

HELMHOLTZ



2020  2030

The image features a research vessel with a red and white hull and a black superstructure, sailing on a calm blue sea. The vessel has the word "SCIENCE" visible on its side. The background is a clear blue sky with a soft orange glow on the horizon, suggesting a sunrise or sunset. The years "2020" and "2030" are displayed in a large, white, sans-serif font, with the "2030" being significantly larger and more prominent. The vessel is positioned between the two years.

**GEOMAR**  
**2030**  
OUR WORLD IS  
THE OCEAN

# GEOMAR 2030: Our World is the Ocean

The ocean system at the centre of the complex interplay between the atmosphere, the hydrosphere, the cryosphere, the geosphere and the biosphere, ultimately supporting all life on planet Earth. We humans are increasingly affecting these relationships – with repercussions for our very own existence. But it is also in our hands to shape our future.

Tackling climate change, biodiversity loss and pollution and safeguarding the ocean's contributions to human-kind requires a comprehensive scientific understanding of basic processes, an overview of ongoing changes and knowledge about potential future developments by promoting sustainable use, restoration and protection of the ocean.

## Our World is the Ocean

As one of the world's leading institutions in marine research, GEOMAR Helmholtz Centre for Ocean Research Kiel covers a unique range of physical, chemical, biological and geological processes in the ocean.

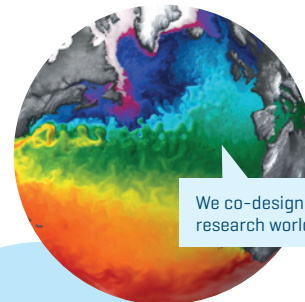
## Our Vision

With our research and our commitment to transfer of knowledge and technology, we contribute significantly to preserving the function of the ocean and safeguarding it for future generations.

## Our Mission

GEOMAR explores the global ocean from the seafloor to the atmosphere to understand the ocean system and enable the development of sustainable solutions for pressing societal issues.

We discover and understand the ocean system from the seafloor to the atmosphere.



We co-design marine research worldwide.

## GEOMAR Profile

We promote talents, innovation, diversity and creativity and engage in international exchange.



We enable the development of sustainable solutions for the protection and benefit of the ocean in dialogue with science, politics and society.



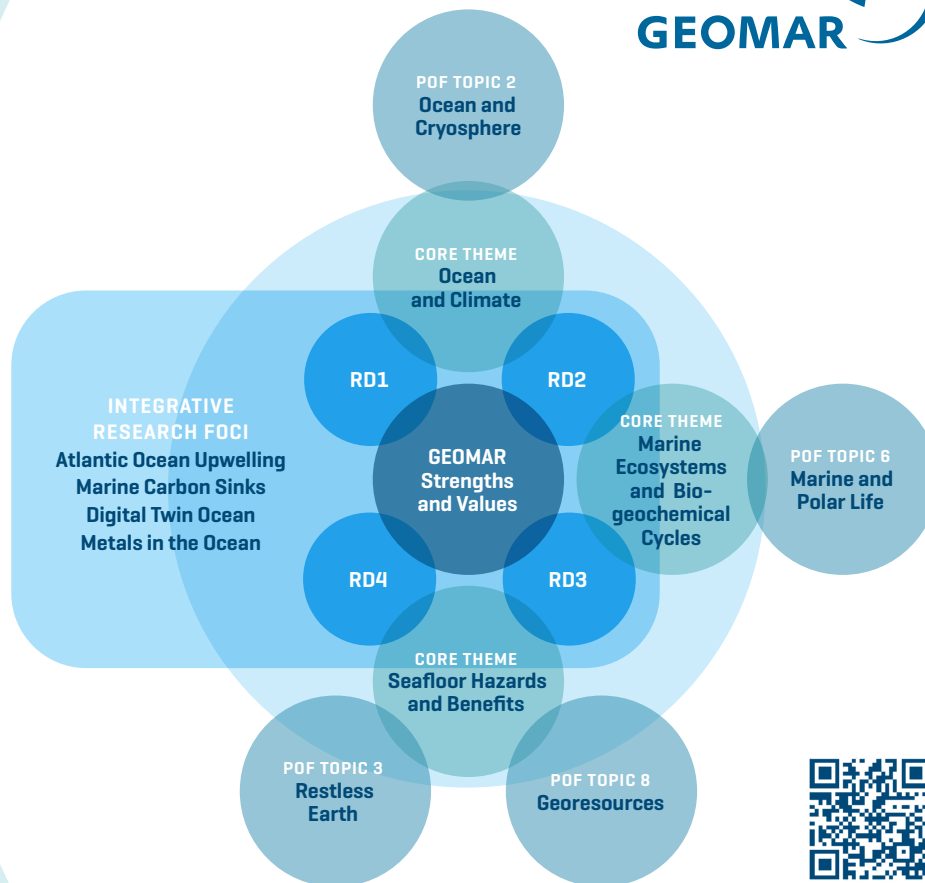
# Overview: The GEOMAR 2030 Strategy



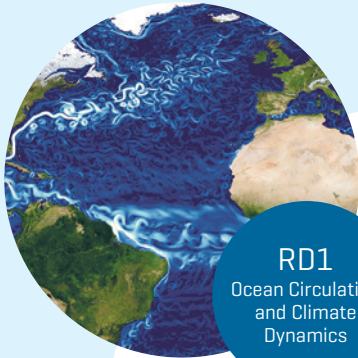
The GEOMAR 2030 strategy takes full advantage of the diverse expertise present at GEOMAR. Members of the four research divisions [RD] Ocean Circulation and Climate Dynamics, Marine Biogeochemistry, Marine Ecology and Dynamics of the Ocean Floor cooperate in the three core themes Ocean and Climate, Marine Ecosystems and Biogeochemical Cycles and Seafloor Hazards and Benefits as well as the four Integrative Research Foci (IRF) Atlantic Ocean Upwelling, Marine Carbon Sinks, Digital Twin Ocean and Metals in the Ocean.

The graphic illustrates connections between the elements of the GEOMAR 2030 strategy.

GEOMAR makes important contributions to some of the United Nations Sustainable Development Goals and to the Decade of Ocean Science for Sustainable Development.



GEOMAR research covers a unique spectrum of physical, chemical, biological and geological processes in the ocean and their interaction with the atmosphere and the seafloor. The research is organised in four research divisions (RD), each of them comprising several research units. All work focuses on the open “blue” ocean.



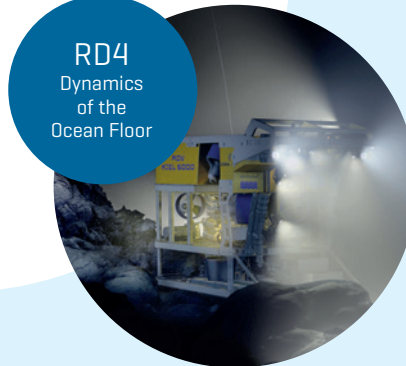
**RD1**  
Ocean Circulation  
and Climate  
Dynamics



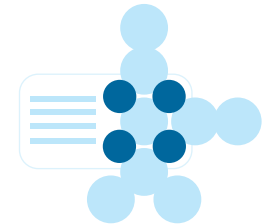
**RD2**  
Marine  
Biogeo-  
chemistry



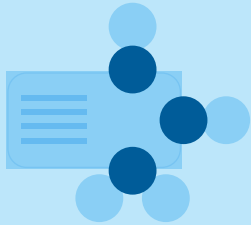
**RD3**  
Marine  
Ecology



**RD4**  
Dynamics  
of the  
Ocean Floor



# Core Themes of GEOMAR Research



Members of the four GEOMAR research divisions cooperate in the three core themes.



## Ocean and Climate

What is the role of the ocean in the global climate system and how can we improve predictions and scenarios?



## GEOMAR Core Themes

## Seafloor Hazards and Benefits

How can we forecast marine natural hazards and use resources from the seafloor in a responsible way?



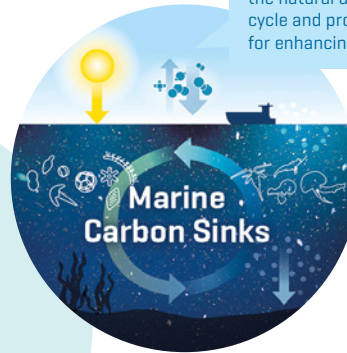
## Marine Ecosystems and Biogeochemical Cycles

How does climate change alter marine communities and what are the consequences for humankind?





Multidisciplinary research on natural and societal systems in tropical upwelling regimes enables assessment of future fisheries, economic potential, conservation strategies and climate connections.



Marine Carbon Sinks aims to study the ocean's role in the natural and anthropogenically perturbed carbon cycle and provide assessments of potential options for enhancing marine carbon dioxide removal.



Digital Twins, as interactive, 4D visualizations aims to bundle and provide access to sensor data and simulations to explore "what if" scenarios.

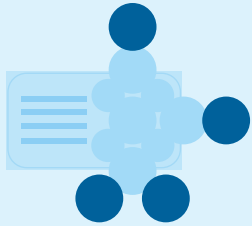
## Integrative Research Foci

The IRF aims to generate new information about ocean metals to promote measures for a predictable, healthy, and sustainable future ocean.



The Integrative Research Foci sharpen and shape the integrative research of GEOMAR. They bring together members of the four research divisions to address relevant societal challenges. Balancing basic and applied research, they are anchored in the Helmholtz programme "Changing Earth – Sustaining our Future".





Within the programme-oriented funding of the Helmholtz Association (PoF), GEOMAR is involved in the programme "Changing Earth - Sustaining our Future" of the Research Field Earth and Environment.

GEOMAR is involved in four different topics within this programme. Topic 6 is coordinated by GEOMAR.



Topic 2: Ocean and Cryosphere in Climate Change

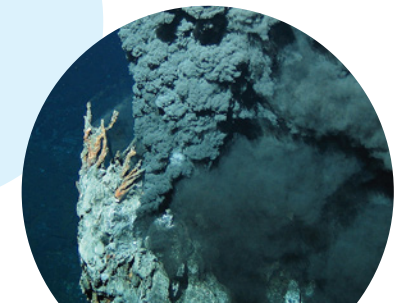


Topic 3: Restless Earth - Towards Forecasting Geohazards

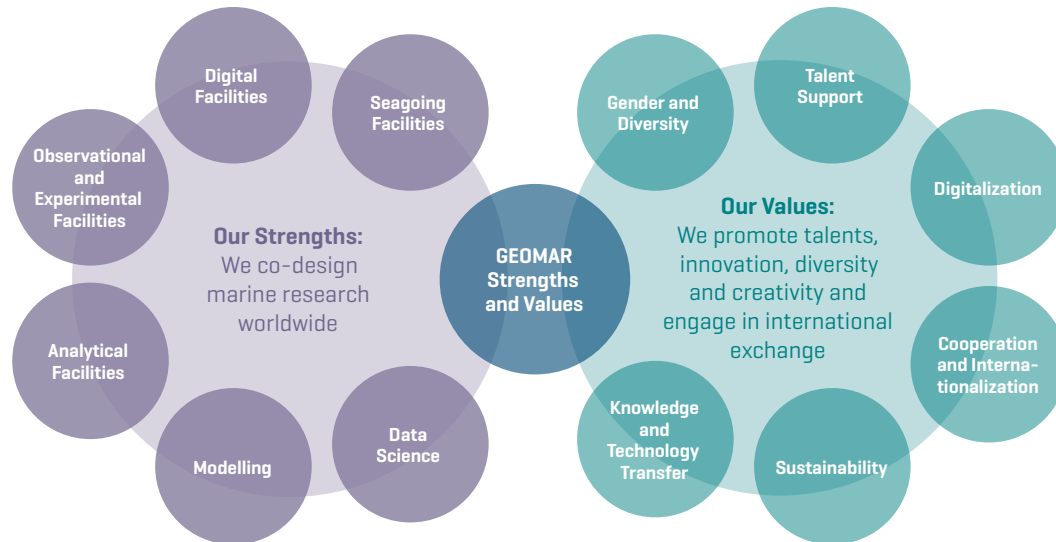
## PoF Topics



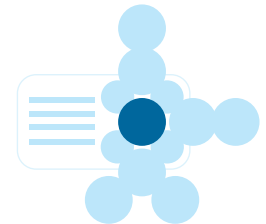
Topic 6: Marine and Polar Life



Topic 8: Georesources for the Energy Transition and a High-Tech Society



Research at GEOMAR is supported by the strengths and values of the centre. This includes Observational and Experimental Facilities, Digital Facilities, Seagoing Facilities, Data Science, Modelling and Analytical Facilities as well as Gender and Diversity, Talent Support, Digitalization, Cooperation and Internationalization, Sustainability and Knowledge and Technology Transfer.





# Overarching Strategic Aims by 2030



## **Excellence**

Leadership in global ocean research

## **Finance and Development**

Acquisition of resources for strategic development

## **Transfer**

Knowledge and technology exchange with society, business and politics

## **Support**

Promoting innovation, talent, international exchange, creativity, and diversity

## **Innovative Management**

Human resource development, leadership culture and agile organizational development

## **Future-Proof**

Future viability through sustainability and digitalization



Excellence



Future-Proof



Finance and Development



Innovative Management



Transfer



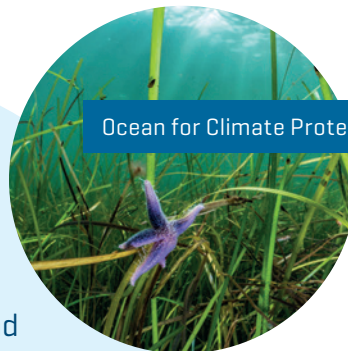
Support

Strategic Aims

Ocean and Climate



Ocean for Climate Protection



Discover the ocean and  
marine research at GEOMAR:  
[www.geomar.de/en/discover](http://www.geomar.de/en/discover)

Marine Resources



Marine Natural Hazards



Ships and Technology





# HELMHOLTZ



2021 United Nations Decade  
2030 of Ocean Science  
for Sustainable Development

## National and international cooperation (selection)

German Alliance for Marine Research [DAM]  
German Marine Research Konsortium [KDM]  
German Climate Consortium [DKK]  
Partnership for Observation of the Global Oceans [POGO]  
European Marine Board [EMB]

More Info about  
GEOMAR 2030



# GEOMAR



GEOMAR Helmholtz Centre  
for Ocean Research Kiel  
Wischhofstr. 1-3 | D-24148 Kiel  
info@geomar.de | www.geomar.de

# GEOMAR 2030

OUR WORLD IS  
THE OCEAN