



## Core replicas help discover the Earth under the sea

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Replicas of cores from ODP legs and IODP expeditions are valuable tools to introduce ODP/IODP science to scientific and non-scientific audiences. The European Consortium for Ocean Research Drilling, ECORD, has a collection of six core replicas, five of them were produced by Paula Weiss (USA) and one by JAM-STEAC (Japan), and are frequently loaned for educational and outreach activities in European countries <http://www.ecord.org/resources/core-replicas/>. The replicas were chosen to illustrate key periods of environmental changes of the Earth, like climatic changes of the Cenozoic and the Holocene, catastrophic events such as the K-Pg boundary and the Tohoku-oki earthquake fault zone, and the structure of the oceanic crust. All are considered as ODP and IODP scientific highlights.

By presenting various types of deep-sea rocks, which are studied by international and multidisciplinary teams of scientists during expeditions, such materials raise awareness about ocean drilling science to the public. It is also useful to display an exact copy, when the original geological sample could not be used for many days or weeks at conferences and museum exhibitions. Since 2008, the core replicas have been loaned for display at many public events like open days in science centres, European Researchers' Nights, scientific exhibition at museums and science festivals in different European countries.

Core replicas are also used to support teaching science to a wide range of students, from middle schools and high schools to university courses, ECORD Summer Schools and teachers' workshops like the ECORD School of Rock. In the classrooms, students can investigate these cores with additional geological resources (microfossils, thin sections, etc.), seismic data, various images and experimental protocols (e.g. carbonate content) and discover how these samples were collected from the seafloor. Core replicas therefore complete the collection of concrete geological tools used by the teachers.

ODP and IODP replicas help the public and students understand the sub-seafloor nature and processes and could also inspire future careers in STEM subjects.