

- For university courses and lectures the BAH offers two rooms with 45 seats altogether as well as technical and scientific support.
- Institutes and universities are supplied with material on biological studies.
- The BAH holds its own marine biology courses for students and teachers.
- The Centre for Scientific Diving enables guest researchers to conduct experimental studies under water. In addition, training courses in scientific diving are offered.
- Various guesthouses are provided to accommodate guest researchers and course participants.

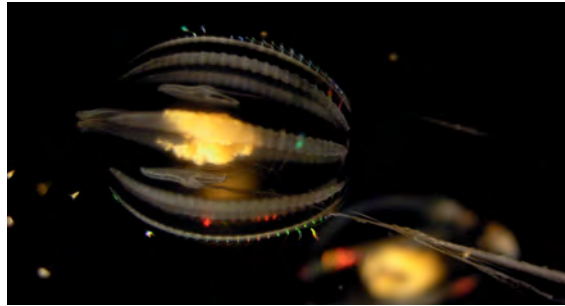
Over 100 guest researchers and 700 course participants take advantage of the services offered by the BAH every year.



▲ A look into the rearing halls at the BAH ecology laboratory (photo: U. Nettelmann)

### Logistics

The Biological Institute Helgoland has various vehicles at its disposal for research projects and scientific services. The 'Aade' and 'Diker' motorboats are used in waters near the island. The 'Uthörn' research cutter conducts measurement and fishing voyages in more distant areas of the German Bight. Put into service in 1990 and modernised in 2008/2009, the 'Heincke' is a modern research vessel with an operational range of 7,500 nautical miles and has laboratory rooms and accommodations for up to twelve scientists.

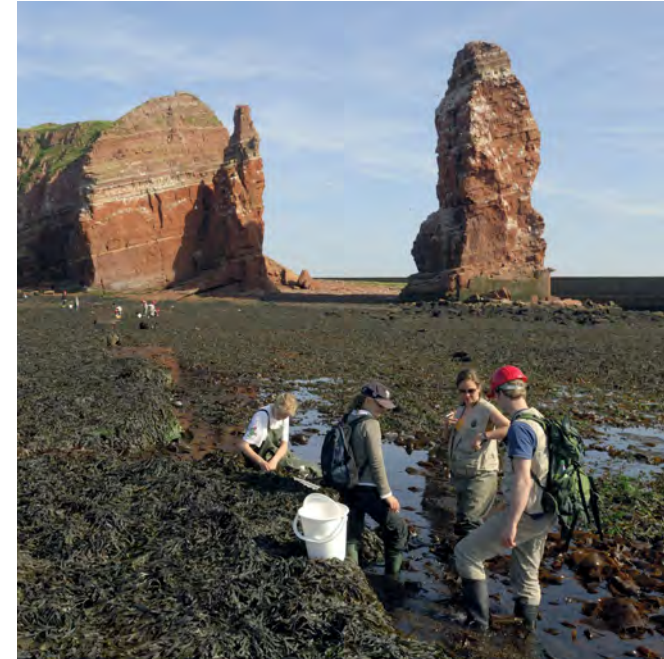


▲ The ctenophore *Pleurobrachia pileus*, an important member of the North Sea zooplankton (photo: A. Malzahn)

A research diving group that is active throughout the year collects samples and conducts experiments in the subtidal rocky area around Helgoland for guest researchers who do not dive. The laboratories, which are constantly supplied with fresh seawater, and other facilities make it possible to keep and rear even sensitive marine organisms. Tanks of different sizes enable experiments on a large and small scale. Furthermore, the BAH has modern equipment for biochemical, microbiological, cell biology and molecular biology work as well as an extensive special library.

Rocky intertidal at the northern tip of Helgoland at low tide (photo: S. Zankl) ►

08/10



**Biological  
Institute  
Helgoland  
(BAH)**

Alfred Wegener Institute  
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## Biological Institute Helgoland (BAH) Alfred Wegener Institute for Polar and Marine Research

The North Sea island of Helgoland is located sixty kilometres off the mainland in the German Bight. A subtidal rocky landscape measuring over 35 square kilometres and the rocky intertidal around Helgoland are home to the largest variety of marine fauna and flora species on the German coast. Helgoland has attracted natural scientists for over 150 years. In 1835 Christian Gottfried Ehrenberg identified the small unicellular *Noctiluca scintillans* as the cause of marine phosphorescence and ten years later Johannes Müller established plankton research here.

The 'Royal Biological Institute' was set up on Helgoland in 1892 and rapidly developed into an internationally recognised site for marine biology research. Destroyed during World War II, the Biological Institute Helgoland (BAH) returned to the island in 1959. Since 1998 the BAH has been part of the Alfred Wegener Institute for Polar and Marine Research in Bremerhaven.



▲ Fresh catch with a beam trawl on board the 'Uthörn' research cutter (photo: H.-D. Franke)

### Research

Thanks to its location on an island in the middle of the sea, the BAH provides ideal conditions for marine biology research both in the field and in its



▲ Research divers during an operation at the subtidal rocks of Helgoland (photo: BAH archive)

expansive laboratory and rearing facilities. The focal points of research at the Biological Institute are:

- Lifecycles, ecology and behaviour of marine organisms
- Structure of the food web in shelf seas
- Climate impact research and long-term changes in the ecosystem
- Microbiological coastal research

BAH's far-reaching field of research, including studies on diverse organisms (from unicellular organisms to lobster and fish), is gaining increasing importance in view of climate change and anthropogenic pollution of our oceans.

Regular measurements and observations over long periods of time have been carried out by the Biological Institute right from the beginning. The valuable long-term Helgoland time series (Helgoland Roads data) point out the growing influence of humanity on the living conditions and biotic communities of the North Sea. Documenting changes in the structure and function of the ecosystem and determining their causes (climate change, introduction of species that are new to the area and the like) as well as presumed consequences for fishing, shipping and tourism are the main objectives of research on Helgoland.

By studying the environmental demands of species and biotic communities as well as the significance of biodiversity for the function of such communities and analysing ecological relationships between species (food web, competition for food and space, symbioses), scientists gain a constantly growing understanding of the structure and dynamics of the complex ecosystem in the German Bight and other shelf sea areas.

The researchers on Helgoland work closely together with other national and international colleagues in joint programmes.

### Scientific services

In addition to its research work, the BAH performs a number of services:

- A public aquarium displays marine organisms in an environment that is close to nature.
- Political and economic decision-makers are advised on current aspects of marine ecology.
- The journal 'Helgoland Marine Research' is published jointly with Springer-Verlag.
- Guest researchers have workstations at their disposal for their own research projects and receive technical and scientific support.



▲ The amphipod *Caprella mutica*, a species now widespread in the North Sea, which originally comes from Pacific waters (photo: K. Boos)