projects for the Commonwealth Center for Recurrent Flood Resiliency (CCRFR), highlighted several collaborative projects with other Virginia institutions that apply research to develop resilience and adaptation solutions. For example, the Resilience Adaptation Feasibility Tool (RAFT), developed by ODU, the University of Virginia and The College of William & Mary, helps coastal localities improve resilience to flooding and storm hazards.

ODU’s collaborations have yielded several success stories. Through its interinstitutional partnerships, ODU has helped monitor the sinking of land; researched sea level rise and flooding; conducted economic analysis related to flooding; created business opportunities related to resilience and adaptation; supported Virginia’s Coastal Resilience Master Plan (CRMP); and established Recover Hampton Roads, an organization focused on speeding housing repair and recovery after storms.

Following the presentation, McAuliffe thanked the ODU researchers for their work. "I'm relying on you to help us with the data and the things we need to be doing," he said. "What you're doing is so important and so critical."

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