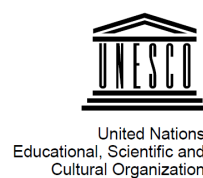


ADVANCING GENDER EQUITY IN THE OCEAN DECADE

A summary of three sessions
hosted as part of the Ocean
Decade Virtual Series 2020-21



Fisheries and Oceans Canada Pêches et Océans Canada



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Foreword

Covering 70% of the surface of the planet, the ocean has a central role in supporting life on earth and humankind's well-being. We can no longer ignore the effects of unsustainable human activities on oceans, and must take action to stop further degradation.

One of the key goals of the United Nations 2030 Agenda for Development is dedicated to oceans and aims to 'Conserve and sustainably use the oceans, seas and marine resources for sustainable development'. Our understanding of the ocean and its contribution to sustainability largely depends on our capacity to conduct effective ocean science. Led by UNESCO's Intergovernmental Oceanographic Commission, the UN Decade of Ocean Science for Sustainable Development is an opportunity to work together to turn the tide on ocean health by using science to tackle the many challenges facing our marine environments.

For the Ocean Decade to achieve "the ocean we need for the future we want", we need to ensure that we have the best people working in ocean science, particularly women scientists. Only 37% of people in ocean science careers are women. Although this is higher than other STEM fields, it is clear from this report that action is needed at all levels – by individuals, institutions/organizations, and governments – to accelerate an inclusive and equitable environment for all. These actions need to empower and inspire women to seek careers in ocean science through ensuring access to education and technology, through mentorship, scholarships, networking and recognition of their contributions.

I encourage everyone to read the recommendations in the report, share them widely with others and explore ways in which we can all contribute to advancing gender equity in the Ocean Decade for the benefit of the ocean and all humanity.



NATASHA CAYER

Canada's Ambassador and Permanent Representative to the United Nations Educational, Scientific, and Cultural Organization (UNESCO)



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Introduction

The United Nations Decade of Ocean Science for Sustainable Development 2021-2030 ("Ocean Decade") launched in January 2021 and is an innovative, global effort to expand scientific, social, and economic partnerships to support effective science, ocean management, and sustainable development. The Ocean Decade is a once in a lifetime opportunity that aims to transform ocean science to reverse the decline in ocean health and ensure a sustainable ocean for future generations¹.

To achieve its outcomes, the Ocean Decade must cut across genders, geographies, cultures, and generations to ensure all members of society are included and working together in a transformational, large-scale, and innovative campaign to advance, accelerate, and mainstream ocean science in policies and decision-making processes. Gender equity refers to being fair to all gender identities, and once achieved, leads to equality. Gender equity is not only about having an equal number of people from different genders

at the table, but about inclusion and ensuring everyone has an equal voice. The Ocean Decade provides an opportunity to accelerate efforts towards achieving gender equity in ocean science by 2030.

In an effort to place a spotlight on gender equity in the ocean sector, Fisheries and Oceans Canada, the Canadian Commission for UNESCO, and the Intergovernmental Oceanographic Commission co-hosted three gender-themed sessions as part of the Ocean Decade Virtual Series held on November 10, 2020, February 11, 2021, and March 8, 2021. In addition, the March 2021 session received support from L'Oréal Canada in the context of its Women in Science Research Excellence Fellowships program. A total of approximately 2000 people from over 100 countries attended the series, with 22 speakers from around the world featured in the discussions (Annex 1).

¹ Intergovernmental Oceanographic Commission, "The Ocean Decade: Vision & Mission," *The Ocean Decade*, November 5, 2021, <https://www.oceandecade.org/vision-mission/>

The three virtual sessions² focused on gender equity were:

EMPOWERING WOMEN IN THE OCEAN DECADE (NOVEMBER 10, 2020)

This session explored perspectives on gender in relation to science-policy practices and collaboration for a sustainable ocean, approaches to promote advancement of gender equality in the maritime sector, and highlighted inspiring examples.

Watch this session [here](#).

MAKING WAVES FOR OCEAN SCIENCE: EMPOWERING WOMEN LEADERS IN THE OCEAN DECADE (MARCH 8, 2021)

This session was a special event in celebration of International Women's Day. It focused on the positive impacts of empowering women in ocean science, highlighted good practices and principles to help advance gender equity, and provided recommendations to support women to achieve and thrive in ocean science leadership positions.

Watch this session [here](#).

MAKING WAVES FOR OCEAN SCIENCE: EMPOWERING WOMEN & GIRLS IN THE OCEAN DECADE (FEBRUARY 11, 2021)

In celebration of the International Day of Women and Girls in Science, this session demonstrated the importance of peer networks and role models in fostering interest in women and girls to pursue careers in ocean science.

Watch this session [here](#).



This report highlights potential actions and recommendations that were proposed at the virtual sessions that could help advance gender equity in ocean science by 2030. Across the three sessions, two consistent themes emerged from the discussions: one that focused on the potential actions that could be undertaken by different levels of the ocean community (i.e. individuals, organizations/institutions, and governments), and the other that focused on specific ideas to empower and inspire young women wishing to seek and retain successful careers in ocean science. This report also includes

recommendations that stemmed from the presentations and discussions during the virtual series.

THE CURRENT CONTEXT

Although the virtual sessions focused on creating a dialogue among the contributing panelists and participants, each session provided important context upon which those discussions were generated. Participants heard that diversity is known to increase objectivity, innovation, and

² Empowering Women in the Ocean Decade (November 10, 2020) - <https://www.youtube.com/watch?v=-Yofl1GFEU4>
Making Waves for Ocean Science: Empowering Women & Girls in the Ocean Decade (February 11, 2021) - <https://www.youtube.com/watch?v=N1vg3aWCg5k>
Making waves for ocean science: Empowering Women Leaders in the Ocean Decade (March 8, 2021) - <https://www.youtube.com/watch?v=9W-viU47vU>

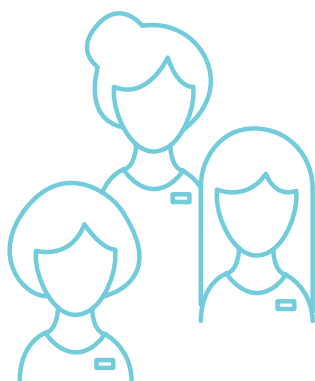
creativity in workplaces and research groups, but that inequalities in representation still persist based on gender and other measures of diversity including race, ethnicity, ability, socioeconomic status, etc. It was noted that these inequalities arise as a result of discrimination, racism, stereotyping, and conscious and unconscious biases and that these inequalities can intersect, meaning that people with multiple diverse identities can face significant barriers to equal participation.

Women and individuals who identify as non-binary are particularly underrepresented in the ocean sectors of technology development and ocean observation, as well as in decision-making roles.

Participants were encouraged to remember that a lack of diversity in scientists means a lack of diversity in thought, and without this diversity of thought, the innovation needed may not be put

forth or received. A more balanced culture in science creates a greater opportunity for discovery. Furthermore, it was highlighted that ocean science must be viewed in the broadest sense and until everyone is included, inspiring change will be a challenge. Participants heard that the most successful scientific programs are almost always collaborative, and this ensures that the program will be directly applicable to the challenges that all ocean community members are facing.

Participants also learned about the concept of the “leaky pipeline” and how it is an ongoing issue in ocean science. The “leaky pipeline”³ analogy describes the way in which women slowly become underrepresented minorities in ocean science, particularly in leadership positions or decision-making roles. In order to account for historical and social disadvantages related to gender, measures must be put in place to ensure that equity is achieved.



The 2020 Global Ocean Science Report revealed that **women in ocean science continue to be underrepresented**

particularly in highly technical and decision-making categories.

Further, women represent about **7% to 72% of all ocean science personnel**

(i.e. researchers, technicians, and supporting staff) depending on the country, with the global average at 37%.⁴



³ Jacob Clark Blickenstaff, “Women and science careers: leaky pipeline or gender filter?,” *Gender and Education*, 17:4, (2005), 369-386. <https://doi.org/10.1080/09540250500145072>

⁴ Kristen Isensee, IOC-UNESCO, *Global Ocean Science Report 2020: Charting Capacity for Ocean Sustainability*, (Paris: UNESCO Publishing, 2020), <https://unesdoc.unesco.org/ark:/48223/pf0000375148>



Roles for the Ocean Community in Advancing Gender Equity in Ocean Science

An emerging theme across the sessions was the idea that to achieve gender equity in ocean science, action is needed at all levels (i.e. individuals, institutions/organizations, and governments). The discussions emphasized that transformation of the full ocean science 'ecosystem' is needed to accelerate an inclusive and equitable environment for all by the end of the Ocean Decade.

INDIVIDUALS

Participants heard that everyone has an individual role to play in supporting different pathways to empower women and to remove barriers to gender equity. Individuals can also take action to address gender equity by advocating for themselves, prioritizing collaboration, and serving as mentors. The discussions highlighted that it is not only women that are responsible for inspiring change, but that male allies have an essential role to play as well.

Panelists discussed the need for individuals to identify their personal stake in gender equity, then align their time, peer relationships, and actions accordingly. The importance of advocating for oneself and within

one's immediate circle should not be underestimated. In addition, it was noted that sharing experiences provides an opportunity to learn from one another, seek inspiration, and inspire others to obtain the courage to share experiences and drive changes. The panelists also discussed that it is imperative that role models, and those who have paved the road for other women in ocean science, be identified and exemplified.

Further, participants heard that in each person's individual circle, it is important to advocate for active collaboration with not only scientists, but with other members of the ocean community (e.g. students, youth, policy-makers, corporate leaders, maritime specialists, local communities, diplomats, etc.). Advocating within one's circle will raise awareness of important issues that colleagues or fellow community members may not be aware of, thereby accelerating progress towards gender equity.

Although the onus is not only on women to resolve gender equity issues, the panelists emphasized that to achieve their goals, women should believe in themselves and maintain a positive attitude in the face of adversity.

INSTITUTIONS AND ORGANIZATIONS

The important role of institutions and organizations in creating opportunities for women and ensuring gender equity was discussed. Although some organisations may be small with limited budgets, there are also organisations that have substantial scope and influence (e.g. universities, UN bodies, large non-governmental organisations, etc.) and who can lead by example through the implementation of various programs and initiatives to advance gender equity.

Panelists shared that a key action at this level is increasing ocean literacy through dedicated initiatives, and creating an awareness of ocean careers through the implementation of programs and opportunities, specifically those targeting youth and Early Career Ocean Professionals (ECOPs). It was noted that these efforts should target youth at an early age, by providing education and capacity building opportunities, particularly in small island developing states and least developed countries.

Panelists also expressed that institutions and organizations should ensure that decisions about funding and hiring practices are attentive to existing social conditions and barriers that perpetuate marginalization. They emphasized that to ensure these factors are considered, gender-responsive policies should be implemented and disaggregated data of gender profiles of institutions should be collected. Panelists agreed that it is important that organizations focus on measurable outcomes and support employees to ensure that they are able to reconcile work with family life, regardless of gender.

Panelists observed that concrete actions to advance gender equity at institutional and organizational levels include providing opportunities for women in early career stages, including access to hands-on experiences, mentorship, and celebrating the achievements of women in ocean science.

To encourage women to come forward with any issues they may be experiencing, panelists indicated that it is essential that a safe space and environment be provided and that there be strong protections against sexual harassment. Participants learned that one important way to

create safe spaces is to identify issues (actual or potential) and implement specific plans to address them.

GOVERNMENTS

Governments hold a significant role in leading the way towards gender equity. Panelists noted that at a government level, a top-down commitment to implement a new culture of ocean science, that includes collaborating and sharing scientific information with and among women, is essential. Participants heard that capacity can be enhanced through scholarships targeting ocean science, as well as by increasing the transparency of science funding opportunities to create more equitable access for women at all stages of their careers, but particularly early career scientists.

It was discussed that through policymaking, governments can ensure that hiring policies do not allow for discrimination, and that efforts are made to ensure gender parity in the workplace. It is also important that governments implement and enforce gender-responsive policies to ensure a safe and harassment-free workplace.

Further, panelists shared that various initiatives can be implemented by governments to work towards gender equity, such as the holding of outreach events geared towards women and individuals who identify as non-binary, the recognition of female role models through various communications methods, and the implementation of opportunities in the workplace for women to increase their understanding of ocean governance, all with the goal of guiding women towards leadership and decision-making roles. Further, the incorporation of gender equity provisions in international agreements and ocean policy directives could help facilitate a culture shift towards gender equity.

A panelist reminded participants that when thinking of gender equity, the intersectionality of gender and other identity factors mustn't be ignored. Women, and particularly women of colour, often experience greater difficulty in finding mentors, accessing networks, getting hired, and negotiating fair compensation. Institutions, organizations, and governments must work towards implementing the suggestions listed in the sections above to ensure equity in this regard.



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Ways to Empower and Inspire Young Women in Ocean Science

Throughout the sessions, the importance of empowering and inspiring young women to seek careers in ocean science was discussed. It was emphasized that girls should be given opportunities to connect to science early on, and young women should be encouraged to continue to their interest in science. It was noted that it is crucial not to impose our own gender biases on youth, but to let individuals decide what they like, and what they don't like. In addition, participants heard various ideas and actions aimed at attracting and retaining women in ocean science.

TECHNOLOGY

Panelists recognized that the internet and its boundless resources are a valuable tool for creating content and sharing information with a wide variety of users. It was noted throughout the discussions that people with a spark of interest in becoming a scientist need to build a "science identity," and a cornerstone of building that identity is the opportunity to see people like them doing the job (i.e. "see her to be her"). It was discussed that creating entry points and content focused on promoting women and people from underrepresented communities from around the world involved in the ocean sciences and technologies, provides a mechanism for continued inspiration for generations to come. In addition,

creating and editing online content focused on the accomplishments of women in ocean science can help bridge the digital gender gap.

Furthermore, panelists also indicated that the use of emerging technologies (e.g. immersive virtual reality) provides an opportunity to make ocean environments more accessible. They noted that it is important that technology and digital resources should be developed by, or with equal involvement of, women, otherwise historical gender biases will continue to be perpetuated in programming.

MENTORSHIP

It was reinforced by panelists that by providing young women and girls with peer networks and role models, they will be given important tools and inspiration to become the ocean professionals they have always dreamed of becoming. Panelists indicated that mentors can play a significant role in encouraging young women and individuals who identify as non-binary in their education and career paths. As mentioned above, it is critical that young girls see themselves represented in the field of ocean science and witness the success of strong female mentors. In addition to in-person mentorship opportunities, it was suggested that featuring women scientists on posters, billboards, or other advertisements can act as a source of inspiration for young girls and women.

The panel also suggested that to empower women to take on more leadership roles, women in those positions must identify others with leadership potential early, then invest their time, support and resources to help them seize opportunities as they advance through their career.

NETWORKS, AMBASSADORSHIPS AND TRAINING PROGRAMS

Panelists pointed out that there are various opportunities to bring communities and early career ocean professionals together under the Ocean Decade, such as the All-Atlantic Ocean Youth Ambassador Program⁵ and the Ocean Decade Early Career Ocean Professionals Programme⁶, among others. Through these and other platforms, women and youth can come together for critical discussion, participate in activities to broaden their networks, engage in training and development opportunities, and become involved in different aspects of ocean science. In addition, globally focused gender projects led by international institutions (e.g. those being led by the World Maritime University⁷ and the International Hydrographic Organization⁸) were highlighted as important efforts to enable more women to participate equitably in ocean science, and to build the knowledge and skills they will need to assume leadership roles within the community. Bringing together individuals from various backgrounds and geographies for networking opportunities will help create connections and inspire new ideas.

SCHOLARSHIPS AND FELLOWSHIPS

Targeted scholarships and fellowships are another tool panelists identified to encourage young women to pursue their scientific

endeavours by providing financial incentives and autonomy, possibilities for increased training and development, and broadened professional networks through opportunities for enhanced visibility and participation.

Panelists reminded participants that women may have gaps in their publication history or have fewer publications as a result of having taken time off for family responsibilities. When hiring for academic positions, for example, it was suggested that publication history should not be the sole determinant of success. Accomplishments prior to the time taken off must also be considered, and women who are attempting to return to ocean science after an absence should be supported in this journey.

POLITICAL LEADERSHIP

Panelists highlighted the importance of having credible leaders who have the competence and courage to influence decision-making at the policy level. Research shows that countries with women in parliament are more likely to set aside protected land areas and ratify international treaties⁹. In order to implement equally beneficial management rules, all genders must have been equitably involved in their development.

A CULTURAL SHIFT

As mentioned by panelists, women continue to face a disproportionate responsibility for family care compared to other genders. To combat this, it was suggested that the ongoing cultural shift where partners take an equal amount of responsibility in addressing family obligations must continue to advance, as should adaptive work cultures that provide greater flexibility to accommodate work schedules and personal circumstances.

⁵ All Atlantic Ocean Research Alliance, "All-Atlantic Youth Ambassadors: Introduction," February 9, 2022, <https://allatlanticocean.org/view/atlanticambassadors/introduction>

⁶ Ocean Decade Early Career Ocean Professionals, "ECOP Programme," February 9, 2022, <https://www.ecopdecade.org/>

⁷ World Maritime University, "Empowering Women for the United Nations Decade of Ocean Science for Sustainable Development", February 4, 2022, <https://empoweringwomen.wmu.se/>

⁸ International Hydrographic Organization, "Empowering Women in Hydrography", February 4, 2022, <https://iho.int/en/basic-cbsc-ewh>

⁹ Senay Habtezion, "Gender and Climate Change: Overview of linkages between gender and climate change," United Nations Development Programme, 2016 <https://www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/UNDP%20Linkages%20Gender%20and%20CC%20Policy%20Brief%201-WEB.pdf>



Conclusions and Key Recommendations to Advance Gender Equity in the Ocean Decade

In order to counteract the “leaky pipeline”, participants heard that it is of utmost importance to encourage and empower girls to pursue careers in ocean science, provide women with support throughout their careers, demonstrate gender equity in institutional policies, implement culturally sensitive practices, and give women meaningful opportunities to be a part of the ocean science community.

The Ocean Decade offers opportunities to empower the ocean community to define a strong path towards transformation in ocean science, as well as redress the barriers preventing equitable participation. Stemming from the discussions at the gender-related sessions carried out as part of the Ocean Decade Virtual Series, the following recommendations are provided for consideration:

- Advance ocean literacy in curricula and create opportunities for young girls to get involved in STEM activities.
- Identify and celebrate female role models so young women and girls see themselves represented in ocean science.

- Design and implement education and training programs focused on young women, particularly in developing nations.
- Establish more scholarships targeting young women in ocean science.
- Create greater networking and mentoring opportunities for women in ocean science and maritime sectors.
- Prioritize equality-activating policies to ensure that the gender disparities are removed and that women are provided safe and supportive work environments.
- Collect baseline gender disaggregated data and establish general and specific targets related to gender equity; monitor and evaluate progress and react to results.

It is hoped that by the ocean science community considering and implementing the recommendations in this report, gender equity will be achieved in ocean science by the end of the Ocean Decade.

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Annex 1. Virtual Sessions: Moderators and Speakers

EMPOWERING WOMEN IN THE OCEAN DECADE (NOVEMBER 10, 2020)

- Dr. Jacqueline Uku, Senior Research Officer, Kenya Marine and Fisheries Research Institute and President, Western Indian Ocean Marine Science Association
*Session moderator
- Jean Chiazor Anishere, President, African Women in Maritime
- Dr. Geneviève Béchard, Hydrographer General of Canada, Canadian Hydrographic Service
- Dr. Suchana Apple Chavanich, Associate Professor, Department of Marine Science, Chulalongkorn University, Thailand
- Mara Freilich, Doctoral candidate in the Massachusetts Institute of Technology-Woods Hole Oceanographic Institution and Treasurer for the Society for Women in Marine Science
- Dr. Kirsten Isensee, Programme Specialist, IOC-UNESCO
- Dr. Anna Jöborn, CEO, Swedish Foundation for Strategic Environmental Research, Mistras
- Professor Ronan Long, Director, World Maritime University-Sasakawa Global, Ocean Institute
- Dr. Ariel Troisi, Chair, Intergovernmental Oceanographic Commission

MAKING WAVES FOR OCEAN SCIENCE: EMPOWERING WOMEN & GIRLS IN THE OCEAN DECADE

(FEBRUARY 11, 2021)

- Catherine Blewett, Chief Strategic Engagement Officer, Ocean Frontier Institute
*Session Moderator
- Natasha Cayer, Canada's Ambassador and Permanent Representative to UNESCO
- Stefan Fritz, Managing Director, German Marine Research Consortium
- Jasmin Graham, CEO, Minorities in Shark Sciences; Environmental Educator and Project Coordinator for MarSci-LACE Project
- Dr. Kirsten Isensee, Programme Specialist, IOC-UNESCO
- Dr. Lia Siegelman, Postdoctoral Researcher, Scripps Institution of Oceanography, Recipient of L'Oréal-UNESCO France Fellowship for Women in Science
- Francesca Trotman, Founder, Love the Oceans
- Dr. Erika Woolsey, Leader of the Hydrous, National Geographic Explorer

EMPOWERING WOMEN LEADERS IN THE OCEAN DECADE (MARCH 8, 2021)

- Paula Christina Sierra-Correa, INVEMAR (Instituto de Investigaciones Marinas y Costeras)
*Session Moderator
- Dr. Emily Choy, NSERC and L'Oréal-UNESCO 2020 Excellence in Research Postdoctoral Fellow in the Department of Natural Resource Sciences at McGill University and Environment and Climate Change Canada
- Professor Angela Hatton, Director of Science and Technology, National Oceanography Centre of UK
- Professor Sheila Heymans, Executive Director of the European Marine Board
- Dr. Margaret Leinen, Director, Scripps Institution of Oceanography
- Rear Admiral Luigi Sinapi, Director, International Hydrographic Organization
- Dr. Jacqueline Uku, President of the Western Indian Ocean Marine Science Association



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