

# THE INTERACTIVE WORLD OCEAN

Discover the diversity of the oceans  
with a touchscreen-based ocean map for  
schools and exhibitions:

- ~ Dive into different ocean regions and understand connections
- ~ Navigate easily and intuitively by touch
- ~ Explore the world ocean on the basis of research data, videos and photos

The Interactive World Ocean is a project of the German Marine Research Alliance (DAM) in cooperation with the German Aerospace Centre (DLR).

The digital map of the ocean offers the opportunity to immerse yourself in various marine regions. Selected videos show the underwater world at interaction points, while scientific data sets complete the picture. The data and video material comes from marine research and remote sensing. The presentation as a world map forms an overarching bracket, shows thematic connections and links regional focal points with a global perspective.

The application is suitable for tablets, touchscreens, smartboards and large-format touch tables.

## CONTENTS

- 1 What topics does the Interactive World Ocean present?
- 2 How does the Interactive World Ocean work?
- 3 Who is the Interactive World Ocean for?
- 4 How can the Interactive World Ocean be used in schools?
- 5 How can the Interactive World Ocean be integrated into exhibitions?
- 6 Contact

# HOW TO DIVE IN

## How you can use the Interactive World Ocean

If we don't live directly on the coast or are on holiday there, the sea often seems very far away. So far away that it feels irrelevant to our lives and our day-to-day activities. But this is wrong. The oceans provide oxygen for breathing and food for more than a third of humanity. They provide work and recreation, are both a place of longing and a fascinating habitat rich in species, they regulate the climate and slow down the man-made warming of the earth. The future of mankind is directly linked to the fate of the oceans.

The Interactive World Ocean brings us closer to the sea. Research videos and picture galleries show the sometimes seemingly extraterrestrial world of the deep sea, provide insights into the ecosystems from

the polar regions to the tropics and the habitats of the North and Baltic Seas. In addition, satellite data show global connections and the link to the Meere Online information portal of German marine research provides in-depth information on the respective topic as required.

➔ The aim is to offer all interested parties appealing access to marine topics and to 'bring the sea to people's minds'. Because the way to healthy coasts, seas and oceans is through a new perspective: We as a society must understand that the waters of our planet have a vital value for us, which we must actively preserve instead of destroying.

## 1

### WHAT TOPICS DOES THE INTERACTIVE WORLD OCEAN OFFER?

#### BIODIVERSITY

Millions of species live in the sea. This biodiversity contributes to the health of the ocean, regulates the climate and provides valuable resources. The protection of biodiversity is crucial for the survival of our planet.

#### CLIMATE CHANGE

The ocean regulates the climate and slows down global warming by absorbing large amounts of carbon dioxide and heat. However, this makes the water warmer and more acidic and causes sea levels to rise.

#### USAGE

Fishing, wind energy, shipping, beach holidays – the oceans are used in many different ways. Sustainable use of natural resources is crucial.

#### POLLUTION

The increasing pollution caused by plastic waste and harmful substances is putting a considerable strain on the seas and oceans. Added to this are waste munitions, too many nutrients and increasing underwater noise.

#### MANAGEMENT

Everything flows - the ocean knows no boundaries. Sustainable marine management therefore requires joint solutions aimed at sustainable utilisation and the necessary marine protection.

#### RESEARCH

In marine and climate research, natural and social science disciplines work closely together to understand the ocean and develop the knowledge base for protection and sustainable use.

## 2 HOW DOES THE INTERACTIVE WORLD OCEAN WORK?

The interactive world ocean is navigated simply and intuitively by touch. The interaction points can be displayed either by geographical exploration in the various regions or by thematic selection. In addition, the interactive world ocean also contains various global data sets with, for example, ocean currents, shipping traffic or plant productivity.

### START ON MAIN PAGE

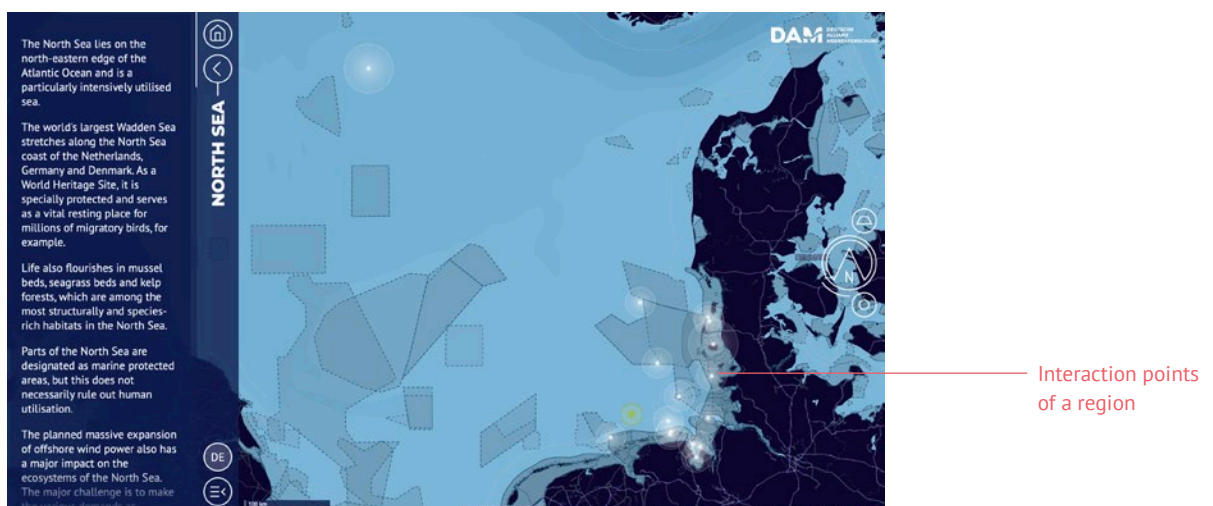


round circles are the regions. If they are touched, the respective region opens and shows an overview of the available interaction points. Alternatively, you can navigate using the menu bar on the left.

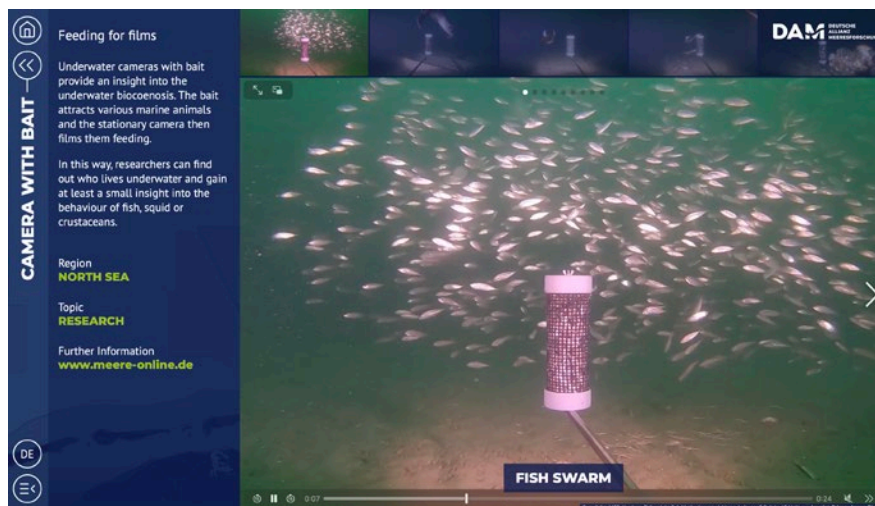
### OVERVIEW OF A REGION

If a region is clicked or touched on the start page, it opens and displays the available offers:

### TOPIC PAGE

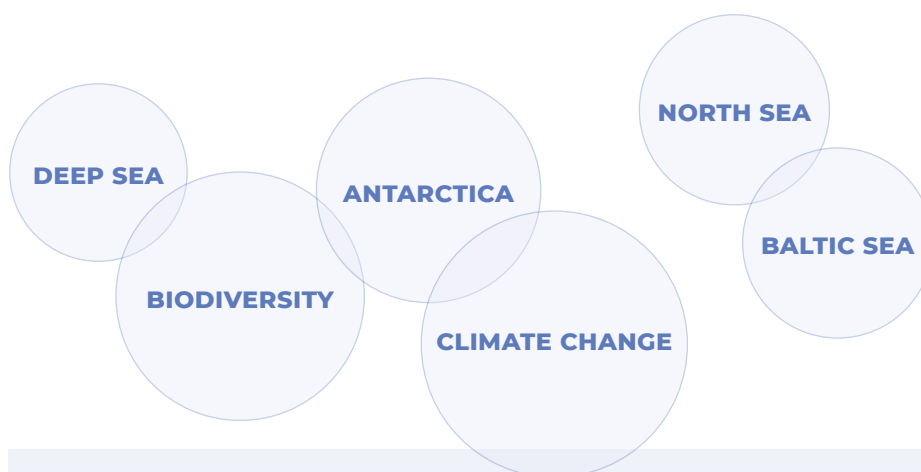


If you now touch one of the interaction points on the map, this point opens and shows a video or an image gallery or a visually prepared scientific data set. The menu also contains a short explanatory text on the respective topic. The application runs without sound. The videos are on average between 30 seconds and two minutes long.



## ON A DIVING TOUR WITH THE INTERACTIVE WORLD OCEAN

As the digital map offers a large number of videos and image galleries, the project team has put together diving tours on various topics. The tours include six to eight interaction points that show videos, image galleries and/or illustrative data sets. Different habitats such as the deep sea, the polar regions or our 'home seas', the North and Baltic Seas, can be visited as well as overarching topics such as biodiversity or climate change.



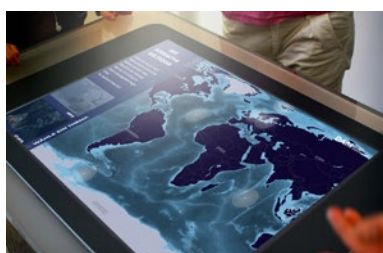
You can find suggestions for diving tours online at: [www.weltozean.de](http://www.weltozean.de)



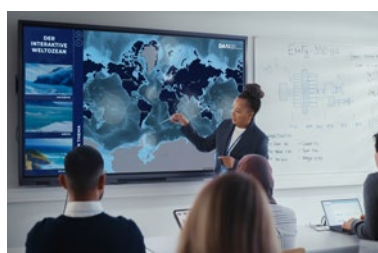
## 3 WHO IS THE INTERACTIVE WORLD OCEAN FOR?

The digital ocean map offers all interested parties appealing and intuitive access to the oceans. It can be used on touchscreens for different purposes.

The application is suitable for tablets, touchscreens, smartboards and large-format touch tables.



For visitors to exhibitions



For teachers in the classroom



For pupils to discover individually

## 4 HOW CAN THE INTERACTIVE WORLD OCEAN BE USED IN SCHOOLS?

The videos, images and scientific visualisations on the interactive map impressively show the importance of the seas and oceans for life on our planet.

### INTERDISCIPLINARY TEACHING

In the school context, the use of the interactive world ocean is particularly suitable for interdisciplinary teaching, as the marine and climate topics addressed offer different scientific and social perspectives and are related to the major global challenges.

### VISUALISING ABSTRACT TOPICS

The videos can also be incorporated into tasks, for example, to bring abstract topics to life – the consequences of climate change in the sea can be illustrated using corals as an example: Where and how do corals live and what are the consequences of ocean warming and acidification caused by climate change for the organisms?

### PROJECT DAYS/WEEKS

Project days or weeks also offer a wide range of possible uses for the Interactive World Ocean. They can focus on coasts, seas and oceans themselves or on topics such as climate change, plastic pollution and the sustainable use of resources. Research questions give pupils the opportunity to immerse themselves, explore regions and topics and actively search for answers.



The online version of the Interactive World Ocean for tablets and smartboards is ideal for schools. You can register to use it free of charge at: [www.weltozean.de](http://www.weltozean.de)

## 5 HOW CAN THE INTERACTIVE WORLD OCEAN BE INTEGRATED INTO EXHIBITIONS?

The digital ocean map is designed for use in exhibitions and invites visitors to go on diving tours through the oceans themselves via a large-format touch table, for example. Quick and short excursions across the world's oceans are just as possible as intensive dives in a specific region or on a specific topic.

Exhibitions that deal with our climate system, the seas and oceans or the diversity of species on our planet, for example, are suitable. However, it is also possible to introduce other topics, such as exhibitions with a historical connection to seafaring, ships, whaling, mining and the diverse cultural references to the sea.

The interactive approach allows visitors to decide for themselves how deep they want to delve and which topics they are interested in.

Guided tours are also available. Small riddles at the beginning can reduce initial fears and arouse curiosity. If necessary, further questions invite you to dive deeper. These can be formulated from the perspective of the exhibition theme.

**We will be happy to advise you.**

## 6 CONTACT

The German Marine Research Alliance team is looking forward to your questions, suggestions and feedback.

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Initiated by:

