Stony Brook University
School *of* Marine and
Atmospheric Sciences

School of Marine and Atmospheric Sciences

Exciting News!

5-12-25

SCHOOL of MARINE and ATMOSPHERIC SCIENCES

SoMAS

2025 SoMAS Profile

46 tenured/tenure-track faculty including
4 endowed chairs; 1 endowed professor
6 SUNY Distinguished Professors
11 research professors

7 adjunct faculty,
10 affiliated faculty

6 lecturers

~130 graduate students

~750 undergraduate students,
8 majors

Two campuses

Seven research vessels

Two flowing seawater laboratories

New Faculty Hires

Hendrik Hamann
Professor
artificial intelligence (AI), machine learning (ML), physics-based simulations, high-performance computing, geoinformatics

Minghao Qiu
Assistant Professor
Air quality; Climate change impacts; Climate change and health; Energy and climate policy evaluations

Oliver Shipley
Assistant Professor
Bulk and compound specific stable isotope systems, food-webs, ecological niches, community dynamics, ecosystem ecology, energy flow

Dan Holstein

Dan is an Associate Professor in the Department of Oceanography & Coastal Sciences at Louisiana State University. He received his PhD in 2013 from the University of Miami's Rosenstiel School of Marine and Atmospheric Science. Dan is a coral reef ecologist, a biophysical and ecological modeler, and a technical rebreather diver.

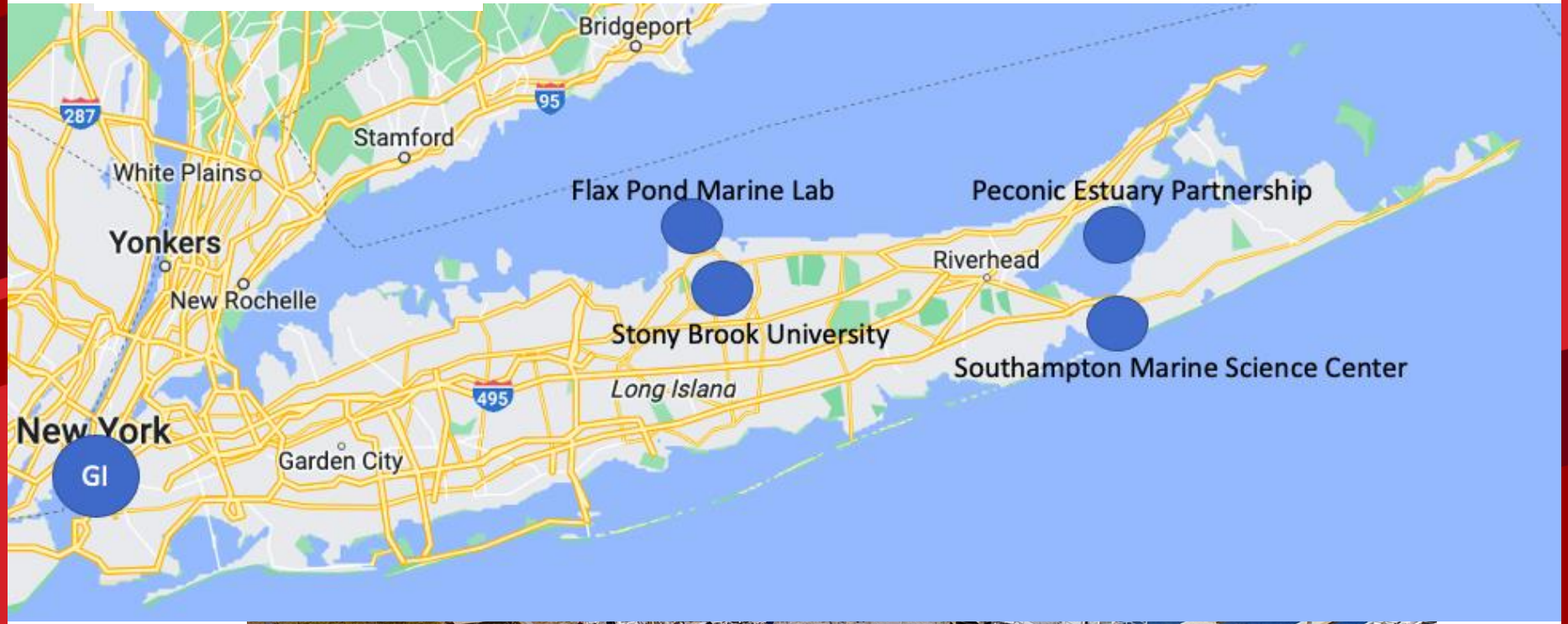
The SoMAS P&T Process

Summary

1. We are making it work, but it can't if we were to be any smaller.

2. Steady as she goes…

Facilities


Bridgeport
287
95
Stamford
White Plains
Flax Pond Marine Lab
Peconic Estuary Partnership
Yonkers
Riverhead
New Rochelle
Stony Brook University
Southampton Marine Science Center
Long Island
495
New York
GI
Garden City

Ships

Stony Brook University
School of Marine and Atmospheric Sciences

RESEARCH VESSELS

R/V PRIVATEER
Oceanographic Sampling, Diving, Fisheries.

R/V SEAWOLF
All Types of Oceanographic and Fisheries Work

R/V SHINNECOCK
Shallow Water Oceanographic & Fisheries Sampling

R/V PAUMANOK
Offshore Oceanographic sampling, Diving operations

R/V DONALD W. PRITCHARD
All Types of Oceanographic Work & Shallow Water Fisheries

R/V PARKER
Underway Sampling Fisheries work & Diving operations

Our fleet of research vessels are available for educational trips and charters. For more information, visit http://somas.stonybrook.edu/outreach

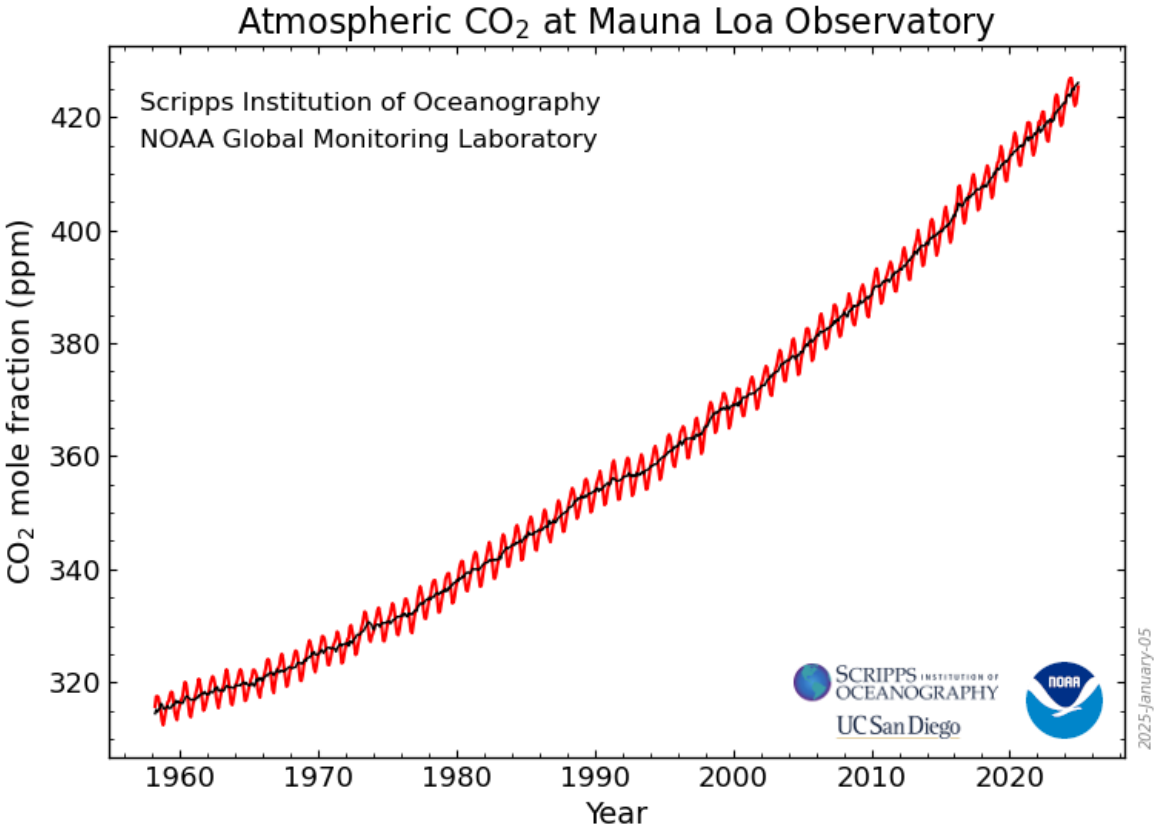
R/V PECONIC
Large Group Research cruises, Educational Trips

The R/V Seawolf

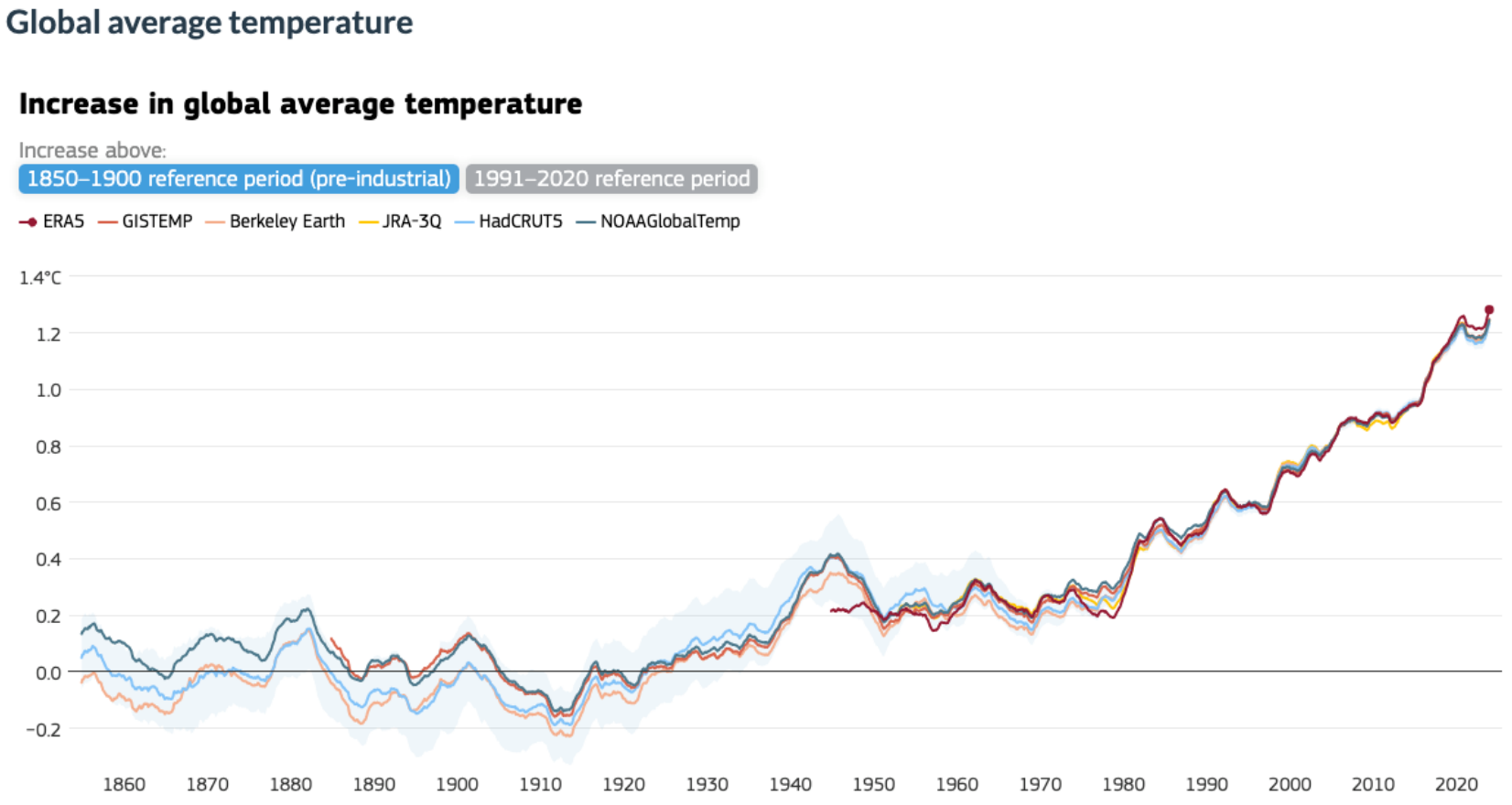
New SoMAS Research Vessel?

What Ties us Together?

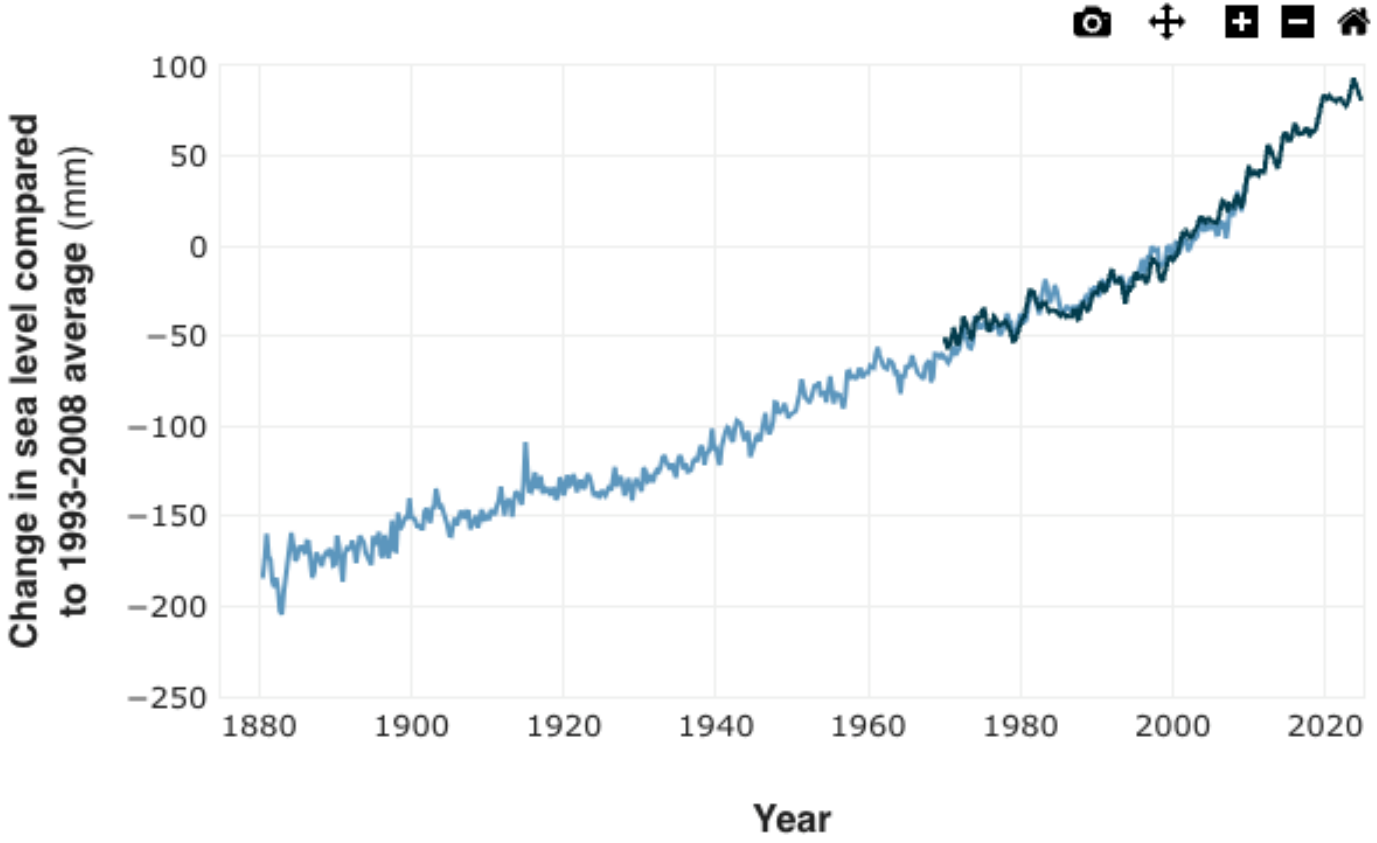
Historical Atmospheric CO_2 Concentrations



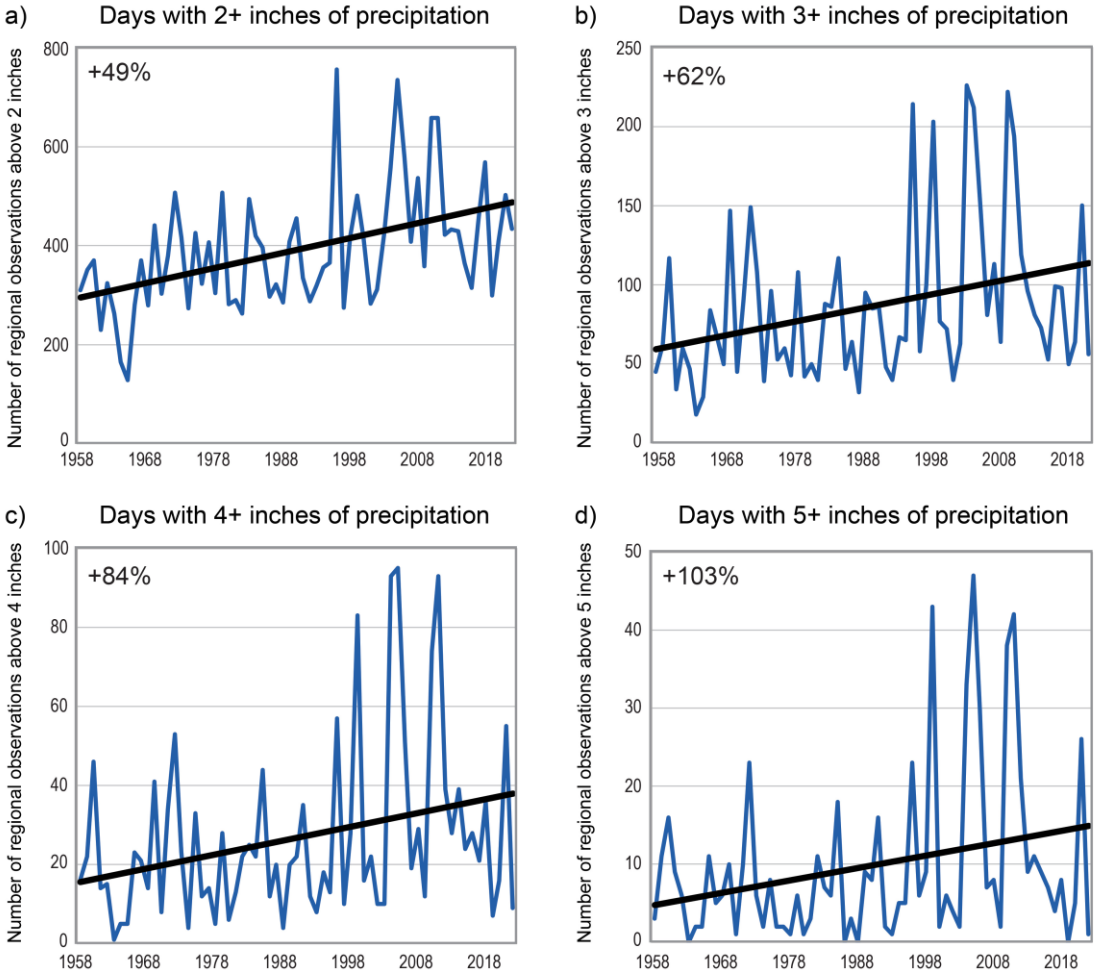
Global Avg. surface temperature



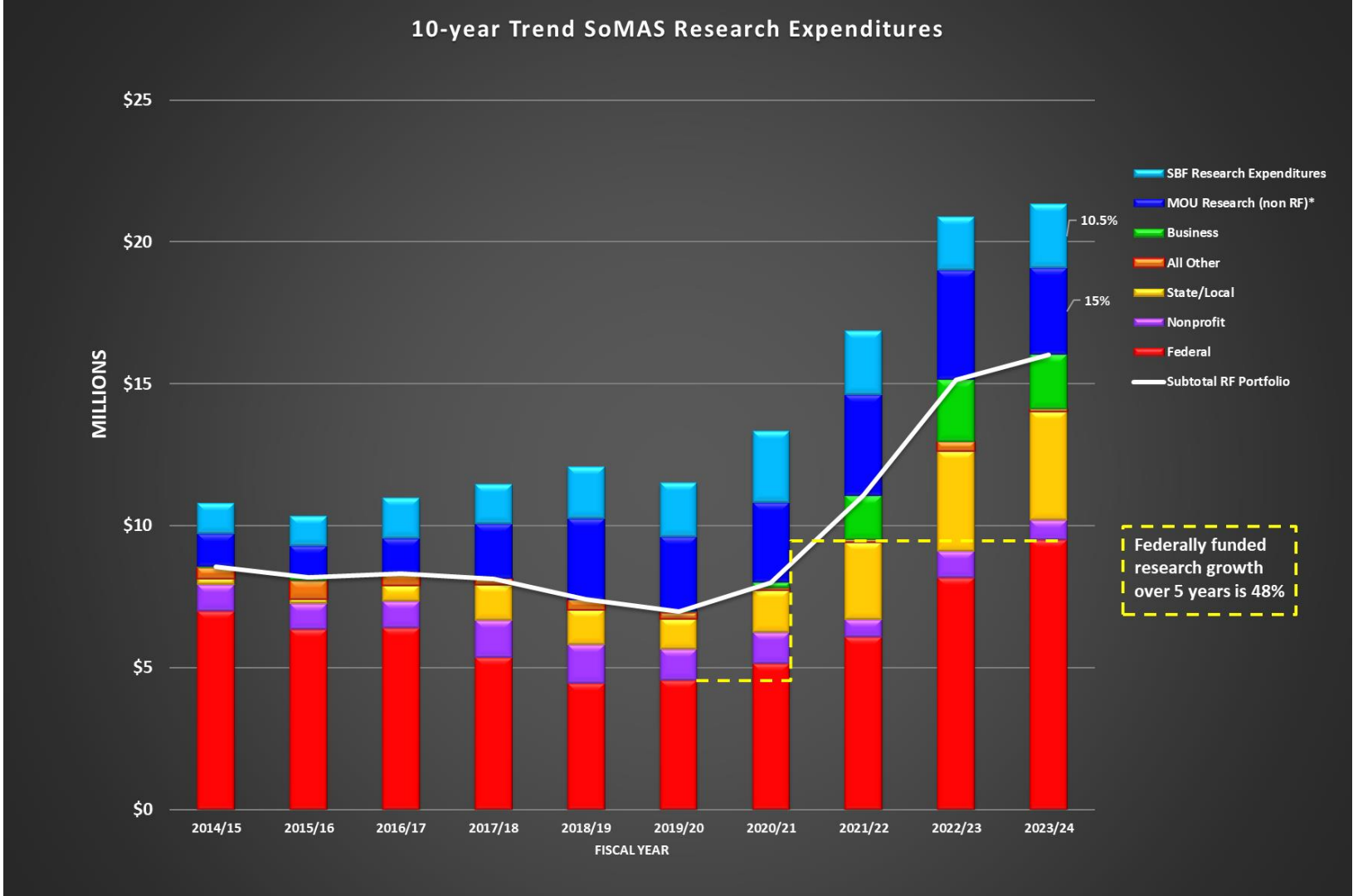
Sea level rise and coastal flooding



Trends in Extreme Precipitation in the Northeast



South Fork Wind Farm, 132MW of generating capacity, completed in March of 2024


10-year Trend SoMAS Research Expenditures
$25
$20
$15
$10
$5
$0
MILLIONS
2014/15
2015/16
2016/17
2017/18
2018/19
2019/20
2020/21
2021/22
2022/23
2023/24
FISCAL YEAR
SBF Research Expenditures
MOU Research (non RF)*
Business
All Other
State/Local
Nonprofit
Federal
Subtotal RF Portfolio
10.5%
15%
Federally funded research growth over 5 years is 48%

In summary, SoMAS studies climate change, and is committed to renewable energy, and to DEI.

What could go wrong?

Impacts of the changing federal landscape on SoMAS

- **Several SoMAS faculty, including me, have lost federal funding.**
  But the Provost/President will help with stranded grad. students, I believe.
- **Many web sites and models created/hosted by Federal agencies are at risk.**
- **However, there are opportunities for us to step into the communication vacuum.**

New Degree Programs and New Courses

**We are working to better engage our students
In their first and second years, and to create new
Programs that will be effective in recruiting.**

Important examples:

Stony Brook Students Can Select a New Climate Sciences Major

November 20, 2024 4 min read

Stony Brook University's School of Marine and Atmospheric Sciences (SoMAS) is welcoming a brand new major that combines its atmospheric sciences and sustainability studies programs to research and respond to environmental changes.

The BS in Climate Sciences major offers students the tools and knowledge necessary to study and find solutions to address climate change, said SoMAS Dean Paul Shepson.

"We are building a program about climate change, so we want to draw on intellectual content from everyone on campus. The solutions to climate change are about human decision-making," Shepson said.

Climate Solutions

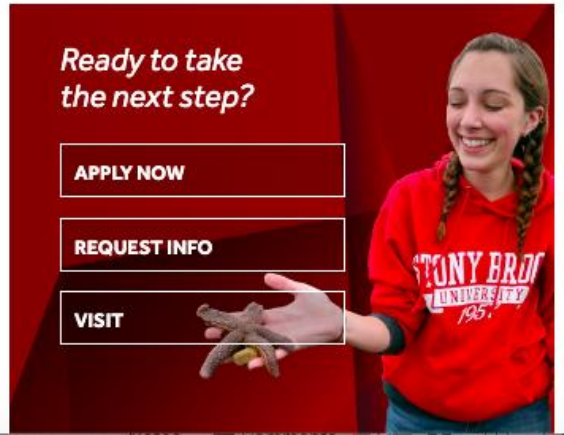
‹ Back to all Programs

Why Study Climate Solutions?

The Climate Solutions Minor is intended to provide a coherent foundational knowledge about climate change and skills to work on mitigation and adaptation solutions. This new knowledge and these skills will deepen and strengthen students' major education by offering a transdisciplinary understanding of the forces that have created the climate crisis, possible solutions offered by various fields, and the socio-economic and political forces that have made the solutions to this crisis so difficult.

AREAS OF STUDY:

- Natural Sciences
- Engineering
- Social Sciences and Humanities



New Course on Energy, Climate and Society Is a Cross-College Collaboration

October 24, 2022 3 min read

The energy consumption of 21st century societies is causing the Earth's climate to warm at an alarming rate, but our way of life is heavily reliant on fossil fuels. Knowing how we came to this moment in time, where the longevity of human life on the planet is in question, is critical to solving the problem of climate change. **CDS 101: Energy, Climate and Society** is a new class being offered in Spring 2023 that aims to provide historical context, scientific understanding and potential paths forward to the climate crisis.

MAR 107: Marine Organisms in Changing Oceans
SoMAS, Stony Brook University
Course Description:

MAR 107, Marine Organisms in Changing Oceans, examines the impact of climate change and other human-induced changes on marine ecosystems, exploring how organisms, from microplankton to charismatic megafauna, respond and adapt to shifting ocean conditions. The course covers broad topics in marine biology and ecology, including human activities such as fisheries and offshore wind development, while preparing students for advanced and specialized studies in biological oceanography, marine ecology, evolutionary biology, fisheries science and management, and marine conservation biology.

The NY Climate Exchange: A Globally-Facing Climate Pioneer

The Governors Island Environmental Observatory, GIEO

We aim to build a long-term observatory on Governors Island that will serve as a beacon of progress and hope regarding the multitude of economic, human health, ecosystem health, and climate change benefits that will accrue as a result of the efforts of the NYCE and all of us who are committed to make NYC (and beyond) a successful living laboratory for a cleaner healthier planet.

We will observe the conversion of NYC (and beyond) from a fossil fuels/combustion-related unjust society to a renewable energy-based urban ecosystem that embraces environmental justice.

To start GIEO, we need quantitative observations of the current environmental baseline. We need measurements of the baseline of:

Greenhouse gas emission rates

Associated emission rates of ozone and particulate matter precursors

NYC public health

State of environmental and social justice

Safety and safe havens

Indigenous plants and urban vegetation

Waste management and recycling

Water quality

Summary

- **SoMAS is in a substantial growth period, for now...**
  in part due to enthusiastic efforts and local, regional and national scale opportunities related to climate change, renewable energy, and challenges in coastal environments, and our geography.

- **We have tremendous opportunities to help lead SBU in realizing its potential as SUNY's "Flagship Campus"**

- **While engaging our students in problem solving in the field, we prepare them to lead the world in meeting the challenges of the 21st century.**

- **Our strengths, and focus on climate change and coastal environments will enable us to help SBU lead in the pursuit of the goals of the New York Climate Exchange**