Inputs provided by: The International Council for the Exploration of the Sea (ICES)

1. General description of mandates and objective(s) of your organization / associated network with institutional structure

ICES – a global organization for enhanced ocean sustainability

ICES is an intergovernmental organization whose main objective is to increase the scientific knowledge of the marine environment and its living resources and to use this knowledge to provide advice to competent authorities. ICES Science and Advice considers both how human activities affect marine ecosystems and how ecosystems affect human activities. In this way, ICES ensures that best available science is accessible for decision-makers to make informed choices on the sustainable use of the marine environment and ecosystems.

To achieve this objective ICES prioritizes, organizes, delivers and disseminates research needed to fill gaps in marine knowledge related to issues of ecological, political, societal, and economic importance at the pan-Atlantic and global levels.

The main ICES deliverables are scientific publications, and scientific information and management advice requested by member countries and also international organizations and commissions such as the Oslo Paris Commission (OSPAR), the Helsinki Commission - Baltic Marine Environment Protection Commission (HELCOM), the North East Atlantic Fisheries Commission (NEAFC), the North Atlantic Salmon Conservation Organization (NASCO), , and the European Commission (EC). Importantly, these products are unbiased, non-political in nature, and based on the best available science.

2. Relevant operational framework(s)

The Strategic Initiative on Climate Change Impacts on Marine Ecosystems is a mechanism set up by ICES and PICES to coordinate northern hemisphere efforts to understand, estimate and predict the impacts of climate change on marine ecosystems.

There is no other topic in the history of PICES or ICES that has had a more serious need for cooperation on a marine science issue of global significance. ICES and PICES must respond to the need for credible, objective and innovative science advice on the impacts of climate change on marine ecosystems. This advice will foster management and policies that will preserve these resources and habitats for the benefit of future generations.

The objectives of this strategic initiative are:

To advance the scientific capacity on the three main challenges identified above by engaging the PICES and ICES scientific community in focused workshops, theme/topic sessions and symposia that target key uncertainties and technical barriers that impact the predictive skill of ocean models used to project the impacts of climate change.

To effectively communicate this capacity to clients, Member Countries, stakeholders and the broader scientific community.

To facilitating an international effort to design data collection networks at the spatial and temporal scales needed to monitor, assess and project climate change impacts on marine ecosystems.

To facilitate international collaboration to design and implement comparative analysis of marine ecosystem responses to climate change through modelling and coordinated process studies.

(http://www.ices.dk/community/groups/Pages/SICCME.aspx)

3. Focus areas of risk management for loss and damage associated with climate change impacts

The ICES Working Group on Oceanic Hydrography
(WGOH; http://www.ices.dk/community/groups/Pages/WGOH.aspx) closely monitors the ocean conditions in the ICES area by updating and reviewing results from standard hydrographic sections and stations.
The material presented at the WGOH meetings each year is consolidated and published in the annual ICES Report on Ocean Climate (IROC;
http://www.ices.dk/sites/pub/Publication%20Reports/Cooperative%20Research%20Report%20(CRR)/crr314/ICRR%20314-web.pdf).

With the IROC, the Working Group analyses multiple time-series in a consistent way to give an overview of the state-of-the-environment in the North Atlantic that includes:

- North Atlantic climate headlines
- Summary of upper ocean conditions
- The North Atlantic Atmosphere
- Detailed area descriptions, part I: the upper Oceans
- Detailed area descriptions, part II: the deep Oceans
- Contact & access information for the time series data

A more detailed annual report from the working group is also compiled that includes all the national reports from the ICES area. The WGOH provide also support to other Expert Groups requiring information on oceanic hydrography and expert knowledge and guidance to the ICES Data Centre.

4. Geographic coverage

ICES is an intergovernmental organization with 20 member countries surrounding the Baltic Sea, North Sea, and North Atlantic Ocean. We also have strategic partnerships with other national institutes and inter-governmental organizations, giving ICES a global presence. ICES comprises a network of more than 4000 scientists from almost 300 institutes, with 1600 scientists participating in activities annually. The Member Countries of ICES are: Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, United Kingdom, and the United States of America.

5. Key stakeholders

Recipients of ICES Science and Advice (national and international management authorities), Industry, the ICES Network, and Civil Society.

6. Implementation modality / delivery mechanisms

Please provide information related to the technical, financial and institutional support mechanism

Currently under development:

ICES/PICES Coordinated International Research Programme targeting, monitoring, understanding, and assessment of climate change impacts on spatial distribution of marine fish and shellfish.

Please provide information related to reporting, if any

7. Key activities / outputs to date

- Annual Publication of ICES Report on Ocean Climate (IROC; see above)
- PICES/ICES/IOC Symposium on “Effects of climate change on the world’s oceans” (May 2012, Yeosu, Korea).
- Conference on “Acidification of the Arctic Ocean and Northern Seas: Trends and Consequences”, Bergen, Norway (May, 2013)

Meetings and Theme Sessions for 2013

- 2013 Lowell Wakefield Symposium, Responses of Arctic Marine Ecosystems to Climate Change, Anchorage, Alaska, March 26–29, 2013
- 2013 PICES/ICES Intersessional Workshop on Global Assessment of the Implications of Climate Change on the Spatial Distribution of Fish and Fisheries, May 22-24, St. Petersburg, Russia
- 2013 PICES/ICES Theme Session B, ICES ASC, September, Reykjavik, Iceland. Responses of living marine resources to climate change and variability: learning from the past and projecting the future.
- 2013 PICES/ICES Theme Session M, ICES ASC, September, Reykjavik, Iceland. Identifying mechanisms linking physical climate and ecosystem change: Observed indices, hypothesized processes, and "data dreams" for the future.

8. Any additional information and contact details

International Council for the Exploration of the Sea (ICES)
www.ices.dk
info@ices.dk
H. C. Andersens Boulevard 44-46
DK-1553
Copenhagen V
Denmark
Tel: +45 3338 6700
Fax: +45 3393 4215