

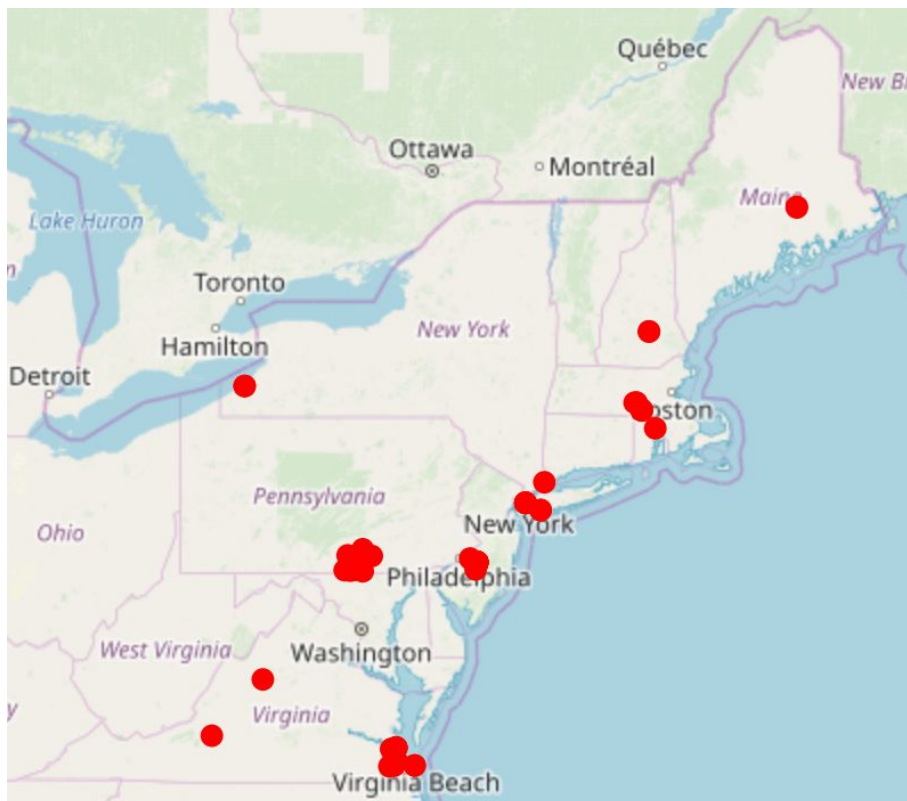


THE GLOBE PROGRAM

A Worldwide Science and Education Program

NORTHEAST AND MID-ATLANTIC REGIONAL SCIENCE SYMPOSIUM

**BOSTON UNIVERSITY
MAY 31-JUNE 1, 2019**



Welcome to the 3rd Annual GLOBE Northeast and Mid-Atlantic Regional Science Research Symposium held this year at Boston University. The six regional GLOBE symposia span North America from Puerto Rico to Alaska, with students representing more than half the states in the country. Our region is pleased to welcome students from Delaware, Washington D.C., Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, and West Virginia.

Students, teachers, and chaperones will be staying at the student dormitories located on the Charles River Campus of Boston University. Our special thanks to the great parents who have supported these young scientists in their research.

- The GLOBE Mission Earth Team from Wheelock College of Education, the Department of Earth and Environment, and the Department of Mechanical Engineering at Boston University.

Sponsors

GLOBE Program

The Global Learning and Observations to Benefit the Environment (GLOBE) Program is an international science and education program that provides students and the public worldwide with the opportunity to participate in data collection and the scientific process, and contribute meaningfully to our understanding of the Earth system and global environment.



NASA

NASA's journeys have propelled technological breakthroughs, pushed the frontiers of scientific research, and expanded our understanding of the universe. These accomplishments, and those to come, share a common genesis: education in science, technology, engineering, and math. Primary Sponsor for GLOBE, with assistance from NSF and NOAA, and a sponsor with YLACES for the regional GLOBE science symposia.



Youth Learning As Citizen Environmental Scientists (YLACES)

YLACES seeks to develop citizens with scientific habits of mind, utilizing the environment as a learning laboratory where students conduct inquiry-based research and contribute to a better collective understanding of our changing world. YLACES shares the sponsorship of the regional GLOBE science symposia with NASA.



Youth
Learning
As
Citizen
Environmental
Scientists

Thanks for Sharing Facilities



Boston University

BU is a [major research institution](#) seeking knowledge and creating breakthroughs in everything from air pollution monitoring to zebrafish genetics.

Schedule of Events

Friday, May 31

Time	Location	What's Happening
1:00-5:00 PM	1019 Commonwealth Ave Residence Hall	Arrival and Registration at BU Residence Hall GLOBE SRS Assistants will guide participants to the Esplanade
2:30-6:00 PM	Outdoor gym @ Esplanade on Charles River	Kite flying challenge on the Esplanade
6:00-8:30 PM	745 Commonwealth Ave downstairs in room B23/B24 (a combined room)	Welcome Dinner Guest Speaker Kevin Ivey (HS Senior) Presentation on Mr. Ivey's internship experience at NASA Langley during his Junior/Senior Year
8:30-10:30 PM	1019 Commonwealth Ave Residence Hall	Students/Chaperones/Teachers to Dorm Student work time/movie in Dorm Common Areas
11:00 PM	1019 Commonwealth Ave Residence Hall	Residence Hall Curfew – all residents must be in their rooms. Main doors will be locked at 11:00pm

Saturday, June 1

Time	Location	What's Happening
7:30 -8:30 AM	<i>For Overnight Attendees:</i> Residence Hall Lobby	GLOBE SRS Assistants will guide overnight guests to the main event location
8:00 - 9:30 AM	Boston University Photonics Center 8 Saint Mary's St. 9 th Floor	Saturday check-in and pick up parking passes at Warren Towers Garage Welcome Breakfast and Poster Set-up/practice
8:45-9:30 AM	Boston University Photonics Center, 8 St. Mary's 9th floor	West End Lounge: Reviewers gather to discuss review process Colloquium Room: Students Practice Presentations
9:30 - 10:30 AM	Boston University Photonics Center 8 St. Mary's St. 9 th Floor	Colloquium room: Poster Rotation and Review by Peers Room 901: Teacher & GLOBE Partner Professional Development Session (<i>refreshments provided</i>): <ul style="list-style-type: none"> • Listening Session where educators can express their opinions and experiences about STEM education (lead by Vicky Gorman) • How have you used GLOBE in your classroom
10:30-12:00	Boston University Photonics Center 8 St. Mary's St. 9 th Floor	Colloquium room: Poster Rotation and Review by Scientists Room 901: Teacher & GLOBE Partner Partner Professional Development Session: GLOBE and Local Weather Forecasting (<i>refreshments provided</i>)
12:00 - 1:00 PM	Boston University Photonics Center 8 St. Mary's St. 9 th Floor	Lunch (provided) Students: water quality cup construction
1:00 - 3:00 PM	Boston University Photonics Center 8 St. Mary's St. 9 th Floor	Room 901: Scientist Reviewer Deliberations Saturday Challenge Activity: GLOBE caching @ BU Beach Tour Around Fenway Park area (sign-up required)
3:00 - 4:00 PM	Boston University Photonics Center 8 St. Mary's St. 9 th Floor	Recognition, Evaluation, and Closing

POSTER SESSION (on display 9:30 am – 12:00 pm on Saturday)

Grade 4 Research Posters

1. Cloud Cover Around the Globe

Ava Joyner, Addison Fleming, William Hampton
Northern Shores Elementary, VA

Grade 5-8 Research Posters

2. Does the pH Level of Water Affect Plant Growth

Star Nunez, Kate Leonard, Brendan Riche, Troy Rudder
Northbridge Middle School, MA (5th Grade)

3. How Does Cloud Cover Affect the Data Collecting of Turbidity on the Mumford River

JP Bolduc, Tyler Strazzulla, Aedan Holcomb
Northbridge Middle School, MA (5th Grade)

4. How Do Water Flow and Water Clarity of the Mumford River Connect

Alex Higgins, Trevor Roadman, Nadia Kotwica
Northbridge Middle School, MA (5th Grade)

5. Investigating Water Quality in the St. Francis Xavier Stream

Molly Fleming, Sophia Willard, Gabe Woods
St. Francis Xavier Catholic School, PA (6th Grade)

6. The Reflection of Water Quality on the SFX Pond

Piper Rohrbaugh
St. Francis Xavier Catholic School, PA (8th Grade)

7. The Effects of Water Quality on Macroinvertebrates

Lily Shriner
St. Francis Xavier Catholic School, PA (8th Grade)

8. Investigating Water Quality at Source Stream and Treated School Water

Keefer Stiles
St. Francis Xavier Catholic School, PA (8th Grade)

9. The Relationship Between the Many Factors That Influence Air Quality

Anna Willard
St. Francis Xavier Catholic School, PA (8th Grade)

10. The Urban Heat Island Effect in a Small Town

Jacob Fleming
St. Francis Xavier Catholic School, PA (8th Grade)

11. Tracking the Vernal Window in Newport, NH

Sophia Carnevale, Timothy Short
Newport Middle School, NH (8th Grade)

12. Water Chemicals in Providence

Benjamin Merritt
Nathan Bishop Middle School, RI (6th Grade)

13. What's In Water?

Eli Yee
Nathan Bishop Middle School, RI (6th Grade)

14. Do Pillbugs or Darkling Beetles Show a Preference for Specific pH or Nitrate Levels?

Naima Suchman & Jasper Hoefflerle
Nathan Bishop Middle School, RI (6th Grade)

15. Water Quality in Narragansett Bay

Ada Sobota-Walden
Nathan Bishop Middle School, RI (6th Grade)

16. How Do Air and Soil Temperature Affect the Growth of Bulbs?

Rory Merritt & George Groves
Nathan Bishop Middle School, RI (6th Grade)

17. Using Drones to Identify Potential Mosquito Breeding Habitats

Gavin Prom
Medford Memorial Middle School, NJ (7th Grade)

18. Correlation between GOES-R ABI Band 13 data and Precipitation Amounts

Logan Michaels, Andrew Fricke, Elena Garristina
Medford Memorial Middle School, NJ (7th Grade)

19. Correlation between Split Window Data (GOES-16 ABI) and Cloud Cover/Type

Royce Jacobs, Sophia Tenebruso
Medford Memorial Middle School, NJ (7th & 8th Grade)

20. Ground Observation Correlated to Satellite Data

Jackson Hickey and Sam Murphy
Fredonia Middle School, NY (8th Grade)

21. Title TBD

Calder Annear and Jayden Yerico
Fredonia Middle School, NY (8th Grade)

Grade 9-12 Research Posters

- 22. The Correlation of Aerosol Optical Thickness and Surface Temperature *in Situ* vs. Satellite Data**
Neisha Boiteux, Shaina Bond, Prisha Kulkarni
Stamford High School, CT (10th Grade)
- 23. How could changes in the Vernal Window affect the hydrology of a watershed?**
Jacob Burns
Old Town High School, ME (11th Grade)
- 24. How can we monitor changes in the timing of soil moisture and nutrients in a changing Vernal Window?**
Bradley Frizzell
Old Town High School, ME (10th Grade)
- 25. What does the Vernal Window look like in two different forest types?**
Amanda Oertell
Old Town High School, ME (10th Grade)
- 26. What does soil respiration tell us about winter soil life in a Maine forest?**
Zakery Scalese
Old Town High School, ME (11th Grade)
- 27. Can cheap and expensive tools tell the same ecological stories of wintertime change?**
Emily Nason
Old Town High School, ME
- 28. What are the Effects of Drought on Water Quality in Sub-Sahara Africa versus Massachusetts?**
Christopher Rivelli, Julianna Borusso, Lily Allen, Kylie Clement
Northbridge High School, MA (9th Grade)
- 29. The Past and Present Effects of the Industrial Revolution on Water Quality in Europe and in the Blackstone Valley**
Aidan Roy, John Buckley, Anthony Reed, Kyla Dominguez
Northbridge High School, MA (9th Grade)
- 30. Drinking Water in California & Mitigating Its Environmental Impacts**
Charles Morrill, Bennet Morrill, Thomas Dequire
Nipmuc Regional High School, MA (10th Grade)
- 31. How does the uptake of carbon by schoolyard vegetation compare to the emissions of carbon by the school?**
Lily Weber, Alyssa Ray, Talal Siddiqui
Maynard High School, MA (9th-12th Grade)
- 32. What type of vegetation should be added to our schoolyard to improve carbon uptake?**
Elizabeth Freeman, Grace Charon, Virginia Crossland, Matthew Cloutier
Maynard High School, MA (9th-12th Grade)
- 33. A comparison of daily air temperature and number of observed contrails**
Starlyn Collado Bourdier, Omar Jean-Francois, Vanessa Reyes, Tayqwan Richardson
Lexington School for the Deaf, NY (11th & 12th Grade)
- 34. Does airplane size affect the number of contrails produced?**
Jean Carlos Estevez, Luis Linares, Tristan Valico
Lexington School for the Deaf, NY (11th & 12th Grade)
- 35. Title TBD**
Arianna Baggett & Andrew Burton
Huntington High School, WV (11th Grade)
- 36. Title TBD**
Jayson Johnson and Jenna Adkins
Huntington High School, WV (11th Grade)
- 37. Case Studies: Effects of Location on Surface Temperatures**
Wilmer Ajiataz Barrios, Emely Alonzo Collado, Cristian Alcantara Baez
Freeport High School, NY (12th Grade)
- 38. Data Quality Results of Citizen Scientist Cloud Observations for the GLOBE Program**
Kevin Ivey
James River High School, VA (12th Grade)

THANK YOU FOR THE ASSISTANCE AND SUPPORT FROM:

The Boston University 2019 GLOBE SRS Planning Team

Bruce Anderson (Earth & Environment)	Peter Garik (Curriculum & Learning)
Donald DeRosa (Curriculum & Learning)	Kathleen Johnson (Curriculum & Learning)
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A special thanks to Maryellen Madaio, Events Specialist, Wheelock College

Teachers

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Charles Phillips, Lexington School for the Deaf, East Elmhurst, NY	Sue Dougherty, Stamford High School, Stamford, CT
Valerie Cairns, Maynard High School, Maynard, MA	
Vicky Gorman, Medford Memorial Middle School, Medford, NJ	

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