

Diversity Initiatives of the National Ocean Sciences Bowl



NATIONAL OCEAN
SCIENCES BOWL®

A Program of



Melissa Brodeur, NOSB Program Manager
mbrodeur@ucar.edu

WHAT IS THE NOSB?

Academic ocean science / STEM competition

- Celebrated 25th anniversary in 2022
- Approx. 2,000 high school students compete (even more benefit)
 - 50% consistently female
- 325+ high schools in 36 states
- As many as 800 teachers
- 1,500+ volunteers

**Fills an important gap
in high school
education!**

More than just a competition

- Highlights wealth of ocean-related career options
- Develops future workforce pipeline
- Focuses on career skill development
- Provides important career mentoring and connections
- Supports professional development for teachers
- Includes hands-on field trips & award trips
- Awards student achievement through scholarship program



REGIONAL SITES



NOSB'S IMPACT

Alumni - external, longitudinal study

- Ongoing since 2000
- 54% note their degree included an emphasis on marine, ocean, or aquatic science
- 50% said the NOSB solidified their interest in advanced study in marine science, as well as a career pursuit
- How the NOSB shaped their understanding of science and/or environmental issues:
 - broader perspectives about science and the environment;
 - understanding systems;
 - enhanced science skills; and
 - foundational knowledge in possible future study and careers.



NOSB'S IMPACT, CONTINUED

Recent student survey

- 91% agree NOSB increased their interest in science
- 75% agreed they are more likely to consider a career in a scientific field
- 66% agreed they are more likely to consider an ocean science career
- 89% agreed they are much more aware of ocean science career options

Recent coach survey

- At least 33 participating schools have created ocean science courses because of student interest
- 88% agreed NOSB participation has resulted in increased infusion of marine science content into their regular classrooms
- 70% of coaches agreed there was an increase in their non-NOSB students' interest in science



NOSB'S FOCUS ON DIVERSITY

Program Goals

- Develop knowledgeable ocean stewards that understand the ocean's impact on daily life and the importance of scientific research
- Foster the use of the ocean as an interdisciplinary vehicle to teach science and mathematics and encourage the inclusion of the ocean sciences in curricula
- **Encourage and support the involvement of underrepresented and geographically diverse communities in the ocean sciences**
- Provide students interactive education that develops critical thinking and skills for the workforce and exposes them to ocean science professionals and career opportunities



EARLY DIVERSITY INITIATIVES

2000-2010

- Encouraged all bowls to recruit teams from underserved and high poverty communities
- Additional funding for participation from underrepresented and geographically diverse teams
 - AK, HI, SC, WI, CA, MS
 - Supported travel costs
 - Provided additional resources
 - Incorporated activities to enhance learning
 - Placed in JV teams



HURRICANE BOWL DIVERSITY INITIATIVE

2014-2017

- Specific focus on Hurricane Bowl with funding from Shell
 - Bowl had recruited 5 diversity teams in 2010
 - Additional funding was needed to retain those teams
- Participating schools:
 - 25% - 55% non-Caucasian student populations
 - 41% - 72% free or reduced lunch
- Assistance provided to retain/attract teams:
 - Assist teachers with recruitment
 - Support team development through webinars
 - Preparation materials (textbooks, buzzer systems, practice questions)
 - School visits and trainings
 - Mock competitions
 - Hands-on experiences
 - No cost to participate PLUS a small stipend



DIVERSITY INITIATIVE IMPACTS

General

- Diversity of participants has increased over the past 12 years
- Non-Caucasian students increased from 19% to as high as 36% percent
- Largest increases = Asian American and Multi-Racial/Other students

Hurricane Bowl

- Continued participation by 7 recruited teams
- East Union Attendance Center now offers marine bio class
- Teams moved from JV to formal competition in 2017
 - Oxford HS came in 1st (and 8th at Finals)
 - Bay HS came in 2nd



LESSONS LEARNED

- Requires consistent, dedicated funding
- Dedicate time to build relationships
- Start small and build knowledge when students are ready
- Provide teachers resources
- Provide hands-on, experiential opportunities
 - Engage teachers in those (and families, as possible)
 - Make it personal
- Use your networks (activities, resources, mentors)
- Ask other program participants to assist
- Reduce costs for participation (registration, transportation, lodging, meals, etc.)
- Start required school paperwork early
- Accept adjusting your typical modes of communication
- Remain flexible with deadlines



CURRENT & FUTURE DIVERSITY FOCUS

Scoutlier ONR STEM DEI Pilot Project

- Reaching underrepresented & military-connected students
- Ocean science understanding and career exploration

NOSB Programmatic Needs Assessment

- Currently undergoing initial surveys; report by Summer 2025
- What needs have changed in past 25 years
- Greater focus on underserved populations



ENGAGE WITH THE NOSB

- Participate in ongoing needs assessment
- Serve as regional competition volunteers (Feb. - Mar. 2025)
 - Competition officials
 - Science / career mentors
 - Activity leaders
 - Speakers
- Look for us at NMEA next week!

Contact mbrodeur@ucar.edu OR nosb@ucar.edu

