

Gregory N. Seroka

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EDUCATION:

- Ph.D. Candidate**, Physical Oceanography, Rutgers University 2011—
Institute of Marine and Coastal Sciences, Advisor: *Dr. Scott Glenn*, Overall GPA: 3.91
Certificate: Graduate Certificate in Energy, Rutgers Energy Institute, 2014
Short course: NSF/DOE Pan-American Advanced Studies Institute: Amazon, Brazil, *Summer 2013*
- M.S.**, Atmospheric Sciences, Texas A&M University May 2011
Advisor: *Dr. Richard Orville*, Overall GPA: 4.0
- B.S. (Honors)**, Meteorology, Pennsylvania State University, Schreyer Honors College May 2008
Minor in Global Business Strategies; Overall GPA: 3.82, Magna Cum Laude

RESEARCH:

- NOAA National Centers for Environmental Prediction**, College Park, MD, *Visiting Student* 2014—
Desk at Coastal Ocean Testbed at Ocean Prediction Center (OPC) for Research to Operations (R2O). Jointly work with the Hurricane WRF team for ocean model diagnosis and experimental HWRF-HYCOM.
Supervisors: *Joseph Sienkiewicz (OPC)*, *Vijay Tallapragada (HWRF)*
- NOAA CINAR TEMPESTS**, Multiple Academic Institutions, *Project Meteorologist* 2013—
Meteorological forecasting, consultation for NOAA grant, in which we are deploying underwater gliders, moored buoys, and air-deployed floats for improved tropical cyclone coastal ocean and inundation modeling.
Supervisor: *Dr. Scott Glenn (Rutgers)*, *Glen Gawarkiewicz (WHOI, Project PI)*
- Center for Ocean Observing Leadership**, Rutgers University, *Graduate Research Assistant* 2011—
Atmosphere-ocean modeling (WRF, ROMS), offshore wind energy, sea breeze analysis, hurricane prediction
Funding provided by the NJ Board of Public Utilities for offshore wind energy assessment
Supervisor: *Dr. Scott Glenn*
- Deepwater Horizon Oil Spill**, Texas A&M University, *Project Assistant* June 2010
Launched radiosondes using ultra-portable upper air system aboard R/V Brooks McCall in support of NWS
Supervisor: *Dr. Don Conlee*
- Department of Atmospheric Sciences**, Texas A&M University, *Graduate Research Assistant* 2008-2010
Lightning prediction and detection, weather radar analysis, forecast verification
Supervisor: *Dr. Richard Orville*
- NOAA Earth System Research Lab**, *NOAA Hollings Scholar* Summer 2007
Arctic mixed-phase clouds research in Arctic Research Group, Physical Sciences Division
Supervisor: *Dr. Matthew Shupe*
- Department of Meteorology**, Pennsylvania State University, *Undergraduate Research Assistant* 2006—2008
Microphysical and dynamic properties of arctic mixed-phase clouds over Barrow, AK
Supervisor: *Dr. Hans Verlinde*

TEACHING:

- New Jersey Governor's School of Engineering & Technology**, *Lecturer* Summer 2015
Elective Course Instructor, Rutgers University (rising high school seniors: 60-90 students)
Supervisor: *Jean Patrick Antoine, Assistant Director*
- Physical Oceanography**, *Teaching Assistant* Fall 2012
Graduate Program in Oceanography, Rutgers University (undergraduate/graduate level: 9 students)
Supervisors: *Drs. Bob Chant and Dale Haidvogel*

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May 2015

Practical Weather Forecasting, *Teaching Assistant, Lecturer*

Spring 2010

Department of Atmospheric Sciences, Texas A&M University (advanced undergraduate level: 25 students)

Supervisor: *Dr. Don Conlee*

Atmospheric Science Laboratory, *Course Instructor*

Spring 2009

Department of Atmospheric Sciences, Texas A&M University (undergraduate level: 3 sections, 85 students)

PROFESSIONAL:

Impact Weather, Houston, TX, *Intern*

December 2010

Practical Training Experience (PTE) program, gained experience in private sector operational forecasting

Houston Lightning Detection and Ranging (LDAR) II Network, *Manager*

2008—2010

Resurrected and operated a real-time VHF total lightning detection network for the city of Houston

The New York Times, The Weather Page, *Intern*

2007—2008

Domestic and international forecasting, writing and graphics work

Campus Weather Service, Pennsylvania State University, *President*

2007—2008

Directed 150-member student-run group that forecast for student newspaper, Pennsylvania radio & public cable television clients

Campus Weather Service, Pennsylvania State University, *Vice President of Newspaper Operations*

2006—2007

USATODAY.com, Weather, *Intern*

Summer 2006

Online and print article preparation, public inquiry response, photo gallery publishing, website updating

PEER-REVIEWED PUBLICATIONS:

Miles, T., G. Seroka, J. Kohut, O. Schofield, and S. Glenn (2015), Glider observations and modeling of sediment transport in Hurricane Sandy, *J. Geophys. Res. Ocean.*, doi:10.1002/2014JC010474.

Seroka, G., R.E. Orville, C. Schumacher, 2012: Radar Nowcasting of Total Lightning over the Kennedy Space Center. *Wea. Forecasting*, **27**, 189–204. doi:10.1175/WAF-D-11-00035.1

INVITED TALKS:

Jan 2014 **NOAA National Centers for Environmental Prediction**, College Park, MD

“Impact of simple parameterizations of upper ocean heat content on modeled Hurricane Irene (2011) intensity,” Invited speaker for Hurricane Weather Research and Forecasting model (HWRF) weekly meeting.

Oct 2013 **Rutgers Energy Institute**, Rutgers University, New Brunswick, NJ

“U.S. Wind Energy: Terrestrial and Offshore,” Invited presenter at Energy Café on Busch Campus.

Nov 2012 **Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS): 2012 Annual Meeting**, Baltimore, MD

“RU-COOL Advanced Modeling System in Support of Offshore Wind Energy Development and Operational Applications: Investigating the NJ Sea/Land Breeze,” Invited speaker at Offshore Wind Energy session, Greg Seroka, Rich Dunk, Scott Glenn, Louis Bowers, John Kerfoot, Michael Crowley, Hugh Roarty, Laura Palamara.

July 2012 **Atmospheric and Oceanic Sciences, Princeton University**, Princeton, NJ

“Exploring offshore wind energy and Hurricane Irene,” Invited speaker for Atmospheric and Oceanic Sciences graduate student seminar.

July 2012 **NJ Governor’s School of Engineering and Technology**, Rutgers University, New Brunswick, NJ

“Exploring offshore wind energy: Why is it important and what is being done at Rutgers?” Invited lecturer for *Energy and Sustainability Course, NJ Gov. School*, NSF IGERT Grant.

- Aug 2011 **Atmospheric and Oceanic Sciences, Princeton University**, Princeton, NJ
 “Radar nowcasting of total lightning over the Kennedy Space Center,” Invited speaker for Atmospheric and Oceanic Sciences graduate student seminar.

CONFERENCE PRESENTATIONS:

- Jan 2015 **95th American Meteorological Society Annual Meeting**, Phoenix, AZ
 “How coastal upwelling can affect the offshore component of the sea breeze: WRF simulations for offshore wind energy,” Oral Presentation, Rich Dunk, Louis Bowers, Scott Glenn
- Oct 2014 **Gathering of Rutgers Earth, Environmental, & Natural Sciences (GREENS)**, New Brunswick, NJ
 “From hurricanes to the sea breeze: air-sea interaction in the coastal zone,” Monthly speaker
- Apr 2014 **31st AMS Conference on Hurricanes and Tropical Meteorology**, San Diego, CA
 “Coastal Ocean Impact on Hurricane Irene (2011) intensity,” Oral Presentation, Greg Seroka, Travis Miles, Yi Xu, Scott Glenn, Oscar Schofield
- Mar 2014 **68th Interdepartmental Hurricane Conference**, College Park, MD
 “Impact of simple parameterizations of upper ocean heat content on modeled Hurricane Irene (2011) intensity,” Oral Presentation, Greg Seroka, Scott Glenn, Travis Miles, Yi Xu, Oscar Schofield, Josh Kohut.
- Feb 2014 **2014 AGU/ASLO Ocean Sciences Meeting**, Honolulu, HI
 “Coastal ocean impact on Hurricane Irene (2011) intensity,” Poster at *Tropical Cyclone-Ocean Interactions: from Weather to Climate* session, Greg Seroka, Scott Glenn, Oscar Schofield, Travis Miles, Yi Xu.
- Sep 2013 **OCEANS 2013 Marine Technology Society/IEEE Conference**, San Diego, CA
 “Spatial evaluation of high-resolution modeled offshore winds using winds derived from a network of HF radars,” Oral presentation at Numerical Modeling and Simulation session, Greg Seroka, Josh Kohut, Laura Palamara, Scott Glenn, Hugh Roarty, Lou Bowers, Rich Dunk.
- Jan 2013 **93rd American Meteorological Society Annual Meeting**, Austin, TX
 “Impact of Ocean Observations on Hurricane Irene Intensity Forecasts,” Oral Presentation at *Special Symposium on the Next Level of Predictions in Tropical Meteorology: Techniques, Usage, Support, and Impacts*, Greg Seroka, Scott Glenn, Oscar Schofield, Josh Kohut, Hugh Roarty, John Kerfoot, Louis Bowers, Michael Crowley, Laura Palamara, Rich Dunk.
- Dec 2012 **AGU Fall Meeting 2012**, San Francisco, CA
 “Impact of Ocean Observations on Hurricane Irene Intensity Forecasts,” Poster at *Remote Sensing of Tropical Cyclones and Tropical Convective Systems*, Greg Seroka, Scott Glenn, Oscar Schofield, Josh Kohut, Hugh Roarty, John Kerfoot, Louis Bowers, Michael Crowley, Laura Palamara, Rich Dunk.
- Oct 2012 **OCEANS 2012 Marine Technology Society/IEEE Conference**, Virginia Beach, NJ
 “Rutgers University Coastal Ocean Observation Laboratory (RU-COOL) Advanced Modeling System Developed to Cost-Effectively Support Offshore Wind Energy Development and Operational Applications,” Oral presentation at Numerical Modeling and Simulation session, Greg Seroka, Rich Dunk, Scott Glenn, Louis Bowers, John Kerfoot, Michael Crowley, Hugh Roarty, Laura Palamara.
- Feb 2012 **Institute of Marine and Coastal Sciences**, Rutgers University, New Brunswick, NJ
 “Hurricane Irene: Turbulent mixing and sea surface temperature sensitivity,” Speaker for weekly Departmental Seminar Series.
- Jan 2011 **91st American Meteorological Society Annual Meeting**, Seattle, WA
 “Radar nowcasting of total lightning over the Kennedy Space Center,” Oral presentation at the *Fifth Conference on the Meteorological Applications of Lightning Data*, Greg Seroka and Richard Orville.
- Jan 2011 **91st American Meteorological Society Annual Meeting**, Seattle, WA
 “Rapid deployment upper air observations for incident meteorological support,” Oral presentation at *IMPACTS: Weather 2010*, Don Conlee, Greg Seroka, Dion Delao, and Kent Prochazka.

- Jan 2011 **91st American Meteorological Society Annual Meeting**, Seattle, WA
 “Upper air observations over the Gulf oil spill: A student experience of a lifetime,” Poster at the *Tenth Annual Student Conference*, Dion Delao, Greg Seroka and Don Conlee.
- Jan 2010 **90th American Meteorological Society Annual Meeting**, Atlanta, GA
 “Developing a reliable predictor of lightning initiation and cessation through radar analysis,” Poster at the *Ninth Annual Student Conference*, Greg Seroka and Richard Orville

AWARDS AND HONORS:

Marine Technology Society John C. Bajus Scholarship	2014
Link Foundation Energy Fellowship, Honorable Mention	2012
Texas A&M College of Geosciences Incentive Scholarship	2009
Phi Beta Kappa	2008
Joel N. and Peggy Myers Scholarship in Meteorology	2007—2008
<i>WxChallenge</i> , weather forecasting competition (>1,100 participants), <i>averaged top 50 over six years</i>	2006—2013
NOAA Ernest F. Hollings Scholarship	2006—2008
<i>WxChallenge</i> , Final Four finish in year-end tournament bracket	2006—2007
Chi Epsilon Pi, national honor society for outstanding students in meteorology	2005—2008
John and Elizabeth Holmes Teas Scholarship	2005—2008
Charles L. and Anna R. Hosler Scholarship in Meteorology	2005—2006
Penn State Dean’s List	2004—2008
Schreyer Honors College Academic Excellence Scholarship	2004—2008
<i>National Collegiate Wx Forecasting Contest</i> (>1,000 participants), 2nd place in nation, underclassmen	2004—2006
C. Melville, Jr. and Kenneth Barr Scholarship, National Merit Finalist	2004

AFFILIATIONS:

Marine Technology Society, <i>Member</i>	since 2012
American Geophysical Union, <i>Student Member</i>	since 2009
American Meteorological Society, <i>Student Member</i>	since 2004
Penn State Branch of the AMS, <i>Member</i>	2004—2008
Penn State Campus Weather Service, <i>Member</i>	2004—2008

JOURNAL ARTICLE REVIEWS:

Monthly Weather Review
Ocean Dynamics

SERVICE:

Invited speaker about tidal energy, West Windsor-Plainsboro Community Middle School	2015
38 th Annual New Jersey Science Convention (4-8, 9-12 grade teachers), <i>Presenter for Two 1.5 Hour Sessions</i>	2014
Union County Rutgers Ocean Day (4th grade level), <i>Activity Facilitator, Poster Judge</i>	2014
Rutgers Ocean Days 2014 (3-11 grade level), <i>Poster Judge</i>	2014
NJ Shore Bowl (National Ocean Sciences Bowl), <i>Science Judge</i>	2014
Northern New Jersey Junior Science and Humanities Symposium, <i>Moderator (2014), Judge</i>	2012, 2013, 2014
North Jersey Regional Science Fair (high school level), <i>Judge</i>	2013, 2014
OCEANS 2013 Marine Technology Society/IEEE Conference, <i>Session Chair</i>	2013
Rutgers Oceanography Graduate Student Association, <i>Treasurer</i>	2011—2013
4-H Climate & Environmental Change Teen Summit (middle and high school level), <i>Science Expert</i>	2013
Rutgers Research Internships for Ocean Sciences (REU program), <i>General Mentor</i>	Summer 2011
Rutgers Undergraduate Research Symposium (high school level), <i>Judge</i>	2011
Texas A&M Atmospheric Sciences Graduate Council, <i>Treasurer</i>	2009—2010
Texas A&M Atmospheric Sciences Graduate Council, <i>Seminar Coordinator</i>	2009—2010
Texas A&M Atmospheric Sciences, <i>Weather Map Discussion Leader</i>	2009—2010

SKILLS:

Programming: WRF-ARW, HWRF, ROMS, MET, NCL, GrADS, IDL, MATLAB, perl, shell, FORTRAN

Software: Adobe InDesign, Illustrator, and Photoshop

Operating systems: Linux, Mac OS, Sun Microsystems, Windows