



Exploring Human Networks to Power Sustainability

Advancing ocean sustainability by using bibliometric and network-based approaches to better understand research networks and strengthen links among science, policy, and management.

KEYWORDS

Bibliometric analysis

Human dimensions

Interdisciplinarity

Knowledge co-production

Accountability

WG-51 WEBPAGE



<https://meetings.pices.int/members/working-groups/wg51>

PUBLICATIONS

Takemura S. et al., *ICES J. Mar. Sci.* **82**, fsaf145 (2025).
<https://doi.org/10.1093/icesjms/fsaf145>

ICES-Journal of Marine Science Theme Set: [Application of bibliometric analyses in marine science](#).

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WG-51 at PICES-2025

Introduction

Our work builds on earlier research conducted by PICES' [Human Dimensions Committee](#), which examined research networks and expert connections within PICES to support ocean science and management under the [UN Ocean Decade](#) (Takemura et al., 2025). Using bibliometric approaches (the analysis of research publications and collaboration patterns) and text-based methods (the analysis of reports, articles, and other written materials), we are advancing innovative methods to integrating human dimensions into ocean research. By convening researchers from diverse disciplines, we provide a platform to share developments, foster interdisciplinary collaboration, and promote the co-production of knowledge in support of ocean sustainability.

Current Work

- Applying bibliometric, text, content, and network analysis methods.
- Evaluating diverse text-based inputs in the bibliometric and text-based approaches (e.g., publications, policy documents, surveys, interviews).
- Identifying interdisciplinarity and knowledge co-production in ocean science.
- Examining data compilation bottlenecks and organizational data structures.
- Discussing keyword selection biases and their impacts on analytical outcomes.
- Organizing an ICES-Journal of Marine Science Theme Set of publications on the application of bibliometric analyses in marine science.
- Developing shared resources on analytical tools, references, and methodologies.

Issues

PICES research now encompasses a broader range of topics, including human dimensions, and contributes to many UN Ocean Decade outcomes, though notable gaps remain. Evaluating human networks offers a promising way to understand the pathways and mechanisms that can help address these gaps. However, the current methods face several challenges. Bibliometric methods face challenges related to data collection and organization, limited access to publication databases and analytical tools, and the potential for keyword selection to influence results. There is also a need for greater accountability in how scientific knowledge is generated, shared, and used by organizations, institutions, and researchers. Overcoming these challenges is critical for using bibliometric analyses to inform scientific advice, evaluate research impacts, and strengthen connections between science, policy, and management.