Sea Grant Research

A look at efforts from 2016-2020

Spring 2021

Sea Grant supports the work of scientists and researchers in a wide variety of disciplines from hundreds of institutions. When urgent new questions arise, Sea Grant calls on this network of scientists for information and science-based solutions.

1,016 graduate students supported yearly*

1,419 Sea Grant researchers*

557 peer-reviewed publications per year*

Sea Grant research, conducted by both graduate students and researchers, covers a diverse range of topics including coastal processes, hazards, energy sources, climate change, storm water management and tourism. The results from this work are demonstrated through Sea Grant's widely-cited, peer-reviewed publications. Below, learn about some of Sea Grant's most successful peer-reviewed publications from 2016-2020.

More information at seagrant.noaa.gov/research

20,660 times publications were cited

45.75% open access publications

2,273 total peer-reviewed publications

Sea Grant articles published 2016-2020 calendar years+

- **31%** Marine & Freshwater Biology
- **25%** Environmental Sciences
- **18%** Ecology
- **15%** Oceanography
- **13%** Fisheries

*Metrics reported are yearly averages for work conducted February 1, 2016 to January 31, 2020

+2016-2020 publications indexed by Web of Science that reference Sea Grant author affiliation or acknowledge NOAA Sea Grant funding

Graphic credit: Slidesgo

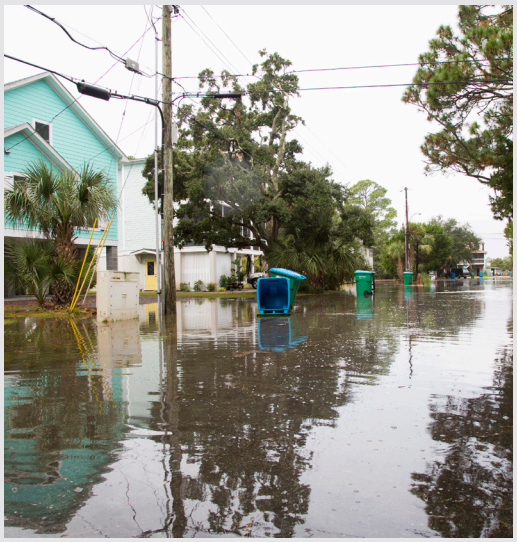
RESILIENT COMMUNITIES AND ECONOMIES

Projecting Sea Level Rise Risk in the U.S.

This study addresses the issue of ongoing population growth in areas vulnerable to sea level rise, one of the most apparent climate change stressors facing human society. The results suggest that the absence of protective measures could lead to U.S. population movements of a magnitude similar to the twentieth century Great Migration of southern African-Americans. The population projection approach taken in this study can also be adapted to assess other hazards.

Hauer, M., Evans, J. & Mishra, D., 2016. Nature Climate Change, 6, 691–695. DOI: 10.1038/nclimate2961

cited **161** times
by **630** authors
in **37** countries



A flooded road in Tybee Island, Georgia, shortly after Hurricane Matthew in 2015. Photo credit: Georgia Sea Grant.

HEALTHY COASTAL ECOSYSTEMS

Microbialization of Coral Reefs Globally

On coral reefs, microbialization (a shift towards higher microbial biomass and energy use) facilitates enhanced growth of fleshy algae, conferring a competitive advantage over calcifying corals and coralline algae. This can be caused by overfishing and eutrophication. This study examines over 400 samples from 60 coral reef sites across three ocean basins, consistently finding that coral reefs are threatened by this microbialization.

Haas, A., Fairoz, M., Kelly, L. et al., 2016. Nature Microbiology, 1(16042). DOI: 10.1038/nmicrobiol.2016.42

cited **83** times
by **446** authors
in **34** countries

SUSTAINABLE FISHERIES AND AQUACULTURE

Preparing Policy for Migrating Species

Fisheries, which are critical to the nutrition of billions of people, will face new challenges as climate change alters ocean conditions. The authors show that many ocean species will likely shift across national and other political boundaries in the coming decades, creating the potential for conflict over newly shared resources.

Pinsky, ML; Reygondeau, G; Caddell, R; Palacios-Abrantes, J; Spijkers, J; Cheung, WWL, 2018. Science, 360(6394), 1189-1191. DOI: 10.1126/science.aat2360

cited **107** times
by **564** authors
in **51** countries

ENVIRONMENTAL LITERACY AND WORKFORCE DEVELOPMENT

Children can Foster Climate Change Concern in Parents

Using an experimental evaluation of an educational intervention, this study tests child-to-parent intergenerational learning as a pathway for overcoming socio-ideological barriers to climate change concern. Results demonstrate the success of intergenerational learning for indirectly building climate change concern among parents of North Carolina middle school-aged children.

Lawson, D.F., Stevenson, K.T., Peterson, M.N. et al., 2019. Nature Climate Change, 9, 458–462. DOI: 10.1038/s41558-019-0463-3

cited **26** times
by **132** authors
in **26** countries