

ICES/PICES Early Career Scientists Symposium

Marine science with global vision: creating a place for early career scientists. An introduction to selected articles from the 2007 Early Career Scientists Conference

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Making or staying abreast of recent discoveries and new approaches is a challenge for everyone, individuals as well as the international organizations tasked with fostering marine science and applying it to the wise stewardship of marine systems. One approach for assessing evolving knowledge and cutting-edge tools is to bring together early career scientists from around the world to share their work and to support dissemination of their results to the international community. The Early Career Scientists Conference (ECSC) “New Frontiers in Marine Science” provides one example of this approach. The ECSC was held from 26 to 29 June 2007, near Baltimore, MD, USA, and was attended by nearly 100 early career scientists from 20 nations. A portion of the research that they presented is featured in this collection of papers.

For individuals embarking on a career in science, in-depth training in scientific methodology is just the first step. Additional training and experience is needed to understand and communicate how research results contribute to the greater picture of global environmental issues. Participating in international organizations that endeavour to connect science with wise marine stewardship, such as the International Council for the Exploration of the Sea (ICES) and the North Pacific Marine Science Organization (PICES), is one method for early career scientists to broaden their knowledge base, to interact with scientists from other nations, to share their ideas, and to enhance their funding success (by ensuring that their research is both cutting edge and relevant to societal needs).

In the face of global climate change, overharvest, habitat degradation, loss of biodiversity, and water quality concerns, there is a critical need to enhance the global scientific infrastructure to meet the challenges of this century and the requirements of humankind in a changing environment. Necessarily, this infrastructure must encompass individuals with different technical expertise and diverse approaches to problem solving, yet who

share the common objectives of enhancing knowledge and improving its application.

How then can organizations of individuals best support this infrastructure? We offer the “principle of self-selection”, whereby organizations provide an open forum in which interested individuals can choose to participate. Organizations need the flexibility to gather young, energetic, and potentially unknown scientists into their fold and to connect them with mentors who have experience and know-how in the organization. The idea is to provide the venues and access to information so that people can make an informed decision about where they can best contribute, based on their skills and interests. This is not a ground-breaking idea, but consistent and well-planned implementation could become a more formally acknowledged part of organizations’ work plans. Organizational flexibility and funding support for junior scientists to participate in working groups is one such implementation strategy. A regularly scheduled (e.g. once every 4–5 years) Early Career Scientists Conference is another. We offer this small collection of contributed papers as part of the “self-selection process” that will help support the global scientific infrastructure.

The papers in this selection provide a brief glimpse at the diversity of individual contributions at the ECSC. Yet, despite the differences in topics and approaches, unifying themes emerged from participant interactions at the ECSC. It was clear that interdisciplinary thinking and collaboration is necessary for understanding biodiversity and production from pole to pole and from the surface to the deep sea. Insight from multiple disciplines is also needed to elucidate processes at ocean margins and to make the link between organism behaviour and population-level processes. Moreover, long time-series of physical and biological observations and realistic models are needed to address the potential consequences of changing climate on the world’s ecosystems. Finally, a cross-disciplinary perspective and a broad awareness of

ecological, economic, and social science principles are required to define and achieve sustainable human relationships with the marine environment. Although these ideas are not new, the fact that they emerged from a gathering of early career scientists demonstrates the power of international organizations to guide, inspire, and foster communication among young scientists and to help create distributed networks of individuals with a global vision who will become leaders of marine science in the future.

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