



# Promoting Diversity in Ocean Careers for a Resilient Future:

Addressing Barriers, Leveraging Solutions in STEM  
Career Development and Climate Education

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# The Ocean and Diversity in STEM

- Underrepresented minorities make up only a fraction of marine science professionals despite comprising 31% of the U.S. population
- Women, who represent 35% of the broader STEM workforce, often face even more significant gaps in marine-related fields, such as oceanography and marine engineering
- Lack of diversity limits the ability to address ocean challenges, from sustainable fisheries to marine pollution and coastal adaptation.



# Barriers to Ocean Careers

- Systemic inequities in STEM education pathways disproportionately affect access to ocean-related careers for marginalized communities.
- Financial barriers, including the "passion tax," discourage underrepresented students from pursuing marine science careers where unpaid internships are common
- The impacts of climate change, such as sea-level rise, coastal erosion, and storms often disrupt education and career opportunities for coastal communities.



# The Role of Ocean and Climate Education

- Incorporating ocean literacy and climate resilience into STEM curricula can help bridge knowledge gaps, preparing students for ocean-related careers
- Studies show that each additional year of schooling increases climate and ocean awareness, making education a key predictor of engagement in marine conservation and science careers
- Public support is strong: 86% of U.S. teachers support teaching climate and ocean issues, but many feel underprepared



# The Climate – Ocean Connection and Social Justice



- Climate change disproportionately affects marginalized coastal communities through sea-level rise, ocean acidification, and extreme weather events
- Empowering these communities through education and ocean-related career opportunities can drive equitable climate solutions and enhance resilience.
- Addressing ocean conservation is intrinsically linked to social justice, as diverse communities face the brunt of ocean policy failures.



# Solutions: Invest in Education Opportunities

- Programs like WCS's Youth Ocean Advocates provide accessible pathways into ocean-related fields for diverse youth
- Implementing paid internships and mentorships reduces financial barriers, enabling more students from underrepresented backgrounds to gain marine science experience.
- Focusing on interdisciplinary skills, such as sustainability, critical thinking, and marine policy, can equip students for various roles in ocean careers.




# Solutions: Invest in Internships

YOUTH SPOTLIGHT: LATTICING IN ACTION

## Kaylene Crespo

 Queens, NY

 NYA Marine Research Intern, 2023



"I hope to be a conservation veterinarian, working with animals that need more protection. This experience helped me understand how the direct work that we're doing in the field – the data we collect and interpret – affects how we create policy and make laws and changes. I'm really interested in making sure that the research matters. We're not doing this if it's not going to help. We need to act on the data we generate."



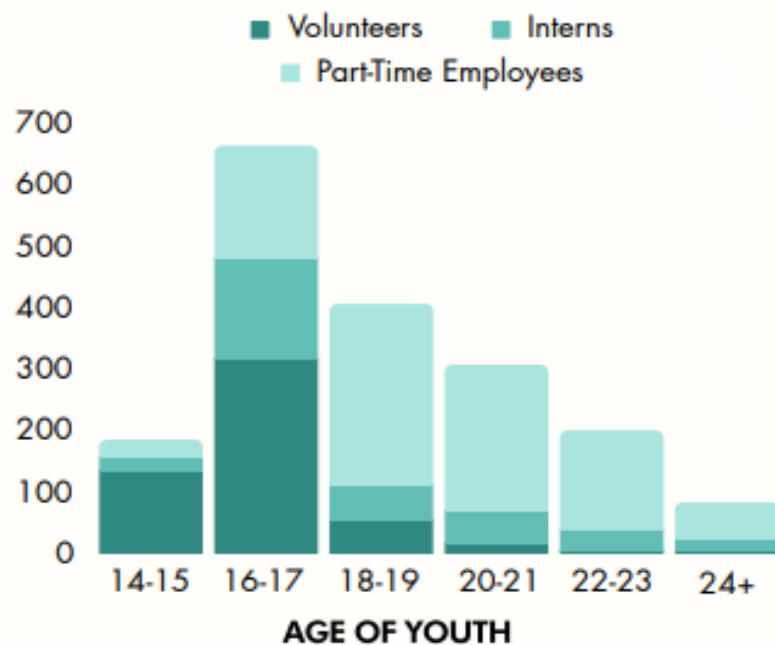
# Setting Goals and Measuring Progress

- Establish DEIBAJ goals specific to ocean careers, with metrics to track improvements in participation and career placements in marine fields.
- Integrate ocean literacy into general STEM education, fostering a broader understanding of marine ecosystems.
- Strengthen policies to ensure equitable access to resources for ocean-related career development.





# CAREER LATTICE



**\$5M**  
earned in  
stipends &  
wages

**1900**

young people ages  
14 to 24 held job,  
internship, and  
volunteer positions  
at WCS' zoos and  
aquarium

92% lived in  
**New York  
City's five  
boroughs**



**87%**  
of youth felt  
appreciated  
at WCS

**82%** of youth identified as people of color  
compared to **69%** of NYC residents



# Call to Action

- Encourage collaboration across sectors to adopt evidence-based practices that support diverse participation in marine sciences.
- Advocate for policies that prioritize ocean literacy and accessible career pathways in STEM education.
- Emphasize the role of community engagement in shaping inclusive ocean policies and conservation efforts.



# Citations

- *National Science Foundation (NSF), Diversity and STEM: Women, Minorities, and Persons with Disabilities 2023.*
- *Pew Research Center, STEM Jobs See Uneven Progress in Increasing Gender, Racial and Ethnic Diversity (2019).*
- *UNESCO, Global Survey Report on Youth Climate Education (2022).*
- *World Economic Forum, Can Education for Climate Action Bring Positive Change? (2024).*
- *Teachers College, Columbia University, Climate Attitudes & Learning Outcomes (2024).*
- *Brookings Institution, Unleashing Creativity in Climate Education for Global Leadership.*



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