NOAA Office of Education

Science and Education Symposium

Student Presentations

July 31 - August 2, 2012

"Demonstrating NOAA's Commitment to Education Through Partnerships"

Dear NOAA Scholars, Families, and Friends:

Welcome to a week of exciting sessions and information sharing. We will begin the Science and Education Symposium with Remarks by our Program Manager, followed by presentations by the 2011 Educational Partnership Program (EPP) Undergraduate scholars, 2011 Ernest F. Hollings Undergraduate scholars, and 2012 EPP Undergraduate scholars. Approximately 130 student scholars will present a summary of their 9-week summer internship which began in May 2012 for most scholars.

The undergraduate scholars selected scientific projects that were designed by NOAA scientists during the fall 2011. The scholars have spent the last 9 weeks with NOAA scientists across the country completing tasks associated with these projects. This week, the 10th week, the scholars will share a summary of their results with the NOAA scientific community here in Silver Spring, the Office of Education program staff, their mentors, families, and friends. NOAA scientists will judge each oral and poster presentation and the program staff will provide the scholars with the judge's comments and feedback.

Scholar presentations are grouped in concurrent sessions according to NOAA's long-term mission goals and its enterprise-wide capabilities. Therefore, you will observe seven different types of sessions corresponding to NOAA's mission goals throughout the week. This information is summarized in the section entitled, "Student Presentations Agenda-at-a-Glance". If you would like to view a particular student presentation please see the section entitled, "Full Agenda."

Thank you for your support and enjoy the week.

Office of Education
Student Scholarship Programs Staff

About NOAA

Through its long-standing mission of science, service, and stewardship, the National Oceanic and Atmospheric Administration (NOAA) generates tremendous value for the Nation—and the world—by advancing our understanding of and ability to anticipate changes in the Earth's environment, by improving society's ability to make scientifically informed decisions, and by conserving and managing ocean and coastal resources.

NOAA's Mission: ***Science, Service, and Stewardship***
To understand and predict changes in climate, weather, oceans, and coasts, to share that knowledge and information with others, and to conserve and manage coastal and marine ecosystems and resources.

NOAA's mission is central to many of today's greatest challenges. Climate change, severe weather, natural and human-induced disasters, declining biodiversity, ocean acidification, threatened or degraded ocean and coastal resources. These challenges convey a common message: human health, prosperity, and well-being depend upon the health and resilience of coupled natural and social ecosystems. Managing this interdependence requires timely and usable information to make decisions and the science that underpins our knowledge of these systems. NOAA's mission of science, service, and stewardship is directed to a vision of the future where societies and their ecosystems are healthy and resilient in the face of sudden or prolonged change.

Resilient ecosystems, communities, and economies can maintain and improve their health and vitality over time by anticipating, absorbing, and diffusing change. This vision of resilience will guide NOAA and its partners in a collective effort to reduce the vulnerability of communities and ecological systems in the short-term, while helping society avoid or adapt to long-term environmental, social, and economic changes. To this end, NOAA will focus on four long-term outcomes within its primary mission domains.

NOAA's Long-term Goals:

Climate Adaptation and Mitigation
An informed society anticipating and responding to climate and its impacts

Weather-Ready Nation
Society is prepared for and responds to weather-related events

Healthy Oceans
Marine fisheries, habitats, and biodiversity are sustained within healthy and productive ecosystems

Resilient Coastal Communities and Economies
Coastal and Great Lakes communities are environmentally and economically sustainable

NOAA cannot achieve these goals on its own, but neither can society achieve them without NOAA.

NOAA's strategy would be incomplete without detailing the enterprise-wide capabilities that will be required to achieve the environmental, social, and economic outcomes targeted by NOAA's strategic goals. **NOAA's enterprise-wide capabilities** consist of three groups:

- The foundational **science and technology functions** that generate research and development, models, and environmental observations;
- The distinct functions for **engaging** partners and customers; and
- The underlying **administration and management** functions that support all of NOAA's work.

These cross-cutting functions define NOAA's distinctive capabilities as an organization.

About the Office of Education

The Office of Education (OEd) is a staff office within the Office of the Under Secretary of Commerce for Oceans and Atmosphere (the NOAA Administrator) in downtown Washington, DC, and Silver Spring, Maryland. OEd provides advice and counsel to the Under Secretary on matters pertaining to education. OEd, in conjunction with the NOAA Education Council, coordinates education activities across NOAA and oversees the implementation of the NOAA's Education Plan and Policy. These efforts help to ensure that NOAA's education programs and activities are based on NOAA science and support the agency's cross-cutting priority of promoting environmental literacy. OEd also works with external partners to promote environmental literacy efforts that directly benefit the NOAA mission. The Office of Education administers three scholarship programs:

1. EPP Graduate Sciences Program
2. EPP Undergraduate Scholarship Program
3. Ernest F. Hollings Scholarship Program

EPP Graduate Sciences Program

The Graduate Sciences Program (GSP) is aimed primarily at increasing opportunities and available programs for students in NOAA-mission critical fields to pursue research and educational training in atmospheric, environmental, remote sensing technology, and oceanic sciences at Minority Serving Institutions (MSI) when possible. GSP offers at least two years for Master's students or four years for Doctoral students in NOAA-mission related hands-on research and training

opportunities. On average five graduate students are competitively selected each year for student trainee positions in NOAA offices and facilities.

The goal of GSP is to provide college graduate students who possess at least a Bachelor's degree in mathematics, science, remote sensing technology, economics, law, social science, and engineering, career work experience, entry-level employment, and hands-on research at NOAA. Participants must have and maintain a minimum 3.0 grade point average cumulatively and per academic term. Prior to acceptance into the program, students must be U.S. citizens, enrolled full-time in an accredited graduate school and obtain a letter of certification by a school official. This program provides for formal periods of work, study, research, and structured classroom training in NOAA-mission critical sciences including but not limited to: meteorology, hydrology, cartography, oceanography, ecology, environmental science, remote sensing technology, geography, environmental planning, marine science, fisheries biology, computer science, and environmental law.

EPP Undergraduate Scholarship Program

The goal of the Undergraduate Scholarship Program (USP) is to increase the number of students who undertake course work and graduate with degrees in targeted academic fields integral to NOAA's mission. This program targets students who have completed their sophomore year in science, technology, engineering, or mathematics (STEM) fields; attending Minority Serving Institutions (MSIs), and have recently declared, or about to declare a major in a discipline, including, but not limited to, oceanic, environmental, and atmospheric sciences, mathematics, engineering, remote sensing technology, marine policy, physical and social sciences including, geography, physics, hydrology, meteorology, or oceanography that support NOAA's programs and mission.

The Undergraduate Scholarship Program participants must be U.S. citizens and must have, and maintain, a minimum 3.0 grade point average both cumulatively and per academic term. Students attending MSIs (Hispanic Serving Institutions, Historically Black Colleges and Universities, Tribal Colleges and Universities, Alaskan-Native Serving Institutions, and Native Hawaiian Serving Institutions) receive competitive two year appointments to the program.

This two year program pays for: travel of approximately 10 students to approved NOAA offices and facilities where they become familiar with and participate in current research and development activities; financial assistance for tuition and fee costs of $8,000 each academic year for two years and $15,750 in scholarship payments over two summer internships; and, housing subsidy over two summers. Under the program, undergraduate students are provided opportunities for hands-on training and participation at NOAA research facilities. The program requires that students spend the first summer beginning the last week of May at NOAA facilities in the Washington, DC metropolitan area. The students will be housed in a complex in close proximity to the NOAA office

complex in downtown Silver Spring, Maryland. The program requires that each student present an oral or poster summary of their summer research project at NOAA Headquarters in Silver Spring, Maryland, at the end of each summer internship.

Ernest F. Hollings Scholarship Program

The Ernest F. Hollings (Hollings) scholarship program is designed to: (1) increase undergraduate training in oceanic and atmospheric science, research, technology, and education and foster multidisciplinary training opportunities; (2) increase public understanding and support for stewardship of the ocean and atmosphere and improve environmental literacy; (3) recruit and prepare students for public service careers with NOAA and other natural resource and science agencies at the Federal, state and local levels of government; and, (4) recruit and prepare students for careers as teachers and educators in oceanic and atmospheric science and to improve scientific and environmental education in the United States.

The Hollings Scholarship Program provides successful undergraduate applicants with awards that include academic assistance (up to a maximum of $8,000 per year) for full-time study during the 9-month academic year; a 10-week, full-time internship position ($650/week) during the summer at a NOAA facility; and, if reappointed, academic assistance (up to a maximum of $8,000) for full-time study during a second 9-month academic year. The internship between the first and second years of the award provides the Scholars with "hands-on" practical educational training experience in NOAA-related scientific, research, technology, policy, management, and education activities. The program requires that each student present an oral or poster summary of their summer project at NOAA Headquarters in Silver Spring, Maryland, at the end of the summer internship. Awards will also include travel expenses to attend a mandatory Hollings Scholarship Program orientation, conferences where students present a paper or poster, and a housing subsidy for scholars who do not reside at home during the summer internship.

2011 Ernest F. Hollings Undergraduate Scholars

2011 Educational Partnership Program Undergraduate Scholars
(Front Row: Alexandra Ramos-Valle, Tasha Adams, Jasmine Richardson, Kandace Kea, Kendra Thompson, Kaila Stubbs. Top Row: Kevin Freeman, Jermaine Dory, John Bell, Stefan Boskovic, and Nneamaka Ezekwe)

2012 Educational Partnership Program Undergraduate Scholars
(Front Row: Amber McRae, Briana Jones, Ana Torres, Vernicia Winford, Shareena Cannonier, and Brittany Carmon
Top Row: Sasan Dilbehbahani, Yannick Williams, Camille Gaynus, Jessica Lozada, and Alexanderia Lacy)

2012 Graduate Sciences Program Scholars
(Charlene Hurst and Aisha Haynes)

NOAA Office of Education

Silver Spring, Maryland

Science and Education Symposium

Student Presentations Agenda-at-a-Glance

Monday, 30 July 2012

9:00 a.m. – 4:00 p.m.	**PRESENTATION LOGISTICS -** NOAA Science Center • Upload Presentations • Set-up Posters (9:00 a.m. to 12:00 p.m.) • Complete Scholarship Experience Evaluation

Tuesday, 31 July 2012

8:00 a.m. – 8:05 a.m.	**WELCOME PROGRAM -** NOAA Science Center
8:05 a.m. – 8:15 a.m.	**REMARKS**
8:15 a.m. – 8:20 a.m.	**Q & A**
	SUMMER PROJECT PRESENTATIONS Concurrent Sessions:
9:00 a.m. – 12:00 p.m.	1A. NOAA Auditorium – Healthy Oceans
9:00 a.m. – 12:00 p.m.	1B. SSMC3, Room 4527 – Weather-Ready Nation
9:00 a.m. – 12:00 p.m.	1C. SSMC2, Room 2358 – Climate Adaption and Mitigation
8:30 a.m. – 12:00 p.m.	1D. SSMC4, 1W611 – Resilient Coastal Communities & Economies
	SUMMER PROJECT PRESENTATIONS Concurrent Sessions:
1:15 p.m. – 4:00 p.m.	2A. NOAA Auditorium - Healthy Oceans
1:15 p.m. – 4:00 p.m.	2B. SSMC3, Room 4527 - Weather-Ready Nation
1:00 p.m. – 4:15 p.m.	2C. SSMC2, Room 2358 – Climate Adaption and Mitigation

Wednesday, 1 August 2012

7:30 a.m. – 8:15 a.m.	**POSTER VIEWING -** NOAA Science Center
	SUMMER PROJECT PRESENTATIONS Concurrent Sessions:
8:15 a.m. – 12:00 p.m.	3A. NOAA Auditorium – Healthy Oceans
9:00 a.m. – 10:45 a.m.	3B. SSMC3, Room 4527 – Weather-Ready Nation
1:30 p.m. – 3:30 p.m.	**POSTER JUDGING SESSION** – NOAA Science Center

Thursday, 2 August 2012

8:00 a.m. – 8:30 a.m.	**FINAL WEEK EVALUATIONS -** NOAA Science Center • Turn in NOAA Badges • Complete Final Week Evaluations • Complete Scholarship Experience Evaluation
	SUMMER PROJECT PRESENTATIONS Session:
8:30 a.m. – 12:00 a.m.	4A. NOAA Auditorium – Healthy Oceans
1:00 p.m. – 1:30 p.m.	• Turn in NOAA Badges • Complete Final Week Evaluations • Complete Scholarship Experience Evaluation
1:30 pm. – 3:00 p.m.	**AWARDS CEREMONY & CONCLUDING REMARKS –** NOAA Auditorium

Friday, 3 August 2012 – Scholars Depart Silver Spring, MD

Student Presentations

Full Agenda

Tuesday, 31 July 2012

SUMMER PROJECT PRESENTATIONS

Session 1A. NOAA AUDITORIUM, Healthy Oceans

9:00 a.m. **Charlayna Cammarata, Alaska Pacific University, Anchorage, AK**
National Ocean Service
Comparison of Sampling Methods and Environmental Variables for Detection of Alexandrium spp. in Kachemak Bay, AK

9:15 a.m. **Jennifer Bon, Salisbury University, Salisbury, MD**
National Marine Fisheries Service
Understanding and Engaging Noncommercial Fisheries Participants in the NMFS Pacific Island Region

9:30 a.m. **Molly Broome, Rollins College, Winter Park, FL**
National Marine Fisheries Service
Sex Ratio of Resident Oncorhynchus mykiss in a Wilderness Stream in Southeast Alaska

9:45 a.m. **Alexis Avery, Winston-Salem State University, Winston-Salem, NC**
Office of Oceanic and Atmospheric Research
Influence of Marine Debris on Environmental Persistence of Microbial Source Tracking Markers

10:00 a.m. **Julia Chase, Villanova University, Villanova, PA**
National Marine Fisheries Service
GIS Spatial Analysis of Cumulative Effects under Section 7 of the Endangered Species Act

10:15 a.m. **Kathryn Clark, Pennsylvania State University, University Park, PA**
National Marine Fisheries Service
Ocean Acidification Effects on the Early Life-Stages of Commercially Important Flatfish of the Northeast USA

10:30 a.m. **BREAK**

10:45 a.m. **Madeline Cohen, Columbia University, New York, NY**
National Marine Fisheries Service
An Analysis of Predation Pressure on the Monk Seal (Monachus schauinslandi) in the Northwestern Hawaiian Islands

11:00 a.m. **Russell Dauksis, University of Rhode Island, Kingston, RI**
National Marine Fisheries Service
Investigating the Possible Use of Several Non-Traditional Species in Coral Nurseries and the Most Effective Methods

11:15 a.m. **Kristina Drysdale, Texas A&M University-Corpus Christi, TX**
National Marine Fisheries Service
Review of the Precious Coral Essential Fish Habitat (EFH) Designations in Hawaii

11:30 a.m. **Amy Esser, Eckerd College, Saint Petersburg, FL**
National Marine Fisheries Service
Marine Mammal Protection Act: Implementation and Outreach

11:45 a.m. **Amelia Forbes, North Carolina State University, Raleigh, NC**
National Marine Fisheries Service
Baseline Status and Efficacy of the "Islands Unit" of the Marianas Trench Marine National Monument

12:00 p.m. **LUNCH – NOAA SCIENCE CENTER**

Tuesday, 31 July 2012

SUMMER PROJECT PRESENTATIONS

Session 1B. SSMC3, Room 4527, Weather-Ready Nation

9:00 a.m. **Kyle Ahern, Florida State University, Tallahassee, FL**
National Weather Service
Patterns and Characteristics that Produce Freezing Rain Events in Anchorage

9:15 a.m. **Joshua Alland, Iowa State University, Ames, IA**
Office of Oceanic and Atmospheric Research
Importance of Modeled Warm Core Processes on the Rapid Intensification of Hurricane Earl, 2010

9:30 a.m. **Tasha Adams, Norfolk State University, Norfolk, VA**
National Weather Service
Improving the Prediction of Geomagnetic Storms with the Wang-Sheeley-Arge-ENLIL model

9:45 a.m. **Lindsay Blank, Millersville University of Pennsylvania, Millersville, PA**
Office of Oceanic and Atmospheric Research
On the Predictability of Thunderstorms over the Southwestern United States

10:00 a.m. **Kristy Carter, Iowa State University, Ames, IA**
National Weather Service
Weather Patterns for Significant Snowfall Events in Prince William Sound

10:15 a.m. **Rachel Dryden, Park University, Parkville, MO**
National Weather Service
Remembering the 2011 Joplin Disaster: The National Weather Services' Enhanced Impact-Based Warning Approach to Building a Weather-Ready Nation

10:30 a.m. **BREAK**

10:45 a.m. **Cameron Grady, George Mason University, Fairfax, VA**
National Weather Service
Ecological Forecasting Analysis of NOAA's Existing Initiatives

11:00 a.m. **Yannick Willliams, Morgan State University, Baltimore, MD**
National Ocean Service
Geodetic Receiver DCB Estimation for Ionospheric Modeling

11:15 a.m. **Samuel Lillo, Plymouth State University, Plymouth, NH**
National Weather Service
Patterns and Characteristics that Produce High Winds Events in the Anchorage Area

11:30 a.m. **Ryan Kramer, Pennsylvania State University – University Park, PA**
National Weather Service
Wind Gust Climatology for Southern South Carolina and Northeast Coastal Georgia

11:45 a.m. **Jennifer Mills, Northwestern University, Evanston, IL**
National Environmental Satellite, Data, and Information Service
Creation and Analysis of a Novel Auroral Dataset Derived from DMSP Satellite Observations

12:00 p.m. **LUNCH – NOAA Science Center**

Tuesday, 31 July 2012

SUMMER PROJECT PRESENTATIONS

Session 1C. SSMC2, Room 2358 – Climate Adaptation and Mitigation

9:00 a.m. **Shaena Berlin, Massachusetts Institute of Technology, Cambridge, MA**
Office of Oceanic and Atmospheric Research
Air Quality Impacts of Intercontinental and Inter-Regional Ozone Transport

9:15 a.m. **Ayrton Bryan, Texas A&M University, College Station, TX**
Office of Oceanic and Atmospheric Research
Studying Oceanographic Data from the Gulf of Maine Ocean Observing System Data and Wind Resource Buoy Assessment

9:30 a.m. **Kate Coveney, Grand Valley State University, Allendale, MI**
National Environmental Satellite, Data, and Information Service
Recent Decadal-Scale Variability of Oxygen Minimum Zones in the Atlantic and Pacific Oceans

9:45 a.m. **Audrey Eggenberger, Ohio State University, Columbus, OH**
Office of Oceanic and Atmospheric Research
Expanding Science on a Sphere Outreach

10:00 a.m. **Emily Forbes, North Carolina State University, Raleigh, NC**
National Ocean Service
Effects of Climate Change on Pesticide Toxicity in Estuarine Organisms

10:15 a.m. **Zachary Gold, Lafayette College, Easton, PA**
Office of Oceanic and Atmospheric Research
Testing Temperature Calibration Parameters for the Honeywell Durafet pH Probe Used to Quantify Ocean Acidification

10:30 a.m. **BREAK**

10:45 a.m. **Rosemary Kanters, Ohio University, Athens, OH**
Office of Oceanic and Atmospheric Research
Volatile Organic Compounds in the Clean Marine Atmosphere

11:00 a.m. **Meagan Knowlton, Tulane University, New Orleans, LA**
Office of Oceanic and Atmospheric Research
Coping with Drought: A Review of Cutting Edge Research, Methodologies, and Tools

11:15 a.m. **Rebecca Lauzon, Boston University, Boston, MA**
National Marine Fisheries Service
Documenting Carbonate Chemistry in Puget Sound and its Effects on Invertebrate Biology

11:30 a.m. **Erin McParland, University of South Carolina, Columbia, SC**
National Marine Fisheries Service
Baseline Calcification Rates of American Samoa and the Pacific Remote Island Areas

11:45 a.m. **Nathan Owens, Kansas State University, Manhattan, KS**
National Weather Service
Creating a Multi-Parameter Searchable Tornado Database for the Northern Gulf Coast

Tuesday, 31 July 2012

SUMMER PROJECT PRESENTATIONS

Session 1D. SSMC4, Room 1W611, Resilient Coastal Communities and Economies

8:15 a.m. **Shaza Hussein, University of South Florida, Tampa, FL**
National Ocean Service
Investigating Effective Environmental Education: Promoting Environmental Stewardship through Outdoor Activities

8:30 a.m. **Jasmine Richardson, University of Arkansas, Pine Bluff, AR**
National Ocean Service
Best Practices for Using Pesticides and Herbicides to Limit Negative Impact on the Altamaha River Watershed

8:45 a.m. **Shawn Cherry, Norfolk State University, Norfolk, VA**
Office of Marine and Aviation Operations
To Ballast or Not to Ballast?

9:00 a.m. **Kendra Thompson, Mississippi Valley State University, Itta Bena, MS**
National Ocean Service
An Analysis of Urban Watch Flow Data

9:15 a.m. **Austin Collins, University of Alabama, Tuscaloosa, AL**
National Ocean Service
The Existence Value of Coral Reefs under Changing Climate Conditions in American Samoa

9:30 a.m. **Kandace Kea, Howard University, Washington, DC**
Office of Oceanic and Atmospheric Research
Improving Estimates of Runoff to Lake Michigan in Support of the Great Lakes Runoff Inter-Comparison Project

9:45 a.m. **Justine Cox, St. Catherine University, St. Paul, MN**
National Ocean Service
Ocean Literacy through Underwater Robotics: Into the Classroom and Community

10:00 a.m. **BREAK**

10:15 a.m. **Camille Gaynus, Hampton University, Hampton, VA**
National Marine Fisheries Service
Human Interactions with Oceans and Coasts

10:30 a.m. **Kelly Gregorcyk, Coastal Carolina University, Conway, SC**
Office of Marine and Aviation Operations
Multi-beam Backscatter Processing for Benthic Habitat Mapping of Central Long Island Sound

10:45 a.m. **Alexanderia Lacy, Mississippi Valley State University, Itta Bena, MS**
National Environmental Satellite, Data, and Information Service
Optimizing Satellite-Based Marine Debris Detection

11:00 a.m. **Jason Chun Yu Wong, University of Maryland, College Park, MD**
National Ocean Service
Economic Resilience and Well-being of Gulf Communities: Environmental Disaster Events and Changes in Economic Diversity

11:15 a.m. **Amber McRae, Howard University, Washington, DC**
National Environmental Satellite, Data, and Information Service
Improving Historical Tsunami Data Quality

11:30 a.m. **Thomas Johnson, College of William and Mary, Williamsburg, VA**
National Ocean Service
How to Build a Bay: An Interactive Multimedia Guide to Kachemak Bay, Alaska

11:45 a.m. **Maria Tarduno, Hobart and William Smith Colleges, Geneva, NY**
National Ocean Service
Sense of Wonder: Education of Ocean Literacy through Inquiry-Based Learning

12:00 p.m. **LUNCH – NOAA Science Center**

Tuesday, 31 July 2012

SUMMER PROJECT PRESENTATIONS

Session 2A. NOAA AUDITORIUM, Healthy Oceans

1:15 p.m. **April Goodson, University of Hawai`i at Hilo in Hilo, HI**
National Ocean Service
Humpback Sanctuary Education/Outreach/Marine Mammal /Turtle Response

1:30 p.m. **Amanda Guthrie, University of Miami, Coral Gables, FL**
National Marine Fisheries Service
An Initial Assessment of Fish Densities on Coral Reef Restoration Sites in Puerto Rico

1:45 p.m. **Rebecca Hollmann, University of Denver, Denver, CO**
National Ocean Service
The Effects of Oceanography on the Lower Trophic Levels in Kachemak Bay, Alaska

2:00 p.m. **Melissa Karp, Tufts University, Medford, MA**
National Marine Fisheries Service
Mothers Matter: A Study of the Maternal Effects on Summer Flounder Egg and Larval Quality

2:15 p.m. **BREAK**

2:30 p.m. **Hali Kerr, University of South Carolina, Columbia, SC**
National Marine Fisheries Service
Connecting NOAA Science with Oyster Restoration Policies

2:45 p.m. **Tsz Fung Kwan, University of California, San Diego, CA**
National Marine Fisheries Service
Describing Atlantic Mackerel Growth in the Northwest Atlantic Ocean during 1973-2011

3:00 p.m. **Tristan Lawson, University of South Carolina, Columbia, SC**
National Marine Fisheries Service
Culvert Replacement as a Method for Pacific Salmon Habitat Restoration

3:15 p.m. **Ryan Lind, University of Miami, Coral Gables, FL**
National Marine Fisheries Service
Progressive Technology Transfer: Communicating Science through Video

3:30 p.m. **Julia Luthringer, Boston University, Boston, MA**
National Marine Fisheries Service
Matching the Sound to the Whale: Identifying Unknown Call Types to Improve Marine Mammal Management and Conservation

Tuesday, 31 July 2012

SUMMER PROJECT PRESENTATIONS

Session 2B. SSMC3, Room 4527, Weather-Ready Nation

1:15 p.m. **Shola Motajo, Morgan State University, Baltimore, MD**
National Weather Service
Extracting and Analyzing Cross Section Geometry from Digital Elevation Models

1:30 p.m. **Nishant Nangia, University of Illinois, Champaign, IL**
Office of Marine and Aviation Operations
Statistical Analysis of Meteorological Data Collected from NOAA's Hurricane Hunter Aircraft for the Development and Improvement on Data Quality Algorithms

1:45 p.m. **Erik Nielsen, Texas A&M University, College Station, TX**
National Weather Service
Using Probabilistic Sea, Lakes, and Overland Surges from Hurricanes (SLOSH) Model Output to Improve Storm Surge Forecasting

2:00 p.m. **Casey Peirano, University of Oklahoma, Norman, OK**
Office of Oceanic and Atmospheric Research
Statistical Analysis of the SHIPS Hurricane Model Rapid Intensification Index

2:15 p.m. **Christopher Rohrbach, North Carolina State University, Raleigh, NC**
National Weather Service
Impacts of Environmental Conditions on Quasi Linear Convective Systems (QLCS) Tornadoes

2:30 p.m. **BREAK**

2:45 p.m. **Neesha Schnepf, Cornell University, Ithaca, NY**
National Environmental Satellite, Data, and Information Service
Analysis of Ocean Bottom Magnetometer Measurements to Characterize the Electromagnetic Signatures of Tidal Currents and Tsunamis

3:00 p.m. **Alexandra Ramos-Valle, University of Puerto, Mayaguez, PR**
Office of Oceanic and Atmospheric Research
Potential Role of the Atlantic Warm Pool on the Development of Category-5 Hurricanes

3:15 p.m. **Matthew Vaughan, Embry-Riddle Aeronautical Univ., Daytona Beach, FL**
Office of Oceanic and Atmospheric Research
Analyses and Prediction of a Supercell Storm from Assimilating Radar and Satellite Observations using Ensemble Kalman Filter (EnKF)

3:30 p.m. **Eric Wendoloski, Millersville University of Pennsylvania, Millersville, PA**
National Environmental Satellite, Data, and Information Service
Lightning Observations and Tropical Cyclone Formation

3:45 p.m. **Brett Williams, University of Missouri, Columbia, MO**
National Weather Service
Summer Convection over Central Alabama

Tuesday, 31 July 2012

SUMMER PROJECT PRESENTATIONS
Session 2C. SSMC4, 1W611 – Climate Adaptation and Mitigation

1:00 p.m. **Allegra Mayer, Northwestern University, Evanston, IL**
National Ocean Service
The Effects of Climate Change on the Snow-Cover of Maunakea and Hawaiian Culture

1:15 p.m. **Natasia Poinsatte, American University, Washington, DC**
National Marine Fisheries Service
Geoduck Responses to Ocean Acidification in Puget Sound

1:30 p.m. **Ana Torres, University of Puerto Rico, Mayaguez, PR**
National Ocean Service
Climatological Assessment of Meteorological Parameters

1:45 p.m. **Julie Sanders, University of Miami, Coral Gables, FL**
Office of Oceanic and Atmospheric Research
Mechanisms Driving Surface Ocean Salinity Trends in Geophysical Fluid Dynamics Laboratory's Earth System Models

2:00 p.m. **Crae Sosa, City University of New York City College, New York, NY**
Office of Oceanic and Atmospheric Research
Weather Driven Renewable Energy Optimization

2:15 p.m. **Madeline Valle, Purdue University, West Lafayette, IN**
National Ocean Service
Raising Awareness and Changing Attitudes About Environmental Stewardship Through Hands-On Learning

2:30 p.m. **BREAK**

2:45 p.m. **Ellen Ward, Columbia University, New York, NY**
National Environmental Satellite, Data, and Information Service
How did one lake dramatically change the Earth's climate 8,200 years ago?

3:00 p.m. **Autumn Rauchwerk, American University, Washington, DC**
National Ocean Service
Green Operations Plan: Reducing our Carbon Footprint

3:15 p.m. **Charles Esty, Georgetown University, Washington, DC**
Office of Oceanic and Atmospheric Research
Measurement of Atmospheric Particulates

3:30 p.m. **Charlotte Lunday, University of Oklahoma, Norman, OK**
Office of Oceanic and Atmospheric Research
Mapping of the Urban Heat Island on a Neighborhood Scale: Forecast Accuracy

3:45 p.m. **Tricia Thibodeau, Bowdoin College, Brunswick, ME**
National Marine Fisheries Service
Impacts of Ocean Acidification on Zooplankton in Puget Sound

4:00 p.m. **Judy Twedt, University of Washington, Seattle, WA**
Office of Oceanic and Atmospheric Research
Turbulent Mixing of Antarctic Bottom Waters through the Orkney Passage in a High Resolution Model

Wednesday, 1 August 2012

SUMMER PROJECT PRESENTATIONS

Session 3A. NOAA AUDITORIUM, Healthy Oceans

8:15 a.m. **Matthew Birk, University of North Carolina, Wilmington, NC**
National Marine Fisheries Service
Population Dynamics of the Market Squid, Doryteuthis opalescens, in the California Current System

8:30 a.m. **Kevin Mack, Eckerd College, Saint Petersburg, FL**
National Ocean Service
Lethal and Sublethal Effects of Caffeine and Chlorpyrifos, Individually and in Combination, on Palaemonetes pugio

8:45 a.m. **Nadia Makara, City University of New York College, New York, NY**
National Marine Fisheries Service
Seasonal Abundance of Larval Fish along the 27N Parallel

9:00 a.m. **Amy Markel, University of Hawai`i at Hilo in Hilo, Hawaii**
National Marine Fisheries Service
Analysis of Cetacean Distribution on the Washington Coast Using Passive Acoustics

9:15 a.m. **Kyra Marsigliano, University of South Carolina, Columbia, SC**
National Ocean Service
Prey Species Analysis of Bottlenose Dolphins in South Carolina

9:30 a.m. **Sariha McIntyre, University of Hawai`i at Manoa, Honolulu, HI**
National Marine Fisheries Service
Effects of Shoreline Land Use on Pelagic Foodwebs

9:45 a.m. **BREAK**

10:00 a.m. **John Morrissey, Eckerd College, Saint Petersburg, FL**
National Marine Fisheries Service
Depleted Rockfish in the Puget Sound: Historic Catch Records & Contemporary Larval Rearing Research

10:15 a.m. **Andrew Niccum, University of North Carolina, Wilmington, NC**
National Marine Fisheries Service
Establishing a Record of Age and Climate in Sea Turtle Shell

10:30 a.m. **Danial Palance, Roger Williams University, Bristol, RI**
National Marine Fisheries Service
Devices for Investigating Two Life Stages of the American Lobster (Homarus Americanus): Larval Advection & Adult Behavior

10:45 a.m. **Collin Perkinson, Reed College, Portland, OR**
Office of Oceanic and Atmospheric Research
Through a Robot's Eyes: A Study of Natural and Anthropogenic Threats to Eelgrass Using MIT's Reef Explorer II

11:00 a.m. **Ana Reyes, Savannah State University, Savannah, GA**
National Ocean Service
Promoting Conservation Awareness Among Aquarium Visitors

11:15 a.m. **Brendan Runde, Virginia Polytechnic Institute University, Blacksburg, VA**
National Marine Fisheries Service
Thermal Effects on the Early Life-Stages of Commercially Important Fishes of the Northeast USA

11:30 a.m. **Diana Rypkema, Cornell University, Ithaca, NY**
National Ocean Service
Modeling Seabird Group Size: Implications for Ecological Impact Assessments

11:45 a.m. **Kate Dubickas, Stony Brook University, Stony Brook, NY**
National Marine Fisheries Service
Foraging Ecology of Adult and Subadult California Chinook Salmon

12:00 p.m. **LUNCH**

1:30 p.m. – 3:30 p.m. POSTER JUDGING SESSION - NOAA Science Center

Wednesday, 1 August 2012

SUMMER PROJECT PRESENTATIONS

Session 3B. SSMC3, Room 4527, Weather Ready Nation

9:00 a.m. **Ranjeetha Bharath, Massachusetts Institute of Technology, Cambridge, MA**
National Environmental Satellite, Data, and Information Service
Studies of Solar Energetic Particle (SEP) Events in Support of Future Products

9:15 a.m. **John Bell, Mississippi Valley State University, Itta Bena, MS**
National Weather Service
Social Media System: An Automated Twitter Search for Adverse Weather Conditions Based on Geographical Location

9:30 a.m. **Sarah Johnson, University of Alabama, Tuscaloosa, AL**
Office of Marine and Aviation Operations
Structural Analysis of Trailing Cone Mount for Flight and Instrument Calibration Testing

9:45 a.m. **Kevin Freeman, South Carolina State University, Orangeburg, SC**
National Weather Service
Advanced Weather Interactive Processing System (AWIPS) II Training Simulations

10:00 a.m. **Burkely Twiest, Pennsylvania State University, University Park, PA**
National Weather Service
Localizing Tornado Climatology in the Contiguous United States: An Environmental Parameter and Convective Mode Focus

10:15 a.m. **BREAK**

10:30 a.m. **Frank Johnson, Florida A&M University, Tallahassee, FL**
National Weather Service
Using G.I.S. Software to Create Maps Used by the National Weather Service to Aid in Damage Assessment

10:45 a.m. **Sarah Lynn, University of Idaho, Moscow, ID**
National Ocean Service
Test and Evaluation of New and Improved Sea Level Measurement Systems for Use In NOAA's National Water Level Observation Network

11:00 a.m. **Nicholas Trombetta, Florida State University, Tallahassee, FL**
National Environmental Satellite, Data, and Information Service
Satellite Fire Detection Validation

12:00 p.m. **LUNCH –** NOAA Science Center

1:30 p.m. – 3:30 p.m. POSTER JUDGING SESSION - NOAA Science Center

Wednesday, 1 August 2012, 1:30-3:30 p.m.

SUMMER PROJECT POSTER SESSION
NOAA Science Center

RESILIENT COASTAL COMMUNITIES AND ECONOMIES

#1 **Kyle Olejniczak, Florida Institute of Technology, Melbourne, FL**
National Ocean Service
Sediment Auto-Classification Using Multi-beam Backscatter Data at Cedar Point in Mouth of Patuxent River, MD

#2 **Katherine Rozar, University of South Florida, Tampa, FL**
National Ocean Service
Extension of the Hawaiian Islands Humpback Whale National Marine Sanctuary Water Quality Monitoring Program to the Wailea Watershed of South Maui, Hawaii

#3 Kelsey Taylor, Western Washington University, Bellingham, WA
National Marine Fisheries Service
Analysis of Salt Marsh Dieback Area Relevant to Fishery Habitat

CLIMATE ADAPTATION AND MITIGATION

#4 David Wyrick, Washington State University, Pullman, WA
Office of Oceanic and Atmospheric Research
Remote Sensing of Atmospheric Boundary-Layer Aerosols

#5 Ethan Coffel, Northwestern University, Evanston, IL
Office of Oceanic and Atmospheric Research
Development and Performance Analysis of a Cyclone Tracker for Seasonal Hurricane Prediction

WEATHER-READY NATION

#6 Genki Kino, University of Hawai`i at Manoa, Honolulu, HI
National Weather Service
An Investigation into the Societal Impact of Winter Weather in Juneau, Alaska

#7 Crystal Yelverton, Elizabeth City State University, Elizabeth City, NC
National Weather Service
High Hazard Dam Evaluation with the Development of a Google Earth and ArcGIS Interface

HEALTHY OCEANS

#8 Malena Agyemang, Norfolk State University, Norfolk, VA
National Marine Fisheries Service
Oyster Restoration in the Chesapeake Bay

#9 Benjamin Belgrad, Eckerd College, Saint Petersburg, FL
National Marine Fisheries Service
Urban Stormwater Impacts the Olfactory Response of Juvenile Coho Salmon (Oncorhynchus kisutch)

#10 Emma Kelley, University of South Carolina, Columbia, SC
National Marine Fisheries Service
Validating Quantitative Fatty Acid Signature Analysis Using Dive Profiles of Hawaiian Monk Seals

#11 Amanda Sosnowski, Eckerd College, Saint Petersburg, FL
National Marine Fisheries Service
Development of the Squid Genus Callimachus Bolstad 2010 in the Gulf of Mexico

#12 **Hayley Townsend, University of New England, Biddeford, ME**
National Marine Fisheries Service
Capture Time, Size, and Hooking Mortality in Dusky Shark (Carcharinus obscurus) in Bottom Longline Fisheries

#13 **Joyce Yager, University of Miami, Coral Gables, FL**
National Marine Fisheries Service
Diet Comparisons of Wild and Hatchery-reared Coho Salmon in the Columbia River Estuary

Thursday, 2 August 2012

SUMMER PROJECT PRESENTATIONS

Session 4A. NOAA Auditorium, Healthy Oceans

8:30 a.m. **Andrew Shamaskin, Virginia Polytechnic Institute University, Blacksburg, VA**
National Marine Fisheries Service
Nature vs. Nurture: The Relative Influence of Genetics vs. the Environment on the Scale Morphology of Striped Bass (Morone saxatilis)

8:45 a.m. **Christopher Smyth, Lock Haven University of Pennsylvania, Lock Haven, PA**
National Marine Fisheries Service
Revisiting Environmental Impacts on Market Squid

9:00 a.m. **Kelly Speare, University of North Carolina, Chapel Hill, NC**
National Ocean Service
Surveying Reefs for Resilience

9:15 a.m. **Abigail Wisnet, University of Miami, Coral Gables, FL**
National Marine Fisheries Service
Renal and Hepatic Heavy Metal Concentrations in Healthy and Unhealthy Small Delphinids in the Southern California Bight

9:30 a.m. **Nneamaka Ezekwe, Tougaloo College, Tougaloo, MS**
National Marine Fisheries Service
Genetic Analysis of Larvae Broods to Assess Paternity in Speckled Rockfish, Sebastes ovalis

9:45 a.m. **Shareena Cannonier, Lincoln University, PA**
National Ocean Service
Assessing the Benefits of the U.S. Hypoxia and Harmful Algal Bloom Programs

10:00 a.m. **BREAK**

10:15 a.m. **Brittany Carmon, Hampton University, Hampton, VA**
National Marine Fisheries Service
Development of a Life History Database for NOAA Fisheries

10:30 a.m. **Briana Jones, University of Maryland-Eastern Shore, Princess Anne, MD**
National Marine Fisheries Service
Taking the Green Sea Turtle Journey

10:45 a.m. **Jessica Lozada, Tennessee State University, Nashville, TN**
National Ocean Service
Using a Social Media Tool for Harmful Algal Bloom (HAB) Communications

11:00 a.m. **Vernicia Winford, Xavier University of Louisiana, New Orleans, LA**
National Marine Fisheries Service
Life Matrix of the Leatherback Sea Turtle, Dermochelys coriac

11:15 a.m. **Sasan Dilbehbahani, Alabama A&M University, Huntsville, AL**
National Environmental Satellite, Data, and Information Service
Ocean Surface Currents Data Visualization

11:45 a.m. **Vinoo Ganesh, Washington University, St. Louis, MO**
National Marine Fisheries Service
Tracking Marine Species and Debris through Web and Mobile Application Development

12:00 p.m. **LUNCH –** NOAA Science Center

1:00 p.m. Turn in NOAA Badges
Complete Final Week Evaluations
Complete Scholarship Experience Evaluation

1:30 p.m. **CONCLUDING REMARKS & AWARDS CEREMONY –** NOAA Auditorium

NOAA Office of Education
2012 Undergraduate Scholar's Mentors

The Office of Education would like to thank the following 2012 NOAA mentors for their dedication, time, and commitment to provide guidance and a meaningful internship experience to the EPP and Hollings undergraduate scholars:

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In Memoriam: The 2012 Student Science and Education Symposium is dedicated to Gene Cope in memory of his hard work and dedication to our Student Scholarship Programs. Special thanks to Gene.

The Office of Education, Student Scholarship Programs staff is located at:

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