

Ocean Science for Sustainability

Muscat Global Knowledge Dialogue

27 January 2025 | Muscat, Oman

Co-chairs



Martin Visbeck

ISC Governing Board



Mia Strand

Nelson Mandela University



ISC ocean science community

Affiliated Bodies



The Global Ocean Observing System (GOOS) -



The Scientific Committee on Oceanic Research (SCOR) -



The Scientific Committee on Antarctic Research (SCAR) -



Future Earth Ocean Knowledge Action Network -



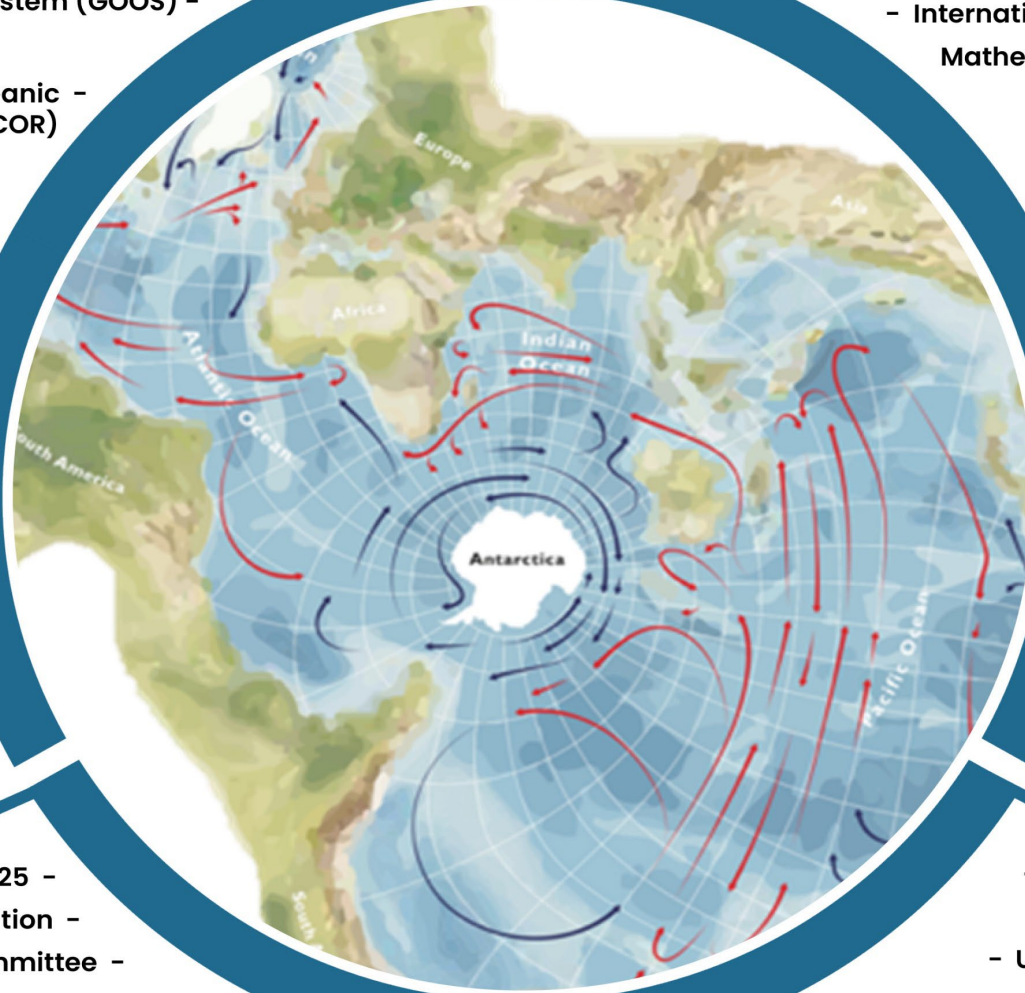
The World Climate Research Programme (including global projects on the Ocean) (WCRP) -



Committee on Data of the ISC (CODATA) -

Relevant expert groups and committees

- ISC expert group for UNOC 2025 -
- ISC expert group on plastic pollution -
- ISC SIDS Liaison Committee -



ISC members

- International Council for Industrial and Applied Mathematics (ICIAM)



- The International Union of Geodesy and Geophysics (IUGG), including International Association for the Physical Sciences of the Oceans (IAPSO)



- International Union for Quaternary Research (INQUA)



- International Geographical Union (IGU)



- The International Union of Soil Sciences (IUSS)



Partners

- UN DESA



- UNESCO IOC



- UN Decade of Ocean Science for Sustainable Development



2021 United Nations Decade of Ocean Science for Sustainable Development 2030

ISC expert group for UNOC-3

Co-chairs



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Principal Researcher
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Institute of Marine
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Physics and Climate
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Delmotte**
CEA scientist
Laboratory of Climate
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Professor of Urban and
Regional Planning
University of the West
Indies, St. Augustine



Rashid Sumaila
University Killam
Professor
Institute for the Oceans
and Fisheries,
OceanCanada
Partnership



Dr. Mia Strand
Ocean Nexus
Postdoctoral Research
Fellow
Nelson Mandela
University

Keynote presentations



Rashid Sumaila

University Killam Professor and Canada Research Chair (Tier 1) in Interdisciplinary Ocean and Fisheries Economics at the University of British Columbia's Institute for the Oceans and Fisheries and the School of Public Policy and Global Affairs.



Mia Strand

Ocean Nexus Postdoctoral Research Fellow based at the Institute for Coastal and Marine Research at Nelson Mandela University in Gqeberha, South Africa.

Break the silos to save the ocean & ourselves

Rashid Sumaila, University of British Columbia

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January 2025 | Muscat, Oman



Contents

1 OVERVIEW OF TALK

Based on Sumaila (2024) in Fisheries and
Sumaila et al. (eds) UBC Press book.

2 KEY THEMES IN BREAKING SILOS

Observations from Margaret Catley-Carlson
(MCC) at the 2023 Tyler Prize for Environmental
Achievement Award Celebration.

3 BREAKING SILOS IN OCEAN SCIENCE

Interdisciplinary collaboration
Research partnership approach

4 EXAMPLES

OceanCanada Partnership
Fisheries subsidies work

Key themes highlighted by MCC

Breaking silos:

- Interdisciplinary approaches are crucial.
- Emphasizing collaboration between economics, biology, and environmental science.

Ethical responsibility:

- Importance of scientists addressing morality alongside facts.

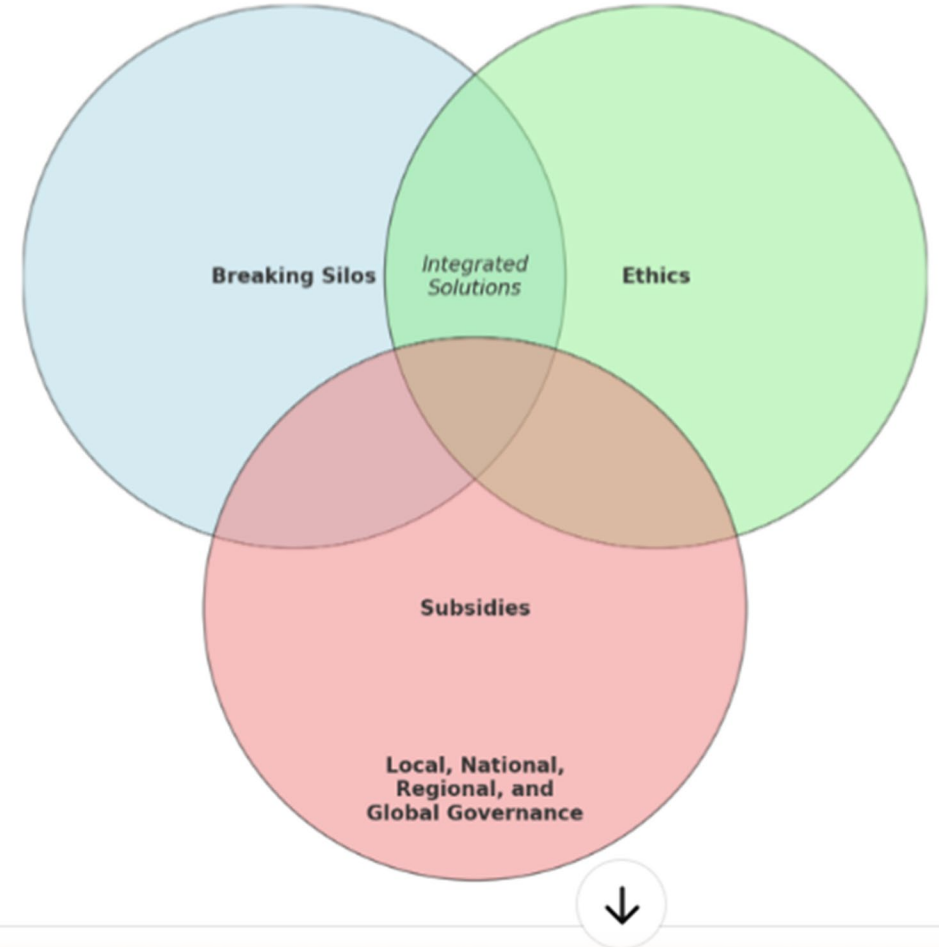
Focus on subsidies:

- Dissecting the environmental and socio-economic impacts.

Global governance:

- Advocating for international jurisdiction in high seas management.

Key Themes Highlighted by Margaret Catley-Carlson



Breaking silos in ocean science

Why break the silos?

- What do we do with and to the ocean: We take good things and put in bad stuff;
- Resource extraction and pollution require integrated knowledge.
- Ocean sustainability demand interdisciplinary solutions;
 - Combining natural and social sciences;
 - Partnership with non-academic entities;
 - Indigenous and local knowledge.
- Cannot overemphasize the importance of diverse expertise in ocean sustainability.



Interdisciplinarity; Partnership; Co-creation of knowledge

The OceanCanada Partnership (OCP)

About OCP (<https://oceancanada.org/>):

- A 7-year interdisciplinary project for sustainable oceans.
- Focused on Canada's Arctic, Atlantic, and Pacific coasts.

Key themes:

- Changing Oceans.
- Access to Ocean Resources.
- Ocean Governance.

Output (Dizzying):

- Dizzying according to an American scientist.
- Sumaila et al.(2024): Sea Change, UBC Press

Award winning:

- SSHRC Impact award.



Key insights from OCP

Indigenous reconciliation:

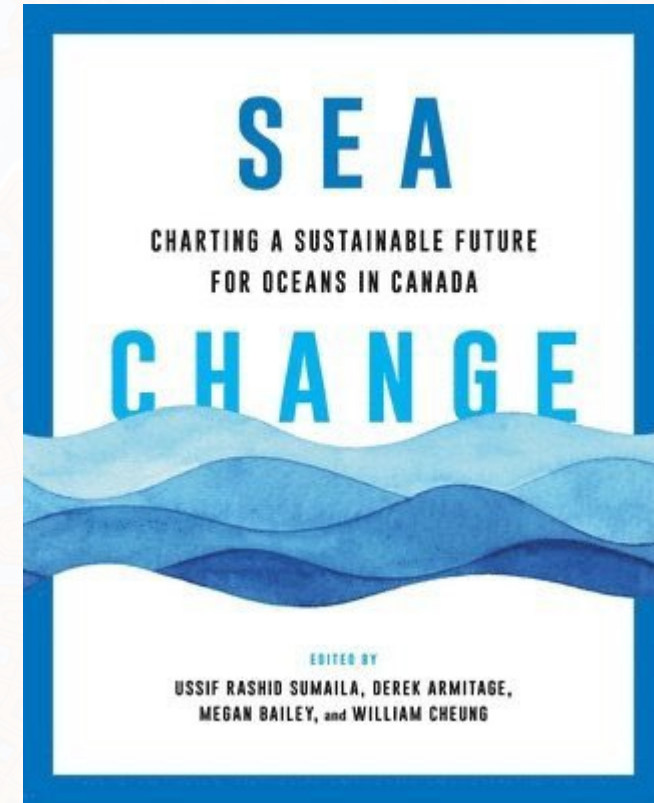
- Addressing historical dispossession and promoting co-governance.

Empowering emerging scholars:

- Supporting the next generation of interdisciplinary researchers.

Balancing execution and adaptation:

- Integrating emergent properties into long-term science partnerships



Fisheries subsidies work

Science

HOME > SCIENCE > VOL. 374, NO. 6567 > WTO MUST BAN HARMFUL FISHERIES SUBSIDIES

LETTER

WTO must ban harmful fisheries subsidies

U. RASHID SUMAILA, DANIEL J. SKERRITT, ANNA SCHUHBAUER, SEBASTIAN VILLASANTE, ANDRÉS M. CISNEROS-MONTEMAYOR, HUSSAIN SINAN, DUNCAN BURNSIDE, PATRIZIA RAGGI ABDALLAH, KEITA ABE, [...] AND DIRK ZELLER +286 authors Authors Info & Affiliations

SCIENCE • 28 Oct 2021 • Vol 374, Issue 6567 • p. 544 • DOI:10.1126/science.abm1680

22,449 28



Global fishing subsidies can contribute to overfishing. PHOTO: XIE MINGFEI/VCG/GETTY IMAGES



Science has spoken! This is what DG @NOIweala declared after receiving with Amb. @WillsSantiago a letter signed by nearly 400 ocean experts led by @DrRashidSumaila and Dr Anna Shuhbauer on a WTO agreement to curb harmful fisheries subsidies. Read:



wto.org
Scientists seeking MC12 agreement on fishing subsidies present letter to DG Okonjo-Iweala
Nearly 300 ocean experts from around the world prese...

7:45 AM · Nov 8, 2021

47 Retweets 4 Quotes 90 Likes

Finalist in the Science category
@2025 World Economic Forum
GAEA Prize



Way forward

Infinity Fish Concept:

Sustainable resource management for infinite benefits.

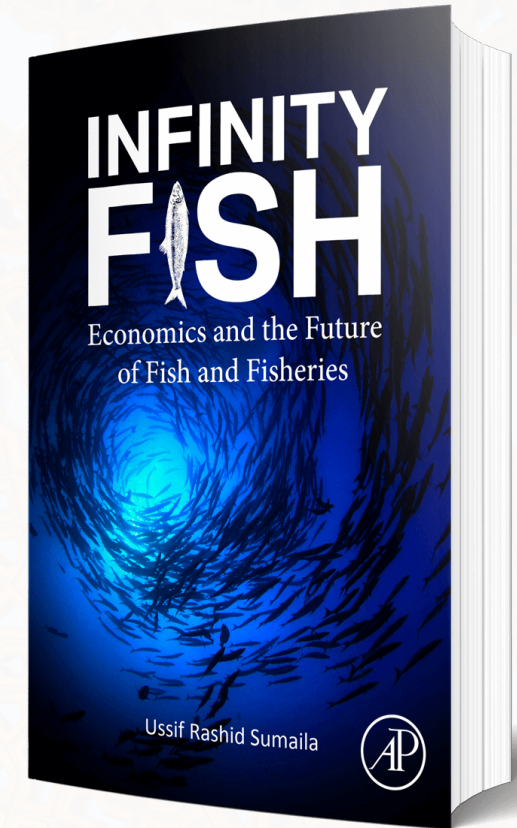
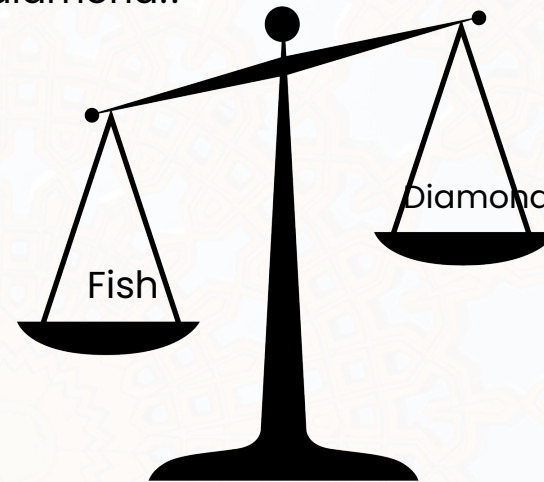
Call to Action:

- Abandon extractive practices.
- Embrace integrated, ethical, and cooperative approaches.

Bring Indigenous wisdom onboard:

“Walk as if the ground feels pain” (My Grandfather):
Just because you can doesn't mean you should.

Fish is more valuable than diamond!!



Pass on a healthy ocean teeming with life to our children and grandchildren so they too can have the option to do the same.

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وزارة التعليم العالي
و البحث العلمي والابتكار
Ministry of Higher Education
Research & Innovation



Thank you!

Roundtable discussion



Marie-Alexandrine Sicre

Senior Scientist,
CNRS and SCOR
Past President



Sergey Dobretsov

UNESCO Chair,
Sultan Qaboos
University



Felix Bast

Professor, Central University
of Punjab, and President of
the Indian National Young
Academy of Sciences



Teatulohi Matainaho

President, Pacific
Academy of
Sciences



Maria Paradiso

Full Professor of
Geography at the
University of Naples and
Founder and Chair of the
IGU Commission
'Mediterranean Basin'

Q&A session

council.science/Muscat



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Thank you!

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