Online Searchable Database:

Making New York Sea Grant research accessible in new media

With the launch of a new feature on New York Sea Grant's Web site, we are now happy to provide visitors the ability to search our NYSG projects portfolio. You will find this search facility to be a user-friendly and powerful tool to find information about our funded research projects from 1990 to the present. Through this tool you will soon learn that NYSG research is diverse in topics and geography and has a distinguished history in helping New York use and manage our coastal resources for the benefit of all New Yorkers and beyond. This is a living database that will grow and evolve as we add new projects and update the impacts of older projects. We invite you to explore our legacy of "*Bringing Science to the Shore.*"

Get started by following this sample search:

http://www.seagrant.sunysb.edu/projects/search.aspx

Sea Grant
New York

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From *www.nyseagrant.org* follow the "Projects" link through the "Research" tab and click on the "Searchable Database." Our sample search is for project investigator Dr. Christopher J. Gobler (highlighted in orange).

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Online Searchable Database

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Keywords: | Investigator: Dr. Christopher J. Gobler | Institution: | Year: | search | clear

Project Number	Project Title	Investigators	Institutions	Dates
R/CMB-36-NYCT	Impacts of climate change on the export of the spring bloom in Long Island Sound	Dr. Christopher J. Gobler, Dr. Darcy J. Lonsdale	Stony Brook University	08/01/2009 07/31/2011
R/CMB-37-NYCT	The distribution, causes, and impacts of Alexandrium fundyense blooms in coves, near shore, and open water regions of Long Island Sound	Dr. Christopher J. Gobler	Stony Brook University	03/01/2009 02/28/2011

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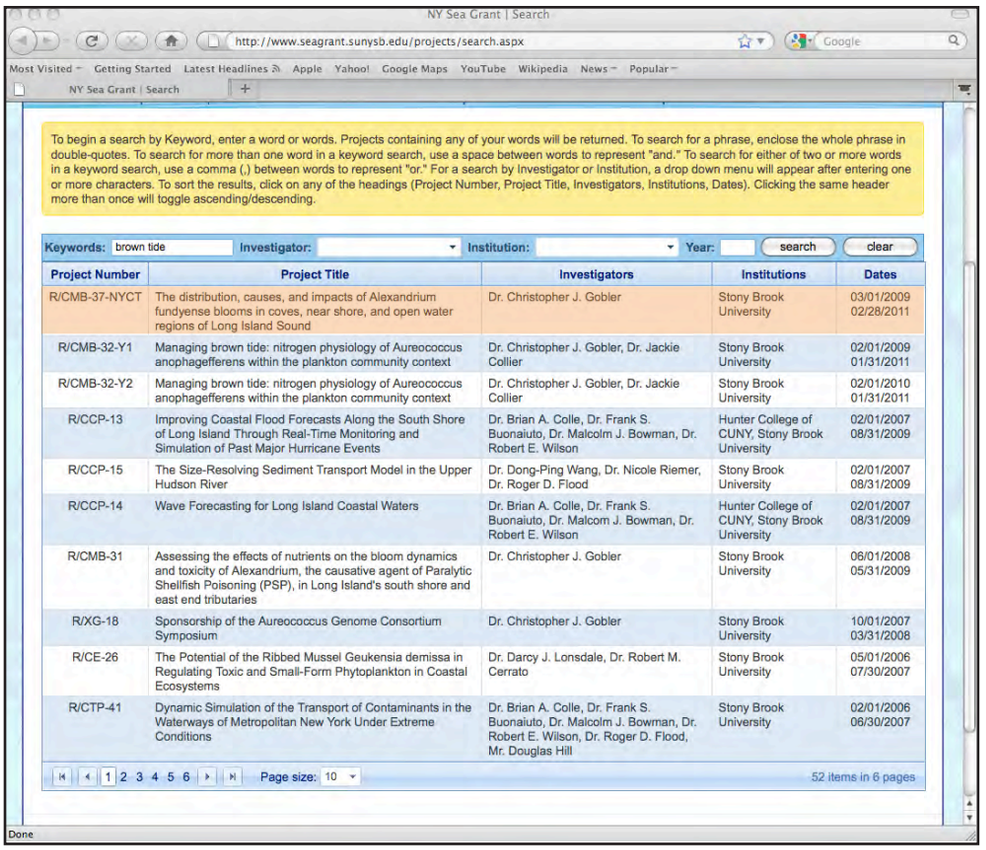
A listing of Dr. Gobler's research projects is then displayed. For this sample the first project on climate change was selected (highlighted in orange).



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A summary of the entire project is then displayed.

Impacts of climate change on the export of the spring bloom in Long Island Sound

 # R/CMB-36-NYCT: Current **Started on: 8/1/2009; ended on: 7/31/2011**

Objectives

1. To conduct field studies of physical and chemical characteristics, phytoplankton and zooplankton species composition and abundance, primary productivity, grazer-induced mortality rates of phytoplankton, and organic matter export in LIS during winter and spring;

2. To experimentally elucidate the impact of higher and lower winter seawater temperatures on the magnitude and composition of the spring bloom, zooplankton grazing rates, and organic matter export in LIS; and

3. To identify those components of the LIS pelagic food web altered by winter / spring temperature.

Investigators

» **Dr. Darcy J. Lonsdale**
Principal Investigator
Stony Brook University
School of Marine and Atmospheric Sciences

» **Dr. Christopher J. Gobler**
Co-Principal Investigator
Stony Brook University
School of Marine and Atmospheric Sciences

Methods

1. Vertically characterize temperature, salinity and photosynthetically-active radiation of the water column using standard CTD and hand-held probes;

2. Measure dissolved nutrient concentrations;

3. Employ standard chlorophyll a analysis and flow-cytometric methods to characterize the total phytoplankton community;

4. Use the SETCOL method to measure the total and size-specific sinking rates of the ambient phytoplankton community;

5. Enumerate the taxonomic composition of preserved phytoplankton and zooplankton samples collected in whole seawater samples or net tows;

6. Measure rates of primary production via uptake of 14C-NaHCO3 at ambient, elevated and reduced water temperatures and two light regimes;

7. Use the dilution technique to determine microzooplankton grazing rates of phytoplankton at ambient, elevated and reduced water temperatures;

8. Sample adult copepods to estimate total phytoplankton ingestion rates in the field as determined by the gut-fluorescence technique;

9. Conduct mesocosm experiments to evaluate the longer-term (~ two weeks) responses of phytoplankton and zooplankton to changes in temperature and light levels; and

10. Utilize univariate and multivariate techniques to analyze the field and experimental data to identify those aspects of the pelagic food web that could change significantly under altered temperatures in LIS during winter.

Rationale

Seawater temperatures in LIS have increased by 1.5oC between 1976 and 2001 which represents typical patterns seen along the northeast US coast. It is well established that temperature affects numerous ecological and evolutionary processes. More specifically, it has been demonstrated in other temperate coastal waters that during warm winters, the winter-spring bloom is suppressed and zooplankton abundances increase while nutrient levels remain high. Thus, it has been hypothesized that increased zooplankton grazing is the mechanism of bloom suppression. However, this hypothesis has yet to be tested in LIS or elsewhere in the US. Clearly, continued temperature-driven suppression of the spring bloom brought about by global warming will significantly alter benthic-pelagic coupling and the

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