

The General Bathymetric
Chart of the Oceans (GEBCO)

Strategy 2024-2030

VISION

To bring knowledge about our planet's seabed to everyone.

MISSION

To produce free, open and complete seabed data and information for the world's oceans. This is achieved by enabling and inspiring seabed mapping efforts through international collaboration, technological innovation, capacity development, and education.



IHO

International
Hydrographic
Organization



Photo: The underwater world.

Credit: Francesco Ungaro

<https://doi.org/10.5281/zenodo.15267614>

At a Glance

**GEBCO STRATEGY
2024-2030**



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OBJECTIVES & OUTCOMES

1

DATA

Delivering open and fit for purpose seabed data

OBJECTIVES

- Compile, maintain and improve the most accurate, reliable and relevant sets of seabed data based on internationally approved geospatial standards focused on bathymetry and the authoritative GEBCO Gazetteer of Undersea Feature Names.
- Enable open and equitable (free and easy) access to comprehensive seabed data and information for everyone under Creative Commons or comparable license terms.

OUTCOME

- A fully explored and well understood global seabed contributing towards improved ocean science and facilitating decision making on sustainable ocean management, conservation and the global economy.

2

TECHNOLOGY

STANDARDS

Supporting, promoting and using innovative solutions to continuously improve the GEBCO data value chain

OBJECTIVE

- Actively support, promote and use innovative solutions to continuously improve the seabed data value chain, including solutions contributing to ocean management, conservation and the global economy.

OUTCOME

- Innovative technologies and standards that improve the seabed data value chain and maximise benefits for GEBCO and the broader community.

3

CAPACITY

Establishing global infrastructure to develop capacity

OBJECTIVES

- Establish a globally distributed network of facilities and experts to support communication, encourage education and promote training.
- Double global ocean mapping capacity in the next five years.

OUTCOME

- An engaged, qualified and diverse global community of professionals inspired to support GEBCO in executing its mission and vision.

4

COMMUNITY

Engaging communities and partners to best deliver GEBCO's mission

OBJECTIVES

- Increase engagement with the general public to improve their awareness of the relevance of GEBCO's work.
- Seek ongoing support of global leadership from all sectors and parent organisations for GEBCO.

OUTCOME

- A diverse community that understands the importance of GEBCO and engages and actively contributes to the programme.

5

GOVERNANCE

Gaining support for our mission through robust processes that influence decision-making

OBJECTIVES

- Build a sustainable GEBCO Marine Spatial Data Infrastructure (MSDI).
- Influence policy through robust science-based evidence to increase support for sustained public and industry seabed mapping.

OUTCOMES

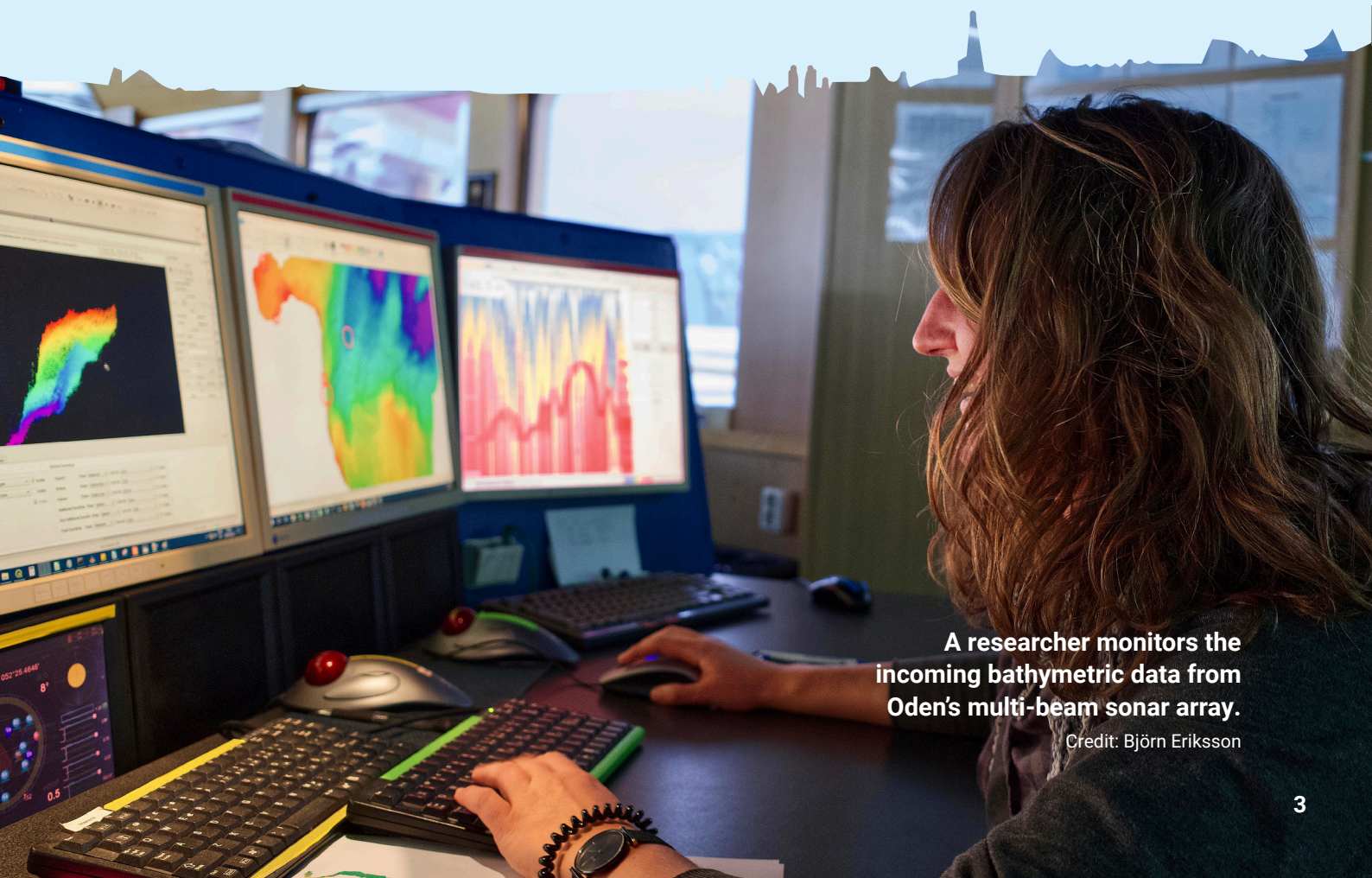
- An adequately funded long-term programme under the IHO and IOC of UNESCO.
- Improved coordination of ocean mapping efforts that maximise benefits to all ocean stakeholders.

Introduction

To this day, the General Bathymetric Chart of the Oceans (GEBCO) programme has proudly upheld its original mission to deliver “the most authoritative, publicly available bathymetry of the world’s oceans” by providing depth data to everyone on the planet.

Bathymetry provides a measure of the shape of the seabed; as the science of measuring ocean depth, it is foundational to ocean sciences. It underpins disciplines ranging from hydrography and oceanography to marine geology and ecology. It encompasses the mapping and charting of underwater features and the topography of the seabed.

To enable GEBCO to fulfil its expansive and ambitious mission, GEBCO will focus its efforts on providing data that support information and knowledge on the shape of the seabed.



A researcher monitors the incoming bathymetric data from Oden's multi-beam sonar array.

Credit: Björn Eriksson

“

GEBCO has a rich history; its successes are numerous and global.¹

”

The present structure of GEBCO reflects its long evolution since its creation in 1903 by Prince Albert I of Monaco. It has been shaped by its successes and the opportunities created through many transitions over the years.

Today, GEBCO is an internationally recognised and well-respected programme that operates under the joint auspices of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO). GEBCO collaborates with international, multi-sector stakeholder organisations that use seabed data to achieve their goals and meet their needs. GEBCO contributes to the purpose and function of both IOC/UNESCO and IHO and seeks advice and cooperation about seabed related services and capacity.

While both parent organisations have their own respective strategies, GEBCO has developed its own strategy, which is outlined in this document. This strategy aims to:

- provide a vision and a mission to see GEBCO's legacy enduring over multiple generations.
- broaden GEBCO's focus to encompass seabed data and datasets, including bathymetry and its derivatives, positioning the programme firmly in the 21st century mainstream of ocean science.
- support a dedicated governance that strives to increase GEBCO's visibility and relevance in a world increasingly more aware of the importance of the ocean.
- provide clarity of GEBCO's direction within the complex structure and relationships between parent organisations, subcommittees and subordinate projects.
- ensure that GEBCO complements and supports the parent organisations' objectives.
- ensure that GEBCO subcommittees and subordinate projects have the support they require to optimise their work and outcomes.
- inform GEBCO stakeholders and partners of its intentions and ambitions so that together they can support each other in support of the GEBCO mission under the dedicated governance.

¹ See *The History of GEBCO (1903-2003): The 100-year story of the General Bathymetric Chart of the Oceans*, GITC bv, Lemmer, 2003.

Parent Organisations

This strategy supports the missions and objectives of the parent organisations - the IHO and the IOC of UNESCO - and recognises their leading and supporting roles for GEBCO.²



INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO)

IHO's vision is to be the authoritative worldwide hydrographic body which actively engages all coastal and interested states to advance maritime safety and efficiency and which supports the protection and sustainable use of the marine environment. Its mission is to create a global environment in which coastal states provide adequate, standardised and timely hydrographic data, products and services, and ensure their widest possible use.



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC) OF UNESCO

IOC's vision is to bring together governments and the science community to achieve the 'ocean we need for the future we want'. Its mission is to promote international cooperation and coordinate programmes in research, services and capacity-building to increase knowledge about the nature and resources of the ocean and coastal areas. The IOC sees that knowledge is applied for the improved management, sustainable development, the protection of the marine environment, and the decision-making processes of all coastal states.

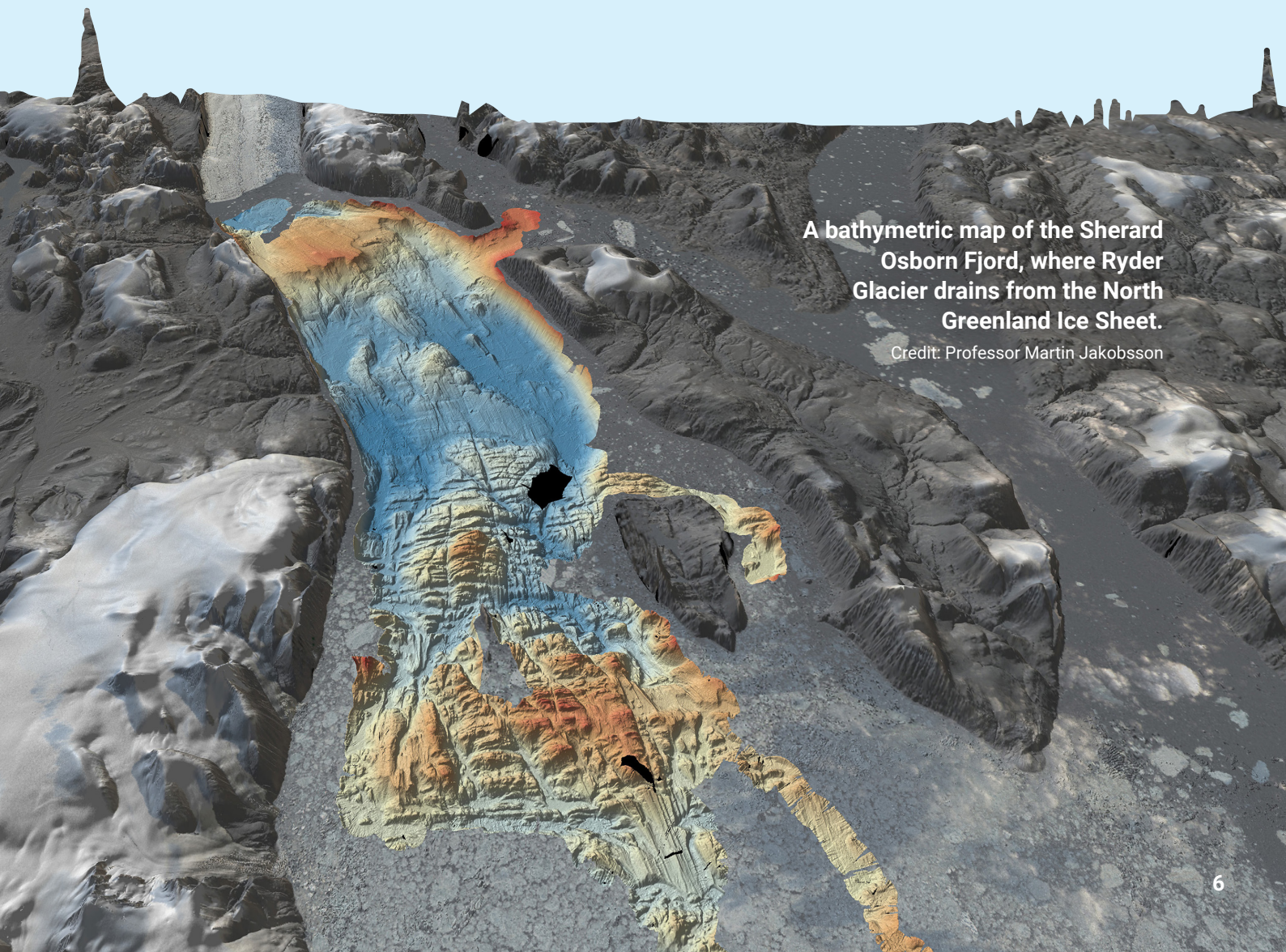
² IHO Strategic Plan for 2021-2026, retrieved from <https://iho.int> and IOC Medium-term Strategy for 2022–2029 (41 c/4), retrieved from <https://unesdoc.unesco.org/ark>.

Our Vision & Mission

The scientific knowledge derived from ocean sciences is critical to achieving all six outcomes of the United Nations Decade of Ocean Science for Sustainable Development (the Ocean Decade), which GEBCO's parent organisations proactively support.

GEBCO therefore considers seabed data and information to be at the heart of its pursuit with:

- A **vision** to bring knowledge about our planet's seabed to everyone; and
- A **mission** to produce free, open and complete seabed data and information for the world's oceans. This is achieved by enabling and inspiring seabed mapping efforts through international collaboration, technological innovation, capacity development, and education.



A bathymetric map of the Sherard Osborn Fjord, where Ryder Glacier drains from the North Greenland Ice Sheet.

Credit: Professor Martin Jakobsson

Objectives & Outcomes

GEBCO's objectives and outcomes are organised through five pillars critical to achieving its Vision and Mission: Data, Technologies and Standards, Capacity, Community, and Governance.

GEBCO aims to contribute to the overarching Ocean Decade outcomes, which aim for an ocean that is clean, healthy and resilient, productive, predictable, safe, accessible as well as inspiring and engaging.

GEBCO will promote seabed mapping activities focused on the creation of a definitive set of seabed data of the world's ocean through initiatives such as its Nippon Foundation GEBCO Seabed 2030 project.

To achieve its mission, GEBCO seeks the following outcomes and strives towards objectives for each of the five pillars that are in line with and build on the vision, while supporting the parent organisations' goals.

PILLAR 1

Delivering open and fit for purpose seabed data

GEBCO supports, promotes and encourages the acquisition, compilation, curation, distribution and scientific use of bathymetric and other seabed data and information acquired during hydrographic surveys, ocean mapping and research. Seabed data, including bathymetric data in the first instance, are obtained through direct measurements, engineering and technological innovation.

OBJECTIVES

- Compile, maintain and improve the most accurate, reliable and relevant sets of seabed data based on internationally approved geospatial standards focused on bathymetry and the authoritative GEBCO Gazetteer of Undersea Feature Names.
- Enable open and equitable (free and easy) access to comprehensive seabed data and information for everyone under *Creative Commons* or comparable license terms.

OUTCOME

- A fully explored and well understood global seabed contributing towards improved ocean science and facilitating decision making on sustainable ocean management, conservation and the global economy.

PILLAR 2

Supporting, promoting and using innovative solutions to continuously improve the GEBCO data value chain

Seafloor mapping has changed over the life of GEBCO as surveying technology has evolved from lead lines to sonar to multibeam echosounders. The future is bringing new technologies which are and will be critical to the success of GEBCO's mission.

GEBCO supports technological innovation and the development and adoption of standards as a means to better achieve its mission. Through technology and standards, GEBCO aims to serve and advise on the technical aspects of building and use of GEBCO datasets and products.

OBJECTIVE

- Actively support, promote and use innovative solutions to continuously improve the seabed data value chain, including solutions contributing to ocean management, conservation and the global economy.

OUTCOME

- Innovative technologies and standards that improve the seabed data value chain and maximise benefits for GEBCO and the broader community.

PILLAR 3

Establishing global infrastructure to develop capacity

GEBCO aims to assist in developing capacity and mobilising contributors to facilitate an enabling environment to engage users and decision-makers from all sectors in the development and use of science-based solutions. Through its endorsement of the mission statements of both UNESCO/IOC and IHO, GEBCO supports capability and capability development. This includes supporting the Nippon Foundation GEBCO alumni network. GEBCO will work to establish the global infrastructure required to develop capacity through stakeholder engagement, communications, and capacity development and training initiatives.

OBJECTIVES

- Establish a globally distributed network of facilities and experts to support communication, encourage education and promote training.
- Double global ocean mapping capacity in the next five years.

OUTCOME

- An engaged, qualified and diverse global community of professionals inspired to support GEBCO in executing its mission and vision.

PILLAR 4

Engaging communities and partners to best deliver GEBCO's mission

Developing and nurturing a diverse, global and dynamic community that shares GEBCO's vision and has a will to increase our knowledge of the ocean is key for the success of GEBCO.

OBJECTIVES

- Increase engagement with the general public to improve their awareness of the relevance of GEBCO's work.
- Seek ongoing support of global leadership from all sectors and parent organisations for GEBCO.

OUTCOME

- A diverse community that understands the importance of GEBCO and engages and actively contributes to the programme.

PILLAR 5

Gaining support for our mission through robust processes that influence decision-making

Ensuring synchronisation and coherence between GEBCO Guiding Committee's governance and the programme's strategy is critical for formulating a clear vision and ensuring the effective execution of the strategy. The development of a governance review encompassing stakeholder engagement, organisational structure mapping, legal framework assessment, governance instrument gap analysis, and financial status review will provide means to enhance oversight and accountability of GEBCO.

OBJECTIVES

- Build a sustainable GEBCO Marine Spatial Data Infrastructure (MSDI).
- Influence policy through robust science-based evidence to increase support for sustained public and industry seabed mapping.

OUTCOMES


- An adequately funded long-term programme under the IHO and IOC of UNESCO.
- Improved coordination of ocean mapping efforts that maximise benefits to all ocean stakeholders.



Principles & Strategies to Deliver Our Objectives

To deliver its strategy in the most effective way, GEBCO embraces the following principles:

- Support the IOC and IHO in engaging with national government and coordinating efforts, including for waters under national sovereignty from a coastal state and national government perspective.
- Engage at the UN and with other multilateral organisations to make sure GEBCO is represented in relevant policy discussions.
- Leverage the parent organisations, subcommittees, subordinate projects and other relevant initiatives, such as the Nippon Foundation GEBCO Seabed 2030 project.
- Nurture and develop partnerships with stakeholders to enhance visibility and efficiency in delivering this strategy.
- Ensure the entire ocean space is considered by focusing efforts on both the areas beyond national jurisdictions (ABNJ) as well as regions under national sovereignty.
- Foster an open, diverse, equitable and inclusive culture, striving for outcomes that are overarching, ambitious, and span generations, gender, cultures, nations, and sectors.



The Swedish icebreaker Oden on
a research expedition to the Ryder
Glacier in Greenland in 2019.

Credit: Professor Martin Jakobsson

A Better Future

After 120 years of activity, GEBCO more than ever must think about the future it wants for the ocean for coming generations. GEBCO's future activities will continue to improve humanity's knowledge of the ocean by increasing free and easy access to seabed datasets and building on related knowledge.

Beyond 2030, GEBCO is committed to sustaining the significant momentum built in the field of ocean science during the early part of the 21st century, primarily through the efforts of initiatives such as the Nippon Foundation GEBCO Seabed 2030 project and the United Nations Decade of Ocean Science for Sustainable Development, ensuring their dynamic achievements continue into the next decade.

New initiatives, partnerships, and projects should be freely discussed, as long as they follow the fundamental principles of GEBCO as set in this strategy and have a clear purpose.

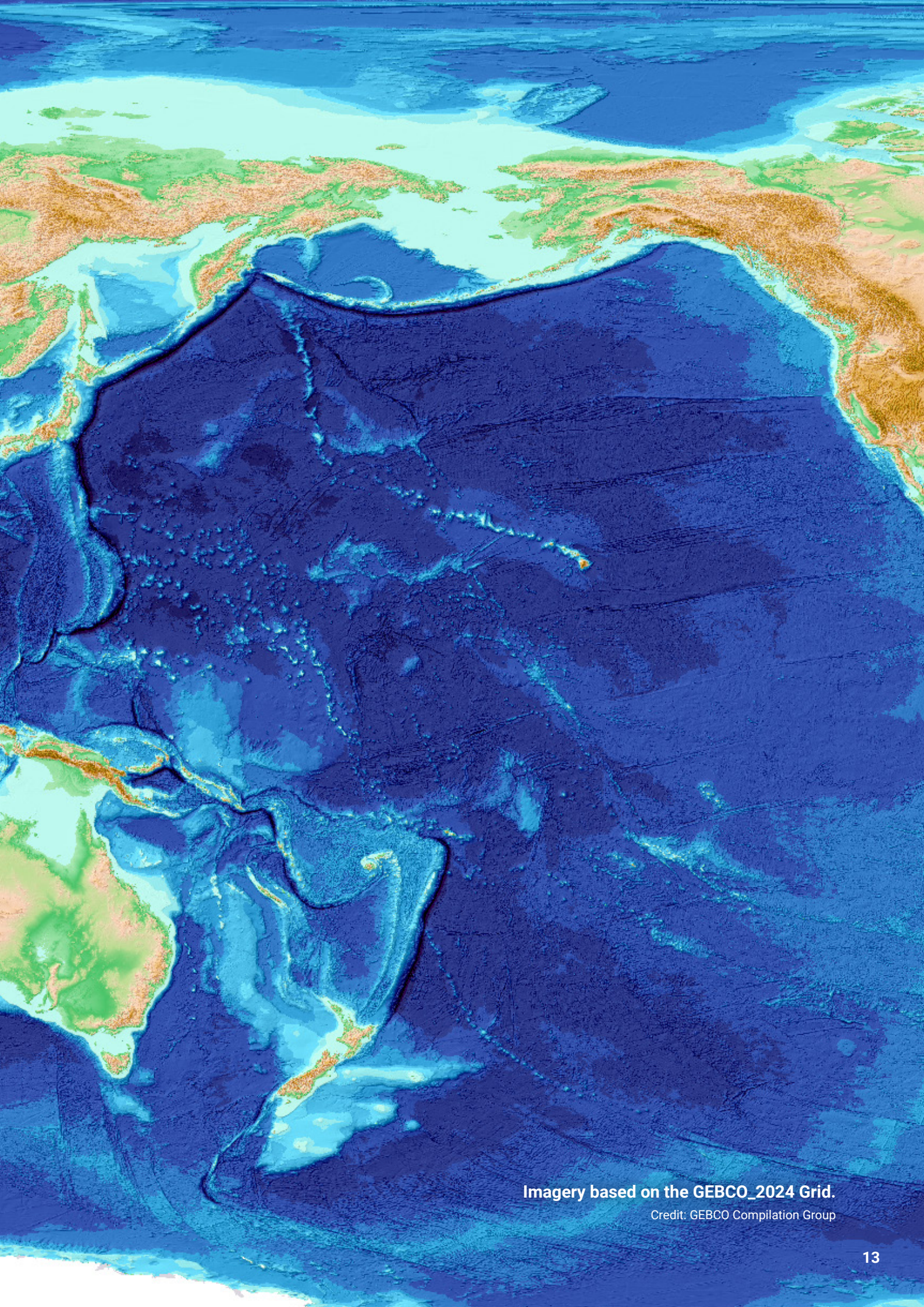
A better or an enhanced future for GEBCO could include but is not limited to:

- Evolving GEBCO's governance to allow the programme and community to properly and effectively exert itself as the thought leaders in the world of seabed mapping. This includes enabling the programme and community to embark on new innovations and initiatives in pursuit of our aims and objectives.
- Promoting and acquiring new types of data pertinent to the geologic nature of the seafloor, and immediate sub-seafloor, benthic ecosystems, and administrative layout of Marine Protected Areas (MPAs) that will support the enhanced understanding of the seafloor in a three-dimensional context.
- Supporting coastal communities and indigenous knowledge.
- Continuing to support ocean literacy to raise awareness, knowledge and caring about the ocean.
- Endeavouring to promote the development and use of new technology for the benefit of seafloor data and products.



Professor Martin Jakobsson and other researchers aboard the Swedish icebreaker Oden on the Ryder 2019 research expedition.

Credit: Björn Eriksson



Imagery based on the GEBCO_2024 Grid.
Credit: GEBCO Compilation Group



**The vast Southern Ocean, taken
from New Zealand research
vessel RV Tangaroa.**

Credit: Geoffroy Lamarche