Science-policy integration for sea-level adaptation in the United Arab Emirates

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The United Arab Emirates (UAE), a young oil-rich nation, may not seem a likely candidate to lead cross-sectoral exchanges for climate research. Yet, the UAE's long-term policy horizon, financial capital, and vision for a sustainable knowledge-based economy situates it as a potential leader for climate science.

At the center of its pivot towards climate research is a growing concern for sea-level rise and natural hazards. Over 85% of the population and more than 90% of the nation's infrastructure is within a few meters of present-day sea-level. With its low-lying and shallow-sloping geography (about 35cm per km), this high-value coastline with Dubai and Abu Dhabi is particularly vulnerable to sea-level rise. Meanwhile, limited regional research and data scarcity creates deep uncertainty for sea-level projections. In the wake of COVID-19, the UAE is doubling down on government-led coordination for community health and security.

We set out a roadmap for the UAE to capitalize on its strengths to create usable and relevant sea-level projections for the region. With a newly established Climate Change Research Network, the UAE government is beginning to draw together academia, industry and policy makers for "furthering effective data collection and management, and advancing policy-relevant research on climate impacts and adaptation". By consolidating ideas from the science community within the UAE, we identify existing barriers to data gathering, information sharing, science-policy communication and access to funding. Our paper proposes pathways forward for the UAE to integrate sea-level science with coastal development and form best practices that can be scaled across the region.