PICES Engagement with the UN Decade of Ocean Science for Sustainable Development

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PICES Engagement with the UN Decade of Ocean Science for Sustainable Development

- Update on FUTURE Science Program
- Goals of UN Decade of Ocean Science for Sustainable Development
- UN Ocean Decade Structure & Timeline
- Current & Potential PICES engagement in the UN Ocean Decade
Governance

Science Committees

Expert Groups

Secretariat

Governing Council

Science Board

Committees

Section
- Long lasting 3 year term, renewable

Advisory Panel
- Long term Provides advice

Working Group
- 3 year term

Study Group
- 1 year, may become a WG

FUTURE
- Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems

Overarching Scientific Program

Approvals requested

Approvals granted
OBJECTIVES

To increase understanding of climatic and anthropogenic impacts and consequences on marine ecosystems, with continued leadership at the frontiers of marine science.

To develop activities that include the interpretation, clarity of presentation, peer review, dissemination, and evaluation of ecosystem products (e.g., status reports, outlooks, forecasts).

PICES Annual Meeting – Session VS1
26 October 2020
What determines an ecosystem’s intrinsic resilience and vulnerability to natural and anthropogenic forcing?

How do ecosystems respond to natural and anthropogenic forcing, and how might they change in the future?

How do human activities affect coastal ecosystems and how are societies affected by changes in these ecosystems?
FUTURE SSC members published an article that used the SEES approach to describe several “crisis” case studies in the North Pacific.
FUTURE Phase II (2014-2020)

GOAL
understand the PREDICTABILITY & SUSTAINABILITY of Social-Ecological-Environmental Systems

PICES Annual Meeting – Session VS1
26 October 2020
FUTURE Phase II (2014-2020)

Case Study: Jellyfish Blooms in the Western Pacific

PICES Annual Meeting – Session VS1
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Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems

Phase II → Phase III
FUTURE Phase III (2020-2025)

- Implementation of Social-Ecological-Environmental Systems Approach
- Trans-disciplinary, solution-oriented
- Engagement with UN Decade of Ocean Science for Sustainable Development
- Enhanced Communication & Early Career Ocean Professional involvement
FUTURE Phase III (2020-2025)

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The Science We Need for the Ocean We Want

The United Nations Decade of Ocean Science for Sustainable Development (2021-2030)
Moving from the ocean we have to the ocean we want

**THE SCIENCE WE NEED**
UN Decade of Ocean Science for Sustainable Development

**DECADE OBJECTIVES**
1. Identify required knowledge for sustainable development
2. Generate comprehensive knowledge and understanding of the ocean
3. Increase the use of ocean knowledge

**DECADE ACTIONS**
- Programmes
- Projects
- Activities
- Contributions

**OCEAN DECADE CHALLENGES**
- A clean ocean
- A healthy & resilient ocean
- A productive ocean
- A predicted ocean
- A safe ocean
- An accessible ocean
- An inspiring & engaging ocean

**THE OCEAN WE WANT**

© UNESCO
Decade Challenges

1. Address land and sea-based sources of pollutants and contaminants.
2. Protect, monitor, manage and restore ecosystems under multiple stressors.
3. Optimise the role of the ocean to sustainably feed the world’s population.
4. Contribute to equitable and sustainable development of the ocean economy.
5. Understand the ocean-climate nexus, build resilience and improve predictions and forecasts.
7. Ensure a sustainable ocean observing system that delivers timely data and across all ocean basins.
8. Develop a comprehensive digital representation of the ocean.
9. Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology.
10. Identify and overcome barriers to the behaviour change that is required for a step change in humanity’s relationship with the ocean.
Implementation Plan

OCEAN DECADE CHALLENGES
The most immediate and pressing needs of the Decade, Challenges may evolve throughout the Decade and new Challenges will be added. Each Challenge contributes to one or more Decade outcomes.

DECADE OBJECTIVES
The steps in the process from the ocean we have to the ocean we want. Objectives are relevant to all Challenges. Prioritisation and translation of objectives into Actions will vary depending on context.

DECADE ACTIONS
The tangible initiatives and endeavours that will be implemented by a wide range of Decade stakeholders to fulfil the objectives and thus achieve the Challenges.
TRANSFORMATIVE OCEAN SCIENCE

The notion of transformation is central to the Decade. The Decade, both in terms of action and outcomes, needs to move beyond business as usual to a true revolution in ocean science. In the context of the Decade, we need transformative ocean science that:

- uses the 2030 Agenda as a central framework to identify and address the questions that are most important to society;
- is co-designed and co-delivered in a multi-stakeholder environment and that involves the generators of knowledge and the users of knowledge;
- is solutions-focused;
- where needed, is big, audacious, forward-looking, and spans geographies;
- reaches across disciplines and actively integrates natural and social science disciplines as well as the arts and humanities;
- embraces local and indigenous knowledge holders;
- is transformative because of who is doing it or where it is being done, including in both less developed and developed countries;
- strives for generational, gender and geographic diversity in all its manifestations;
- is communicated in forms that are widely understood across society and that trigger behaviour change; and
- is shared openly and available for re-use.
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North Pacific Regional Planning Workshop
UN Decade of Ocean Science
Tokyo, JAPAN, August 2019

- Overexploitation in some regions, IUU fisheries, different fishery management systems by regions
- High fisheries & aquaculture production.
  Increasing demands on seafood
- High population density
  High population growth rate
- Rapidly growing economy, increasing multisectoral use of ocean, e.g., wind farming, oil, tourism, port, transportation
- High biodiversity, understudied ecosystem structure & dynamics in W. Pac marginal seas
- Changing ecosystems by global warming and human activities but different processes & speed by regions

Uniqueness
Executive Planning Group

The Executive Planning Group (EPG) is an expert group composed of 19 members who were selected with due consideration to expertise, gender and geographical balance, who will serve as an advisory body to the IOC governing bodies with the main tasks to provide advice on the form and structure of the Decade, to support the development of the Implementation Plan as well as to engage and consult relevant communities.
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Next steps & key milestones

- **September to December 2020**: Negotiation of omnibus resolution by United Nations General Assembly including Implementation Plan
- **15th October 2020**: Launch of first “Call for Action” for Decade programmes and contributions
- **Early December 2020**: High-level supporters event including pre-launch of the Ocean Decade Alliance (possibly in line with Our Ocean Conference)
- **1 January 2021**: Decade starts
- **January – July 2021**: Progressive roll-out of Stakeholder Engagement Mechanisms
- **March – April 2021**: Decisions on first group of endorsed Decade Actions (programmes and contributions)
- **31 May – 2 June 2021**: First International Ocean Decade Conference, Berlin
- **?? 2021**: 2021 UN Ocean Conference, Lisbon

First call for action October, 15th 2020!

Sign-up on www.oceandecade.org to be on the mailing list for updates.
Process for Submitting Proposed Action

The link for the online submission system can be found on oceandecade.org. Via this system you can:

- Register an idea for a Decade Action, and ask to be put in touch with potential partners

- Submit a proposed Decade Action in the form of a:
  1. Major global or regional programme of work
  2. Large scale contribution to Decade Actions or Decade coordination functions
- Partnership between ICES and PICES
- Ideas for Decade-Aligned PICES Expert Groups
- Ideas for Decade Activities ...?
ICES-PICES Coordinated Activities for the UN Ocean Decade

- Meetings in Victoria, BC (Oct 2019); Multiple calls (Jan-Jul 2020)
- Draft strategic plan of joint ICES-PICES Decade activities prepared (Jan-Apr 2020)
- Statement of joint ICES-PICES Decade activities sent to GC & SCICOM (Apr 2020)
- Joint ICES-PICES comments on Decade Implementation Plan (Apr 2020)
- Joint Study Group on Decade proposal (Aug 2020)
Joint ICES-PICES Study Group on the UN Decade of Ocean Science (under review at GC)

PICES and ICES Joint Activities

- Climate Variability & Change
- Fisheries & Ecosystem-Based Management
- Social-Ecological-Environmental Dynamics
- Coastal Communities & Human Dimension
- International Capacity Building & Enhancement
- Early Career Scientist Development

UN Ocean Decade Goals

- Societal Objective: Predicted Ocean
- Societal Objective: Healthy & Resilient Ocean
- Societal Objective: Sustainably Harvested & Productive Ocean
- Cross-cutting Theme: Partnerships
- Societal Objective: Transparent & Accessible Ocean
- Cross-cutting Theme: Capacity Development & Technology Transfer

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- Early Career Scientist Development

Sissel Rogne
(Norway)

Sanae Chiba
(Japan)

Steven Bograd
(USA)

Arran McPherson
(Canada)
What is ‘The Ocean We Want’?

Key Themes

- CLIMATE & ECOSYSTEM PREDICTABILITY
- Social-Ecological-Environmental SYSTEMS (SEES)
- RESILIENCE & SUSTAINABILITY
- FOOD SECURITY & HUMAN HEALTH
- HAZARDS & EXTREME EVENTS
- COMMUNICATION
- EQUITY & DIVERSITY

FUTURE Scientific Steering Committee:
Theme:
Drivers and impacts of extreme events around the North Pacific, with a focus on direct and indirect drivers of HABs

FUTURE-sponsored Workshop at PICES-2020 (2021):
‘Climate Extremes and Coastal Social-Ecological-Environmental Systems’

Working Group proposal (?):
Drivers, attribution, predictability, ecosystem & societal impacts of climate extremes (e.g., MHWs, HABs)
An Idea

Social-Ecological-Environmental Impacts of Climate Extremes in Pacific Coastal Systems

Manu Di Lorenzo, FUTURE SSC & POC

A FUTURE/PICES Initiative Aligned with UN Ocean Decade
Climate extremes in the North Pacific are rising

There are large uncertainties of their impact on the social-ecological-environmental dimensions

A FUTURE/PICES INITIATIVE
ALIGNED WITH UN OCEAN DECADE
Coastal Systems and Communities are most vulnerable to extremes. Yet our understanding is limited and often one-dimensional.

A FUTURE/PICES Initiative Aligned with UN Ocean Decade
PICES FUTURE now offers a framework to understand the response of Social-Ecological-Environmental Systems (SEES)

A FUTURE/PICES Initiative Aligned with UN Ocean Decade
Motivation 4

However, there is need to further develop the SEES approach and the quantitative methods that allow integrated SEES understanding, prediction, and solutions

A Future/PICES Initiative Aligned with UN Ocean Decade
Social-Ecological-Environmental Impacts of Climate Extremes in Pacific Coastal Systems

POC
Joint WG
PICES/CLIVAR

Predictability & Uncertainty of Climate Extremes in a Changing Climate

BIO
Joint WG
PICES/IMBER

Impacts of Climate Extremes on Coastal Ecosystem Functions

HD
Joint WG
PICES/APN/FUTURE SEAS

Resilient Marine Ecosystem Services Under Uncertain Climate Extremes
Social-Ecological-Environmental Impacts of Climate Extremes in Pacific Coastal Systems

**POC**
Joint WG
PICES/CLIVAR

**Synthesis and Coordination**
PICES/APN
SEES Fellows

**BIO**
Joint WG
PICES/IMBER

**Focus**: Underserved and indigenous coastal communities (e.g. climate justice)

**Scope**: North and South Pacific under UNDOS

**Predictability & Uncertainty of Climate Extremes in a Changing Climate**

**Impacts of Climate Extremes on Coastal Ecosystem Functions**

**Resilient Marine Ecosystem Services Under Uncertain Climate Extremes**

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How can PICES provide leadership to the Decade?
Is a Programme the appropriate level of engagement?
How would a Decade Programme(s) fit within PICES structure?
What other levels of engagement should PICES pursue?
What partners and stakeholders should PICES reach out to?
What science/societal themes should PICES focus on?

Provide your input!