The following state Winner have advanced to the U.S. Stockholm Junior Water Prize national competition, June 15-17, 2018 at the University of North Carolina at Charlotte

**Alabama**

**Noel Lange**

Development of an Innovative Strategy to Protect the Aquatic Environment from Household Plastic Microfibers

Teacher – Jacque Middleton

Sponsored by the Alabama Water Environment Association

**Alaska**

**Helen Laird**

A comparison of nearshore marine microplastic and shore plastic levels in the Aleutian Islands

Interior Distance Education of Alaska

Science Teacher – Katherine Laird

Sponsored by the Alaska Water Wastewater Management Association

**Arizona**

**Ryan Widjaja, Lindsay Chen, and Gabriel Wang**

Reducing Brine Waste in Reverse Osmosis (RO) Systems with Distillation

Hamilton High School

Science Teacher – Sara Loutzenheiser

Sponsored by the AZ Water

**Arkansas**

**Dhruv Modi**

Water-Oil Separation via PVDF Superhydrophobic/Superoleophilic Membranes

Little Rock Central High School

Science Teacher – Patrick Foley

Sponsored by the Arkansas Water Environment Association

**California**

**Visala Tallavarjula**

Irrigation Water Usage Efficiency Improvement by Modification of Root Zone Soil Properties Using Carbon Sequestration

Adrian Wilcox High School

Science Teacher – Naleeni Srinivasan

Sponsored by the California Water Environment Association
Colorado
Isla Anderson
Anthropogenic Induction of Antibiotic Resistance by Sulfamethoxazole
North High School
Science Teacher – Munira Lantz & Melissa Brace
Sponsored by the Rocky Mountain Water Environment Association

Connecticut
Verna Yin
Filtration of Heavy Metals from Drinking Water with Used Coffee Grounds Embedded in Discarded Polyurethane Sponges
Greenwich High School
Science Teacher – Andrew Bramante
Sponsored by the New England Water Environment Association

Delaware
No Qualifying Entries
Sponsored by the Chesapeake Water Environment Association

District of Columbia
No Qualifying Entries
Sponsored by the Chesapeake Water Environment Association

Florida
Rohan Jakhete
Electro-Oxidation of ethinylestradiol: A Novel Model for Removing Endocrine-Disrupting Compounds from Wastewater Effluent
South Fork High School
Science Teacher – David Hill
Sponsored by the Florida Water Environment Association

Georgia
Jessica Mitchell
A Macro Micro Problem: Analyzing Microplastic Concentrations of the Chattahoochee River
South Forsyth High School
Science Teacher – Melissa Smith
Sponsored by the Georgia Association of Water Professionals

Hawaii
Evelyn Haase
Developing a pH Sensor to Monitor Ocean Acidification: Year 3
Molokai High School
Science Teacher – Robert Shizuma
Sponsored by the Hawaii Water Environment Association

Idaho
Alexander Howard
Investigating the Water Filtration Capabilities of Carbon-Coated Oyster Shells
Timberline High School
Science Teacher – Annie Schmidt
Sponsored by the Pacific Northwest Clean Water Association
Illinois
Robert Szymczyk
The Effects of Water Pollution on Mosquitoes
Lane Tech College Prep High School
Science Teacher – Lucy Young
Sponsored by the Illinois Water Environment Association

Indiana
Victor Karwacinski and Mary Sgroi
Non-Thermal, Atmospheric Plasma: A Means of Water Purification
Trinity School at Greenlawn
Science Teacher – Lynda Sealsy
Sponsored by the Indiana Water Environment Association

Iowa
Pearl Krieger-Coble
Analysis of Carbonic Acid impact on Neritina natalensis and Daphnia magna
Winfield-Mt. Union Community School District
Sponsor Teacher – William Hansen
Sponsored by the Iowa Water Environment Association

Kansas
Paige Claassen and Deserae Schwindt
Forage Quality Analysis for Sandhills Wetland Site
Rolla High School
Science Teacher – Zeta Greene
Sponsored by the Kansas Water Environment Association

Kentucky
Anjali Chadha
Development of a Fully Automated 3D Printed IoT Sensor for Arsenic Detection in Groundwater
duPont Manual High School
Science Teacher – Glenn Zwanzig
Sponsored by the Kentucky-Tennessee Water Environment Association

Louisiana
Sofia Stuart
The Effect of Different Levels of Current during Membrane Capacitive Deionization on the Concentration of Ions in Water
St. Joseph's Academy
Science Teacher – Jacqueline Savoia
Sponsored by the Louisiana Water Environment Association

Maine
Mei Tian
Use of Cellulose-Based Materials Infused with Layered Double Hydroxides to Remediate Phosphorus from Stormwater
Bangor High School
Science Teacher – Cary James
Sponsored by the New England Water Environment Association
Maryland
Claire Wayner
Effects of Inhibitory Bacterial Biofilms on Escherichia coli Contamination Levels in Engineered Infiltration Systems
Baltimore Polytechnic Institute
Science Teacher – Lisa Fridman
Sponsored by the Chesapeake Water Environment Association

Massachusetts
Elise Mizerak
What's In Your Water?
Using Variable Water Temperature as a Method of Limiting Synthetic Fabric Microfibers
Wachusett Regional High School
Science Teacher – Nicholas Guerin
Sponsored by the New England Water Environment Association

Michigan
Neha Narayan
Activated Carbon Water Filtration - Using Household Articles and Study of its Effectiveness in Removing Pollutants
Salem High School
Science Teacher – Joan Pence
Sponsored by the Michigan Water Environment Association

Minnesota
Avni Jain
Wastewater Treatment: Utilizing Hydroponics to Develop a Novel and Sustainable Solution to Nutrient Pollution
Eden Prairie High School
Science Teacher – Kristin Gabel
Sponsored by the Central States Water Environment Association

Mississippi
Helen Peng
Optimal Photo-reactors for the Improvement of Solar Water Disinfection with the Advanced Oxidation Process
Mississippi School of Math and Science
Science Teacher – Dr. Tina Gibson
Sponsored by the Mississippi Water Environment Association

Missouri
Lucas Mosher
Exploring the Potential of a Modified Stun Gun as a Sterilization Technique for Drinking Water in Disaster Areas Through the Use of Pulsed Electric Field (PEF) Technology by the Degradation of Cellular Membranes
Camdenton High School
Science Teacher – Christopher Reeves
Sponsored by the Missouri Water Environment Association
Montana
Lucas Ritzdorf
A Stochastic Computational Model for Dreissenid Mussel Invasion Risk in Montana’s Waterways: Year 2
Glacier High School
Science Teacher – Mark Drew
Sponsored by the Montana Water Environment Association

Nebraska
Madeline Kane
The Effect of Blue and Yellow Light on Crustose Coralline Algae (Lithothamnion spp.)
Zoo Academy
Science Teacher – Amy Leising
Sponsored by the Nebraska Water Environment Association

Nevada
Yatin Chandar
Development of Highly Efficient Low-Cost Filter for Effective Dissolved Heavy Metal and Organic Contaminant Removal
The Davidson Academy
Science Teacher – Martin Braik
Sponsored by the Nevada Water Environment Association

New Hampshire
Meghana Avvaru
An Economical Approach for Detecting Water Contamination At Homes - Preventing a Public Drinking Water Crisis
Nashua High School South
Teacher – Stephen Minnigh
Sponsored by the New England Water Environment Association

New Jersey
Harshal Agrawal
Using Stropharia Mushroom Mycelium (S. rugosoannulata) and Waste Treatment Residual for Filtration of Nitrate/Total Dissolved Nitrogen and Phosphate from Agricultural Runoff to Prevent Harmful Algae Blooms - Year 4
Dr. Ronald E. McNair Academic High School
Science Teacher – Jeremy Stanton
Sponsored by the New Jersey Water Environment Association

New Mexico
Rowan Kinney and Eben Bellas
Optimizing Straw Mulch Use in Agriculture to Decrease Water Related Costs
Taos High School
Science Teacher – Tracey Galligan
Sponsored by the Rocky Mountain Water Environment Association
New York
Michelle Xing
Direct Functionalization of Algal Nanocellulose to Enhance Biosorption for Lead(II) Remediation
Great Neck South High School
Science Teacher – James Truglio
Sponsored by the New York Water Environment Association

North Carolina
Aakriti Lakshmanan
A Study on the Coagulating Properties of the M. OLEIFERA Seed
Ardrey Kell High School
Science Teacher – Matthew Welch
Sponsored by the North Carolina Water Environment Association

North Dakota
Lauren Knoll
There is No Planet B: Aquaponics, Farming of the Future
Park Christian School
Science Teacher – Nancy Schnabel
Sponsored by the North Dakota Water Environment Association

Ohio
No Qualifying Entries
Sponsored by the Ohio Water Environment Association

Oklahoma
Braden Milford
“Designing a Novel Heavy Metal Bioremediation System Utilizing Immobilized Mixed Algae Partnered with Heavy Metal Resistant Microbial Isolates Collected from Contaminated Superfund Mine Sites and Identified with a 16S Ribosomal Subunit Analysis”
Cascia Hall Preparatory School
Science Teacher – Sally Fenska
Sponsored by the Oklahoma Water Environment Association

Oregon
Cheney Sung
Effects of Polyester and Cotton Microfibers on the Growth and Luminous Intensity of Pyrocystis sp.
Oregon Episcopal School
Science Teacher – Peter Langley
Sponsored by the Pacific Northwest Clean Water Association

Pennsylvania
William Chen
Evaluation of Two Methods for Remediating Antibiotic Water Pollutants Methacton High School
Science Teacher – Robert Helm
Sponsored by the Pennsylvania Water Environment Association
Puerto Rico
Bianca Rodríguez Castro
Preventing the Drought from Turning into World Hunger:
A novel natural superabsorbent polymer made of yucca and yam peels capable of maintaining the growth of a plant during drought.
CROEC
Science Teacher – Wilmayris Alvira
Sponsored by the Puerto Rico Water & Environment Association

Rhode Island
Margaret O’Brien
Waddle We Do Without Duckweed? Phytoremediation of Heavy Metals in Water Using Aquatic Macrophytes
Mt. Hope High School
Science Teacher – Christopher Munzert
Sponsored by the New England Water Environment Association

South Carolina
Vignesh Rajmohan
The Effectiveness of the Use of Moringa oleifera Seeds in the Removal of Metal Based Contaminants from Contaminated Water
J. L. Mann High School
Science Teacher – Anna Hanor
Sponsored by the Water Environment Association of South Carolina

South Dakota
Margaret Fouberg and Branden Orr
Utilizing Varying Molarities of Ammonium Nitrate to Analyze Daphnia magna Survival Rates in Polluted Water
Aberdeen Central High School
Science Teacher – Charles Hermansen
Sponsored by the South Dakota Water Environment Association

Tennessee
Noah Walker and Makayla Wilson
The Effect of Salt Brines with Various Concentrations on Chlorella Microalgae
Heritage High School
Science Teacher – Chelsie Sells
Sponsored by the Kentucky-Tennessee Water Environment Association

Texas
Richard Zhang and Steven Wu
Application of Novel Engineered Materials for Phosphorus Removal in Controlling Algae Bloom in Eutrophic Water
Clear Lake High School
Science Teacher – Lauren Cooper
Sponsored by the Water Environment Association of Texas

Utah
Jessica Pratt
Lead Isotope Correlation to Point Source Contamination in American Fork Reservoir
Maple Mountain High School
Vermont
Sunthoshini Premsankar
Neutralization of Pharmaceutical Pollution in Lake Champlain
Champlain Valley Union High School
Science Teacher – Sarah Strack
Sponsored by the New England Water Environment Association

Virgin Islands
No Qualifying Entries
Sponsored by the Seven Seas Water Corporation

Virginia
Kartik Chugh and Palash Shah
Impurivision: A High Performance Mobile Application for Identifying Water Contamination using Deep Learning
Westfield High School
Science Teacher – Mary Constantino
Sponsored by the Virginia Water Environment Association

Washington
Sagarika Samavedi
Analyzing the Effects of Anthropogenic Pollution on the Net Primary Productivity of Oceanic Phytoplankton using Satellite Data and In Vitro Experimentation
Interlake High School
Science Teacher – Philip Allen
Sponsored by the Pacific Northwest Clean Water Association

West Virginia
No Qualifying Entries
Sponsored by the West Virginia Water Environment Association

Wisconsin
Abigail Warwick and Hunter Bindas
Development of a Grass Variety as a way to Remove Nitrogen from Water Environments
Muskego High School
Science Teacher – Karen Lindholm-Rynkiewicz
Sponsored by the Central States Water Environment Association

Wyoming
Kendrew Ellis
Snow Pollution Effects on Water Quality in Medicine Bow National Forest, Wyoming
East High School
Science Teacher – Kelli Pederson
Sponsored by the Rocky Mountain Water Environment Association