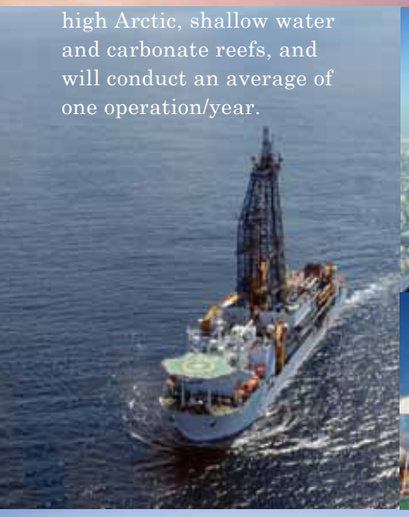
What facilities will be available?

The U.S.-supplied platform *JOIDES Resolution* is planned to operate for the program as close to a full-year schedule as possible. The Japanese riser-drilling platform *Chikyu* will operate on average 5 months/year for the program.
Mission-specific platforms will be used in challenging environments such as the high Arctic, shallow water and carbonate reefs, and will conduct an average of one operation/year.



Countries involved in the planning of the International Ocean Discovery Program

The following 24 countries from four continents are fully engaged in planning the new drilling program. Other countries are taking part in the planning process as observers.

Australia / Austria / Belgium / Canada / Denmark / Finland / France / Germany / Iceland / India / Ireland / Italy / Japan / Republic of Korea / The Netherlands / New Zealand / Norway / People's Republic of China / Portugal / Spain / Sweden / Switzerland / United Kingdom / United States

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The International Ocean Discovery Program 2013–2023

'Exploring the Earth under the Sea'

www.iodp.org

THE INTERNATIONAL OCEAN DISCOVERY PROGRAM WILL BRING TOGETHER RESEARCHERS FROM THE EARTH, OCEAN, ATMOSPHERIC AND LIFE SCIENCES WITH A COMMON GOAL TO UNDERSTAND THE EARTH'S PAST, PRESENT AND FUTURE. TO ACHIEVE ITS AIMS, THE PROGRAM WILL DRAW ON INFORMATION FROM BENEATH THE OCEAN FLOOR, BROUGHT TO THE SURFACE BY OCEAN CORING TECHNOLOGIES AND BOREHOLE OBSERVATORIES MONITORING PROCESSES IN REAL TIME.

This ten-year program is proposed by 24 countries comprising 75% of the world's economy, and is expected to start in October, 2013. The scientific information will be acquired by two program-dedicated drilling platforms and ad-hoc chartered mission-specific platforms for operations in environments where specialized platforms are required. The overall mission of the program is to understand Earth's past and present in order to better predict its future.

Why sample and study the ocean floor?

A unique feature about planet Earth is how its solid interior interacts with its exterior environments. Interaction takes place at time scales varying from seconds (earthquakes, volcanoes) through decades and millennia (climate change) to eons (plate tectonic cycles). And, it includes the solid Earth, the oceans, the cryosphere, the biosphere and the atmosphere—Earth as an integrated system and a habitat for life. Recent discoveries of vast reservoirs of gas hydrates and of sub-seafloor microbial life extending to large depths below the seafloor have profoundly changed our perspectives on life and carbon within Earth systems. And we have also come to realize that mankind has become a significant contributory factor within this complex interplay of Earth systems.

The ocean floor covers 70% of the planet and hosts some of the most influential processes in the exchange between inner and outer Earth's environments. Moreover, evidence of environmental and biological change are encoded into the crust and sediments lying below the oceans, often displaying an astonishingly high fidelity once we learned how to tune into these fossil records. Sampling and observing the sub-seafloor is therefore paramount to understand Earth.

The broader impact

Based on sub-seafloor samples, the International Ocean Discovery Program will examine how the complex interactions within the Earth system have developed over geological time. Borehole observatories will allow scientists to also study processes at a human time scale, including those that might pose a major societal hazard such as earthquakes and tsunamis.

An important goal is to establish a context for assessing the long-term impact on climate and environment exerted by mankind through enhanced understanding and modeling of Earth systems interactions. The program will provide important complementary information to real-time monitoring of global change by other programs, engage the public, and train a new generation of scientists.

Focus of the International Ocean Discovery Program

The program's science plan, "Illuminating Earth's Past, Present, and Future", is available on <www.iodp.org>. It builds on contributions to numerous workshops from Earth, ocean and life scientists and engineers, which culminated in the INVEST conference of 2009 at Bremen University. Subsequent refinements by writing groups and extensive reviews provided scientific focus and implementation strategies for the following four themes of research:

www.iodp.org/INVEST-Report/2/

Climate and Ocean Change: Reading the Past, Informing the Future

Biosphere Frontiers: Deep Life, Biodiversity and Environmental Forcing of Ecosystems

Earth Connections: Deep Processes and Their Impact on Earth's Surface Environment

Earth in Motion: Processes and Hazards on Human Time Scales

These themes address pressing scientific priorities and societal concerns and will take advantage of technological innovations ranging from ultra-deep coring, through improved dating and environmental proxy techniques and advances in DNA sampling and sequencing methods, to deep Earth observatories below the seafloor.

How projects will be selected for implementation

Development of scientific experiments will be supported through cross-disciplinary and international workshops. Proposals submitted to the program from individuals or working groups will be reviewed through a competitive process involving an independent scientific advisory structure and peer reviews. The science focus and the implementation priorities will be guided by the program's science plan: Illuminating Earth's Past, Present, and Future.