

Greg GUANNEL, Ph.D.

University of the Virgin Islands, #2 John Brewers Bay

St Thomas, US Virgin Islands, 00802

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PROFESSIONAL EXPERIENCE

2017-Present: Director, Caribbean Green Technology Center, University of the Virgin Islands (UVI), St Thomas, U.S. Virgin Islands (USVI).

Spearheading the strategic direction and expansion of the Center into areas of energy resilience, water security, sustainable material management, infrastructure resilience and hazard risk reduction.

- Technical lead and strategic co-lead one of the most ambitious and innovative hazard mitigation planning effort in the U.S. that analyzes in depth the operational resilience of critical infrastructure and essential services to hazards in the USVI.
- Leading the creation and adoption of the first Comprehensive Energy Strategy Plan for the USVI to establish energy pathways and associated policies for the territory
- Leading and/or supervising a series of projects to increase system knowledge and influence territorial management strategies of solid waste, water resources, coastal systems and infrastructure assessments in the territory that immediately benefit local agencies
- Managing a Center of 2 staff; managed projects with staff of up to 20 people and a variety of consultants in different disciplines (engineering, science, social sciences, etc.)
- Lead and/or participate in the development of an innovative pre-engineering program, a renewable energy degree, and a system engineering course,
- Led the organization of numerous in-person and online meetings, symposia, webinars, workshops, with participation averaging from 40 to 200 people.
- Regularly engaged with a variety of stakeholders, from Governors, CEOs, Agency leads or general public; experienced working with philanthropy to raise funds for projects; experienced writing and getting grants from federal, local and philanthropic sources

2015-2017: Director, Florida Urban Program, The Nature Conservancy, Coral Gables, FL.

Led the creation and launch of The Nature Conservancy's first Urban Program in Florida

- Developed program's business and strategic plans centered around issues of infrastructure resilience and urban adaptation to climate change
- Led the creation, design and implementation of various climate adaptation, stormwater management, and heat management demonstration projects and studies
- Worked with community groups on climate and environmental justice projects that increased green infrastructure for stormwater and urban heat management, and community well-being

2013-2015: Research Associate, The Natural Capital Project; Stanford University, CA.

- Led the development of decision-support models in the InVEST software that incorporate the coastal risk reduction benefits provided by natural systems (coral reefs, mangroves, etc.)
- Led and co-led various multi-disciplinary teams to quantify flooding and erosion risk reduction in various coastal location (U.S., Belize, Barbados, Bahamas, Saudi-Arabia, South Korea, etc.)
- Co-Founded the Hawai'i Shore and Beach Preservation Association, in close collaboration with the Hawaiian government and various private companies

2009-2013: Post-Doctoral Fellow, The Natural Capital Project; Stanford University, CA.

- Created, developed and implemented the design of the Coastal Vulnerability and the Nearshore Waves and Erosion computer models in the InVEST software to quantify flooding risk-reduction benefits provided by coastal habitats
 - Lead engineer in multi-disciplinary projects to quantify and value ecosystem services delivery
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2001-2005: Coastal Engineer, Anchor QEA; Seattle, WA.

- Developed firm's methodology for underwater cap design to safely bury marine contaminated sediments in Superfund and other hazardous sites
- Designed a variety of coastal, lake and riverine structures for recreation, fisheries habitats and ecosystem restoration in the U.S.
- Led and/or supervised the design, cost estimation and preparation of construction plans and contract specifications of riverine and coastal construction and dredging projects
- Assistant construction manager and inspector for several marine construction projects

SELECTED PUBLICATIONS

- Cox, D., Arikawa, T., Barbosa, A., **Guannel, G.**, Inazu, D., Kennedy, A., ... Slocum, R. 2018. Hurricanes Irma and Maria Post-Event Survey in U.S. Virgin Islands. *Coastal Engineering Journal*, In Press.
- Biondi, Esteban, & **Guannel, G.** (2018). Practical tools for quantitative analysis of coastal vulnerability and sea level rise impacts—application in a Caribbean island and assessment of the 1.5°C threshold. *Regional Environmental Change*. <https://doi.org/10.1007/s10113-018-1397-4>
- Guannel, G.** (2018). Climate Change in the Virgin Islands. In USVI Hurricane Recovery and Resilience Task Force Report. St Thomas, U.S. Virgin Islands.
- Guannel, G.**, Arkema, K., Ruggiero, P., Verutes, G. (2016). “The power of three: Coral reefs, seagrasses and mangroves protect coastal regions and increase their resilience”, *PLOS One 11(7)*
- Guannel, G.**, Ruggiero, P., Faries, J., Arkema, K., Pinsky, M., Gelfenbaum, G., Guerry, A., Kim, C-K (2015). “Integrated modeling framework to quantify the coastal protection services supplied by vegetation”, *Journal of Geophysical Research*, 120(1).
- Reddy, S., **Guannel, G.**, Griffin, R., Faries, J., Boucher, T., Thompson, M., DiMuro, J. L. (2015). “Evaluating the role of coastal habitats and sea-level rise in hurricane risk mitigation: An ecological economic assessment method and application to a business decision”, *Integrated Environmental Assessment and Management 12(2)*
- Arkema, K., **Guannel, G.**, Verutes, G., Wood, S., Guerry, A., Ruckelshaus, M., Kareiva, P., Lacayo, M., Silver, J. (2013). “Coastal habitats shield people and property from sea-level rise and storms”, *Nature Climate Change*, 3: doi: 10.1038/NCLIMATE1944.

EDUCATION

- **Ph.D., Civil Engineering; Oregon State University; Corvallis, OR (2009)**
Thesis: “Observations and Modeling of Undertow and Sediment Movement on Sandy Beaches”.
- **M.S., Ocean Engineering; Texas A&M University; College Station, TX (2001)**
Thesis: “Observations of Remote and Local Forcing in Galveston Bay, Texas”.
- **M.S., Civil Engineering; Ecole Supérieure des Travaux Publics; Paris, France (2000)**

LANGUAGE SKILLS

- French: Fluent; Creole: Fluent; Spanish: Conversational

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- **Ph.D., Civil Engineering; Oregon State University; Corvallis, OR (2009)**
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Awards and Recognition

- Invited speaker to a variety of high profile regional, national and international panels and conferences
- Won variety of awards and press coverage for publications and student engagement
- Winner of variety of challenges and competitions for planning efforts and tools