Finals Competition
St. Petersburg, FL • April 23–25, 2010
Census of Marine Life
Encyclopedia of Life
St. Petersburg Downtown Partnership
Florida Aquarium
Raytheon
Mote Marine Laboratory
University of California Press
Weedon Island Preserve
MATE Program
National Park Service
National Marine Educators Association
Chammyz
FishFlips
American Meteorological Society

NOSB® is a program of the Consortium for Ocean Leadership
On behalf of the 95 members of the Consortium for Ocean Leadership, it is my pleasure to welcome you to the 13th Annual National Ocean Sciences Bowl (NOSB) finals in sunny St. Petersburg, Florida. I want to congratulate you on being the elite students from more than 300 schools and approximately 2,000 participants that competed in this year’s regional NOSB competitions. You should feel very proud to be here at the University of South Florida as one of the 25 regional teams and coaches from across the country. It is a wonderful achievement.

Since 1998, the NOSB has established a track record for generating interest and excitement about science and the ocean. It has been clearly shown that the NOSB expands students' knowledge of the ocean, enhances public understanding and stewardship of the ocean and encourages some of the country’s best and brightest students to consider the ocean sciences as a career. Approximately 22,000 students and teachers have participated in this program since its inception and many of those students have pursued successful careers in ocean science, education and policy. It is my hope and belief that many of you competing this year, in the 2010 NOSB, will continue this trend and become the next generation of ocean leaders in our country.

Each year, the NOSB competition is made possible through the funding from several federal agencies and corporate donors that recognize the importance of fostering the growth of ocean science education. We are truly grateful for the generosity from all of these sponsors and cannot thank you enough. I would also like to extend a special thank you to our finals host, the University of South Florida. They have done a wonderful job setting the venue for the competition.

I hope you enjoy your time in St. Petersburg. It is a great place for people interested in the ocean, like you. Through the fieldtrips that have been organized for your teams, you will see everything from the Weedon Island Preserve to Fort DeSoto County Park to the Mote Marine Research Laboratories and Aquarium. The University of South Florida College of Marine Science is also a wonderful place to explore.

All of you have worked very hard to make it to the final competition and Ocean Leadership congratulates your efforts. I encourage you to get to know your fellow students and the volunteers that are here and I hope that each of you will pursue a career in the ocean sciences so that someday, you will be the ocean leaders of our country and world.

Sincerely,

Robert B. Gagosian
President & CEO
Consortium for Ocean Leadership
<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday</td>
<td>April 22</td>
<td>8:00-9:00 PM</td>
<td>Coach &amp; RC Meeting @ Hotel in William Demens Room</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10:30 PM</td>
<td>Curfew</td>
</tr>
<tr>
<td>Friday</td>
<td>April 23</td>
<td>7:30-8:15 AM</td>
<td>BREAKFAST @ Hotel in Grand Bay Ballroom South</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8:30 AM-3:00 PM</td>
<td>Field Trips (box LUNCH will be eaten at the field trip location)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4:00-5:00 PM</td>
<td>Opening Ceremony @ FWRI Auditorium - Keynote Speaker: Bruce Strickrott, DSV Alvin Expedition Leader</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5:00-5:30 PM</td>
<td>Depart for Fort DeSoto Beach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6:00-8:00 PM</td>
<td>DINNER @ Fort DeSoto Beach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8:00-8:30 PM</td>
<td>Return to Hotel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10:30 PM</td>
<td>Curfew</td>
</tr>
<tr>
<td>Saturday</td>
<td>April 24</td>
<td>7:15-8:00 AM</td>
<td>BREAKFAST @ Hotel in Grand Bay Ballroom South</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7:45-8:15 AM</td>
<td>Volunteer Breakfast &amp; Meeting @ USF Davis 130</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8:15-9:15 AM</td>
<td>Welcome &amp; Rules/Scoring Review @ FWRI Auditorium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9:00 AM</td>
<td>Officials to rooms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9:30-11:45 AM</td>
<td>Round Robins: Rounds 1-3 (Sci &amp; Tech Building)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10:00 AM</td>
<td>Snacks @ Registration Table in Sci &amp; Tech Building Lobby</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11:45 AM-12:45 PM</td>
<td>LUNCH - pick up @ USF Davis 130 (rain location CAC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12:45-2:15 PM</td>
<td>Round Robins: Rounds 4-5 (Sci &amp; Tech Building)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2:00-3:00 PM</td>
<td>Snacks @ Registration Table (Scoring and Seeding for Double Elimination)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2:20-2:50 PM</td>
<td>Science Presentation @ FWRI Auditorium - Presenter: Dr. Al Hine, Associate Dean and Professor- USF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3:00-3:45 PM</td>
<td>Double Elimination Round 1 (Sci &amp; Tech Building)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3:00-5:00 PM</td>
<td>College of Marine Science Technology Lab Tours (Sign-up @ Registration Table)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3:45-4:30 PM</td>
<td>Double Elimination Round 2 (Sci &amp; Tech Building)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4:30-5:15 PM</td>
<td>Double Elimination Round 3 (Sci &amp; Tech Building)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5:15-6:00 PM</td>
<td>Double Elimination Round 4 (Sci &amp; Tech Building)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6:00-9:00 PM</td>
<td>DINNER &amp; Marine Career Extravaganza @ USF Pool</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10:30 PM</td>
<td>Curfew</td>
</tr>
<tr>
<td>Sunday</td>
<td>April 25</td>
<td>7:00-7:45 AM</td>
<td>BREAKFAST @ Hotel in Grand Bay Ballroom South</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7:45-8:15 AM</td>
<td>Volunteer Breakfast @ USF Davis 130</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8:00-8:45 AM</td>
<td>All Hands Meeting @ FWRI Auditorium - Presenter: Rear Admiral Titley, Oceanographer &amp; Navigator of the Navy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9:00-10:30 AM</td>
<td>Double Elimination Rounds 5-6 @ FWRI Auditorium &amp; Room 3A/B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10:30 AM</td>
<td>Snacks @ Registration Table in FWRI Building Lobby</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10:45 AM-12:15 PM</td>
<td>Double Elimination Rounds 7-8 @ FWRI Auditorium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11:30 AM-1:30 PM</td>
<td>LUNCH - pick up @ Davis 130 (rain location CAC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12:15-1:00 PM</td>
<td>Double Elimination Round 9 (if necessary) @ FWRI Auditorium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2:00-3:00 PM</td>
<td>Awards Ceremony @ FWRI Auditorium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3:00 PM</td>
<td>Snacks @ Registration Table in FWRI Building Lobby</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3:30 PM</td>
<td>Teams depart for airport</td>
</tr>
</tbody>
</table>
The National Ocean Sciences Bowl (NOSB) chose the theme of marine technology to highlight the technological advancements that have enabled scientists to explore and research vast regions of the oceans, which until recently were relatively unknown. Ocean technology is a field that continues to expand and evolve and one must look beyond a published book to learn about the new resources available to oceanographers today.

Many of the devices, maps, tools, vessels, and satellites that scientists use in their everyday research allow us to observe amazing life on the ocean floor and chart minute surface temperature changes. These ocean technologies give scientists the ability to utilize mineral and food resources, study climate change, minimize the impact of natural disasters, and understand Earth’s processes in ways we never have before, sometimes without even getting wet.

One example of what technology has provided us is showcased in the artwork on the cover of this program, created by Diane Peebles. The painting highlights aquatic microorganisms that we would never have known existed if it were not for modern ocean technology.

NOSB is also using technology in new ways throughout the competition this year in order create a more sustainable program. The Center for Ocean Engineering and Sea Grant at the Massachusetts Institute of Technology have developed software that will replace the traditional hard copy NOSB notebook with an electronic version called the eOSB (electronic Ocean Sciences Bowl), which will allow the program to be more efficient and also save trees!
James D. Watkins Sportsmanship Award
This highly esteemed award is offered to the team that demonstrates the best sportsmanship throughout the NOSB Finals Competition. The selected team’s coach will receive a $200 gift certificate to Barnes & Noble and each team member will receive a $100 gift certificate to Barnes & Noble. The team will also receive a brand new buzzer system. These prizes are provided courtesy of the James D. Watkins Fund.

1st Place
The national winners will take a step back in time to experience marine technology from times of yore, as they set sail aboard the 125 foot schooner Westward, run by the Ocean Classroom Foundation. During their weeklong journey that departs from Boston, MA, the students will fully participate in the life and operation of the ship, will explore the ocean environment, and will receive training in the arts and sciences of traditional seafaring. This trip is made possible by support from the National Oceanographic Partnership Program. Each student will also receive a $1,000 scholarship to Hood College’s Coastal Studies program and a set of FishFlips fish ID books. In addition, the coach will receive a one year membership to the Marine Technology Society. (Trip Dates: July 25 – August, 1, 2010)

2nd Place
The second place team will travel to the coast of North Carolina. During this weeklong trip, students will visit and tour research facilities and participate in activities such as a research cruise aboard a NOAA vessel, kayaking, snorkeling, collecting and sampling marine organisms, and visiting a barrier island. The coach will also receive a one year membership to the Marine Technology Society and the entire team will receive a Chammyz jacket. The trip is provided courtesy of the National Oceanographic Partnership Program, the University of North Carolina, and Duke University. (Trip Dates: July 14-20, 2010)

3rd Place
The third place team will travel to La Jolla and Catalina Island, California. During this five day trip, students will visit research facilities run by the University of Southern California and Scripps Institution of Oceanography. The students will participate in a myriad of activities including assisting with scientific research, kayaking, snorkeling with leopard sharks, and meeting graduate students and scientists. The coach will also receive a one year membership to the Marine Technology Society. The trip is provided courtesy of the National Oceanographic Partnership Program, the University of Southern California, and Scripps Institution of Oceanography. (Trip Dates: July 12-16, 2010)

4th Place
Each team member and the coach of the 4th place team will receive a Nikon Coolpix S500 Point & Shoot Digital Camera and a Fantasea FS-500 underwater camera housing. This prize is provided courtesy of the National Oceanographic Partnership Program. The coach will also receive a one year membership to the Marine Technology Society.

5th-8th Place
Each team will receive a $500 gift certificate for scientific equipment from Fisher Scientific and $450 for marine science textbooks for the team’s school. These prizes are provided through the generous support of the Oceanic Engineering Society and IEEE. Each coach will also receive a one year membership to the Marine Technology Society.
The University of South Florida’s College of Marine Science (CMS) joined the University of South Florida’s system in 2000 and has quickly become known as a world class institution. CMS hosts 13 laboratories; has four state of the art systems that are used for ocean modeling, ocean sensing, and real-time data collection; runs two State of Florida research vessels; and is located amongst the largest concentration of marine scientists in the Southeastern US. CMS research includes climate change, marine resource depletion, environmental impacts, water contamination and disease, and ecosystem management. Integral to these research programs is the college’s focus on preparing graduate students to become outstanding marine scientists and its emphasis on collaboration and community outreach. The college also has a strong technology base through the Center for Ocean Technology (COT). Here, researchers develop new technologies and scientific instrumentation for exploring the coupled ocean-atmosphere-land system. COT collects data from CTDs using bottom profilers, tests unmanned surface vehicles, and analyzes digital data from satellites. These interdisciplinary research efforts provide solutions to regional, national, and global issues. In addition, the College’s Education and Outreach programs provide a variety of community engagement opportunities for students and adults that encourage ocean literacy and stewardship. The Education and Outreach program also hosts the Spoonbill Bowl, the West Florida regional competition for the NOSB. We sincerely appreciate the commitment and dedication that USF St. Petersburg and USF College of Marine Science have made in hosting the 2010 National Ocean Sciences Bowl.

Diane Peebles is a resident of Florida’s west coast with a background in scientific illustration and a professional interest in conservation projects. She grew up drawing landscapes and received a full scholarship to Tulane University for her work. An avid lover of fishing, Diane serves on the Board of Directors for the Florida Foundation for Responsible Angling and is a member of both the International Guild of Natural Science Illustrators and the Florida Chapter of the American Fisheries Society. Diane’s work for the National Ocean Sciences Bowl is a representation of what marine technology has allowed us to discover.

Depicting microbes that are now visible due to advances in marine science, the painting is an original work created specifically for the 2010 NOSB Finals Competition t-shirt and program. The National Ocean Sciences Bowl would like to thank Diane Peebles for donating this beautiful image. For more information on Peebles’ and to view her other pieces of art, please visit www.dianepeebles.com.
Living on the Ocean Planet Video Contest

Congratulations to the students from Contoocook Valley Regional High School in Peterborough, NH for winning the second annual NOSB “Living on the Ocean Planet” Video Contest. This team, from the North Eastern Region, did an excellent job showcasing how technology, specifically remotely operated underwater vehicles (ROVs), allows scientists to expand their knowledge of the oceans, and guides us to understand the principle that the ocean is largely unexplored.

The first place video has the distinct honor of being played on the Ocean Today Kiosk for three months. The Kiosk is housed at the Smithsonian’s Sant Ocean Hall and broadcasts to the kiosks in fourteen other Coastal Ecosystem Learning Centers that are located throughout the U.S. and Mexico. In addition, all three top videos will be posted on the websites of the following ocean-focused organizations: Consortium for Ocean Leadership, NOSB, Census of Marine Life, National Marine Educators Association, Encyclopedia of Life, NOSB’s Facebook page, and on YouTube, so the hard work, creative talents and educational messages may be viewed by audiences around the world.

Winning Video Title: Ocean Exploration: The Future
Team: Will Welch & Gwyn Welch
Coach: Patricia Cloutier

Second Place:
Marine Academy of Technology and Environmental Science Manahawkin, NJ
Video Title: Reflection in the Water: Humans and the Ocean

Third Place:
Woodbridge High School Irvine, CA
Video Title: Desalination Plants: Making Earth Habitable
W. Bruce Strickrott

W. Bruce Strickrott is the Expedition Leader and Chief Pilot of the manned deep submergence vehicle Alvin operated as part of the National Deep Submergence Facility at Woods Hole Oceanographic Institution. He has been with the Alvin group for over 13 years and has accumulated over 300 dives and over 2000 hours submerged.

Bruce spent six years in the United States Navy working with advanced electronics and radar systems while being stationed on two Navy combatant ships. After the Navy, he attended Florida Atlantic University in Boca Raton, Florida and earned a bachelor’s degree with honors in Ocean Engineering.

When not aboard the ship or diving in Alvin, Bruce splits his time between traveling and his home in Colorado. For fun he enjoys skiing, climbing, motorcycle riding, scuba diving, flying and other outdoor sporting activities.

Bruce believes that the imagination is the fuel of ambition and that as long as folks are willing to dream and to put energy toward achieving their goals, that almost anything is possible.

Dr. Al Hine

Dr. Al Hine is the Associate Dean of the College of Marine Science and Professor of Geological Oceanography at the University of South Florida – St. Petersburg Campus. Dr. Hine graduated from Dartmouth College with an undergraduate degree in Geology and received his Masters from the University of Massachusetts and his Ph.D. from the University of South Carolina, both in Geology.

Prior to coming to USF, Dr. Hine was employed at the University of North Carolina at Chapel Hill as an Adjunct Assistant Professor. At USF, he is fundamentally a broadly-trained geological oceanographer who addresses sedimentary geology/stratigraphy problems from the estuarine system out to the base of slope, primarily in carbonate or mixed siliciclastic/carbonate environments.

He, his associates, and graduate students have defined the response of coastal and shelf depositional systems to sea-level fluctuations, climate changes, western boundary currents, antecedent topography, and sediment supply. His primary research tools are high-resolution seismic reflection profilers, swath and multibeam high resolution bathymetric systems, side-scan sonars, geoaoustic seafloor-classification systems, and ROVs. Additionally, his team has used a variety of submersibles, including the Alvin, and has been heavily involved in scientific ocean drilling and sailed on the JOIDES Resolution (Co-chief scientist—Leg 182, and sedimentologist—Leg 194).
Rear Admiral David Titley

A native of Schenectady, N.Y., Rear Admiral Titley was commissioned through the Naval Reserve Officers Training Commissioning program in 1980. While aboard USS Farragut (DDG 37) from 1980-1983, Titley served as navigator, qualified as a surface warfare officer, and transferred to the Oceanography community the following year. Titley has commanded the Fleet Numerical Meteorological and Oceanographic Center in Monterey Calif., and was the first commanding officer of the Naval Oceanography Operations Command. He served his initial flag tour as commander, Naval Meteorology and Oceanography Command. Previous shore tours include assignments at the Regional Oceanography Centers at Pearl Harbor and Guam, the Naval Oceanographic Office, on the staff of the Assistant Secretary of the Navy (Research, Development and Acquisition), Office of Mine and Undersea Warfare, as the executive assistant to the Principal Deputy Assistant Secretary of the Navy (Research, Development and Acquisition) and as chief of staff, Naval Meteorology and Oceanography Command.

Titley also served on the U.S. Commission on Ocean Policy, as Special Assistant to the Chairman (Admiral (ret.) James Watkins) for Physical Oceanography and as senior military assistant to the Director of Net Assessment in the Office of the Secretary of Defense. In 2009, Titley assumed duties as oceanographer and navigator of the Navy.

Education includes a Bachelor of Science in meteorology from the Pennsylvania State University, a Master of Science in meteorology and physical oceanography and a Ph.D in meteorology, both from the Naval Postgraduate School.

Guest Award Presenters

Dr. Bill Hogarth
Dean, College of Marine Science
University of South Florida

Dr. Michael Kassner
Director, Office of Research (Discovery & Invention)
Office of Naval Research

Captain William Kearse
Commanding Officer, Aircraft Operations Center
National Oceanic and Atmospheric Administration

Colonel Norman Miller, P.E.
Oceanic Engineering Society

Dr. Shirley Pomponi
Executive Director, Harbor Branch Oceanographic Institution
Florida Atlantic University
## Competition Room Assignments

<table>
<thead>
<tr>
<th>Round</th>
<th>Room 1</th>
<th>Room 2</th>
<th>Room 3</th>
<th>Room 4</th>
<th>Room 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1 9:30</td>
<td>Durant &amp; Arcadia</td>
<td>MAST (NJ) &amp; ConVal</td>
<td>MAST (FL) &amp; NC School</td>
<td>Bishop Sullivan &amp; Poudre</td>
<td>Centerville &amp; Lincoln Sudbury</td>
</tr>
<tr>
<td>Round 3 11:00</td>
<td>Neah-Kah-Nie &amp; MAST (FL)</td>
<td>Langham Creek &amp; Durant</td>
<td>Lincoln-Sudbury &amp; Thomas Jefferson</td>
<td>Dexter &amp; MAST (NJ)</td>
<td>Poudre &amp; Juneau/Thunder</td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round 4 12:45</td>
<td>La Jolla &amp; Bishop Sullivan</td>
<td>Neah-Kah-Nie &amp; Poplarville</td>
<td>Star Charter &amp; Durant</td>
<td>Cranston &amp; Marshfield</td>
<td>Dexter &amp; Mission San Jose</td>
</tr>
<tr>
<td>Round 5 1:30</td>
<td>Mission San Jose &amp; Dutch Fork</td>
<td>Lincoln-Sudbury &amp; Cranston</td>
<td>Poudre &amp; Friday Harbor</td>
<td>Punahou &amp; Star Charter</td>
<td>NC School &amp; Neah-Kah-Nie</td>
</tr>
</tbody>
</table>
## COMPETITION ROOM ASSIGNMENTS

<table>
<thead>
<tr>
<th>Room 6</th>
<th>Room 7</th>
<th>Room 8</th>
<th>Room 9</th>
<th>Room 10</th>
<th>Byes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Star Charter &amp; Langham Creek</td>
<td>Dutch Fork &amp; Dexter</td>
<td>Mount Sinai &amp; Neah-Kah-Nie</td>
<td>La Jolla &amp; Friday Harbor</td>
<td>Cranston &amp; Thomas Jefferson</td>
<td>Punahou, Mission San Jose, Poplarville, Juneau/Thunder, Marshfield</td>
</tr>
<tr>
<td>Centerville &amp; Cranston</td>
<td>La Jolla &amp; Poudre</td>
<td>MAST (NJ) &amp; Mission San Jose</td>
<td>MAST (FL) &amp; Poplarville</td>
<td>Durant &amp; Punahou</td>
<td>Langham Creek, Dexter, Neah-Kah-Nie, Friday Harbor, Thomas Jefferson</td>
</tr>
<tr>
<td>NC School &amp; Poplarville</td>
<td>Punahou &amp; Arcadia</td>
<td>Marshfield &amp; Centerville</td>
<td>ConVal &amp; Mission San Jose</td>
<td>Friday Harbor &amp; Bishop Sullivan</td>
<td>Star Charter, Dutch Fork, Mount Sinai, La Jolla, Cranston</td>
</tr>
<tr>
<td>Juneau/Thunder &amp; Friday Harbor</td>
<td>Mount Sinai &amp; MAST (FL)</td>
<td>Langham Creek &amp; Punahou</td>
<td>Thomas Jefferson &amp; Centerville</td>
<td>Dutch Fork &amp; MAST (NJ)</td>
<td>Arcadia, ConVal, NC School, Poudre, Lincoln-Sudbury</td>
</tr>
<tr>
<td>ConVal &amp; Dexter</td>
<td>Thomas Jefferson &amp; Marshfield</td>
<td>La Jolla &amp; Juneau/Thunder</td>
<td>Arcadia &amp; Langham Creek</td>
<td>Poplarville &amp; Mount Sinai</td>
<td>Durant, MAST (NJ), MAST (FL), Bishop Sullivan, Centerville</td>
</tr>
</tbody>
</table>
Game Summary

The NOSB Finals Competition is comprised of a Round Robin competition and a Double Elimination competition.

Round Robin:
The round robin competition involves all the participating teams. Each team is placed by random draw into a division of 5 teams. These teams compete against one another for the opportunity to proceed to the double elimination portion of the tournament. Each team will play each of the other teams in their division with the first, second and third place finishers in each group guaranteed a spot in the double elimination tournament. The best 4th place finisher among the 5 divisions will also advance into the double elimination tournament. At that point, all of the remaining teams are eliminated.

Seeding:
Seeding (for group rank in the round robin, seeding for the double elimination competition and final rank for the competition) is based on the following criteria, in order: game points [2 for a win, 1 for a tie, 0 for a loss (round robin only)]; head to head results; fewest number of losses; total number of points scored by a team; total points scored against a team; point differential, and finally, a coin toss.

Double Elimination:
The double elimination competition involves the first, second, and third place teams in each division plus the best fourth place finisher. These teams are seeded based on the results achieved in the round robin competition. No team is eliminated from the double elimination competition until they have lost two games. This means that the team in the final game, which has not been defeated, must lose twice in order to be eliminated. Ties in the double elimination competition will be resolved with a group of 5 toss-up questions (no bonus) to determine a winner. This procedure will be repeated until a winner is achieved.
### Division 1: Round Robin

<table>
<thead>
<tr>
<th>Team</th>
<th>Durant</th>
<th>Arcadia</th>
<th>Star Charter</th>
<th>Langham Creek</th>
<th>Punahou</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durant</td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arcadia</td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Star Charter</td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Langham Creek</td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punahou</td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Division 2: Round Robin

<table>
<thead>
<tr>
<th>Team</th>
<th>MAST (New Jersey)</th>
<th>ConVal</th>
<th>Dutch Fork</th>
<th>Dexter</th>
<th>Mission San Jose</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAST (New Jersey)</td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ConVal</td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dutch Fork</td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dexter</td>
<td></td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission San Jose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
</tr>
</tbody>
</table>
### Division 3: Round Robin

<table>
<thead>
<tr>
<th>Team</th>
<th>MAST (Florida)</th>
<th>N.C. School</th>
<th>Mount Sinai</th>
<th>Neah-Kah-Nie</th>
<th>Poplarville</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAST (Florida)</td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N.C. School</td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mount Sinai</td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neah-Kah-Nie</td>
<td></td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poplarville</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
</tr>
</tbody>
</table>

### Division 4: Round Robin

<table>
<thead>
<tr>
<th>Team</th>
<th>Bishop Sullivan</th>
<th>Poudre</th>
<th>La Jolla</th>
<th>Friday Harbor</th>
<th>Juneau/ Thunder</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bishop Sullivan</td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poudre</td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>La Jolla</td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friday Harbor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
</tr>
<tr>
<td>Juneau/ Thunder</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NOSB 2010</td>
</tr>
</tbody>
</table>

### Division 5: Round Robin

<table>
<thead>
<tr>
<th>Team</th>
<th>Centerville</th>
<th>Lincoln-Sudbury</th>
<th>Cranston</th>
<th>Thomas Jefferson</th>
<th>Marshfield</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centerville</td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lincoln-Sudbury</td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cranston</td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thomas Jefferson</td>
<td></td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshfield</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NOSB 2010</td>
<td></td>
</tr>
</tbody>
</table>
Double Elimination Tournament
Double Elimination Tournament

Round 1
Saturday, 3:00 PM

T-6
- Game 5
  - Room 5

T-11

T-3
- Game 6
  - Room 6

T-14

T-7
- Game 7
  - Room 7

T-10

T-2
- Game 8
  - Room 8

T-15

Round 2
Saturday, 3:45 PM

Game 13
- Room 4

Round 3
Saturday, 4:30 PM

Game 14
- Room 3

Round 4
Saturday, 5:15 PM

Game 23
- Room 2
  - W to G27 • L to G26

Game 24
- 7th/8th Place
  - Room 4
    - W to G26

Game 19
- Room 1

Game 15
- Room 2

Game 20
- Room 3

Game 16
- Room 1

Game 18
- Room 1

Game 17
- Room 2

Game 21
- Room 3

Game 22
- Room 2

Game 1
- Room 1

Game 2
- Room 1

Game 3
- Room 2

Game 4
- Room 2

Game 5
- Room 5

Game 6
- Room 6

Game 7
- Room 7

Game 8
- Room 8

T-1

T-2

T-3

T-4

T-5

T-6

T-7

T-8

T-9

T-10

T-11

T-12

T-13

T-14

T-15

T-16

T-17

T-18

T-19

T-20

T-21

T-22

T-23

T-24

T-25

T-26

T-27
Double Elimination Tournament

Round 5
Sunday, 9:00 AM
- W G21
- L G21
- Game 25
  5th/6th Place
  Room 3 A/B
- W G22
- L G23
- Game 26
  5th/6th Place
  FWRI Auditorium
- W G24

Round 6
Sunday, 9:45 AM
- W G23
- L G27
- Game 27
  Room 3 A/B
- Game 28
  4th Place
  Room 3 A/B

Round 7
Sunday, 10:45 AM
- L G27
- Game 29
  3rd Place
  FWRI Auditorium

Round 8
Sunday, 11:30 AM
- Game 30
  1st/2nd Place
  FWRI Auditorium
- (If Necessary) Game 31
  FWRI Auditorium

Round 9
Sunday, 12:15 PM
- W G27 if they lost G30

Game 25
- 5th/6th Place
- Room 3 A/B

Game 26
- 5th/6th Place
- FWRI Auditorium

Game 27
- Room 3 A/B

Game 28
- 4th Place
- Room 3 A/B

Game 29
- 3rd Place
- FWRI Auditorium

Game 30
- 1st/2nd Place
- FWRI Auditorium

Game 31
- (If Necessary)
Coach

Dave Strang is in his third year teaching High School at Punahou School and he loves every minute of it. Prior to Punahou School, he worked at the University of Hawaii (UH). He was a biology major at UC Berkeley and then studied butterfly fish behavior at UH for his doctorate. He got involved in the NOSB two years ago when several students who had already formed a team came to his office and asked him to be their coach.

Team

Eric Liaw has a variety of interests, including all things science and math, music, karate, tennis, geography and wildlife conservation. The mysterious world of the sea and its myriad denizens has fascinated Eric ever since his childhood. He finds the quirky and beautiful cuttlefish especially appealing. Eric plans to pursue a career in research. He has thoroughly enjoyed participating in the NOSB ever since he joined Punahou’s team three years ago.

Calder Atta is a junior at Punahou School and participated in the 2009 NOSB. Science has been his passion since he was four and having grown up in Hawaii, ocean sciences have been a major part of his studies. Calder’s favorite marine animal is the extinct anomalocaris and he likes to study the odd organisms that many people don’t think about when they hear the word “ocean.” He hopes his studies will continue throughout his life.

Christian “Ian” Schools is an 18-year-old senior at Punahou School. He has always found biology interesting. However, since his move to Hawaii and his dive certification, he has started to focus more on marine biology. His favorite marine organisms are cephalopods. He joined the NOSB team last year for the extracurricular credit, but continued because of the people he meets and places he visits. Ian wants to major in psychobiology in college.

Maile Pujalet is a 17-year-old senior at Punahou School. She has loved the ocean since she was little and loves doing anything in it. Hawaii has provided her with the best opportunities she can imagine, seeing as the ocean is her backyard. Her favorite sea creature is the whale shark. This is Maile’s first year participating in the NOSB. She plans to major in biology with a focus in marine biology in college.

Shauna Ekimura is a 17-year-old senior at Punahou School. She likes spending her time in the ocean, exploring Hawaii’s tropical waters and unique marine ecosystems. Her favorite marine animal is the leafy sea dragon. This year, she has enjoyed taking her love and curiosity of the ocean to compete in the NOSB and hopes to use the knowledge and experience she has gained next year as she attends college.
Mt. Sinai High School

Coach

David Chase teaches biology, earth science and marine science at Mt. Sinai High School. After graduating from Cornell and Texas A & M Universities, he was a fisheries biologist, Sea Grant Marine Extension Specialist and owner of several seafood businesses before becoming a teacher, which he considers his most rewarding career. He feels one of the greatest gifts of teaching is to work with the NOSB teams. David enjoys sailing, diving, fishing, training future Guide Dog puppies and controlling deer populations on Long Island.

Team

Russell Leibowitz is a senior and is excited to be returning to the NOSB Finals for a second time! He intends to major in political science at a college somewhere in the United States. He is addicted to technology and spends way too many hours mindlessly refreshing Facebook while watching television. He interned for his local congressman and loves golfing in his free time. He thinks penguins are awesome.

Ken Gunasekera is a secondary consumer (junior) in the food chain of Mount Sinai High School. This is his second year participating in the NOSB, and he loves it! Ken enjoys running, swimming, learning new things and spending time with his friends. His favorite marine organism is the chambered nautilus. The ability of its shell (likened to Ken’s determination) to withstand great amounts of pressure (likened to junior year) without being scathed is truly astounding!

David Eberhard is competing in the NOSB for the first time this year. Mr. Chase first piqued his interest in the marine sciences his sophomore year by introducing him to the NOSB. This interest, combined with his affinity for biology, has led him to consider a future in marine biology, although he is unsure as to where he will attend college. SCUBA diving, kayaking, sailing and surfing are among his favorite aquatic past times.

Thomas Bundy is a 16-year-old sophomore and this is his first year in the NOSB. He has an interest for anything technological. He has always been around the water ever since he was born. When he’s not out by the water or studying for the competition, he loves to run. He is a cross country and track runner and is also involved in other science and robotics clubs. Thomas plans on attending an engineering school.

Nick O’Mara is competing in the NOSB for the first time. Nick loves competition and strives for perfection in every area of his life. He loves to play tennis, soccer and video games. His favorite marine organism is the trumpet fish, which is also his instrument of choice. Nick plans to study business and/or law at Harvard University. He is very excited to compete in the NOSB and hopes to return the next three years before graduating high school.
Bishop Sullivan Catholic High School

Coaches

William H. Dunn attended the University of Washington, in Seattle, earning a degree in Geological Oceanography. He completed a career in the U.S. Navy and was fortunate enough to command two ships. In 2001, he joined the science faculty at Bishop Sullivan Catholic High School, where he chairs the department. He teaches because the students bring him joy every day.

Carol Stapanowich is the assistant coach and currently teaches in southeastern Virginia. All of her degrees are in toxicology. With this background, she enjoys teaching biology, chemistry, and anatomy and physiology at Bishop Sullivan Catholic High School. In her free time, she takes a class in American Sign Language and intends to teach AP biology next year using sign.

Team

Christine Chesley has evolved into a specialized, homoeothermic chordate and member of a distinct class of students called “seniors.” Christine has been known to cuddle with cuttlefish, roar at rorquals and race against wrasse. She also enjoys long walks on the beach, but being a supralittoralist, she never ventures past the high tide line, and that’s foreshore. Christine plans on attending the University of Miami’s Dual Degree Honors Program in Marine Geology for the next five years.

Jack Hall competes on several varsity teams, plays in the school band and participates in forensics and Model UN. Jack spent last summer enrolled in the Virginia Governor’s School learning about river ecology. Living on the shores of the Lafayette River and spending time on the Chesapeake Bay inspired his interest in ocean science. Jack received an appointment to the U.S. Coast Guard Academy, where he intends to major in engineering and serve on our nation’s waterways.

Kyle Bankes enjoys swimming, playtime with his three dogs and culling factoids out of everyday life. After a year on the NOSB “B” team, Kyle is excited for the opportunity to compete in the NOSB Finals in Florida this year. He enjoys traveling, and toured the cultural sites of Italy and Greece last summer. Kyle is looking forward to attending Clemson University in the fall and plans to major in math or chemical engineering.

Mary Chang has been competing in the NOSB since her freshman year. She has spent several summers participating in Sea Camp, Marine Science Camp and an internship with the Hutton Fisheries Biology Program. Mary’s goal is to become a marine biologist and travel to the Alaskan coast to study sea otters. She hopes to attend either Duke University, UNC-Wilmington or the University of Virginia, and later hopes to earn her Master’s Degree in marine biology.

Nathan Taylor enjoys observing beautiful plants and trees all over the world. He is in his third year as a member of the NOSB team. Since he is very competitive, he particularly enjoys academic competitions, but is also active with sports, as a member of the school soccer and lacrosse teams. During the summer, he volunteers at Chesapeake Place Assisted Living Facility. Nathan hopes to attend the University of Virginia and pursue a career in medicine.
Coach

Robert Gotwals teaches general chemistry, computational and medicinal chemistry and research in computational sciences at NCSSM. He is a retired United States Navy lieutenant commander, and continues to serve as a local Blue and Gold Officer (BGO) for the US Naval Academy. He is a PADI certified scuba diver. He grew up on the Chesapeake Bay and has spent a considerable amount of time on (and in) the water!

Team

Akhil Jariwala is a senior at NCSSM. Akhil thanks the buzzer competitions for initiating his interest in ocean science. He has also enjoyed combining his knowledge of physics with his passion for ocean science when he and two other students invented a device that uses piezoelectricity to harness wave energy in order to solve the energy crisis. His favorite marine organism is the narwhal, because it is the fantabulous unicorn of the sea.

Alex Yoo is now a junior attending NCSSM. He is surprised that he will be going to Nationals again, but with a different school. He has loved learning about biology since middle school, especially marine biology. Alex loves the Japanese spider crab because of its sheer size. His favorite marine organism is also the narwhal because it is the whimsical unicorn of the sea.

Patrick Yang is a senior at NCSSM. He loves being around the ocean, and thought this would translate well into a working knowledge of the ocean. This was proven false after he joined his school's NOSB team. He is interested in too many colleges to name and his favorite NOSB memory involves piloting an ROV at the regional competition and accidentally ramming it into the wall of the test tank...eight times.

Hope Wolf is a senior at NCSSM. She has been interested in the marine sciences since an early age, exploring creeks and lakes near her home, with aspirations to become either a marine field researcher or a mermaid. She has been to both the Pacific and Atlantic shores, as well as the glittering coasts of the Aegean Sea. Her favorite marine organism is the narwhal, because it is the splendiferous unicorn of the sea.

Kali Xu is a junior at NCSSM. She has lived in coastal states her whole life — Florida, California and North Carolina — and has had a strong interest in the oceans since her first visit to the Monterey Bay Aquarium (and hearing the funny-sounding humpback whales). Kali has just discovered the NOSB and is extremely glad she joined an NOSB team. Her favorite marine organism is the narwhal, because it is the unicorn of the sea.
Coach
Doug Grant was found kayaking off the coast of Maine. His Coast Guard crew had fought off a pod of lobsters and decided to eat the spoils of victory. The lobsters; however, had intentionally poisoned themselves with a brevetoxin that drove his companions insane. Doug abandoned ship and was discovered several days later in the parking lot of Lincoln-Sudbury, a landlocked high school. They gladly accepted his offer to show him the ways of the NOSB.

Team
Caroline Liang is a firm believer that idleness is the holiday of fools. Instead of participating in vital activities like studying for her SATs, she enjoys nomming, sleeping and reading; especially the nautical-themed adventures of the Dashwoods in Sense and Sensibility and Sea Monsters. When convincing her parents that she is indeed not wasting her time, Caroline unsuccessfully attempts to play the violin. She successfully; however, manages to study for the NOSB at the cost of procrastination.

Ian Gingrich is an uncommon marine creature. Due to a generous grant, he has excelled at his oceanography training, and in four years has risen in the aquatic food chain. In school, Ian loves science and is anxious to discuss formal mathematical proofs with anyone who is interested. Outside of school Ian enjoys science, mathematics, warm water scuba diving in his plaid swimsuit and playing his favorite board game, Seafarers of Catan.

Tate Tabtieng originates from the exotic country of Thailand where he enjoys riding on top of an elephant through jungles. Tate is a bright senior who never dabbles in falsehoods. His many interests range from Ultimate Frisbee to adorable newborn pandas. Many others desire lightning fast reactions for buzzing; however, for him, speed is a poor substitute for accuracy. His motto is faith is knowing there is an ocean when you can only see the stream.

Aaron Fox, as his namesake suggests, will try to trick you with a deceitful array of quick wit and friendliness. However, once his reservoir of Harry Potter and Poker references depletes, he is pure evil! He is always getting himself into trouble because even he doesn’t know what he’s going to do before he does it. Only Jeffrey Ho, his mentor and partner in crime, can quell his mischief enough to focus his useful powers towards the NOSB.

Jeffrey Ho appears to be a freshman in stature, but don’t be fooled by “J-Ho’s” innocent exterior. Long ago, an ancient coelacanth gave Jeffrey the elixir of life allowing him to remain 14 on the outside, but develop extraordinary wit on the inside. He enjoys baseball and playing guitar, but his true calling is the NOSB. He may look small, but do not be discouraged when he buzzes, for he is a formidable opponent.
Coach
Lisa Lyle Wu teaches marine biology and is the director for the oceanography/geophysical senior research lab at Thomas Jefferson. Lisa has developed materials for Discovery Channel and worked on exhibit development for the Smithsonian’s Natural History museum. She was a volunteer diver at the National Aquarium in Baltimore for ten years and served as Teacher at Sea for the National Oceanic and Atmospheric Administration (NOAA). Each year, she takes students to explore the Chesapeake Bay, Bahamas, Galapagos Islands or Bermuda.

Team
Margaret Tarmann is a senior at Thomas Jefferson. She has been interested in marine biology since she was nine when she received a book about marine invertebrates following a trip to Corpus Christi, Texas. Margaret has been on the NOSB team since sophomore year and has loved every second of it. Her favorite marine organisms are narwhals, Humboldt squid and sea pigs. In her spare time, she likes to sing, watch NCIS and eat junk food.

Janiel Li has participated in the NOSB for the past three years and this is his second year at the NOSB Finals. Janiel was inspired to join the NOSB by his cousin who was also a former member. He has an avid interest in ocean physics and chemistry, as well as marine policy and social sciences. Though Janiel has not chosen to pursue oceanography, he hopes to advocate for marine research and conservation in the future.

Daniel Seidman is a 16-year-old sophomore at Thomas Jefferson. At age three, his marine knowledge could be summed up in the words, “Look! Fish!” He soon realized this was not sufficient. By the end of his fourth year, he was laughing at those who thought manta rays were stingrays. Since then, his interests in ocean science have diversified, but he prefers Biology, especially mollusks. His favorite oceanic organism is *Argonauta argo*, the paper nautilus.

Janice Park is a junior who started competing in the NOSB last year. Her favorite subject is Biology and she loves learning about interesting marine animals like *Janthina janthina*, the “common” purple snail. Besides the NOSB, she is a coxswain on her crew team at school. In her free time, when she’s not reading about the ocean, she plays piano and violin, sings and tutors at the elementary school next door to her high school.
Coach

Timothy Kraemer is an aquatic science and Advanced Placement (AP) environmental science teacher at Langham Creek High School. He spent a large portion of his childhood in the swamps, marshes and Gulf coast beaches of south Louisiana. Timothy enjoys spreading his love of all things aquatic and biological to his students. This is his second year coaching an NOSB team. His favorite marine organism would have to be the cyanobacteria because it is such a great color.

Team

Morgan Larson is a 17-year-old senior interested in oceanography. He is undecided on where to go to college, but wants to become a teacher. He joined the NOSB in 2008 to learn more about the ocean. His favorite branch of oceanography is marine biology, and his favorite marine organism is the copepod. His best NOSB memory is of getting out of bed the morning of competition and how he felt.

Sarah Lamaster is an 18-year-old senior born and raised in Houston, Texas. Her older sister was a big part of aquatic science club and got her interested in the NOSB. She loves the NOSB competition because it is a great way to meet new people and bond with teammates. It is a chance to experience once in a lifetime opportunities with people whom share the same oceanic interests. Sarah plans to major in geology in college.

Derek Jones is an enthusiastic 18-year-old senior interested in marine biology. He plans on attending Concordia University in Austin, Texas. Jones enjoys hanging with friends and Houston’s entertainment scene. He loves learning about the ocean and the environment. He is an Eagle Scout and is heavily involved with yearbook. His favorite aspects of the ocean are chemistry and technology, and he plans to pursue these in the future.

Lance Holder is an 18-year-old junior. He joined the NOSB because he wants to learn as much about the ocean as possible. He wants to pursue a career as a marine biologist. His favorite marine animal is the narwhal, or as he calls it, “the unicorn whale.” He likes spending time with his friends and taking long walks on the beach.

Emily Martin McKamie is a 17-year-old senior at Langham Creek High School in Houston, Texas. She joined the NOSB this year and loves it. She is planning to participate again next year because she is fascinated by the mysteries of the ocean and wants to learn more about marine science. At the moment, she is undecided about a major, but hopes to include marine science in her studies.
Dexter High School

Coach

Cheryl V. Wells has taught science in the Dexter School Community Schools for 35 years. She is the science department Chairperson and currently teaches accelerated and advanced chemistry, oceanography, and anatomy and physiology. She is also the adviser for the Dreadnaught Science Olympiad team, Women in Science and Technology club and the National Honor Society. Her hobbies include gardening, traveling, reading and spending time with her family and daughters, Josie and Katie, at Mullet Lake watching the sunsets.

Team

Justin Wike is a senior at Dexter High School. This is his fourth year competing in the NOSB and his third year competing at the National competition. He plans on attending Albion College and studying history and chemistry. In his free time, he enjoys reading, hunting, going to the shooting range, and practicing his hand-eye coordination by playing video games. His favorite marine animal is the sea tortoise.

Matthew Sarver is a senior at Dexter High School, continuing the legacy of his older brother. He enjoys studying the tides and physics of the ocean and therefore, expanding his knowledge further. He plans on attending Western Michigan University to study computer science or business. His favorite marine animal is the tiger shark.

Maggie Grundler is a junior and joined the NOSB in the footsteps of two of her older brothers. Her favorite subject is marine biology and she hopes to study this field in college. She spends summers sailing and swimming in northern Lake Michigan. Maggie became interested in marine science after reading a National Geographic article about the biology of the ocean and after several vacations to the Atlantic. Her favorite marine organism is the moon jelly.

Spencer Bussineau is a junior at Dexter High School. His favorite aspect of the NOSB is the biology of the oceans. He has little plans for a college major, but does plan on attending college. While his future plans remain uncertain, Spencer presently juggles football, rugby, NOSB and Science Olympiad. Spencer enjoys writing in his free time and considers himself a poetry buff. Spencer’s favorite marine organisms are Cnidarians, including coral and box jellies.

Kyle Oberle is a senior and his favorite aspect of the NOSB is learning about the technology, especially ROVs. He is going to Michigan Tech to major in mechanical engineering and possibly connecting that to oceanography. NOSB has ignited a passion to help both people and the ocean to make a difference in the world. His favorite memory is when members would argue with each other over questions during practice; it showed their devotion to the team.
Coach

Mel Hall has been teaching at Poplarville High School for eight years and teaches a wide range of subjects in the sciences and arts. Mr. Hall got involved with the NOSB as an assistant coach and accompanied the team on their first visit to Nationals in 2004 in Charleston, South Carolina. Since then, Mr. Hall has become the head coach and took the team to their second Nationals in 2007 in Stony Brook, New York.

Team

Jonathan Broom is an 18-year-old senior at Poplarville High School. He has been a member of his school’s NOSB team since his sophomore year. Jonathan enjoys chemical and physical oceanography. He first joined the NOSB because of friends on the team, but then quickly developed a love for oceanography. His favorite NOSB memory was inspiring large sing-a-longs prior to matches at the Hurricane Bowl. Jonathan plans to pursue a degree in mathematics in college.

Ben Mitchell has been a member of his school’s NOSB team for the past two years. He thoroughly enjoys all aspects of oceanography, but especially excels in physical and geological oceanography. Ben’s favorite NOSB memory was when the entire team introduced themselves to Joe Griffitt, the guest scientist and judge, at the regional competition. Ben hopes to pursue a career in either computer science or criminal forensics at the University of Southern Mississippi.

Elizabeth Jones joined her school’s NOSB team her freshman year and discovered that the ocean is actually pretty cool. Elizabeth finds the biological and historical aspects of oceanography the most fascinating. She has entirely too many great NOSB memories to choose a favorite, but many of them involve ninjas, the Mohorovičić discontinuity and Joe Griffitt. Elizabeth plans to attend Mississippi College in the fall to major in biochemistry and eventually pursue a medical career.

Landon Tynes is an 18-year-old senior at Poplarville High School. He has been a member of his school’s NOSB team since his junior year. Landon enjoys the historical and chemical aspects of marine science. His favorite NOSB memory was when his team dressed up as ninjas for their regional competition. Landon hopes to pursue a career in aerospace engineering at Mississippi State University.

Justin Williams has been a member of the “Fish Fighters” since his sophomore year and thoroughly enjoys it. Although he enjoys every aspect of oceanography, biological oceanography is his niche. His favorite NOSB memory was when the team entered the rules meeting costumed as ninjas and heard those in attendance exclaim, “Poplarville is here!” Justin intends to attend the University of Rochester in order to obtain a career in linguistics or biological sciences.
**Coach**

Dave James enjoys coaching his students and learning at the same time. When the moon is just right, he is out roaming the tide pools with his daughter, or is trying to see how flat he can press seaweed onto paper. Otherwise, he is busy trying to grow chromatophores and hopes to find out what the Humboldt squids are really planning.

**Team**

Tim Trahan has participated in the NOSB during his four years at La Jolla High School. Though born and raised in San Diego, California, Tim is hunting for a college in Boston, Massachusetts, where he plans to study engineering. He has focused primarily on physical oceanography, but is chill with marine mammal adaptations, too. He plans to take his knowledge with him wherever his life goes.

Ian Fong joined the NOSB in 2008 out of pure curiosity. He developed a fascination for physical oceanography and is in awe of the physical processes and chemistry of the ocean. He hopes to be able to travel to see whale sharks in their natural habitat. He is leaning toward pursuing an undergraduate degree in physical oceanography. He looks forward to a great time at the NOSB Finals and hopes to compete again next year.

Nicole Jarvis is a 17-year-old junior at La Jolla High School. Nicole joined the NOSB her freshman year and has enjoyed every minute of it. Her favorite marine creatures are the Mola mola, ctenophores and narwhals. She has applied everything she has learned to her job as a tide pool interpreter at the Birch Aquarium at Scripps. This is her first time attending Nationals and she could not be more excited.

Varun Rau is a junior at La Jolla High School. He has been a participant in the NOSB program for the last two years and has found great joy in the excursions he has taken with his fellow marine biologists. His years in the NOSB have espoused a great passion in the study of biology, which he is sure will lead to a career in the field.

Leslie Timms was introduced by mere chance, or possibly destiny, to the NOSB. Her passions, physics and math, were faced with a contender — oceanography. This whimsical young woman has participated in the NOSB for the past 585 days, give or take twelve hours. An avid diver, she hopes to never see a dragonfish in the wild. Her college plans are still an enigma. This week, she is hoping to major in astrophysics.
Coach
Paul Herder is just shy of becoming a “senior” at Marshfield High School, where he teaches the earth sciences. Paul is a nature buff who loves rocks and is very active in the local mineral society. His recent venture was to rescue a cabin from the wrecking ball and move it to northern Wisconsin, where he escapes whenever possible. He and his wife keep busy with their earth and marine curriculum supply business called What If Scientific – Leave Only Bubbles.

Team
Alex Jensen is currently a senior and if asked about a comb jelly’s favorite time to party, his immediate reply will be “ctenophore”. His fascination with the marine sciences, inspired and strengthened by four years of participation in the NOSB, has motivated him to pursue a marine biology major in college. He loves exploring and learning about marine habitats and organisms, and is excited about the opportunities his recent scuba certification will provide.

Seth Berger is currently a junior at Marshfield High School and is completing his third diadromous migration to the sea. He most enjoys topics in chemistry and physics, but he has no aversion to any subject in science. His hobbies include hours of card games (especially sheepshead), speaking in a bad Russian accent, building balsa wood bridges and most recently scuba diving.

Priya Pathak is a senior. This is her third and ultimate year in the NOSB. She finds stingrays illuminating and boring sponges interesting, but has to give the cuteness award to the blobfish. Her years bowling for the ocean have provided her with many fond memories, and have given her a lifelong passion for the marine sciences and also, surprisingly, for meese. She hopes her final year goes as swimmingly as the rest!

Elisa Prebble became interested in the ocean when she learned that sea turtles, a highly advanced group of reptiles, call the ocean their home. This is her third year on the team where she has made many wonderful memories, which include diligently searching for “meese” in Alaska, frolicking with sea otters, chasing horseshoe crabs and swimming with a squid. Elisa will attend Wellesley College in the fall and will major in environmental science with a marine emphasis.

Michael Josephson is a sophomore at Marshfield High School and enjoys participating in the NOSB. Along with his academic pursuits, Michael entertains interests in sports, including cross-country, swimming and golf. During his time studying the ocean, Michael has become fascinated with the organisms and geology of the ocean. His wonderment of the ocean has left him undecided as to whether to pursue a career in medicine or oceanography.
Coach

Dr. Rue Domel is the daughter of migrant farm workers who emigrated from Spain. She has served the field of education in Texas for 25 years as classroom teacher and campus administrator. The NOSB team is her inspiration and the driving force behind her adventures in rock climbing, mountain hiking and primitive camping. As a two time cancer survivor, she sees life differently than most and packs into 24 hours what most do in 72.

Team

Taylor Glaeser will tell you that he is “hooked” on the NOSB and oceanography in general. He is a junior and new to the NOSB team. His interest is in the chemistry and physics of our ocean. You can find him most Sunday afternoons watching Jaws One and Two or “The Cake Boss” on television. He once spent four hours playing “Oceanopoly” then swallowed his seahorse game piece just to end the game.

Sara Petrawski is in her junior year and new to the NOSB team. If you ask her why she joined the team, she will get all emotional and talk about saving whales, dolphins and baby polar bear cubs. She dreams of going on a mission with Greenpeace one day. She loves an organized beach clean-up and once found a giant inflatable Lego Man. Her favorite snack is sun dried krill.

Kyle Crop is a junior and new to the NOSB team. When he is not studying oceanography, you can find him “shredding a mean riff!” He loves playing the guitar, lifting weights and building things out of straws, paperclips and empty tuna fish cans. He has a talent for mathematics and telling jokes. His favorite book is One Fish, Two Fish, Red Fish, Blue Fish by Dr. Seuss.

Zack Lopez is a junior and new to the NOSB team. His fondest memory has been the team jet ski races on Town Lake in Austin, Texas. Although he joined the team because of the neat fieldtrips and adventures they have, he actually loves the family atmosphere and doesn’t mind all the hard work and long hours spent studying. He admires Captain Ahab for his determination and sleeps with a stuffed Nemo.

Benjamin Huggins hopes to take his knowledge of oceanography and his spirit of competition with him to the United States Naval Academy as he begins his career with the U.S. Marine Corp. He has been a part of the NOSB for four years and has the fondest memories of field trips to the coast, sleepwalking and studying flashcards by flashlight. His favorite quote is by Yoko Ono, “Every drop in the ocean counts.”
Arcadia High School

Coach
Christina Chow is a chemical engineering major who has worked as a movie projectionist, typist and research scientist on her way towards a teaching career, which has brought her from Boston, Massachusetts to Omaha, Nebraska and now, Arcadia, California. As the daughter of an air pollution research professor, she is excited to be contributing towards the careers of future young scientists and honored to be bringing her first team to the NOSB Finals.

Team
Jason Jong has a deep relationship with sea-faring people, as his family originates from the special island of Taiwan. His family has thus served a pivotal role in sparking his ocean science interests, especially because of the importance of seafood in Taiwanese culture. He joined the NOSB his junior year and has never regretted the decision. He plans to major in physics when he enters college in 2010.

Derek Chou is a 16-year-old junior at Arcadia High School. Derek’s interest in the subject of geology helped to increase his interest in the NOSB, and subsequently helped to contribute much, he hopes, to the team. The mysterious geological aspects of the continents and the oceans continue to fascinate him. Derek’s favorite marine organism is the great white shark.

Jessica Liang has loved the oceans ever since her dad first took her to the beach and taught her how to fish. Jessica became extremely interested in marine science during seventh grade, when she snorkeled in the open ocean, visited a turtle hospital, explored the Everglades and swam with dolphins during a school trip to Florida. She also enjoys water sports like body boarding and wave running, and hopes to master surfing in the future.

Samuel Zeng is a 17-year-old junior at Arcadia High School. With a deep passion for biology, he was inevitably drawn to the marine environment, where the vast area of water was the home of countless species of organisms, a majority of which have not been discovered or researched. Among his favorite animals are the orca and the mola mola. Samuel realizes that studying marine science has been an enriching and joyous experience.

Sherry Kuo is a 17-year-old senior at Arcadia High School. Sherry’s love for chemistry is as strong as an ionic bond. She even plans to major in chemistry. She was drawn to the NOSB by the lure of buzzing and improving her reflexes. Her favorite marine organisms are the sea hare and sea otter. Sherry’s NOSB teammates are her second family. She would never trade NOSB for anything else.
Coach

Dr. Henny Groschel-Becker, a technical and environmental consultant, volunteers as a MAST assistant coach and preps students on geology, geophysics and technology. She previously volunteered with the regional NOSB while affiliated with the University of Miami’s Rosenstiel School of Marine and Atmospheric Science, where she earned a Ph.D. Her background includes sailing on 17 research cruises, studying hydrothermal oceanic crust, retrieving sediment cores from Lake Tanganyika and teaching high school teachers about sub-tropical marine science.

Team

Michael Ronzetti is a senior at MAST Academy who is interested in marine biology, saltwater aquariums and soccer. He has participated in the NOSB since his sophomore year, and is especially interested in marine biology, chemistry and how marine life interacts with its environment. He hopes to study biology or chemistry in college on a pre-medicine track. His favorite marine organisms are the gamefish that inhabit Biscayne Bay, which sparked his interest in marine science.

Joseph Andreoli is an 18-year-old senior at MAST Academy in Miami. Joseph first participated in the NOSB his junior year because he wanted to learn more about the ocean, which has given him his hobbies of fishing and maintaining saltwater reef aquariums. His favorite aspect of marine science is marine geology and his favorite marine organism is the common snook. Joseph's favorite NOSB memory is spending time with his friends while competing at Regionals.

Maya Becker is a junior at MAST Academy and has competed in the NOSB since her sophomore year. Born to two oceanographers, she has always had a passion for the ocean. Maya lives on a barrier island and enjoys exploring its marine habitats. Her favorite sea creature is the beluga whale. Maya is not quite sure where she wants to attend college, but knows she has to be relatively close to the ocean!

Shanique Martin is a 17-year-old senior at MAST Academy. Born and raised in Jamaica, she grew up in close contact with the ocean. She has always had an avid interest in science, but her interest in marine science was piqued her sophomore year of high school. It was then she began competing in the NOSB. Shanique's area of specialty is chemistry and as such, she plans to pursue a career in that field.
Coach
Jack Lundt, a retired chemistry teacher, can’t seem to give up his quality time with Poudre’s science nerds. His fascination with the ocean motivated his creation of two-week long summer science trips to Belize, as well as to recruit NOSB participants to study oceanography after school weekly. His favorite marine phenomena include the autoevisceration of Holothuridians, and the courtship dance of blue-footed boobies he recently observed in the Galapagos.

Team
Tyler Rudolph, AKA “the Admiral,” is a junior in Poudre’s International Baccalaureate (IB) program and participates in the NOSB, Science Bowl and Science Olympiad. He joined the NOSB to learn how to find the “Red October.” In his spare time, he ponders catching sailfish and crocodiles with his bare hands like those crazies from down under. He likes Rhodophytes because of their ability to make ice cream smooth. He hopes to attend the US Coast Guard Academy.

David Hodson, a senior in Poudre’s International Baccalaureate (IB) program, participates in Debate and IB student council in addition to NOSB. He has been fascinated with oceans since childhood, primarily because of all the crazy things living in the depths, especially the Architeuthis portrayed in 20,000 Leagues. He enjoys all marine sciences and considers himself an honorary member of the order Nautilida. He hopes to study engineering at Marquette University.

Nathaniel Mollica, or “the Rusty Mollusca,” is a senior in Poudre’s International Baccalaureate (IB) program. He participates in NOSB, Science Bowl and Science Olympiad. He joined the NOSB because he enjoys long walks on Florida’s beaches and studying the intense aspects of navigating the Schwartzchild Radius. His favorite marine organism is that which is made into Calamari (whatever that it is!). Next fall, he will be studying geological engineering at Colorado School of Mines.

Peter Pham, our “Sea Fan,” is a senior in Poudre’s International Baccalaureate (IB) program and participates in the NOSB, Science Bowl and Science Olympiad. He joined the NOSB because he absolutely loves hitting the red button and making it buzz. He is also enamored by the flat-bodied Chimera because of its retractable proboscis. In his spare time, he daydreams of being a life guard in Australia. He will attend University of Colorado at Boulder and study biochemistry.

Allen Zhu, “Mr. Zooplankton,” a senior in Poudre’s International Baccalaureate (IB) program, participates in NOSB, Science Bowl and Science Olympiad. He joined the NOSB because the unfathomable depth of the ocean intrigues him and because he loves the color blue. After months of training, his super hero alter ego is ready to correctly answer questions faster than a speeding bullet. He looks forward to majoring in Biology and human anatomy at Johns Hopkins University.
Coach

Ken Cloutier is happy to be surrounded by the motivated, enthusiastic and creative students of the NOSB. With his wife Pati as assistant coach, it has been a pleasure to practice, compete and travel with the teams. Ken and Pati relax at home with their three cats Ginger, Mary Ann and Lovey. Tossup, short answer, social sciences: what 60’s television show? He teaches oceanography, biology and earth science.

Team

Alice Hale has lived in New Hampshire her entire life. Her oceanic curiosity was piqued on family trips to Maine, where she would spend her days at the beach searching for sand dollars and dressing herself in kelp. Currently a junior, this is her third year competing in the NOSB and her third trip to Nationals. Her favorite marine animals are harbor seals, though she finds nautiloids shiny as well.

Mara Zrzavy is a 16-year-old junior at ConVal High School. She started in her freshman year after her science teacher suggested it, and it has brought her three trips to Nationals and three years of memories with three different teams. Her involvement with the NOSB has encouraged her passion for science, which she wants to study in college. Maybe she will study chemistry, seismology or diatoms. It’ll be an adventure no matter what she chooses.

Ian MacKay is a 15-year-old sophomore from Peterborough, New Hampshire. His interest in marine science began after joining NOSB, increasing to the point of obsession and beyond. He hopes to continue studying marine science in and after college. His favorite sea creature is the sea otter. His favorite memories of the NOSB were the many car trips with the rest of the ConVal team.

Jacob MacKay is a 15-years-old sophomore at ConVal High School. He loves studying the many organisms and his favorite group is plankton. His favorite NOSB moment was a field trip to the Darling Marine Center in Maine, staying up late into the night talking about the oceans. He hopes that this dedication to marine science will be reflected in his future as well as it is now.

Gwyneth Welch is a 15-year-old freshman from ConVal High School. She is crazy excited to be in Florida! Gwyn joined the NOSB because she wanted to. Her favorite marine organism is the leafy sea dragon because it looks great and the name is really epic. Marine science became a whole lot more amazing and so darn exciting after she joined the NOSB. Gwyn is definitely doing NOSB again next year.
Coaches

Max Maliska is a Ph.D. candidate in the Department of Biology at the University of Washington and Friday Harbor Laboratories. He is also a teaching fellow through the National Science Foundation’s Ocean and Coastal Interdisciplinary Science (OACIS) GK-12 program. Max is helping teach courses in oceanography, physics, electronics and chemistry with teacher Nick Frazee at Friday Harbor High School.

Nick Frazee is a science teacher at Friday Harbor High School. Nick teaches courses in oceanography, physics, chemistry, electronics and astronomy. When not in the classroom, Nick enjoys building electronic gadgets and sea kayaking around the San Juan Islands.

Team

Hannah Snow has spent her childhood days growing up on San Juan Island in Puget Sound exploring the rocky intertidal and learning and dreaming about the resident orca whale populations. As a high schooler, Hannah has furthered her interest in the ocean by working as a researcher at the University of Washington’s Friday Harbor Laboratories and participating in the NOSB. Next year, Hannah plans to enroll in a university and major in environmental engineering.

Nick Roberts has participated in the Orca Bowl for the last three years. He has always been interested in the oceans and enjoys spending time snorkeling and sailing. Last summer, Nick worked at the University of Washington’s Friday Harbor Laboratories as an intern studying sea grasses. Nick is interested in math, physics and ocean science and enjoys applying what he has learned to real world situations. In college, he hopes to study physics or engineering.

Matthew Skeels has always enjoyed being surrounded by the water, which has given him the opportunity to explore and learn about its many aspects. This is Matthew’s first year on an NOSB team and he has enjoyed every moment of it. Participating in the NOSB has allowed him to explore and learn even more about the ocean. Matthew’s greatest interests are mathematics, engineering and ocean sciences and he hopes to pursue these fields in college.

Stewart Bell is a sophomore at Friday Harbor High School. This is Stewart’s second year involved in the NOSB and he has really enjoyed it. His favorite marine organisms are orcas and he loves being in the San Juan Islands so close to the resident j-pod. Stewart’s favorite aspects of marine science are biology, history and technology. While still unsure of what to study in college, Stewart hopes to incorporate something with marine science.

Audrey Olshefsky is a sophomore at Friday Harbor High School. She has interests in oceanography and marine biology and would like to study either or both in college one day. Audrey is studying abroad in Argentina this term and will be unable to make it to the NOSB Finals competition. She wishes the Orca Bowl team good luck!
Coach
Beth Cahill grew up in land-locked states, but developed an interest in oceanography while taking classes in sedimentology and invertebrate paleontology. Her interest intensified when she began coaching for the NOSB. She has participated in the Maury Project through the AMS, and would like to someday be a Teacher at Sea. She enjoys marine biology, but prefers physical oceanography and geology. She is currently a middle school science teacher.

Team
Kristen Hendricks loved studying oceanography in Science Olympiad and eventually tried out for the NOSB. Her favorite aspects of marine science are biology and human effects on the ocean. Her favorite marine creature is the nudibranch. She fondly remembers digging her team’s bus out of the snow with Tupperware and box lids the morning of regional competition. Kristen aims to study biomedical engineering in college, and one day wants to travel to all seven continents.

Thaddaeus Voss was hooked on the ocean when at the young age of 15 he saw a portrait of Fridtjof Nansen. The chilling and courageous story of Nansen was inspirational! Thaddaeus enjoys playing, making and listening to music and digging his bus out of two feet of snow in order to get to the regional NOSB competition. Thaddaeus will be attending the University of Cincinnati’s College Conservatory of Music in the fall to study electronic media.

Seth Cazzell is a 17-year-old junior at Centerville High School. Seth has recently become interested in oceanography. Being involved in scientific competitions has steadily increased his interest in geology. Seth fondly remembers snorkeling in Hawaii among the tropical and exotic fish of Hanauma Bay. Seth has competed in the NOSB since his sophomore year and is looking forward to returning next year.

Jack Hoehn is a 17-year-old senior at Centerville High School. He has been a part of his school’s NOSB team since his sophomore year, and is thrilled to be competing at the national level. Jack’s favorite NOSB memory is surviving the snowstorm that struck Penguin Bowl 2010. His favorite marine scientist is Fridtjof Nansen and his favorite marine organism is the garibaldi.

Paul Hoehn is 17 years old and attends Centerville High School. He first became interested in marine science when he competed in the Oceanography event in Science Olympiad. His favorite marine organism is the narwhal and his favorite oceanographer is Fridtjof Nansen. Paul plans to study biology in college.
Cranston High School West

Coach
Steve Krous has lived his entire life less than a mile from the shores of Narragansett Bay. Growing up in Rhode Island, “The Ocean State” fostered a passion in him for scuba diving, boating and fish — catching them, eating them and memorizing all their Latin names. After 13 years coaching Cranston West’s NOSB team, he continues to find joy in sharing his knowledge and experience with his students.

Team
Meaghan Sullivan is now in her fourth year of competing on Cranston West’s NOSB team. Meaghan has come to the conclusion that she is mildly obsessed with the NOSB... ok, maybe a little more than mildly. She revels in learning obscure ocean facts with her teammates and the crazy spontaneity of practices. When not studying oceanography, she can be found all around Rhode Island, enjoying the freedom of driving with a coffee in her hand.

Alexa Choy is a 17-year-old senior in her second year on the NOSB team. She was told about the NOSB by her friend and current captain, Meaghan Sullivan, and now absolutely loves it. Alexa really loves starfish. Her favorite NOSB memories include last year’s prize trip to the Great Lakes, winning the 2010 Quahog Bowl and adding more quotes to her team’s “NOSB Quote Book.”

Pavel Sadikov (most people call him Pasha) is a junior at Cranston High School West, in the little state of Rhode Island. His interests lie mainly in the physical aspects of oceanography; however, he also enjoys studying geology and water chemistry. This is his third year on West’s NOSB team, and competing is one of the highlights of the school year for him.

Dylan Cahir is 16-year-old junior participating in his first year with the NOSB. His friend and captain, Meaghan, told him about the NOSB and now he is hooked...like a fish. Dylan’s favorite ocean-dwelling organism is the narwhal. He doesn’t have a favorite NOSB memory because they’re all so great. He looks forward to taking part in the NOSB next year.

William Accetta is 14 years old and from Rhode Island. He is the alternate of the 2010 Quahog Bowl Champions, Cranston West. Will loves the ocean and he is thrilled to be in St. Petersburg at the NOSB Nationals. He has enjoyed his freshman year on an NOSB team and he can not wait until next year. Will has enjoyed learning about the ocean and joining the NOSB has been one of the best decisions of his life.
Neah-Kah-Nie High School

Coaches
Beth Gienger, she’s the coach of this gang; in her room, after school they do hang. With concepts pelagic, she replies, “It’s just magic;” Sea wizards at work, once again.
Assistant coach Peter Walczak tells sea stories galore; ‘bout fishes and research and more. Knows tons ‘bout the oceans, and sea wizard potions; He’s spent all his life near the shore.

Team
Linse Sullivan- there once was a girl from the coast, and sea wizards annoyed her the most. They planned day and night, but she put up a fight; Shouting, “wave equations won’t turn me to toast!”
Sam Juliussen- from Alaska, senior Sam loves the sea; he is fishy, don’t you all agree? For the halibut he studies, with all of his buddies; Says “Sea wizards will never trick me!”
Grayce Beebe was a procrastinator, to her studies she’d say, “Maybe later…” Her team was quite sore, to encourage her more; They threw at her rotten tomaters.
Tres Imholt- A senior in school, there is Tres. Likes fishes and crabs from the bay. Studies with the television, says “no words to stump me;” Channel surfs ocean science all day!
Daniel Woodward worships and lives life for God; eats goldfish, but never salt cod. Studies water, waves and tide, from sea wizards he hides; Sticks to logic, the rock of our squad.
Mission San Jose High School

Coach
Julie Luikart Raymond is a graduate of the University of California, Santa Cruz. Her degree is in marine biology. She has always been interested in the ocean and decided to become a marine biologist when she was twelve. After completing her education, she decided to teach instead of doing research. She has a husband and a two-and-a-half-year-old son who share her love of the ocean.

Team
Jared Shen is a junior at Mission San Jose High School. He is commonly found lurking in front of his computer downloading pictures of tardigrades off the internet. Jared is a capable swimmer, able to bravely cross five-foot deep water without a flotation device. From such determination sprouted a love of ocean science. In his spare time, Jared plays only the most hardcore games for mature gamers such as himself: Pokémon and 3D pinball.

Joy Chen is a senior to whom happiness means dark chocolate, a shiny new fencing foil or a salty breeze. Even after four years of studying the ocean, Joy would sink like a hammer if dropped in water. Her favorite animals are the mild sirenians and what awes her about the oceans is the energy in them. She would love to live like a pike, saving her energy for those few violent, accurate lunges.

Youngjun Na is a senior and this is his third year competing in the NOSB. Youngjun’s dreams include going down to Challenger Deep and becoming a Pokémon master. Some of his many interests include chemical oceanography, Roman history and Starcraft. He would love to live like a lamprey, living out a happy life preying on bigger fish.

Wesley Chou entered oceanography after his sister, a hardened NOSB veteran, began dragging him to team practices. A tepid interest became a passion after gazing upon the incredibly fat *Mola mola*. Since then, much of his life has involved ogling at sediments and plankton. A freshman at Mission San Jose High School, his hobbies include juggling, mixing sauces and playing tennis. He would love to “live” like a stromatolite, being unknown yet important in the grand scheme of things.

Audrey Huang is a freshman who enjoys rocking to Justin Bieber’s amazing voice. She has recently discovered that our oceans don’t actually come from Kyogre, even as a NOSB newbie, and fawns over Scotoplanes. In the future, she would love to join Team Rocket. Often wishing for a life as a barreleye fish, she would love to have the insight to see everything around her (including out of the top of her head).
Coach

Barbara Boyd teaches an oceanography college course, and is research director of the MAST lab in the James J. Howard Marine Sciences Laboratory, where her students collaborate with the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service scientists on their senior research. Barbara was honored to receive the inaugural Marine Educator of the Year award at the Fifth Annual Ocean Symposium from the Urban Coast Institute. She is excited to see her students test their marine science knowledge against the best in the country!

Team

Robert Gaffey is competing in his second NOSB Finals. He enjoys the outdoors, especially hiking, canoeing, kayaking, shooting and golf. During the summer, he loves spending time outdoors, either with friends, or alone with nature. He wishes to study either microbiology or religion in college. He became involved in the NOSB his freshman year and has loved it ever since. He can’t wait to meet all the competitors on the beach in St. Pete!

Danielle Delp is a senior at MAST. This is her third time attending the NOSB Finals. She enjoys reading, swimming and gardening, and loves working with animals and learning how to care for them. Her love for marine biology has motivated her to pursue a future career working to protect life in our ocean. To that end, she will be pursuing an environmental science degree next year at Rochester Institute of Technology.

Alex Kloo is a 16-year-old junior competing in his second NOSB Finals. He is an avid outdoorsman and enjoys fishing, camping, diving and hunting. Alex enjoys the technology, geology and physical science aspects of marine science. He became interested in marine sciences growing up on the water and the NOSB seemed a natural fit his freshman year. He hopes to go on to study engineering at the US Coast Guard Academy.

Derek Woloszyn is a senior competing for the second time on the school’s NOSB team. He is a cadet Lieutenant Commander as the Drill Company Commander. Under his command, the team has placed first overall at two regional meets and he will lead the team to the qualifier for the Nationals. He continues leadership roles as the vice president of the National Honor Society and plans to attend Johns Hopkins University as a neuroscience major.

Pat Whalen is a senior at MAST competing in the NOSB for the first time. Pat enjoys playing sports, lifting weights and SCUBA diving in the local New Jersey water. He is also active in combating ocean pollution as a member of the Student Ocean Advocates and often participates in beach sweeps. Pat has been recognized for his senior project where he surveyed a recently reemerging species. Pat plans to pursue a career in environmental engineering.
Coach

Carl Tilson, a graduate of the University of South Carolina, is serving as a first time coach of the NOSB team. He teaches biology, human anatomy and physiology and admits that he has no experience with ocean science, but loves it anyway! Carl shares coaching the ocean science team with Sandra Orr, who teaches physics at Dutch Fork High School. Their goal is simply to ensure that their students have fun and enjoy the ocean science experience.

Team

Marc-Olivier Blais is an 18-year-old senior at Dutch Fork High School. He has participated in the NOSB for three years and has enjoyed his experience. Although he does not intend to be involved in the marine sciences after high school, he has developed an appreciation of the field via his involvement in the NOSB. He plans to study chemical engineering at the University of South Carolina with the intent of attending medical school thereafter.

Andres Contreras Vega is a senior at Dutch Fork High School and is currently serving on his first NOSB team. He enjoys working out and considers himself a modern Casanova. However, ocean science is one of his passions in life. His favorite animal since early childhood is the blue footed booby. His future plans include a career in medicine after attending Emory University.

Kevin Li is senior currently attending Dutch Fork High School and is a first year competitor at the NOSB. His interest in the NOSB started when he heard the team was a good way to apply his knowledge of science and mathematics. He enjoys studying physical properties, such as wave dynamics of the ocean and seawater chemistry. His favorite marine animal is the sea otter.

Nidah Rizvi is a junior at Dutch Fork High School. She maintains a GPA of 4.0 and is a member of the Science, Technology, Engineering and Mathematics (STEM) program and the Ocean Science, Science and Math teams at school. She enjoys tennis, swimming and playing the piano in her spare time. Nidah has traveled all over the United States, as well as to Southeast Asia and several European countries.

Ivory Chen is currently a junior at Dutch Fork High School. She enjoys exploring different academic courses such as art, in addition to science and mathematics. She is actively involved in other extracurricular activities including the Science Team, Math Team, Beta Club, Junior Civitans, National Honor Society and Art Club. Her research project demonstrates her love of biology, which is the career that she hopes to pursue in the near future.
Coach
Kelly Cook is a Marine Science teacher at Durant High School in Plant City, Florida. Mrs. Cook worked as a lab assistant in Bowling Green State University’s Marine Biology Laboratory during college. Before becoming a science teacher, she had two internships: Mote Marine Laboratory in Sarasota, Florida (sea turtles) and The Pacific Whale Foundation in Australia (humpback whales). She loves to share her experiences and passion for the ocean with all of her students.

Team
Cameron Kim is the senior captain of the NOSB and NSB at Durant High School. Both teams will be participating in Nationals. He joined the NOSB team because NSB, Mu Alpha Theta, Spanish National Honor Society and National Honor Society were just not enough. He plans to study biomedical engineering in college. His favorite marine organism is the self-eviscerating sea cucumber, and his most lasting memory is his team’s rendition of the feeding process of the jawless hagfish.

Madelaine Verbeek is a 17-year-old senior at Durant High School. She has loved the ocean ever since she was little. Manta rays have captivated her imagination for years and she was lucky enough to see them on an expedition to Indonesia thanks to Dr. Clark and Mote Marine Laboratory. This is Madi’s first year at the NOSB and she is quite excited to have such a great experience! WOOT!

Sarah Kibler is a 17-year-old senior at Durant High School. She loves to surf and play curling. Her favorite sea creature is the hagfish, purely for the memory of her team interpreting how the hagfish eats its prey. This is her first year competing at the NOSB and is something she is doing for fun. She plans to study interior design at Florida State University in the fall.

Grace Anderson is a 17-year-old female who attends Durant High School. She has always had an interest in science and the world around her. In college, she plans to pursue a degree in mechanical engineering, with a goal to eventually become a special effects expert on movie sets. This is her first year with NOSB, and she hopes to make many great memories and have a wonderful experience.

Amy Bearison is a member of the National Honor Society, Spanish National Honor Society, NOSB, Historian of Mu Alpha Theta, President-elect of Key Club, a Knowledge Master and an Advanced Placement (AP) Scholar. She is a serious student with her poker face! She loves to dance and has been competitively dancing for 15 years. She joined the NOSB because the ocean leaves her speechless. She hopes to become a pediatrician and have a husband to share her bad romance.
Coach

Ben Carney abandoned his career in wildlife biology at age 30 to pursue teaching science. The application of science particularly interests Ben. Thus Oceanography and the NOSB are a natural extension of his interests. Ben enjoys hunting, fishing, boating, building (home) and the company of his wife, two children and friends when not teaching. In particular, he enjoys a good picnic outside by a fire.

Team

Andrew Gregovich has lived all 18 years of his life in Juneau, Alaska. Andrew takes advantage of all that his hometown has to offer; he loves to ski, hunt, hike and fish. Andrew’s interest for the oceans began while exploring tide pools as a child. Gillnetting in the summer recently sparked an interest in fisheries and resource management. In college, Andrew plans to focus on geology and chemistry, with the intent of possibly becoming a hydrologist.

Seth Brickey is a 15-year-old sophomore. Times spent on the beaches and docks of Juneau sparked his interest in oceanography. He specifically likes the marine policy aspects of the sciences. He feels that the NOSB, particularly the required Tsunami Bowl research paper, has given him invaluable skills that could not be attained anywhere else. He plans to go to a west coast university and major in political science or to enroll into a pre-med program.

Sarah Donohoe is a 16-year-old junior. She loves skiing, hiking, taking long beach walks and playing in tide pools. Sarah joined the NOSB because of her interest in marine biology and the opportunity to learn more about it. The most rewarding part about the NOSB for Sarah is discovering things she didn’t know and being amazed by them. Sarah hopes to pursue a career in marine biology and continue finding things about life that fascinate her.

Sam Kurland is a 13-year-old freshman at Juneau-Douglas High School. He became involved with the NOSB for the first time this year and has enjoyed every minute of it. Having lived by the ocean his whole life, he was very excited to join in when a friend introduced him to the program. The whole experience has been a thrill for him and he’s very glad he has another few years to participate.

Martina Miller is a sophomore at Juneau-Douglas High School. She grew up poking tide pool creatures, so naturally, she developed an interest in the ocean. She is stoked to be representing her school at the national level, especially since this is her first year competing. She would like to thank her parents for giving her rides to all things NOSB.
Special Thanks
to all of our Question Reviewers
for their time, effort, and hard work!

Ray Beiersdorfer – Youngstown State University
Carol Hopper Brill – Virginia Institute of Marine Sciences
Richard Brill – Virginia Institute of Marine Sciences
Steven Brodet – National Oceanic and Atmospheric Administration
Melissa Brodeur – Consortium for Ocean Leadership
Catherine Cooper – Washington State University
Ben Evans – National Oceanic and Atmospheric Administration
Kusali Gamage – Texas A&M University
Michael Gonsalves – Naval Oceanographic Office
David Griffith – Massachusetts Institute of Technology
Jane Guentzel – Coastal Carolina University
Heather Havens – University of South Florida
James Holte – Scripps Institution of Oceanography
Katie Inderbitzen – University of Miami
Bill Kiene – NOAA’s National Marine Sanctuaries
Michael Ledbetter – University of Arkansas at Little Rock
Doug Levin – NOSS Oxford Marine Laboratory
Bryan Mensi – Naval Oceanographic Office
Charna Meth – Consortium for Ocean Leadership
Thomas Naehr – Texas A&M University Corpus Christi
Emily Powell – Consortium for Ocean Leadership
Fritz Reidel – Smithsonian Institution
David Snyder – Gallaudet University
Wayne Sternberger – Johns Hopkins University Applied Physics Lab
Mario Tamburri – University of Maryland Center for Environmental Science
Ray Toll – Science Applications International Corporation
Barbara Wallace – Minerals Management Service
Joan Willey – University of North Carolina Wilmington
Leigh Zimmermann – Consortium for Ocean Leadership

Thank you to our “Living on the Ocean Planet”
Video Contest Judges for their time, energy, and input!

Census of Marine Life – Melissa Brodeur, Michael Feldman, Heather Mannix,
Susan Ryan, Kristen Yarincik
Encyclopedia of Life – Jeff Holmes
National Marine Educators Association – Justine Glynn, Elizabeth Keenan, Mare Timmons,
Barbara Kelly, Meghan Marrero, Lauren Rader, Pam Stryker, Courtney Thompson,
Theresa Torrent- Ellis, Elizabeth Vernon
Washington University – Eric Kao
Ocean Today Kiosk – Katie Snider
The Consortium for Ocean Leadership is a Washington, DC-based nonprofit organization that represents 95 of the leading public and private ocean research education institutions, aquaria and industry with the mission to advance research, education and sound ocean policy. The organization also manages ocean research and education programs in areas of scientific ocean drilling, ocean observing, ocean exploration, and ocean partnerships.

**Ocean Leadership’s Mission**
Ocean Leadership shapes the future of ocean science and technology through discovery, understanding and action.

We provide expertise in managing, coordinating, and facilitating scientific programs and partnerships; influencing sound ocean policy; and educating the next generation of ocean leaders.

**Ocean Leadership’s Vision**
Our vision is a global society that views its own well-being as intimately connected to the ocean.

[www.oceanleadership.org](http://www.oceanleadership.org)

**NOSB’s Mission**
The mission of the National Ocean Sciences Bowl (NOSB®) is to prepare the next generation of students for careers in ocean science by providing an educational forum for students to excel in math and science, as well as receive national recognition for their diligence and talents. NOSB has proven that it can generate student interest and excitement about science and the oceans, giving young people a chance to examine the marine sciences as an in-depth area of study and as a possible career.

[www.nosb.org](http://www.nosb.org)