IMBeR Support Funding Proposal

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Title: **Developing an Action Plan for the Ocean**

Ensuring a healthy and sustainable ocean in the future requires urgent planning and preparation for inevitable change. The scale of the challenge is global and requires engagement from experts in multiple disciplines and with diverse perspectives from societies across the world. To generate the required options for action, IMBeR scientists have initiated the development of a risk-based *Action Plan for the Ocean* (Murphy *et al.* 2021, 2022). We plan to generate an internationally supported programme to develop and implement an *Action Plan for the Ocean.* We are requesting IMBeR support to seed development of the next stage of that activity.

Link to IMBeR Grand Challenges and priority research areas.

The development of an Action Plan for the Ocean was initiated as an IMBeR synthesis activity and has involved SSC scientists involved in each of the Grand Challenges (GCs). As such it encompasses priority research areas associated with all three of the GCs. A major focus will be on climate change and variability and impacts on society and preparation for a changed future (GCI). That will require consideration of multiple stressors and combined effects. It will draw on the modelling, scenario development and projection activities being developed in GCII. GCIII activities will be crucial for developing options for action, requiring multilevel governance approaches to ocean climate adaptation and mitigation and more sustainable, equitable and inclusive approaches to fisheries management. Finally, the innovation challenge 5 and 6 are also integral to the Action plan, as both intervention (#5) and blue carbon (#6) are likely to be elements of the Action Plan. The GC Champions, the full IMBeR SSC and IMECaN will be closely involved in the development of the activity.

The need for an Action Plan for the Ocean

The oceans are changing, affecting ecosystems and human communities across the world. The scale and rapidity of ocean change is now clear and alarm bells are sounding, warning of future change (SROCC, 2019; Armstrong McKay et al. 2022). Planning and preparing now for those changes is an urgent priority. Policy driven responses to ocean change will require coordinated action across multiple scales. A systematic approach is needed to develop strategies for mitigation and adaption and coordinate activity from local to global scales. That also requires an inclusive approach involving diverse perspectives from across scientific disciplines and societies across the world.

An Action Plan for the Ocean

With the increased awareness and focus on threats to the ocean why is an Action Plan needed?

The challenge is to bring our understanding of the oceans and the impacts of change together and prepare and plan for inevitable change. With the high degree of uncertainty associated with future ocean change it is crucial that policy makers are provided with clear views of the potential changes and associated uncertainties and policy options. This will require a ranking of threats so that effort on planning and preparing for change can be focussed on critical issues.

This will necessitate the development of risk-based planning and preparation, encompassing local, regional and global scales. IMBeR scientists have proposed a three-component process (*Figure*) to develop an Action Plan for the Ocean: (1) assess and rank risks, (2) identify options for action, and (3) develop action plans for adaptation at local, regional and global scales to respond to future change. This process also needs to be continuously updated as new information becomes available and understanding improves (Murphy *et al*. 2021, 2022).

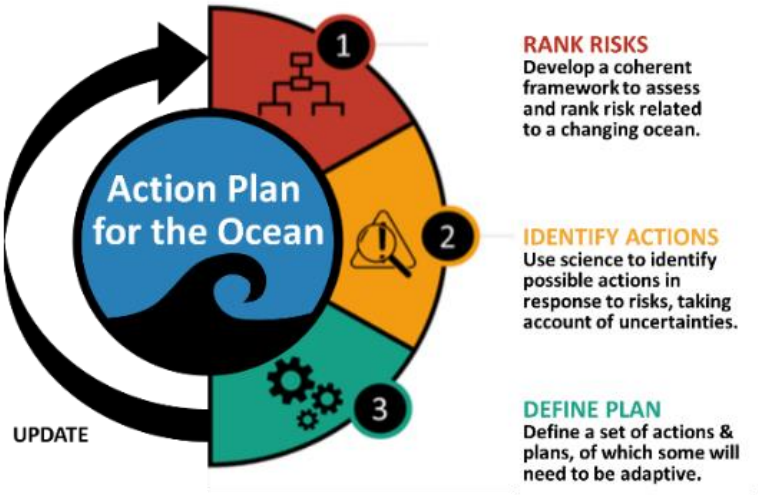


Figure. Schematic illustration of the major components of the proposed risk-based Action Plan for the Ocean (from Murphy et al. 2021).

An IMBeR-led Action Plan for the Ocean

Goal: ***To develop the capacity and framework for an IMBeR-led plan for understanding ocean risk and preparing and planning responses to change.***

We aim to develop an integrated interdisciplinary ocean community to plan and implement an Action Plan for the Ocean. This proposal is for support for the first stage of this activity aimed at developing an outline proposal and roadmap for the development of an internationally supported programme to generate, implement and sustain an Action Plan for the Ocean. The activity will:

- *Develop international capacity in integrated analyses and risk-based development of ocean actions.*
- *Provide a forum for the global ocean community to engage in the development of an Action Plan.*
- *Plan for and undertake an international workshop to develop the Action Plan process (2023), including seeking supporting co-funding.*

To develop the Action Plan we propose a series of activities over the next 18 months:

1. ***IMBeR Discussion Meeting.*** *Late 2022/Early 2023. Online half-day meeting.* This will be a scoping and planning workshop to develop plans and ideas and identify key individuals, groups, projects and bodies. This will involve SSC, RP, WG, IMECaN and ClimEco members and include a small number of invited experts in relevant science areas.

2. ***Capacity development and workshop preparation.*** *Early- mid-2023.* Based on the outputs of the IMBeR Discussion Meeting, we will undertake an on-line scoping exercise targeted on key individuals and groups to develop plans for the international workshop. With ClimEco and IMECaN leaders we will develop a session/meeting. That will focus on ocean risk and planning the development of an Action Plan (*TBD following discussion/development of ideas with Chris Cvitanovic and Samiya Selim and colleagues*).

3. ***An international workshop to develop the Action Plan process.*** *Mid-late 2023. Hybrid meeting.*

The *purpose of the workshop will be to produce an outline proposal and roadmap for the development of an internationally supported programme*. The workshop will bring together a wide range of representatives and scientists from across the ocean community, build on current activities, drawing on expertise and inputs from established programmes and bodies and include experts in risk-based approaches to sustainable development and future risk assessment and consider current approaches to marine system risk management. For example, this could include representatives contributing to their countries High Level Panel "Sustainable Ocean Plans" - https://oceanpanel.org/publication/100-sustainable-ocean-management-an-introduction-to-sustainable-ocean-plans/. Co-funding support will be crucial for the success of the meeting. We have a provisional offer for hosting the meeting with some financial support.

Additional IMBeR benefits

The Action Plan development will also address issues raised during the IMBeR 5-year review. The review highlighted the importance of greater societal impact. An IMBeR-led action plan will provide clear societal impact and include transdisciplinary co-production of knowledge. The review highlighted the potential for the development of the ecosystem accounting approach, which involves quantifying the non-monetary value in ecosystems. This has the potential to be a useful component in quantifying risk. We will address this in the planned scoping exercise and the workshop by inviting input from relevant experts. The review also suggested that IMBeR continue capacity building. That is a specific focus of the proposed activity, which aims to ensure strong links with the IMECaN team. The review suggested securing closer ties with IPBES. The action plan would build on IPBES, IPCC and the WOA. To further strengthen the ties, input will be invited from those communities to the proposed scoping exercise and workshop.

Funding requested: *USD 7,500*
The funding will contribute to workshop costs and attendance of invited participants, with a focus on ensuring diverse participation. Funds are also requested to cover the generation of workshop reports and infographics.
Budget

1. Workshop costs *USD 6,000. Contribution to hosting and participation costs.*
2. *Report and infographic costs USD 1,500*
3. *We also request support from the IMBeR Project Office for planning and delivery of the IMBeR Discussion meeting, a proposed IMECaN meeting or ClimEco seminar session and the workshop.*

We are also exploring options for co-funding to support this activity. We are seeking additional funding support of ~ USD 10,000 for the workshop and support for direct workshop costs. We are approaching SCOR who have previously expressed support for this initiative. Other funding options will be explored.

Timeline of activities and deliverables

1. Nov 2022-March 2023. IMBeR discussion meeting and scoping report. Associated with this we are discussing with IMECaN/ClimEco options for progress.
2. March 2023-June 2023. Scoping exercise. ClimEco/IMECaN Action Plan session/meeting and report (TBD).
3. Sep-Nov 2023. International Workshop and summary report.
4. March 2024. Outline proposal and roadmap for the next steps for the development of an international programme.

References: Murphy *et al.* 2021. The Global Pandemic Has Shown We Need an Action Plan for the Ocean. Front. Mar. Sci. doi: 8, 760731, 10.3389/fmars.2021.760731. **Murphy et al. 2022.** Ocean sustainability: act before it's too late. *Nature* **609**, 676. *doi: 10.1038/d41586-022-02981-5. See additional references on need for, and development of, a risk-based approach in Murphy et al. 2021.*