2017 ANNUAL REVIEW

NATIONAL OCEAN SCIENCES BOWL®
A COL Program
Twenty years ago, NASA’s Pathfinder landed on the surface of Mars, James Cameron’s blockbuster hit Titanic premiered, and Steve Jobs returned to the helm at Apple. During that same year, Admiral James D. Watkins and Dr. Rick Spinrad put their heads together to hold a groundbreaking event that has inspired, educated, and provided countless opportunities for thousands over the last two decades – the National Ocean Sciences Bowl (NOSB). The NOSB, a nationwide high school ocean sciences competition, has created an opportunity for high schoolers to study ocean science (which is generally not part of their curricula), provided career direction, and developed a more ocean-literate society.

The academic competition introduces students to ocean-related topics, which include cross-disciplines of biology, chemistry, policy, physics, and geology and prepares them to enter these and other science, technology, engineering, and math (STEM) careers – all in an interactive team setting that stresses leadership and teamwork. Over the last two decades, the NOSB has had an undeniable impact (educating over 30,000 students) and much to celebrate. In 2017 alone, the 25 regional competitions involved roughly 2,000 students from 273 schools in 33 states.

This year’s first-time championship team hailed from California’s Santa Monica High School. Over the last 20 years, winners have come from coastal and non-coastal states alike: California (Santa Monica High School, Albany High School, Arcadia High School, Mission San Jose High School), Idaho (Boise High School), Massachusetts (Lexington High School, Lincoln Sudbury Regional High School), New Hampshire (Contoocook Valley Regional High School), Rhode Island (Cranston High School West), and Wisconsin (Marshfield High School).

Each year, the NOSB chooses a competition theme to help students understand long-term issues affecting our ocean. This ensures that these young scholars, even if they don’t continue in an ocean-focused career, will be literate in topics of immediate and future concern. Our 2017 theme was Blue Energy: Powering the Planet With Our Ocean and fittingly, Finals were hosted by Oregon State University, which plays a growing role in the future commercialization of marine renewable energies. There is great potential along our coastlines to generate marine renewable energy, thereby reducing our dependence on fossil fuels. The science-based use of marine renewable energy (generated from the continuous movement of surface winds, tides, and currents, as well as differences in salinity and temperature) will keep our ocean healthy and productive as it helps meet the world’s growing energy demand. Given the theme, students gained an increased awareness and understanding of topics, including emerging technologies, challenges in implementing marine renewable energy projects, potential impacts to marine ecosystems, and current permitting and regulation policies.

2017 was an exciting year for the NOSB and it has been a pleasure celebrating 20 years of ocean science education – and I look forward to the next 20!

RADM Jonathan W. White, USN (ret.); M.S.  
President & CEO; Consortium for Ocean Leadership

Kristen Yarincik  
Vice President & Director, Research & Education;  
Consortium for Ocean Leadership  
Director; National Ocean Sciences Bowl
2017 YEAR IN REVIEW

2017 Theme
Blue Energy: Powering the Planet with our Ocean

Regional Results
25 regional competitions

392 Teams from 34 states
273 Schools
1,960 students
(equal number males and females)
>1,500 Volunteers

2017 YEAR IN REVIEW

Top Teams
1st: Santa Monica High School – Santa Monica, CA
2nd: Marshfield High School – Marshfield, WI
3rd: North Carolina School of Science and Math – Durham, NC
4th: Centerville High School – Dayton, OH
5th: Bishop Sullivan Catholic High School – Virginia Beach, VA
6th: Eastside High School – Gainesville, FL
7th: Liberty Common High School – Fort Collins, CO
8th: Oxford High School – Oxford, MS
Sportsmanship Award: Kalani High School – Honolulu, HI

$1.1 million in funding
(including federal, foundation, corporate and other sponsors)

5 National Ocean Scholar Program scholarships awarded
(made possible through the NOSB’s online crowd-sourcing campaigns)

$28,895 donated by individuals
2017 marked the 20th anniversary of the NOSB – a true milestone for the program and its growing community of ocean-passionate students, educators, and volunteers. When students, coaches, regional coordinators, sponsors, staff, and volunteers arrived in Corvallis, Oregon for the national Finals, there was much to celebrate. We were thrilled that Dr. Rick Spinrad and Sarah Schoedinger, two of the original leaders of the program, joined us. Dr. Spinrad served as the keynote speaker, sharing his experiences participating in the NOSB and the many amazing ocean science discoveries that have taken place during the program’s 20 years.

As another way to celebrate two decades of success, we held a 20th anniversary art contest. NOSB team members were encouraged to submit artwork that highlighted the NOSB’s 20th anniversary, the impact the program has had on its students, or the year’s theme. A design by David Ludeke from Lick-Wilmerding High School in San Francisco, California was chosen for use on the official 2017 national Finals t-shirt provided to teams, volunteers, and other attendees.

The NOSB also celebrated a new 2017 championship team hailing from Santa Monica High School in Santa Monica, California. This was the first national title for team members Amy Amatya, Nanki Chugh, Rhys Gaida, Ryu Akiba, and Josh Sheng and for their coach Ingo Gaida.
The NOSB EDUCATES tomorrow’s ocean leaders

As has been tradition since 2009, the recent competition year featured a theme, highlighting an important and relevant topic both to ocean science and society. In 2017, we chose “Blue Energy: Powering the Planet with our Ocean.” Coastal regions increasingly see the great potential for generating renewable power from the ocean, and perhaps no state recognizes this more keenly than Oregon. Oregon State University (OSU), our 2017 national Finals host and home to the Salmon Bowl, is a leader in advancing marine renewable energy so that we can build a more sustainable energy and environmental global future. Through NOSB’s 2017 theme, students learned about the movement of surface winds, tides and currents, as well as differences in salinity and temperature, that offer a naturally abundant source of energy that can be harnessed to generate power. Competition questions focused on marine renewable technologies and their possibilities, impacts, and challenges. A webinar series for educators prepared NOSB coaches to discuss and further study the topic with their teams, featuring experts on the varied aspects of marine renewable technologies, including how they work, how they impact marine habitats, and how stakeholder and community engagement is key to their success. Students attending the national Finals participated in field trips to a potential off-shore marine renewable energy project site, visited the OSU O.H. Hinsdale Wave Research Laboratory and research facility, and heard presentations about the importance of marine renewable energy projects taking place along the Oregon coast from members of the Northwest National Marine Renewable Energy Center.

Awarding the top two teams at the national Finals competition trips that provide scientific, cultural, and personal growth experiences related to ocean and environmental science is an applauded practice of the program. The 2017 national championship team members from Santa Monica High School (California) were awarded a trip to coastal Georgia and South Carolina. The team from Marshfield High School (Wisconsin) placed 2nd and received a five-day trip to the coast of New Jersey. Both teams participated in field research activities (either on the coast or on a vessel), laboratory tours, discussions with scientists, presentations, and explorations of marine and coastal habitats. We thank our numerous award trip hosts, as well as the Albert II of Monaco Foundation and other dedicated sponsors for supporting these two prizes.
The NOSB IMPACTS
its participants, both professionally and personally

The NOSB is so much more than an academic competition. It is a growing community of students, educators, and scientists who benefit from participating in preparation, study, competition, presentations, and most importantly, interactions with one another.

...even landlocked states need to care about the oceans! [The] NOSB’s mission to raise awareness of the fragility of oceans and their current state of degradation, especially with our youth, is critical to reversing this trend as well as motivating the students to go into fields that have the potential to find solutions. I very much appreciate everything NOSB brought to my son and everyone who comes into contact with the organization.

– Jennifer Dickey, mother, Boise High School (Idaho), Salmon Bowl

While the NOSB provides yearly themes, online study resources, recorded webinars, and sample questions to support students and coaches, teams must focus much of their own time on independent study and competition preparation. Many coaches implement lab experiments or field trips to allow students to explore the complexities of scientific concepts and actual marine habitats. One coach, Barbara Bennett, from Atherton High School in Louisville, Kentucky, took 20 students from her school, including three of her NOSB team members, to the Catalina Island Marine Institute (in California) during a spring break field trip. This was an amazing trip for the students but also turned out to have an unexpected connection to the larger NOSB program. While visiting, Jorie Heilman served as the students’ marine science instructor. Jorie is a former Blue Lobster Bowl competitor who now works at Catalina Island Marine Institute. She teaches marine science programming to students on residential field trips and helps immerse them in ocean science learning by going snorkeling or kayaking and by conducting marine biology labs. It’s extremely rewarding to hear that a past competitor is now educating others—especially current NOSB students—about the ocean! Jorie also visited Catalina Island as an NOSB student on her team’s 2nd place prize trip in 2011 and noted her amazement about the path that brought her back years later for her career.
The NOSB MOTIVATES students to pursue hobbies and careers in ocean science

Kaitlyn Dow, a 2017 NOSB Quahog Bowl competitor from Waterford, CT, was part of a student showcase at the 10th Annual World Science Festival on June 4 in New York City. She presented her interests and scientific explorations to a group of preschool and elementary school students, noting the impact of her involvement in the NOSB on attracting her to ocean science and on broadening her learning the science of winds and currents and how they applied to her practical understanding of sailing.

Kaitlyn told the story of the unmanned sailboat, The Lancer, that she built and launched to sea in May of 2016. The boat made its way across the Atlantic Ocean solely traveling on wind. Four months later, in September, The Lancer hit solid land. An Irish eight-year-old named Méabh Ní Ghionnáin, who lives on a small island off the coast of County Galway, had been tracking the boat’s GPS location in the final leg of its journey and found it washed ashore. Kaitlyn has since collected The Lancer from Méabh and relaunched the boat back out to sea in early August after minor repairs. Her presentation also included demonstrations of the relation of wind, waves, and currents. We wish Kaitlyn the best as she attends the United States Coast Guard Academy in the fall to study naval architecture.

The personal and career success of the NOSB alumni only enhances the value of the program. For 20 years, they have been the program’s biggest advocates, and each year many give back by volunteering at the regional and national competitions. As a way to celebrate the NOSB’s 20th anniversary, we began a social media campaign to reconnect with our alumni. More than 50 have shared their stories, including where they are now, how the NOSB impacted their education and career choice, and how they remain connected to the NOSB and ocean science. We’ve heard from very recent alumni, competing as recently as 2016, as well as individuals who participated as far back as 2000. These include marine geologists, geospatial scientists, elementary and high school teachers, neurosurgeons, congressional fellows, marine conservationists, architects, software developers, engineers, and warfare specialists. They now work at the National Oceanic and Atmospheric Administration; the American Association for the Advancement of Science; Shell; Disney; the U.S. Coast Guard; and numerous ocean science research universities, labs, and institutions. Every response highlighted gratitude for their years studying with a team and competing in the NOSB and a life-long appreciation for – and enjoyment of – our ocean.

If you want to catch up with our alumni, check out our spotlights at nosb.org/alumni-spotlight

If you are an alum, be sure to contact us at nosb@oceanleadership.org. We’d love to hear from you!
THANK YOU!

The NOSB would not be possible without a variety of types and levels of support. We thank each and every person who gave to the program, including the NOSB sponsors and our ever-growing network of current students and their families, dedicated alumni, volunteers, regional competition coordinators, the NOSB and Consortium for Ocean Leadership staff, and others who give to ensure the program’s sustainability. During the 2016-2017 competition year, more than 140 generous individual donors helped support the NOSB program. These donations enabled the NOSB to continue offering students a unique way to learn about the environment and ocean sciences and supported five NOSB Ocean Scholars.

We would also like to thank our 2017 sponsors, regional and Finals competition hosts, and award trips hosts. Your support was invaluable and helped us overcome tremendous funding challenges, ensuring this important program was successful on its 20th anniversary and can continue to be part of the high school experience for the next 20 years.
THANK YOU!

REGIONAL HOSTS
Alaska Sealife Center
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Hawaii Sea Grant
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Massachusetts Institute of Technology, Sea Grant College Program
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Old Dominion University
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Washington Sea Grant
Youngstown State University

AWARD TRIPS
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Savannah State University
Skidaway Institute of Oceanography
South Carolina Aquarium
South Carolina Department of Natural Resources
Rutgers University Marine Field Station
University of Georgia Marine Extension and Marine Education Center and Aquarium
Urban Coastal Institute

The NOSB would also like to thank the Advisory Council who shares the responsibility, with the Consortium for Ocean Leadership, for the strategic direction and long-term sustainability of the NOSB program.

Chair: RADM Dick West (U.S. Navy, Retired), former President/CEO of the Consortium for Oceanographic Research and Education
Hon. Brian Baird, former U.S. Congressman (D-WA)
Ms. Elizabeth Creed, Principal Systems Engineer at Kongsberg Underwater Technology
Dr. Rosanne W. Fortner, Professor Emeritus, The Ohio State University
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Dr. Ellen Prager, Marine Scientist and Author, Earth to Ocean
Dr. Rick Spinrad, Chief Scientist, National Oceanic & Atmospheric Administration (Retired)
Dr. Ralph Rayner, Sector Director of Energy, BMT Group Limited, and Professorial Research Fellow, London School of Economics and Political Science

I think [the] NOSB made a bigger impact on me as a volunteer than as a competitor. I was going to pursue marine science in college, there was no doubt about that for me. But as a volunteer, I see potential in every student, and it is fun to be a witness to their incredible journeys into the world of marine science, even if it is just for a day.

– Lauren Kitayama, alumna (California), Sea Lion Bowl and volunteer (Florida), Manatee Bowl
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