Subject line: Masters & Ph.D. Positions in Fisheries Oceanography

The East Carolina University (ECU) Fisheries Oceanography Lab run by Dr. Rebecca Asch is currently recruiting new Masters and Ph.D. students to join this research group for the 2018-2019 academic year. We anticipate accepting one new Masters student and one Ph.D. to join our research team. The Asch Lab's research program focuses on interactions between fisheries, plankton ecology, and climate change and climate variability. Our research approach combines fieldwork, time series analysis, and ecosystem modeling, spanning local-to-global and subseasonal-to-centennial scales. For more information about the Asch Lab, please see: http://www.ecu.edu/cs-cas/biology/Rebecca_Asch.cfm

We seek students who are highly self-motivated, independent, and creative thinkers that are enthusiastic about pursuing a career in marine ecology, oceanography, and/or fisheries management. A strong background in quantitative ecology, computer programming (*e.g*., MATLAB, R, Python), and/or multivariate statistics is desired, but not required. There are several current and soon to be initiated projects that a prospective student could develop into a thesis or dissertation:

- **Modeling climate change effects on the distribution and phenology of spawning aggregations of reef fishes in the Caribbean and Indo-Pacific regions.** The goal of this project is to evaluate whether spawning aggregations may serve as a bottleneck constraining overall shifts in species distribution. This project builds off an existing collaboration between Dr. Asch and Dr. Brad Erisman at the University of Texas Marine Science Institute.
- **Forecasting of the seasonal timing of spawning migrations of anadromous fishes.** A forecast model for striped bass residing in the Tar, Neuse, and Roanoke Rivers will be developed based on historical data on environmental variables and spawning activity. Forecasts will then be validated and refined through fieldwork, with a final, operational forecast product to be delivered to fisheries managers and the fishing community.
- **Examining seasonal variations in predator-prey interactions among larval fishes and mesozooplankton.** This project will build off existing research in the Asch Lab examining how climate variability affects the seasonal timing of larval fish ingress into Beaufort Inlet, North Carolina. The prospective student will use ZooScan to develop a machine learning algorithm to classify zooplankton taxa in an automated fashion. The student will use these data to evaluate whether zooplankton phenology varies in phase with larval fish ingress and whether mismatches in phenology affect fisheries recruitment.

We also welcome applications from students who are interested in developing their own research ideas into a thesis or dissertation, as long as those ideas are closely connected with the research objectives of the Asch Lab.

Information on graduate programs in the ECU Department of Biology is available at: http://www.ecu.edu/cs-cas/biology/BiologyGrad/index.cfm. Doctoral students can apply to work in the Asch Lab either through the Coastal Resources Management (CRM) Program or the Interdisciplinary Doctoral Program in Biological Sciences (IDPBS). Graduate students accepted to one of these programs will be funded through either a research or teaching assistantship. The priority deadline to apply for graduate admissions is January 15, 2017. However, prospective

students should contact Rebecca Asch by email (aschr16@ecu.edu) well in advance of this deadline, preferably by November 15. This email should include: (1) a brief statement describing your research interests and career goals; (2) A C.V. or resume, and; (3) an unofficial academic transcript.