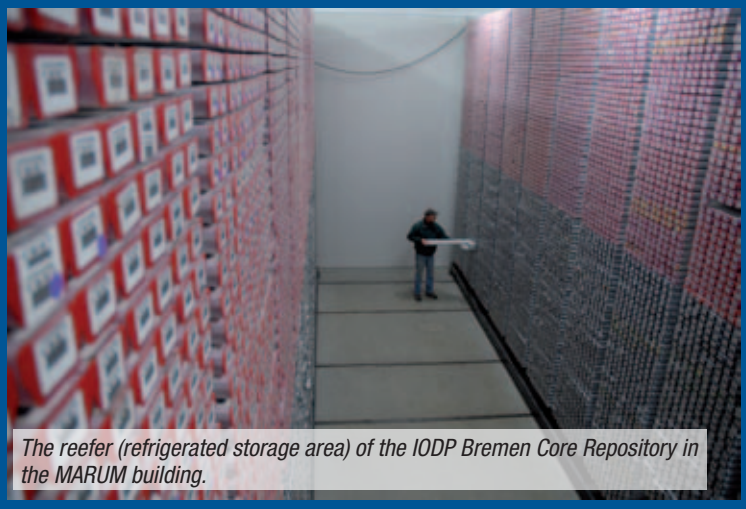
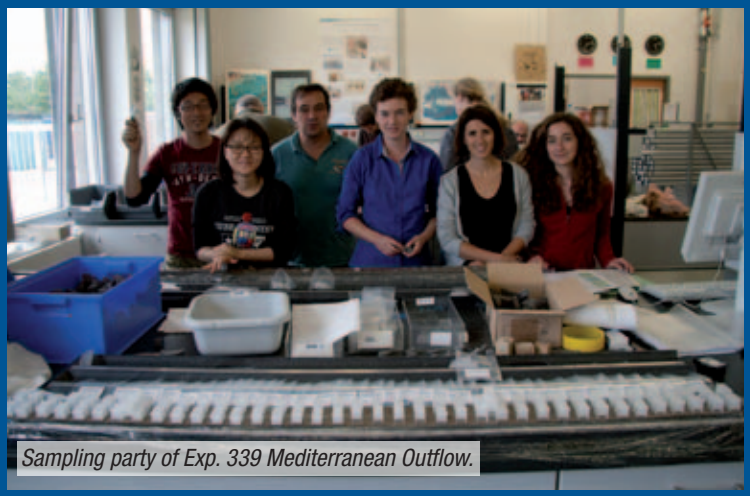
IODP Bremen Core Repository

The IODP Bremen Core Repository (BCR) at the MARUM, Center for Marine Environmental Sciences at the University of Bremen, is one of three core repository facilities worldwide. The BCR has state-of-the-art laboratory and office facilities and a large refrigerated storage area with a movable rack system. The repository provides services to the international community through advanced curation and sampling techniques, database archiving (Drilling Information System, DIS), and participates in a wide range of education and outreach activities.



The reefer (refrigerated storage area) of the IODP Bremen Core Repository in the MARUM building.

The BCR was established in 1994 and now stores almost 154 km of cores acquired during 87 expeditions. Approximately 200 scientists visit the repository annually, sometimes working on the cores in week-long sampling meetings. As many as 70,000 samples per year are taken by visiting scientists and the repository staff. In its 20 years of operation, around 803,400 samples representing about 3,362 individual requests have been taken and distributed worldwide.



Sampling party of Exp. 339 Mediterranean Outflow.

With almost 3,000 visitors from all over the world so far, the repository is an important hub for IODP/ECORD, and the wider scientific community. The BCR significantly contributes to the exchange and transfer of marine science knowledge, leading to invaluable international co-operation and scientific interaction.

Sampling cores from IODP Exp. 307 Modern Carbonate Mounds.

Sampling party of Exp. 307 Modern Carbonate Mounds.

Cores from present and past scientific ocean drilling programmes are stored in three repositories:

- **BCR**: North and South Atlantic; Mediterranean and Black Seas; the Arctic Ocean. Almost 154 km of cores;
- **Gulf Coast Repository (GCR)**, Texas, USA: Pacific Ocean plate; Southern Ocean south of 60°S latitude (with the exception of the Kerguelen Plateau); Gulf of Mexico, Caribbean Sea. More than 128 km of cores;
- **Kochi Core Center (KCC)**, Japan: Indian Ocean and marginal seas; western and northern marginal seas of the Pacific region, defined by the plate boundaries that extend from the Aleutian Trench to the Macquarie Ridge. 100 km of cores.

IODP
INTERNATIONAL OCEAN DISCOVERY PROGRAM

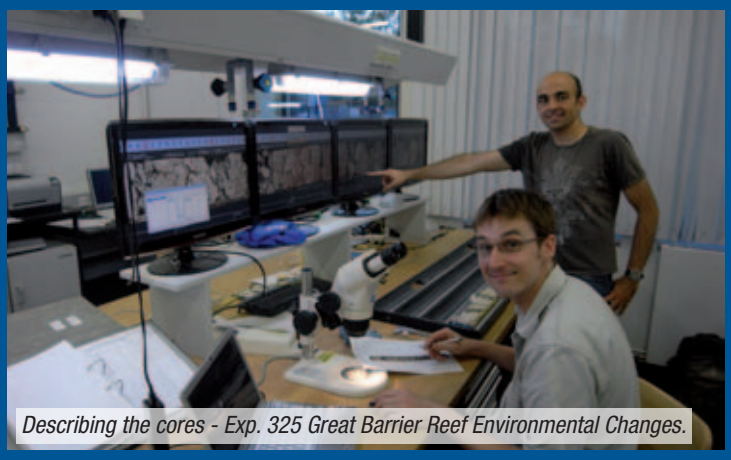
ECORD
EUROPEAN CONSORTIUM FOR OCEAN RESEARCH DRILLING

Onshore Science Parties (OSPs)

In its role within the ECORD Science Operator (ESO) Consortium, the MARUM, University of Bremen is tasked with curating and archiving collected cores, as well as providing offshore (mobile laboratory containers) and onshore laboratory facilities for systematic core sampling and data gathering according to IODP measurement procedures.

Cores displayed in the reefer at BCR - Exp. 310 Tahiti Sea Level.

The mission-specific platform (MSP) expeditions operated by ECORD use a variety of specialised platforms to drill in areas that are otherwise inaccessible. This limits in-depth analyses of the cores during the offshore phase, and so most of these investigations are carried out later at an Onshore Science Party (OSP).



Describing the cores - Exp. 325 Great Barrier Reef Environmental Changes.

The OSP takes place in Bremen after the offshore operation of an MSP expedition is completed and brings together the entire scientific party. The cores are split during the OSP and the scientists have their first opportunity to study and sample the cores in detail with access to the extensive laboratory facilities of the BCR and MARUM.

ECORD Bremen Summer School

The Bremen Core Repository organises Summer School courses, which offer unique opportunities to introduce PhD students and young Post-docs to IODP science and operations at an early stage of their career. The Summer School provides a range of teaching, from a general introduction to compiling IODP proposals, to learning about the ongoing research within this thrilling international

Preparing a core for scanning - ECORD Bremen Summer School 2010.

science programme that encourages young scientists to participate in future IODP expeditions. During the 12-day long courses, the participants are onboard a "virtual ship" where they become acquainted with a wide spectrum of analytical technologies and core description methods, including core logging/scanning, and the high standard of practices that take place during IODP expeditions. This comprehensive approach combining scientific lectures with practical exercises on IODP-style shipboard measurements is the blueprint for a series of summer schools held once a year within the ECORD Summer School programme, each of which address a major topic of the IODP Science Plan.

Discussing cores in the laboratory - ECORD Bremen Summer School 2011.

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BCR website: www.marum.de/en/IODP_Bremen_Core_Repository.html
IODP repositories: www.iodp.org/repositories
ECORD Bremen Summer School: www.marum.de/en/ECORD_Summer_Schools.html