



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development

The Southern Ocean Action Plan

Research Cooperation from Pole to Pole
Side event to the All Atlantic 2022 Ministerial Meeting
Washington DC, 12 July 2022

Dr Renuka Badhe, European Polar Board

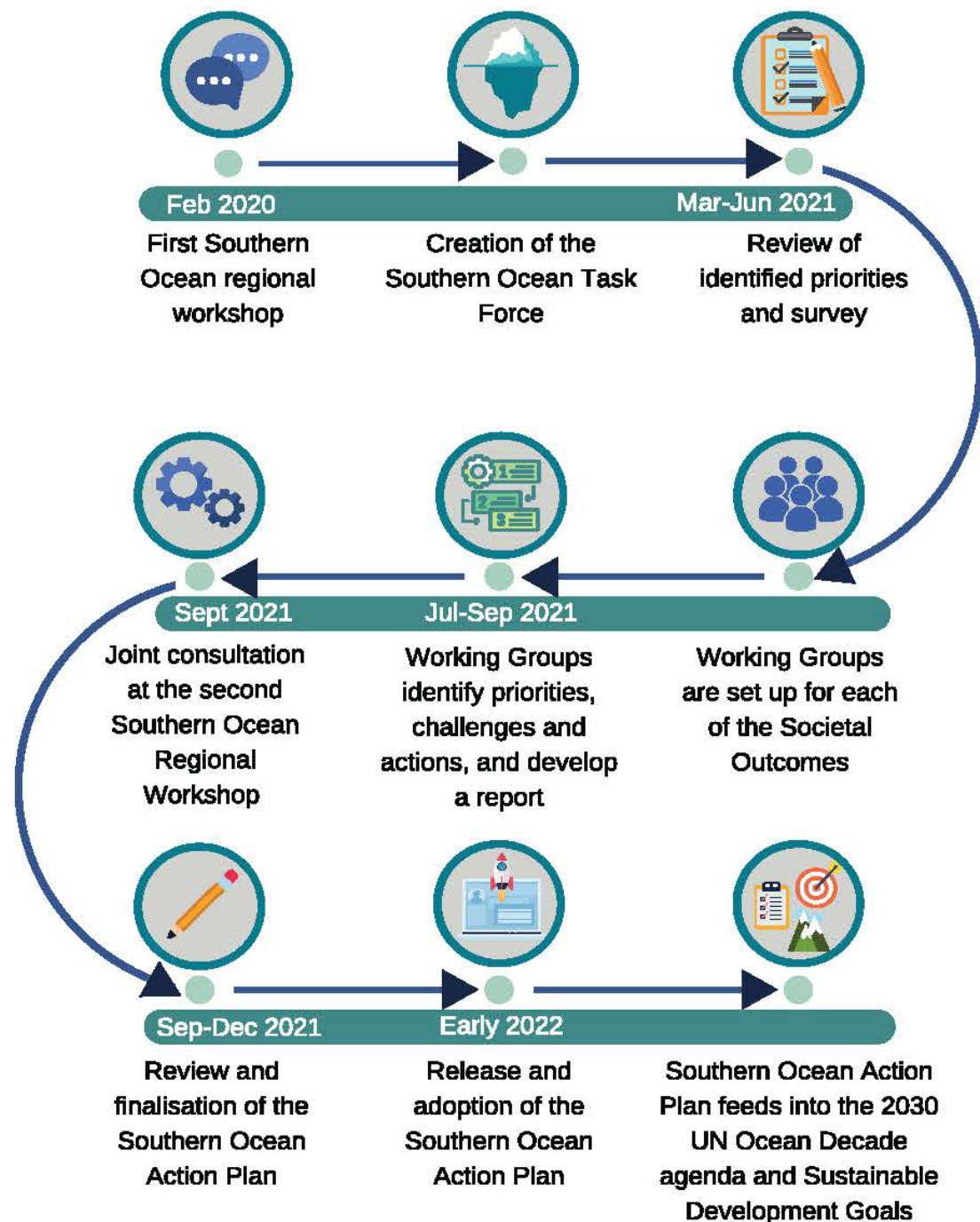


Southern Ocean UN Decade Process

<https://www.sodecade.org>

Engaged a broad group of stakeholders:

- Scientific research community
- Industry
- National Antarctic programmes
- Logistics coordinators
- Policy makers and managers
- Operational service providers
- Antarctic scientific bodies
- Policy governing bodies
- Non-governmental organizations



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2021 United Nations Decade
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UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT
(2021-2030)

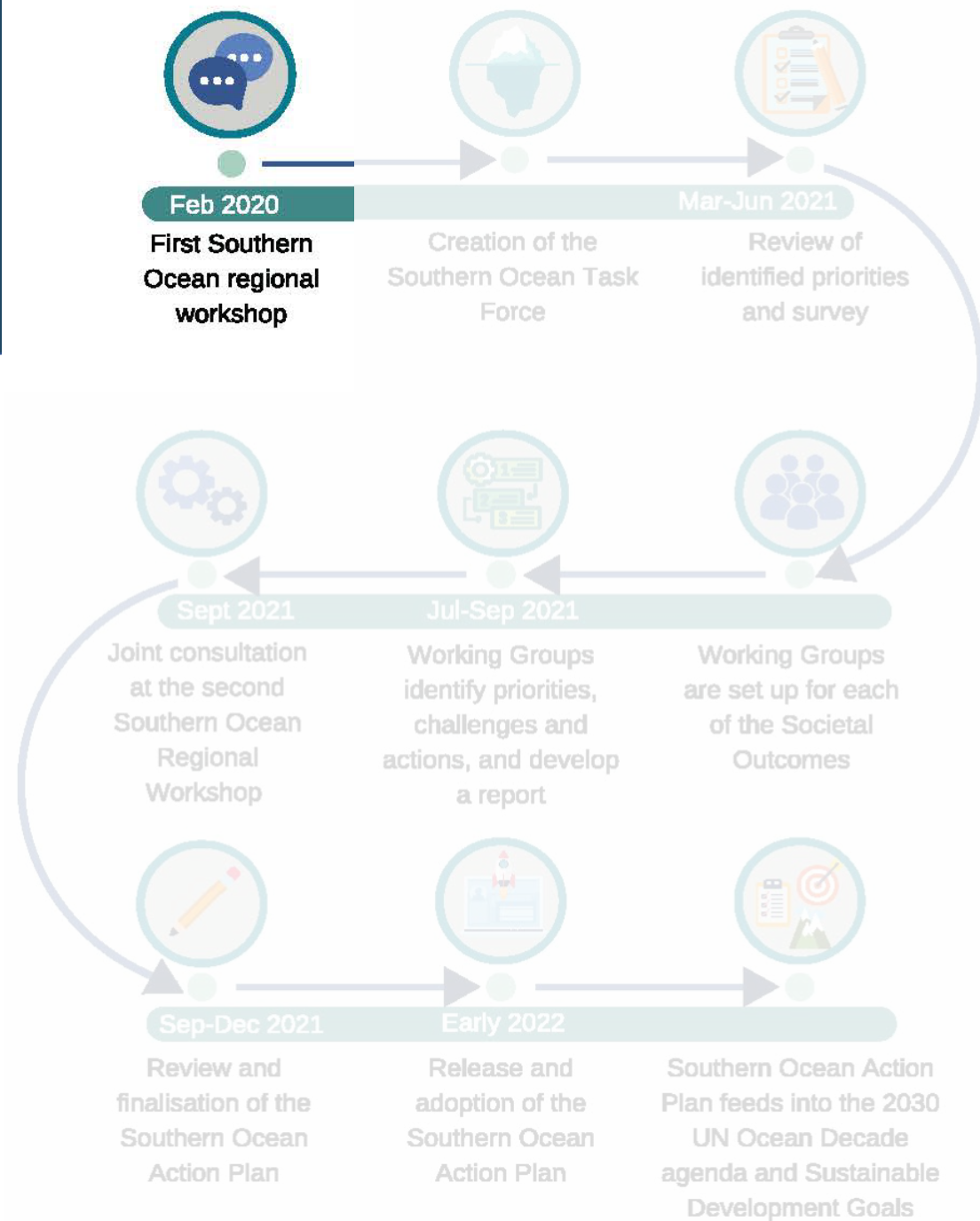
REPORT : 1ST SOUTHERN OCEAN REGIONAL WORKSHOP

16 February 2020
San Diego, CA USA

PREPARED BY:

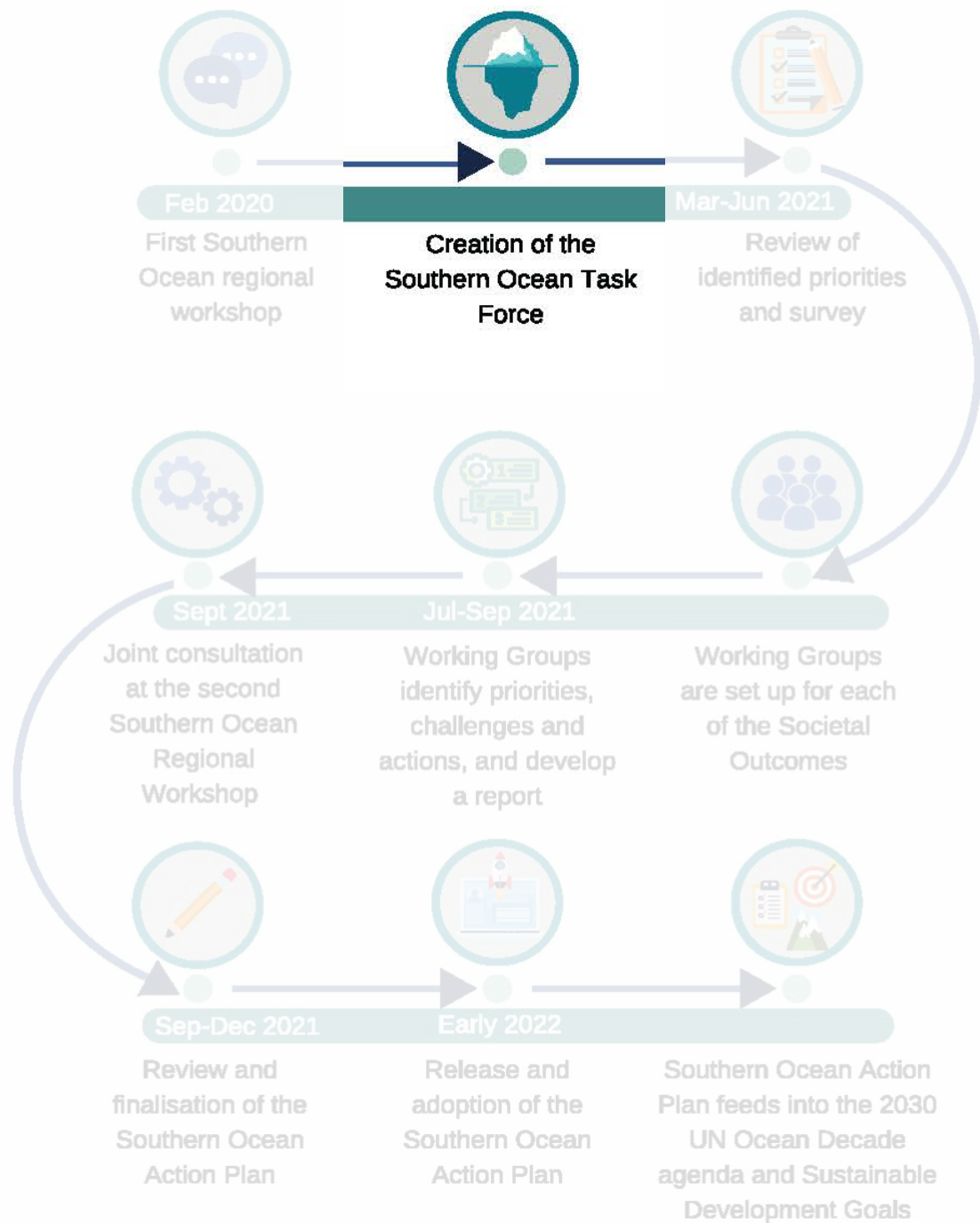
Eileen Hofmann, Louise Biddle, Taco de Bruin, Cassandra Brooks, Stuart Corney, Alexander Haumann, Nadine Johnston, Matthew Mazloff, Eugene Murphy, Christian Reiss, Joellen Russell, Hanna Rosenthal, Elisabeth Sikes

WORKSHOP SPONSORS:



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Review of identified priorities for the Southern Ocean in the context of the UN Ocean Decade

Southern Ocean Decade Survey

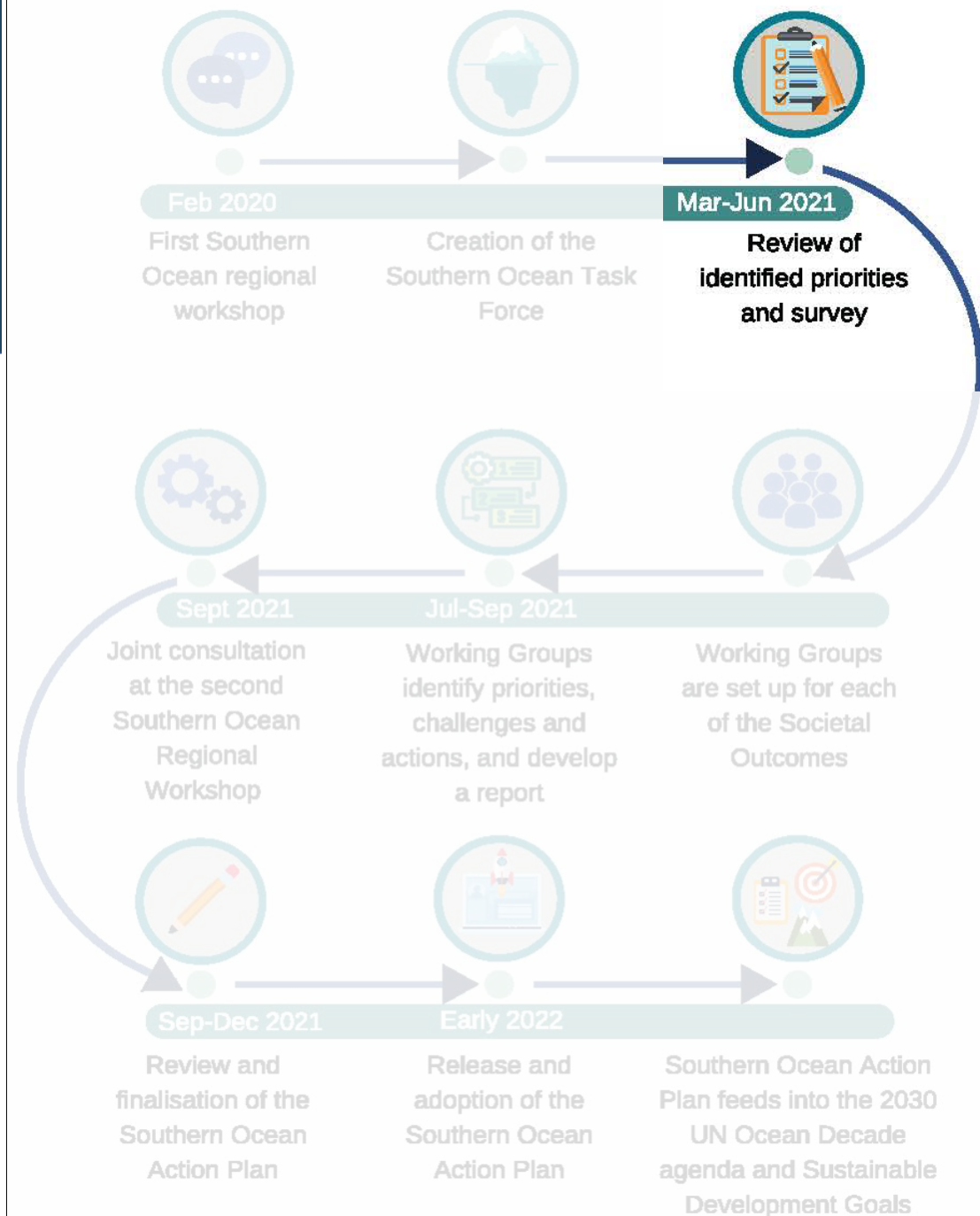
Based on the recommendations in the global implementation plan of the United Nations Decade of Ocean Science for Sustainable Development (2021-2030), members of the Southern Ocean community set up a Task Force to develop the Southern Ocean Action Plan. This Action Plan will provide a framework for Southern Ocean stakeholders to formulate and develop concrete activities that support the [Decade vision](#).

To ensure this Action Plan represents the diverse perspectives and priorities of a wide range of Southern Ocean stakeholders, the Southern Ocean Task Force is now soliciting your input. Whether you are an early career professional or have an extensive background in polar activities, or you represent an institute, programme or initiative, your insights into how Southern Ocean science should evolve over the coming years to achieve the [UN Sustainable Development Goals](#) will provide valuable information to develop an inclusive Action Plan.

Together with outputs from the [First Southern Ocean Workshop](#), the Task Force collated strategic and scientific priorities from our individual implementation plans, together with those outlined in previous polar and Antarctic initiatives, including the SCAR Horizon Scan (2014), COMNAP Antarctic Roadmap Challenges (2016) and EU-PolarNet (2016). These are outlined in our report entitled 'Review of identified priorities for the Southern Ocean in the context of the UN Ocean Decade'.

We kindly ask that you [read our report](#) and complete the attached questionnaire **no later than 23:59 UTC on 25 June 2021**. We anticipate that it will take you about an hour to read the report and complete the survey. We encourage you to provide as much additional information you feel is relevant at the end of the survey.

The information that you provide will be used exclusively by the Southern Ocean Task Force to develop a Draft Southern Ocean Action Plan, which will be open for consultation at the 2nd Southern Ocean Regional Workshop in September 2021.



2021

Southern Ocean UN Decade Process

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1.

A clean ocean where sources of pollution are identified and removed



2.

A healthy and resilient ocean where marine ecosystems are mapped and protected



3.

A sustainably harvested ocean ensuring the provision of food supply



4.

A predictable ocean where society has the capacity to understand current and future ocean conditions



5.

A safe ocean where people are protected from ocean hazards



6.

A transparent and accessible ocean with open access to data, information, and technologies



7.

An inspiring and engaging ocean where society understands and values the ocean



Feb 2020

First Southern Ocean regional workshop



Mar-Jun 2021

Creation of the Southern Ocean Task Force



Review of identified priorities and survey



Sept 2021

Joint consultation at the second Southern Ocean Regional Workshop



Jul-Sep 2021

Working Groups identify priorities, challenges and actions, and develop a report



Working Groups are set up for each of the Societal Outcomes



Sep-Dec 2021

Review and finalisation of the Southern Ocean Action Plan



Early 2022

Release and adoption of the Southern Ocean Action Plan



Southern Ocean Action Plan feeds into the 2030 UN Ocean Decade agenda and Sustainable Development Goals

Southern Ocean UN Decade Process

Working Group report

Progress Report, 16 September 2021

WG number : 3

Targeted Societal Outcome : Sustainably Productive Ocean

WG chair(s) : Javier A. Arata

How To Achieve A Healthy And Resilient Ocean In The Southern Ocean Region
from Southern Ocean Decade

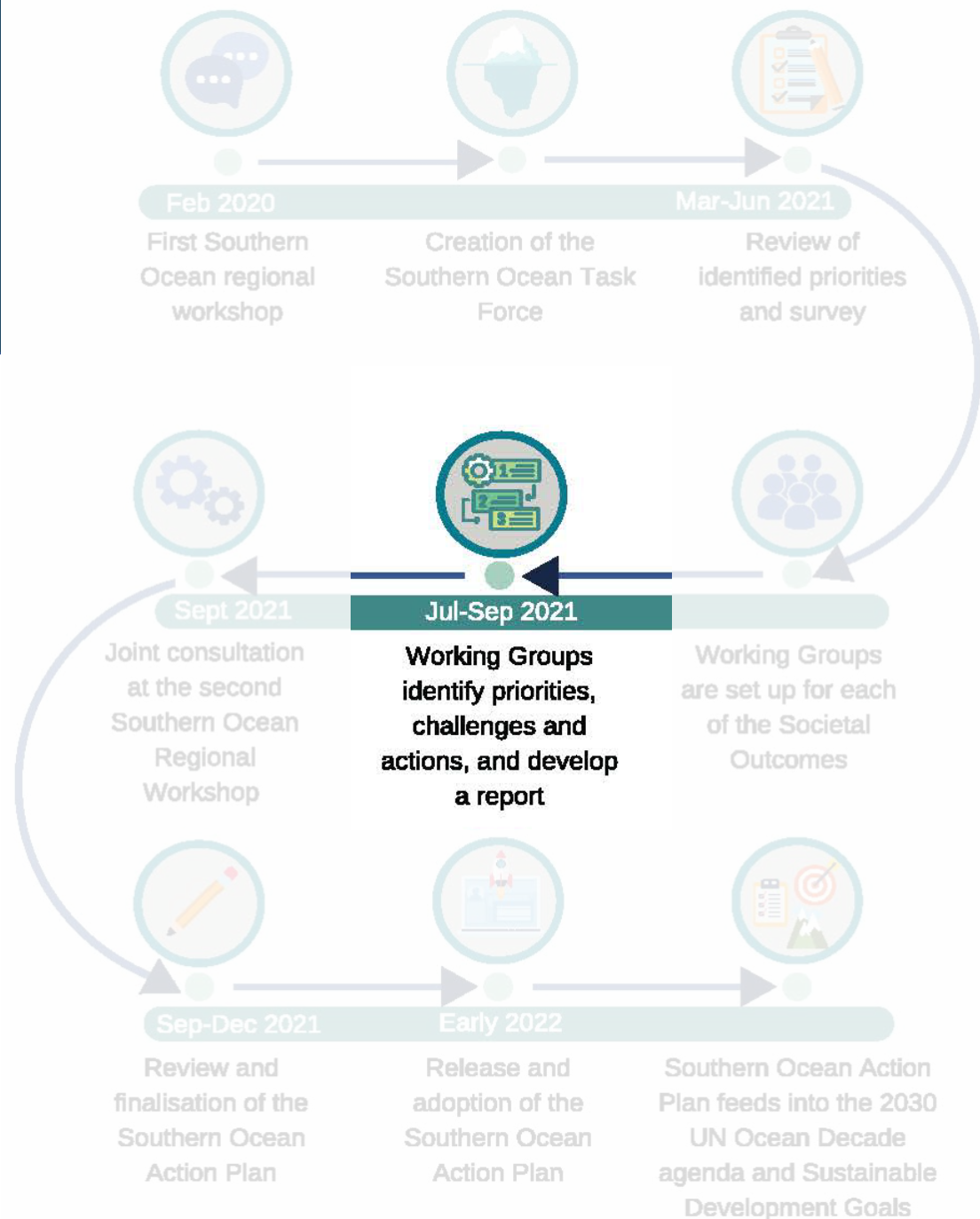
Southern Ocean United Nations Decade

United Nations Decade of Ocean Science for Sustainable Development

WG 2 - A Healthy And Resilient Ocean

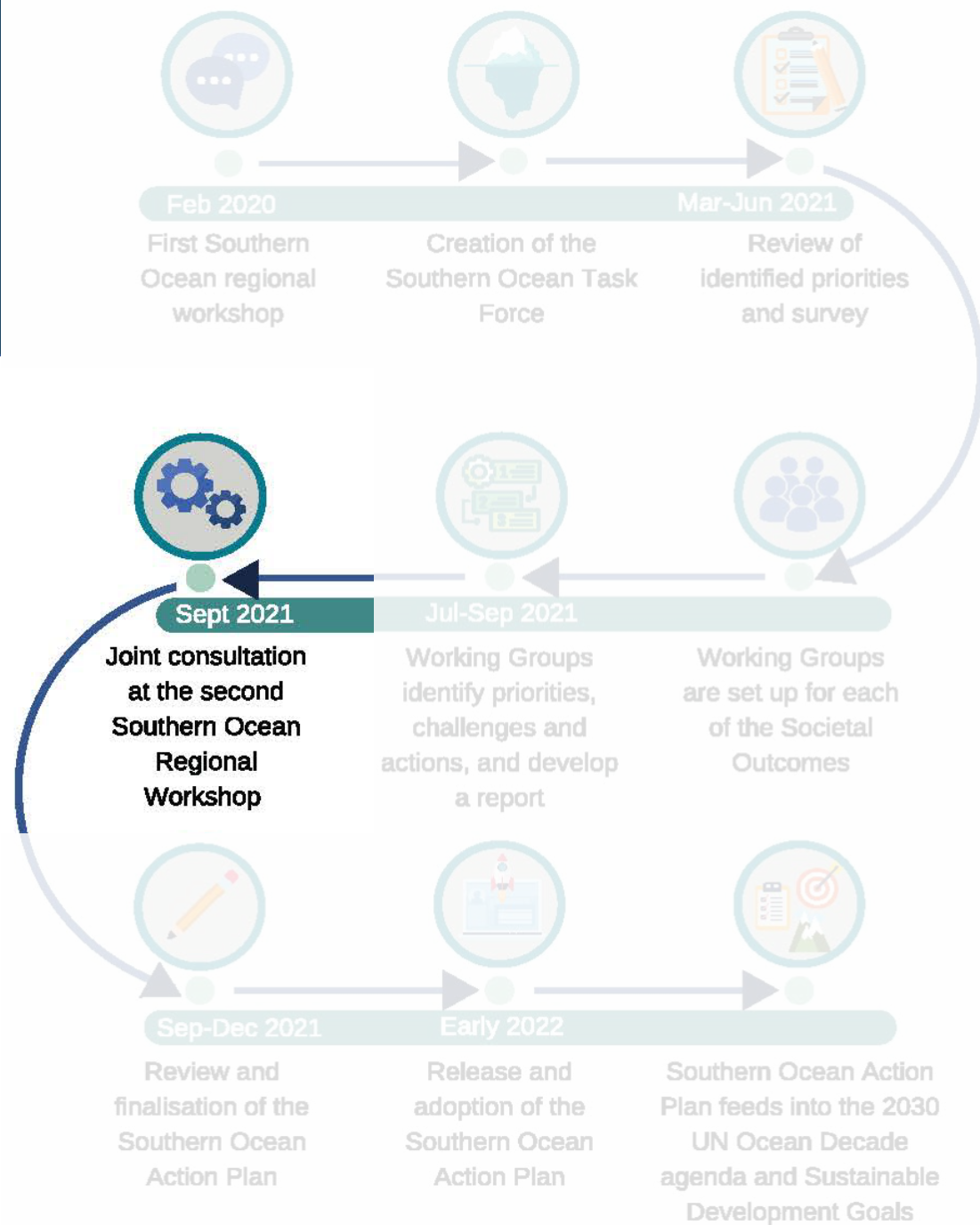
José Xavier **Maria van Leeuwe**
(Chairs of Working Group 2)

with Nadine Johnston and Sian Henley



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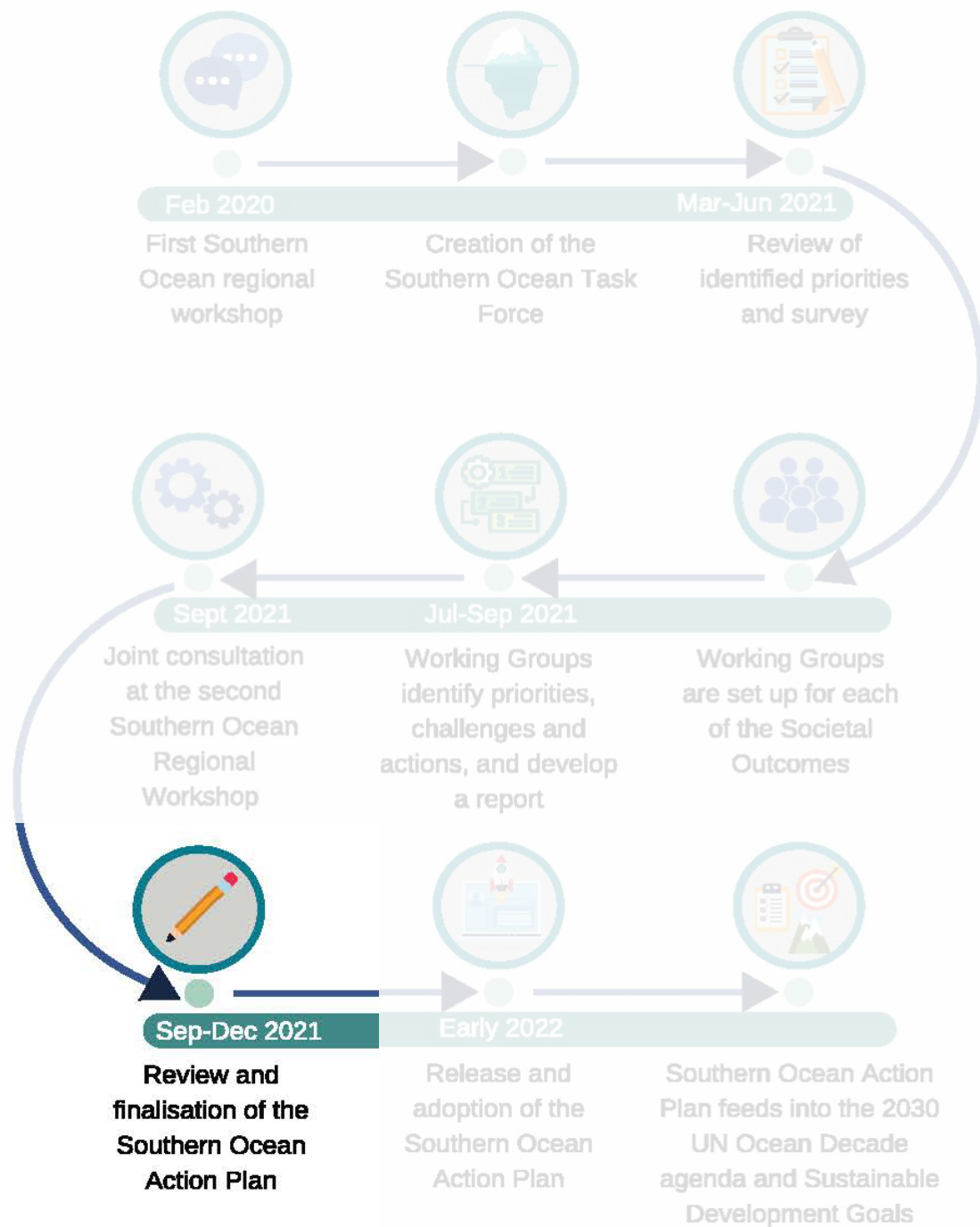


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Southern Ocean Action Plan

2021 – 2030

In support of the United Nations Decade of
Ocean Science for Sustainable Development

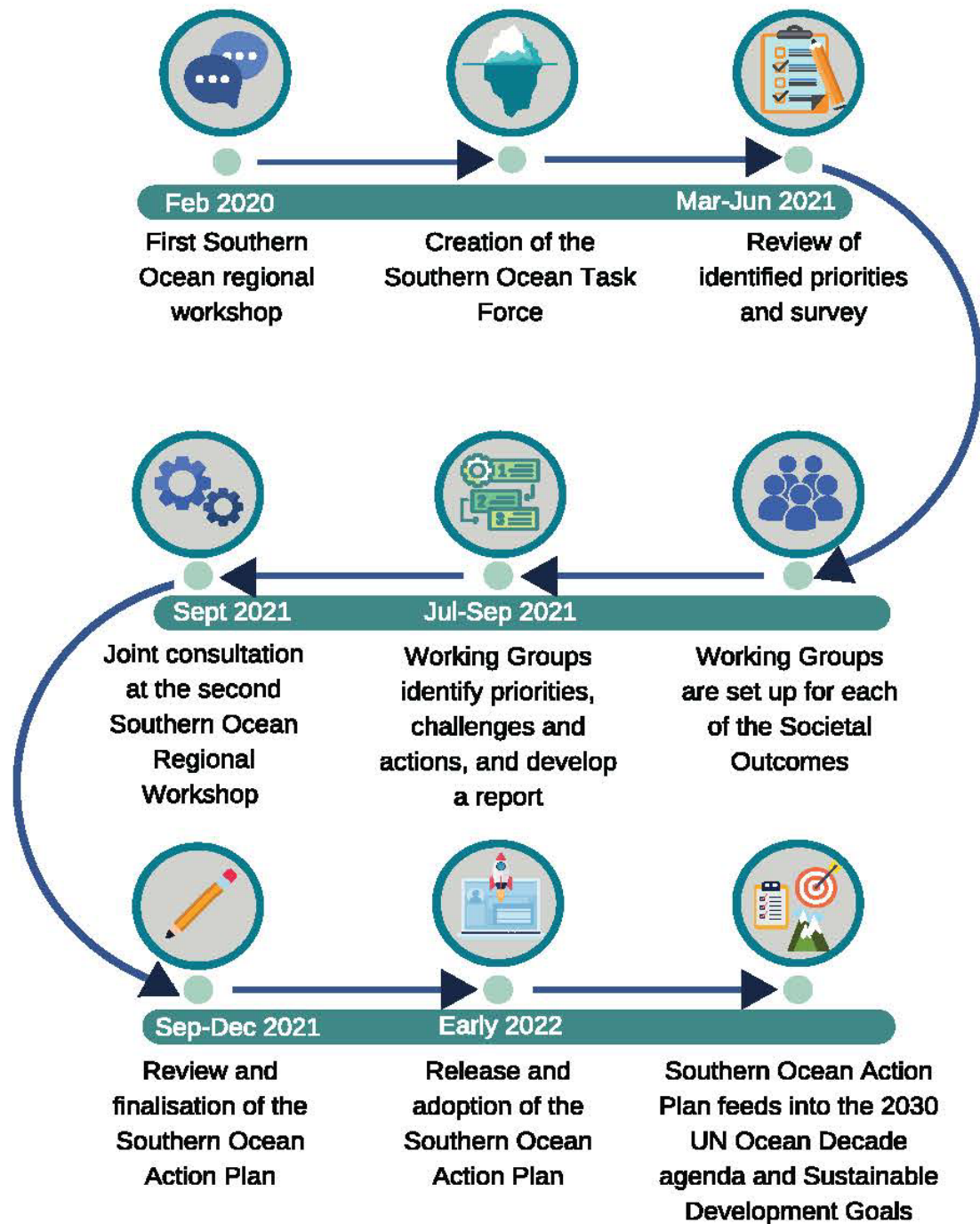


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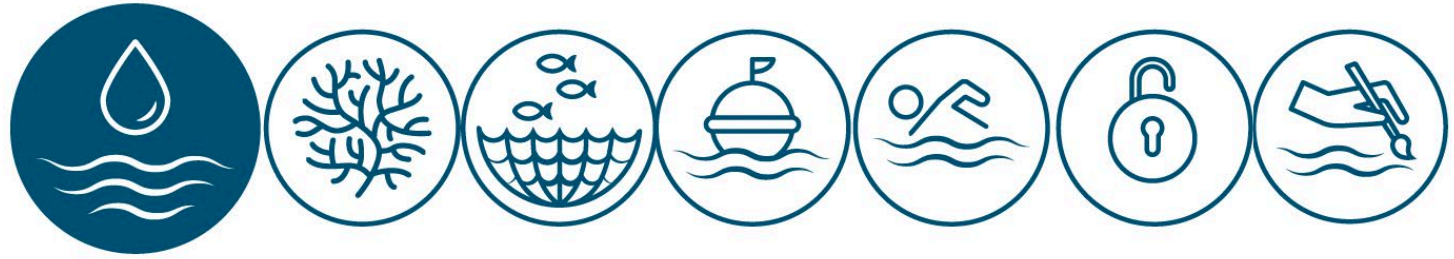
Southern Ocean Action Plan

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THE SOUTHERN OCEAN ACTION PLAN

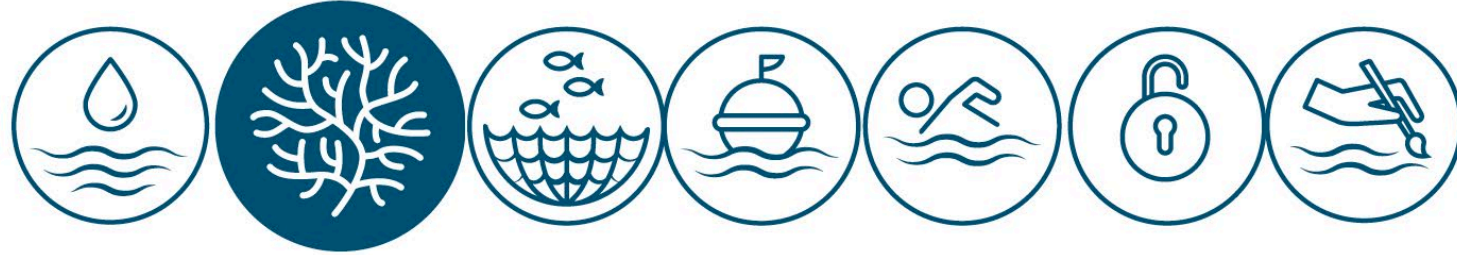


How to achieve a **clean** Southern Ocean

where sources of pollution are identified, reduced or removed

1. Evaluating the extent of pollution in the Southern Ocean
2. Improving understanding of current and future effects of pollution on the Southern Ocean ecosystems.
3. Preventing, mitigating, and recovering from environmental damages
4. Developing strategies for a transition to greener practices.

THE SOUTHERN OCEAN ACTION PLAN



How to achieve a **healthy and resilient** Southern Ocean

where marine ecosystems are understood and managed

Improving our understanding of:

1. Key Drivers of change and their impacts on Southern Ocean Species and ecosystems
2. Southern Hemisphere ice including its role in ecological processes of the Southern Ocean
3. Biogeochemical processes linked to the influence of sea ice
4. Biogeochemical cycling regulating air-sea exchange of climate-active gases
5. Southern Ocean's role within the Earth Climate System

THE SOUTHERN OCEAN ACTION PLAN

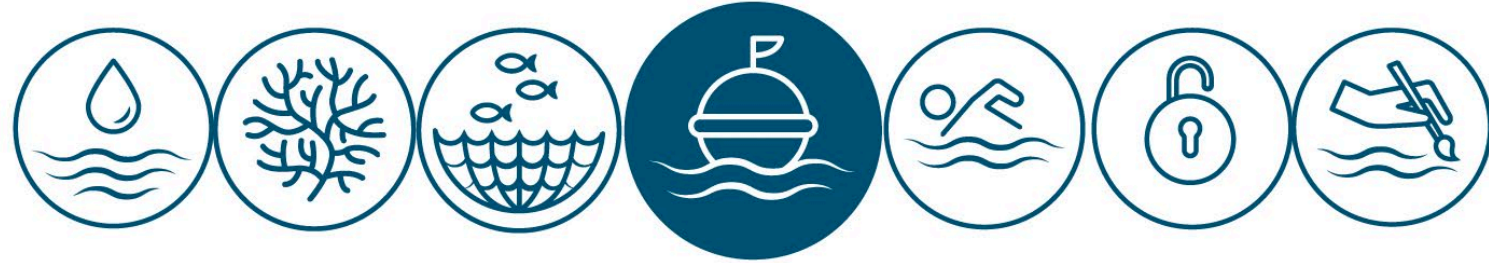


How to achieve a **productive** Southern Ocean

supporting sustainable food supply and a sustainable ocean economy

1. Improving our assessment of the current status of the ecosystems supporting essential services
2. Achieving sustainable management of fisheries based on an ecosystem approach, including the recovery of overexploited species and the effect of climate change on ecosystems
3. Ensuring science-based and effective spatial planning process, including MPAs, with consideration of sustainable fisheries management and tourism development
4. Ensuring a sustainably harvested and productive Southern Ocean by working towards a stronger interface between science, industry and policy

THE SOUTHERN OCEAN ACTION PLAN



How to achieve a **predicted** Southern Ocean

where society understands and can respond to changing ocean conditions

1. Improving understanding of fundamental processes and response to change
2. Enhancing and expanding observational capability to support predictions
3. Improving and enhancing Southern Ocean modelling capacity

THE SOUTHERN OCEAN ACTION PLAN

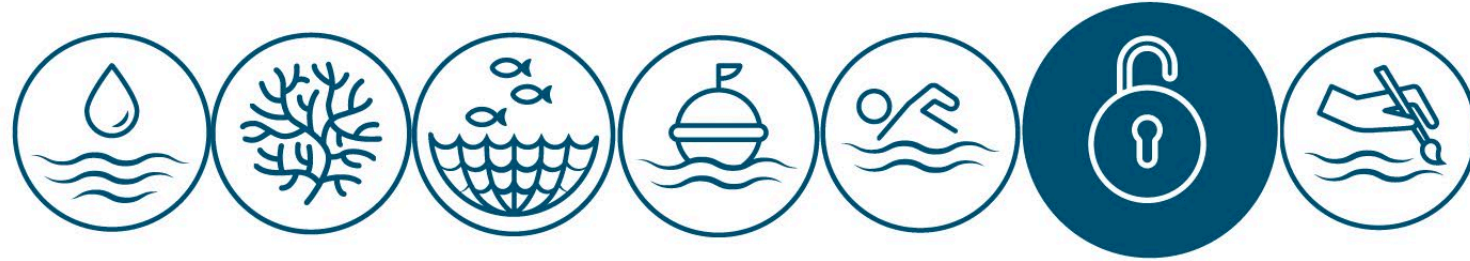


How to achieve a **safe** Southern Ocean

where life and livelihoods are protected from ocean-related hazards

1. Improving forecasting capabilities to produce outputs that reflect the changing activities in the Southern Ocean
2. Understanding the impacts of changing environmental conditions on risk and vulnerability
3. Improving emergency response competences and knowledge sharing to identify risks, vulnerabilities and knowledge gaps
4. Engaging with policy-makers

THE SOUTHERN OCEAN ACTION PLAN



How to achieve a **transparent and accessible** Southern Ocean

with open and equitable access to data, information and technology and innovation

1. Improve access to Southern Ocean infrastructures, including to computing infrastructure
2. Build the Southern Ocean digital ecosystem for data and information access and exchange as part of the global Decade digital ecosystem
3. Promote and Implement the Polar Data Policy Recommendations
4. Develop and Promote Data Best Practices
5. Promote Data Literacy

THE SOUTHERN OCEAN ACTION PLAN



How to achieve an **inspiring and engaging** Southern Ocean

where society understands and values the ocean in relation to human wellbeing and sustainable development

1. Recognising the values of the Southern Ocean
2. Identifying ways in which the Southern Ocean is valued and engaged with
3. Supporting Ocean Education
4. Fostering cultural connections with Antarctica
5. Building an inclusive Antarctic region
6. Facilitating co-production of new knowledge about the Southern Ocean



2021 United Nations Decade
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The Bridges We Need To Achieve The Southern Ocean We Want



The Bridges We Need To Achieve The Southern Ocean We Want



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SOUTHERN OCEAN ACTION PLAN



Funding



Crossing
boundaries



Identifying and
connecting
stakeholders



Data,
observations
and modelling



Capacity
building,
inclusion,
diversity

To Achieve The Polar Oceans We Want: The Challenges we need to overcome



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- Constraints linked to Southern Ocean, the need to:
 - Observe inaccessible areas
 - transport, maintain and analyse samples
 - support the establishment of a sustained collaborative network of long-term observatories
- Sustained & long-term investment
- Diversity of funding: NAPs, RI agenda, regional funding agencies, intergovernmental organisations, international organisations, NGOs, foundations, charities, industry groups, *etc.*
- Time-scales of funding, one-time vs sustained – difference between agencies & countries
- Funding for infrastructure and logistics AND funding for science

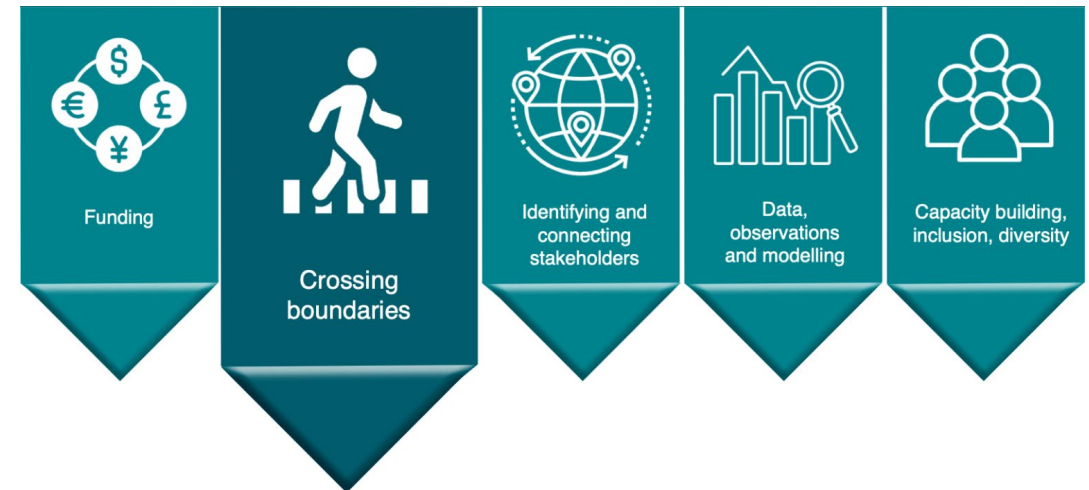


The Bridges We Need To Achieve The Southern Ocean We Want



2021
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- Blurring national and regional borders
- Linking disciplines
- Co-designing global polar research priorities



The Bridges We Need To Achieve The Southern Ocean We Want



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- Improving dialogue at the science-policy interface
- Ensuring societal needs are reflected and addressed through research
- Linking the industry with research, infrastructure and logistics



The Bridges We Need To Achieve The Southern Ocean We Want



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- Improving spatial and temporal coverage
- Ensuring data and information are fully utilised
- Long term sustainability of observatories and data stewardship
- Modelling



The Bridges We Need To Achieve The Southern Ocean We Want



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- Ensuring diversity of voices at the table, at all stages
- Capacity building
- Improving technology for better access (open access to knowledge, data and science)



Acknowledgements



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A BIG Thank You:

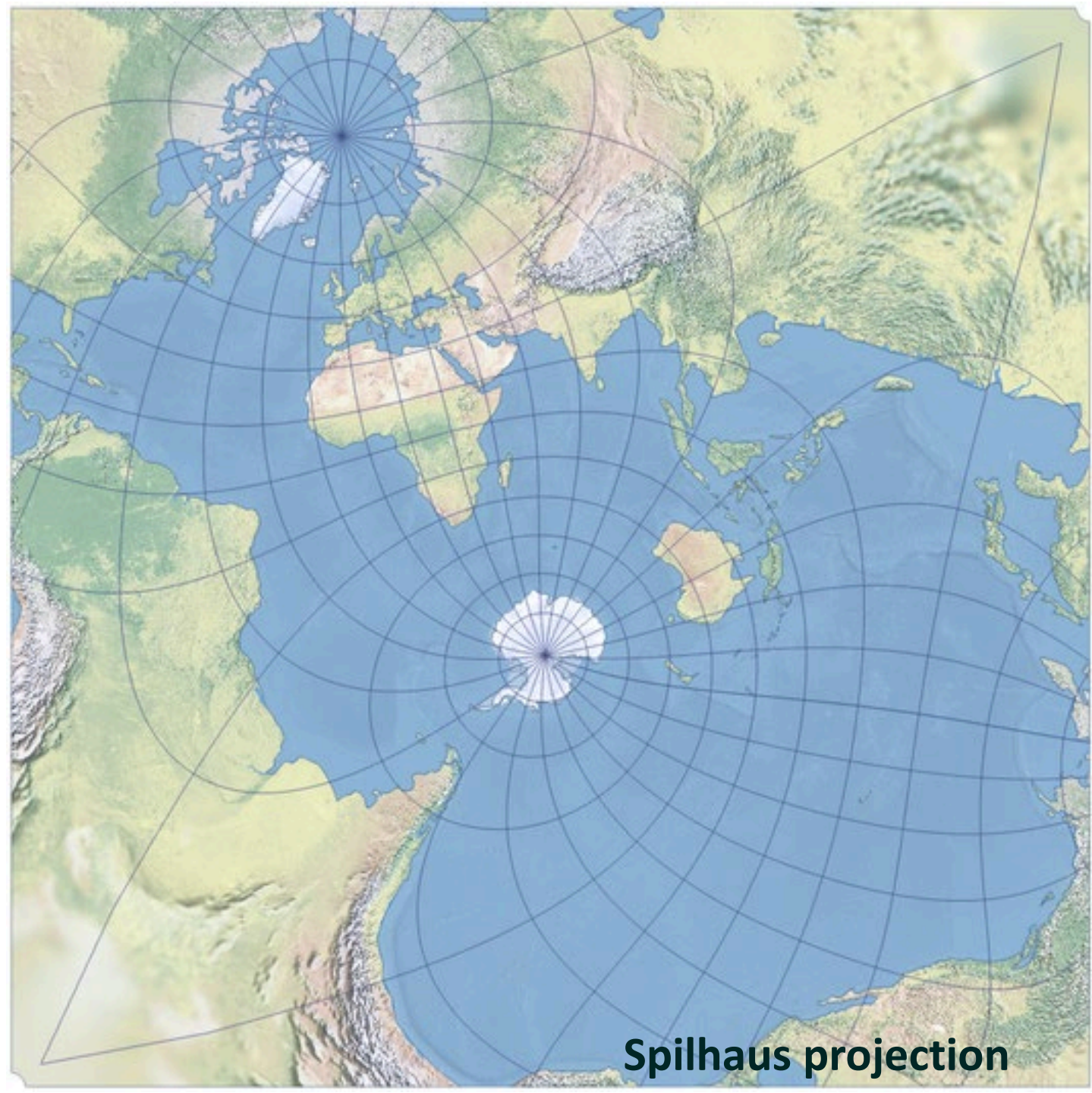
- All the Chairs of WGs, SO Task Force contact points and ~ 300 participants of various activities through the 2 year process!
- Belgian Science Policy Office (BELSPO) and RBINS for funding support - Anton van de Putte and Annemie Janssen
- EPB for hosting SO Decade and PDF week, NIOZ for technical support and webhosting
- Southern Ocean Decade Task Force:



A few thoughts to ponder on:

- **Highlight relevance and importance of the Polar Ocean in a global context**
- **Leverage further opportunities and galvanise cooperation between global and Polar Ocean communities - provide inspiration and engagement for innovation**
- **Strengthen links between science, industry, and policy - further tighten knowledge and data gaps**
- **Develop global capacity by encouraging internationally collaborative activities**

THANK YOU



Spilhaus projection