



NOAA FISHERIES Webinar Series

Sponsored by the **Quantitative Ecology and Socioeconomics Training (QUEST) Program**

Accelerated Warming of the Northwest Atlantic Under Climate Change: Implications for Northeast U.S. Fisheries

Webinar Details:

Date/Time: Tuesday, May 5, 2015 | 12-1 pm

Webinar: <http://www.lib.noaa.gov/about/news/brownbagseminars.html>

Location: NOAA Central Library, SSMC#3, 2nd floor

Topic: Climate Change Projections from High-resolution Global Models and the Implications for Fisheries Management in the U.S. Northeast Shelf Marine Ecosystem

Presenter: Dr. Vincent Saba
*Research Fisheries Biologist
Northeast Fisheries Science Center*



Abstract: Over the past 20 years, ocean surface temperature in the United States Northeast Shelf (U.S. NES) has warmed at a substantially higher rate than the global average. To date, all climate change projections for species within the U.S. NES have been based on climate models that have a coarse ocean resolution (1 x 1 degree global). These coarse models do not resolve the fine-scale bathymetry (i.e. Georges Bank, Northeast Channel) of the U.S. NES, nor do they resolve the correct position of the Northwestern wall of the Gulf Stream. Here we used high-resolution global climate models from the NOAA Geophysical Fluid Dynamics Laboratory to assess differences in climate change projections for the U.S. NES as a function model resolution. We found that the high-resolution climate model (0.1 x 0.1 degree global ocean) resolves water mass circulation much more accurately than the standard coarse models. Climate change projections of sea surface temperature and bottom temperature within the U.S. NES based on the high-resolution model are up to 1.5 C (surface) to 3 C (bottom) warmer than the projections based on the coarse models. Therefore, existing projections for the U.S. NES are conservative and thus impacts to fisheries may be greater than the current climate change projections.

Biography: Dr. Vincent Saba is a Research Fishery Biologist with the Northeast Fisheries Science Center's Ecosystem Assessment Program. He resides at the NOAA Geophysical Fluid Dynamics Laboratory (GFDL) in Princeton, New Jersey. Dr. Saba received a B.S. and M.S. in Environmental Science from Drexel University. He earned a Ph.D. in Marine Science from the College of William and Mary - Virginia Institute of Marine Science. His research focuses on climate impacts on marine ecosystems. His research scales the marine food web ranging from phytoplankton to top predators. Much of his current research involves the use of NOAA GFDL's high-resolution global climate models for their use in regional marine ecosystems such as the U.S. Northeast Continental Shelf.

For more information, contact:

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Webinar System Requirements:

PC: Windows® 8, 7, Vista, XP or 2003 Server

Mac: Mac OS® X 10.6 or newer