



Navigating Changes in Small Pelagic Fish and Forage Communities: Climate, Ecosystems, and Sustainable Fisheries

May 4 – 8, 2026 | La Paz, Mexico



Food and Agriculture
Organization of the
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2021
2030

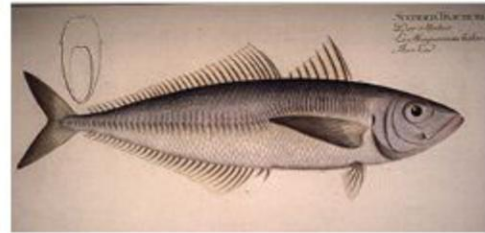
United Nations Decade
of Ocean Science
for Sustainable Development



International Symposium

Victoria, BC, Canada
March 6-11, 2017

Drivers of dynamics of small pelagic fish resources



237
participants

31
countries

6
continents

241
presentations



**Small Pelagic Fish:
New Frontiers in Science
and Sustainable
Management**

November 7 - 11, 2022
Lisbon, Portugal



Food and Agriculture
Organization of the
United Nations

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2021
2030

United Nations Decade
of Ocean Science
for Sustainable Development

288
participants

39
countries

6
continents

278
presentations

In 1983, FAO and IOC organized an international symposium:

“The Expert Consultation to Examine Changes in Abundance and Species Composition of Neritic Fish Resources”

San José, Costa Rica
(FAO Fisheries Report 291, 1983).

inspired many research efforts on SPF for the next three decades.



1st Regime Problem Workshop, La Paz, 1987

FAO Fisheries Report No. 291, Volume 1

FIRM/R291 Vol. 1 (En)

REPORTS OF THE EXPERT CONSULTATION
TO EXAMINE CHANGES IN ABUNDANCE AND SPECIES
COMPOSITION OF NERITIC FISH RESOURCES

San José, Costa Rica, 18–29 April 1983

Edited by

J. Csirke¹ and G.D. Sharp²
¹FAO Fisheries Department
²P.O. Box 12294, Gainesville, Florida, 32604, USA

A preparatory meeting for the FAO World Conference on
Fisheries Management and Development

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Rome 1984
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<https://www.fao.org/4/x6849e/x6849e00.htm>



**CLIMATE CHANGE
AND SMALL PELAGICAL FISH**

Edited by
Dave Checkley, Jürgen Alheit, Yoshiaki
and Claude Roy





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PLENARY SESSIONS & IN-SESSION INVITED SPEAKERS



Concurrent Workshops

MAY 4: concurrent 1/2-day WORKSHOPS proposed by the scientific community.

- [W1:](#) Conceptualizing a Vulnerability Analysis for Anthropogenic Stressors on Small Pelagic Fish Communities
- [W2:](#) Best Practices for Improving Assessment of Small Pelagic Fishes Using Environmental Indicators
- [W3:](#) Addressing Knowledge Gaps and Future-proofing Monitoring of Small Pelagic Communities Using Novel Methods and Technologies
- [W4:](#) Identifying Management- and Industry-informed Research Priorities for SPFs
- [W5:](#) Revisiting the Potential of Sedimentary Records: New Answers to Old (and Emerging) Questions on Forage Fish Ecology versus Climate Variability
- [W6:](#) Advancing Spatio-Temporal Species Distribution Models for Fish: Challenges, Methodologies, and Collaborative Solutions
- [W7:](#) Operationalizing Ecosystem-Based Management of Forage Species using Management Strategy Evaluation
- [W8:](#) Maximizing Nutrient Yield from Marine Ecosystems: Nutrition-sensitive Management Strategies Based on the Nutrient Composition of Small Pelagic Fish

Topic Sessions

- [S1:](#) Bridging the Gap: From Ecological Data and Models to Fisheries Decision-Making
- [S2:](#) New Approaches for Assessment of Human Impacts Beyond Fisheries
- [S3:](#) Life History Variation Across Space, Time, and Ontogeny: Implications for Populations, Ecosystems, and Fisheries
- [S4:](#) Forage Fish and Food Webs: Trophic Dynamics of Small Pelagic Fish, from Freshwater to the Open Ocean
- [S5:](#) Spatiotemporal Dynamics of Small Pelagic Fishes in a Changing Ocean
- [S6:](#) Managing Small-Pelagic Fisheries within an Ecosystem Approach: Lessons, Challenges, and Outlook
- [S7:](#) Integrating Social Metrics into Economic Growth Strategies for Small Pelagic Fisheries
- [S8:](#) Maximizing Value and Sustainability in Small Pelagic Fisheries: Markets, Nutrition, and the Post-Harvest Sector
- [S9:](#) Modeling Human Choices Regarding Harvest and Management of Small Pelagic Stocks

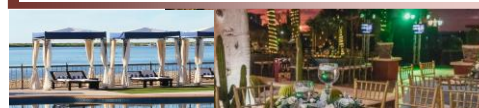
Poster Session



ECOP Mentoring Event




SOCIAL EVENTS






WG-53 Meeting

- **MAY 9-10:** Aa 2-day meeting of the [joint ICES/PICES Working group](#) on Sustainable Pelagic Forage Communities




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Symposium Convenors

Rebecca Asch (ICES), East Carolina University (ECU), USA

Susana Garrido (ICES), Portuguese Institute of Sea and Atmosphere (IPMA), Portugal

Salvador Lluch-Cota, Centro de Investigaciones Biológicas del Noroeste S.C.(CIBNOR), Mexico

Chris Rooper, (PICES), Department of Fisheries and Oceans (DFO), Canada

Motomitsu Takahashi, (PICES), Fisheries Resources Institute, Fisheries Research and Education Agency (FRA), Japan

Marcelo Vasconcellos, (FAO), FAO Fisheries and Aquaculture Division

Symposium Coordinators

Alexander Bychkov (PICES)

Chris Lynam (ICES)

Primary International Organizers



[PICES](#)

North Pacific Marine Science Organization



[ICES](#)

International Council for the Exploration of the Sea



Food and Agriculture Organization of the United Nations

[FAO](#)

Local Organizers



[CIBNOR](#)

Centro de Investigaciones Biológicas del Noroeste, S.C., Mexico



[IPN-CICIMAR](#)

Centro Interdisciplinario de Ciencias Marinas, Instituto Politécnico Nacional, Mexico

Co-Organizers



[Baja Agua Farms](#)



[NPAFC](#)

North Pacific Anadromous Fish Commission



[Comite Sistema Producto Pelagicos Menores de Baja California](#)



[NPFC](#)

North Pacific Fisheries Commission



[DPPQ](#)

Danish Pelagic Producers Organisation, Denmark



[NPRB](#)

North Pacific Research Board, USA



[ERA](#)

Japan Fisheries Research and Education Agency



[NSF](#)

National Science Foundation, USA



[Gobierno del Estado de Baja California Sur](#)



[PFA](#)

Pelagic Freezer-trawler Association



[JSFO](#)

Japanese Society of Fisheries Oceanography



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[NIOZ](#)

Royal Netherlands Institute for Sea Research, Department of Coastal Systems, The Netherlands



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Secretaría de Turismo y Economía, Gobierno de Baja California Sur

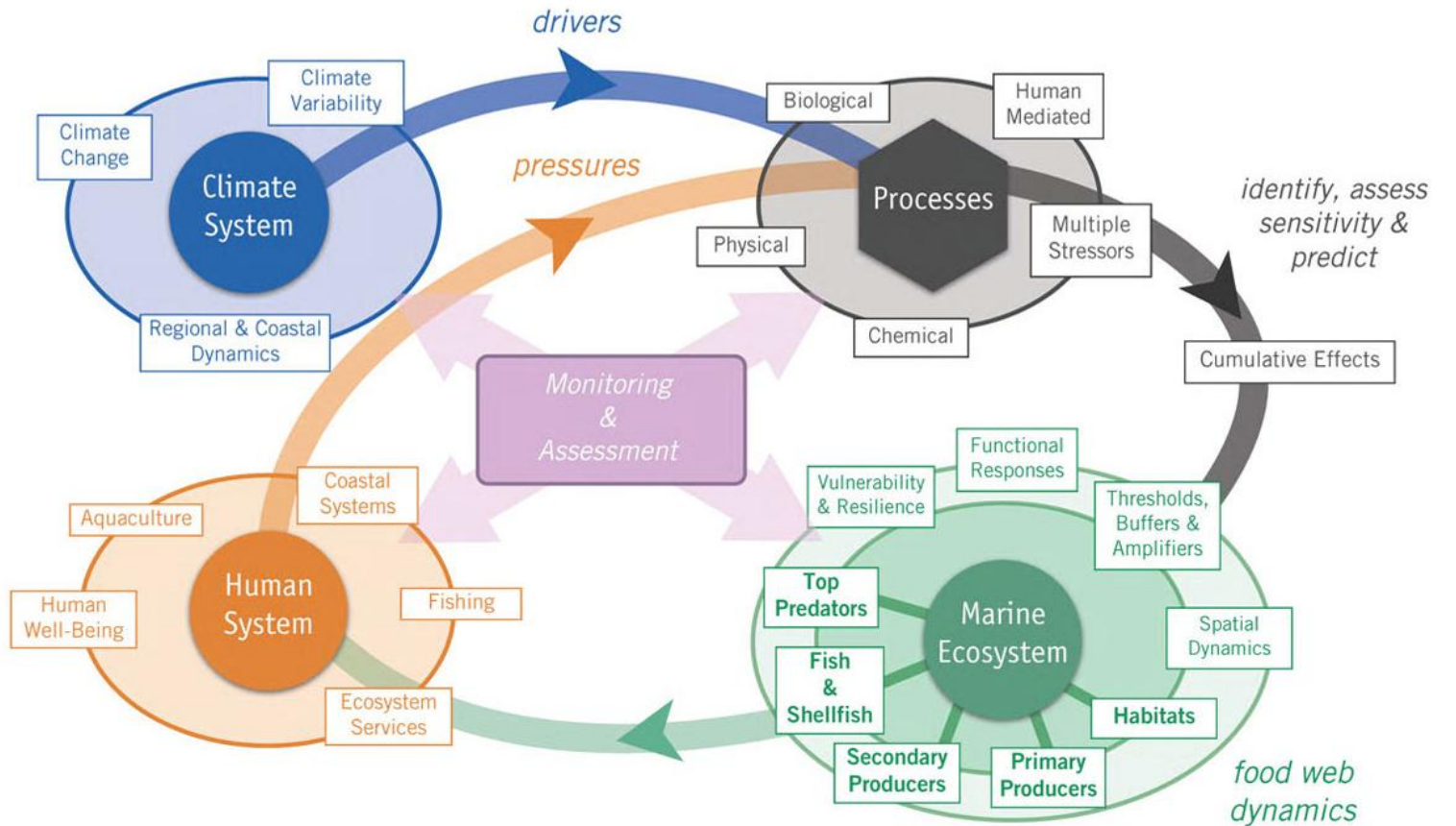
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North Pacific Marine Science Organization

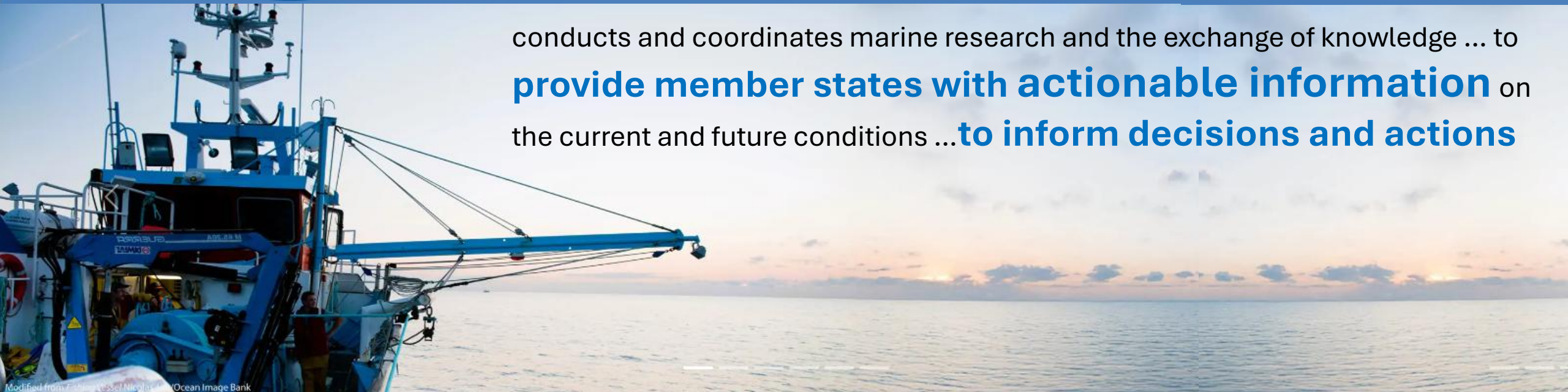
conducts and coordinates marine research and the exchange of knowledge across the North Pacific Ocean ... including the **interactions among the atmosphere, ocean, marine ecosystems and human dimensions**





North Pacific Marine Science Organization

conducts and coordinates marine research and the exchange of knowledge ... to **provide member states with actionable information** on the current and future conditions ... **to inform decisions and actions**

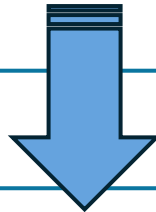


Joint PICES/ICES Working Group on Sustainable Pelagic Forage Communities

Improving knowledge and management on the role and importance of small pelagic forage communities through global collaboration across ecosystems

innovative technologies, techniques, and methods:

genetics, acoustics, underwater imagery, predator-inferred distributions, isotopes, artificial intelligence, management strategy evaluation, social network modeling, simulation testing methods



robust and sustainable ecosystem approaches to forage fish management and **actionable information**



Upcoming Events



Oceans Past XI: Ocean-Connected Communities, Past, Present and Future,
June 15-19, 2026



ICES 2026 Annual Science Conference,
September 15-18, 2026



PICES Summer School 2026 on Ocean Biologging: Coastal Monitoring of Marine Life and Environment, September 14–18, 2026



PICES-2026 Annual Meeting
Actionable Science for a Changing Ocean,
October 24–30, 2026



Global Symposium on Fisheries Management in an Ecosystem Context (FIMEC), May 10–13, 2027





The International Council for the Exploration of the Sea (ICES)

19 member countries today



The German research vessel *Poseidon*, in Hamburg during the International Council's second meeting in 1904. *Poseidon* was among the dozen or so vessels made available for the international investigations. Many of them were, like *Poseidon*, built especially for marine research. Reproduced with the kind permission of the International Council for the Exploration of the Sea.



Image by Jacob Bentley

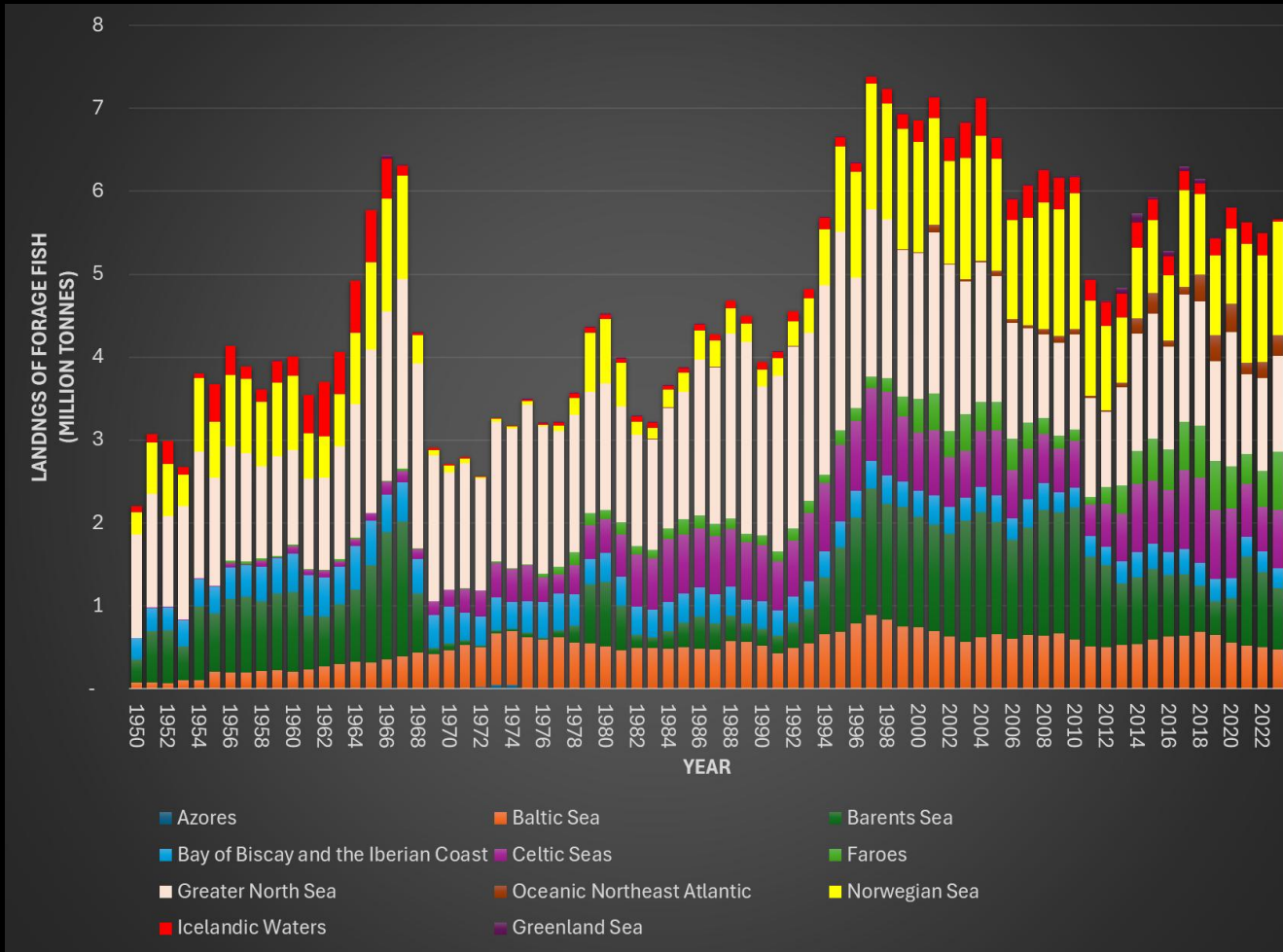
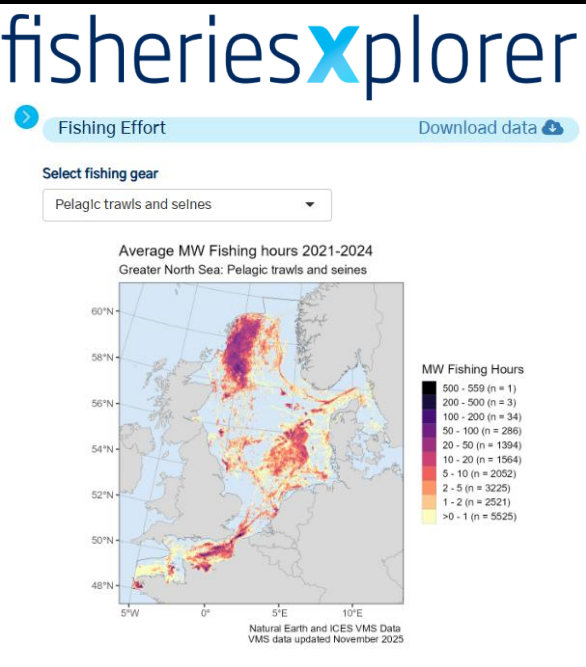


Key requesters of advice

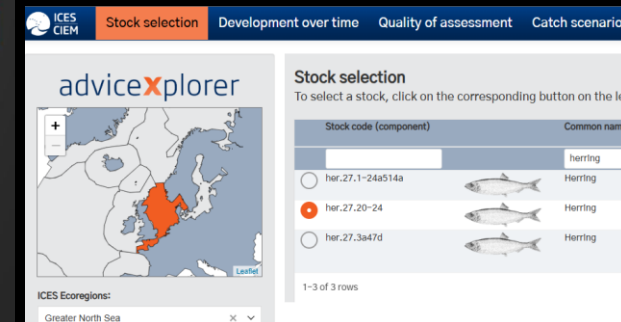


- The world's oldest intergovernmental science organization
- Established in 1902 in Copenhagen, Denmark via "exchange of letters"
- ICES 125th Anniversary next year!

Landings in the ICES area of key forage fish - *Ammodytes, Clupea, Engraulis, Micromesistius, Sardina, Sardinella, Scomber, Scombermorus, Sprattus, Trachurus*



In the last 3 decades, landings of key forage fish >50% of total landings in ICES area





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