In the decades and century to come, we will experience extraordinary changes on our planet, with consequences that may dramatically change the way we live our lives. Reducing uncertainty, through the prediction of weather, climate and ecosystem change, requires NOAA funded scientific research to continuously improve our understanding of the Earth as an interdependent system of ocean, air, land and living world.

From droughts and floods to tornadoes and hurricanes, NOAA’s science and services are used by communities from coast to coast to prepare for, and recover from, extreme events. In order to build a Weather-Ready Nation, where communities and our economy become ready, responsive, and resilient to the increasing vulnerability to extreme weather, water, and climate events, over the next several years, the NOAA’s National Weather Service must evolve its operations to be more agile, efficient, and effective for the 21st Century. A key component to the success of this crucial mission is federally funded research.

**National Sea Grant College Program**

SBU recommends $85 million for FY19 – consistent with levels in S129/HR4306.

A federal–state partnership program, Sea Grant’s mission is to enhance the practical use and conservation of coastal, marine and Great Lakes resources in order to create a sustainable economy and environment. Through this program, Stony Brook’s research is helping to develop sound, scientifically-based information about sustainable use of coastal resources and putting this information in the hands of coastal residents, officials, communities and businesses to inform their decision about coastal resources.

For every two federal dollars, Sea Grant leverages another dollar from state and local entities. In 2015, the Sea Grant program, which was funded at $67.3 million, delivered:

- **$575 million** in economic impact,
- **854%** of the federal investment of **$67.3 million** in 2015

Reported by NOAA in April 2017
Highlights from SBU’S NOAA Funded Research:

- Developing new products to improve the accuracy of weather forecasting 3-4 weeks ahead of storms, which will benefit stakeholders such as utility companies and emergency management.
- Determining the factors promoting harmful algal blooms in bodies of water—depending on their type, these blooms can be harmful to humans, small animals, and the fish we consume.
- Developing advanced metrics and tools for forecasters to better predict accurate weather conditions including precipitation, high winds and storm surge at lead times from 0 to 10 days.