

The logo for ECORD (European Consortium for Ocean Research Drilling) features the acronym 'ECORD' in a bold, blue, sans-serif font. The letter 'O' is replaced by a circular icon containing a stylized white rig structure and five yellow stars, reminiscent of the European Union flag.

EUROPEAN CONSORTIUM FOR
OCEAN RESEARCH DRILLING

Unraveling Earth's history beneath the ocean floor



Scientific ocean drilling

International Ocean Discovery Program (IODP)

addresses fundamental science through ocean drilling



CLIMATE AND OCEAN CHANGE

Reading the past to inform the future

- Temperature and precipitation changes
- Ocean chemistry and CO₂ increase
- Ice-sheet history and sea-level change

BIOSPHERE FRONTIERS

Deep life and environmental forcing of ecosystems

- Limits of life
- Biodiversity and environmental change
- Ecosystem evolution



EARTH CONNECTIONS

Deep processes impacting Earth's surface

- Structure of ocean crust and upper mantle
- Subduction zones: shifting continent and creating volcanoes

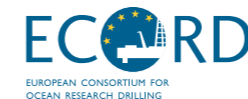
EARTH IN MOTION

Processes and hazards on human time scales

- Earthquakes,
- Tsunamis,
- Landslides

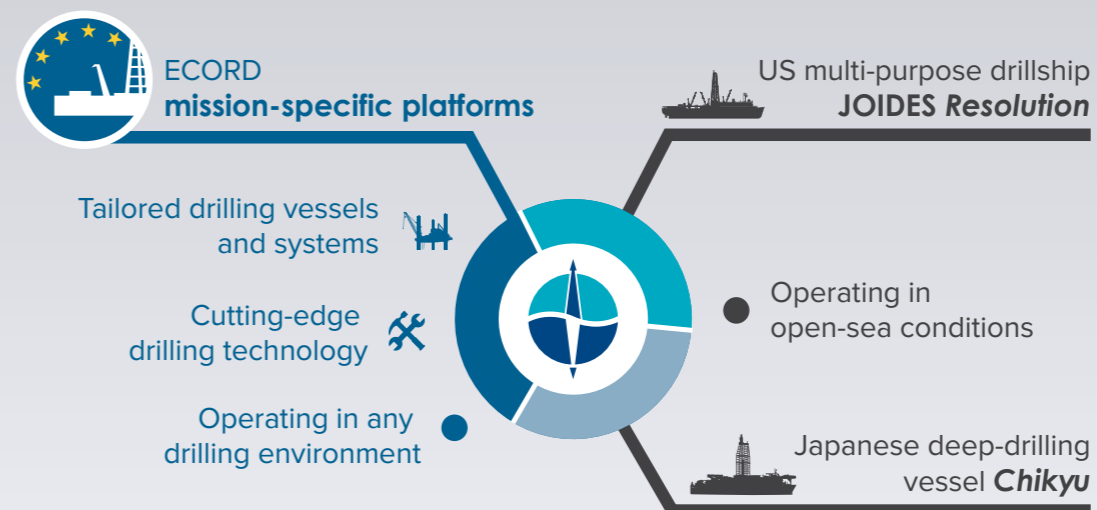
ECORD's MISSION-SPECIFIC PLATFORMS:

the European special forces of IODP



To go where no scientific drilling project has gone before

ECORD is one of the three IODP platform providers, and the only one that is able to conduct expeditions in extreme environmental conditions



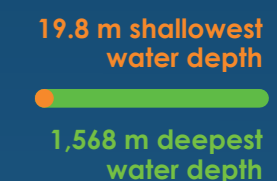
To reach new science frontiers To drill in all environments

MSP expeditions: Making impossible possible
ECORD tailors diverse ships and remote systems as determined by scientific priorities and operational efficiency



MSP statistics

- 8 expeditions ●
- 80 sites ●
- 137 holes ●
- 3,547 cores ●
- 609 expedition days ●
- 114,772 research samples ●

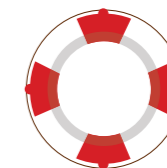


A European research infrastructure funded by public money



The European Consortium for Ocean Research Drilling

SOCIO-ECONOMIC IMPACT



Research that supports society, industry and governments

Ocean drilling expeditions driven by science

About 70% of our planet is still poorly unknown

ECORD scientists investigate rocks and sediments below the sea floor to unravel Earth's history

ECORD is unique within IODP as it implements expeditions by using diverse mission-specific platforms (MSPs)

ECORD expeditions adress a wide range of fundamental scientific issues concerning our Planet

Addressing fundamental issues affecting society

The Past is the Future

- Sea-level change in a warming climate
- Ecosystem crisis and biodiversity loss
- New energy sources and mineral resources
- Earthquakes, landslides and tsunamis
- Advances in biotechnology

15 ECORD countries

23 IODP countries

ECORD budget
Maximum return from investment

95% direct operational costs

ECORD running costs 5%



Earth continues to change.

ECORD helps to better understand major challenges facing humanity.

GLOBAL WARMING
NATURAL HAZARDS
LIMITED RESOURCES
BIODIVERSITY LOSS

SCIENCE AND TECHNOLOGY

ECORD scientists collect and analyze data from the subseafloor to better understand how the Earth system works and how we can use our knowledge of the past to predict future

Interdisciplinary approach in an international scientific community

- SAMPLES and DATA
- sediments and rocks
 - microbial life
 - biodiversity
 - geological data
 - subseafloor fluids

FREE!
Ocean drill cores and data are freely available to scientists from all over the world

EDUCATION AND OUTREACH



50% early-career scientists on ECORD expeditions

>150 students on courses per year

3-5 courses and schools per year

>150 km of cores

>1.6 million of samples taken





ECORD MISSION SPECIFIC EXPEDITIONS

- Moving ice
- Three operating vessels, including two ice-breakers
- First long record of sediments from the central Arctic Ocean

Exp 302

Arctic Coring Expedition - ACEX

1

2004



- Shallow-water, environmentally sensitive area
- Most extensive geological research on coral reefs

2

Exp 310

Tahiti Sea Level

2005



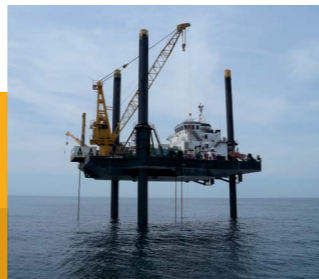
- Shallow water
- First use of lift boat in IODP
- Ten-million years record of climate and sea-level change

3

Exp 313

New Jersey Shallow Shelf

2009



- Shallow-water, environmentally sensitive area
- Sea-level and climate change since the last ice age (20,000 years ago)

4

Exp 325

Great Barrier Reef Environmental Changes

2010



- Gravity coring
- First microbiology-focused MSP expedition
- 140,000-years history of the Baltic Sea

5

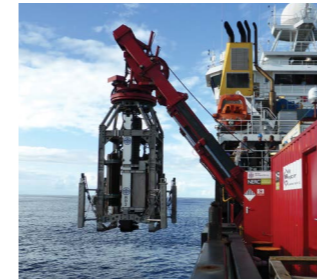
Exp 347

Baltic Sea Paleoenvironment

2013



Exploring Earth from the tropics to the polar ice caps with cutting-edge **innovative technology**



Exp 357

Atlantis Massif Seafloor Processes

2015

6

- Sea-floor drilling systems and borehole observatories
- Chemistry and life at hydrothermal fields in the Atlantic Ocean



Exp 364

Chicxulub Impact Crater

2016

7

- Shallowest water drilling in IODP
- Shore-based mining technology on a lift boat
- Deepest MSP penetration
- Mass extinction 65 million years ago and life recovery after an asteroid impact



Exp 381

Corinth Active Rift Development

2017

8

- Geohazards in an active rift system
- Tectonic processes initiating ocean basins
- Recent climate history of the Eastern Mediterranean Sea



Exp 386

Japan Trench Paleoseismology

2021

9

- First giant piston coring expedition in IODP
- Long history of giant earthquakes off Japan

To be scheduled

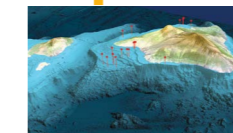
Exp 377

Arctic Ocean Paleooceanography ArcOP



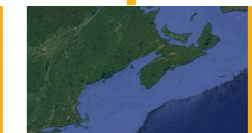
Exp 389

Hawaiian Drowned Reefs



Proposal 637

New England Shelf Hydrogeology



CLIMATE AND OCEAN CHANGE



BIOSPHERE FRONTIERS



EARTH CONNECTIONS



EARTH IN MOTION

Join ECORD's efforts and help continue to build
global scientific excellence

Help us understanding our Planet by
supporting:

**SCIENTIFIC EXPEDITIONS
EDUCATIONAL RESOURCES
OUTREACH ACTIVITIES**

**Get in contact with us and explore
the opportunities to get involved**

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