



ECORD  IODP-Italia

IODP-Italy Spring Webinar Series 2021

International Scientific Drilling through IODP and ICDP

***Scientific Drilling:
a long-lasting opportunity for cutting-edge
research in Earth and Ocean Sciences***

Elisabetta Erba

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IODP
INTERNATIONAL OCEAN
DISCOVERY PROGRAM

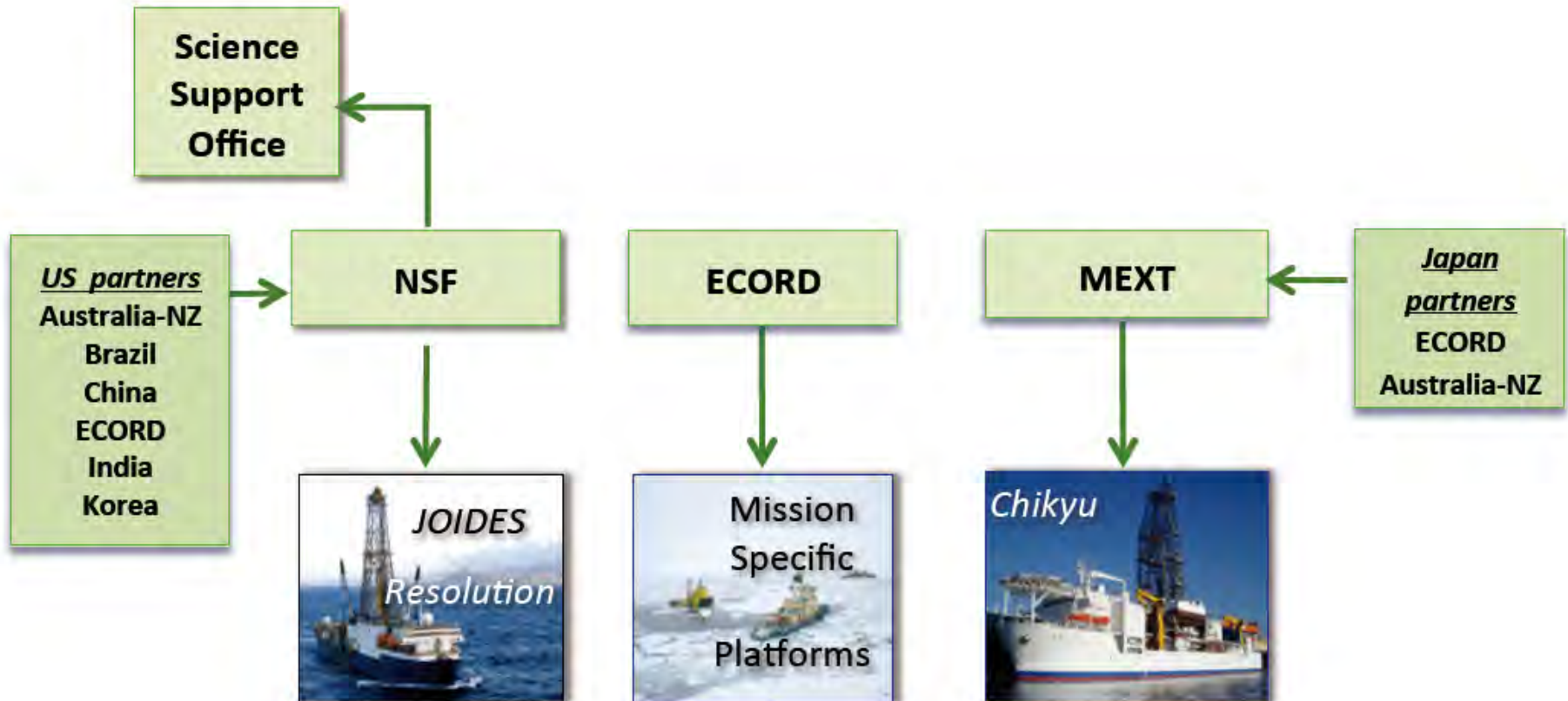
Exploring the Earth Under the Sea

IODP is an international dedicated to the exploration of **Earth's history and dynamics** through scientific drilling and geophysical survey.

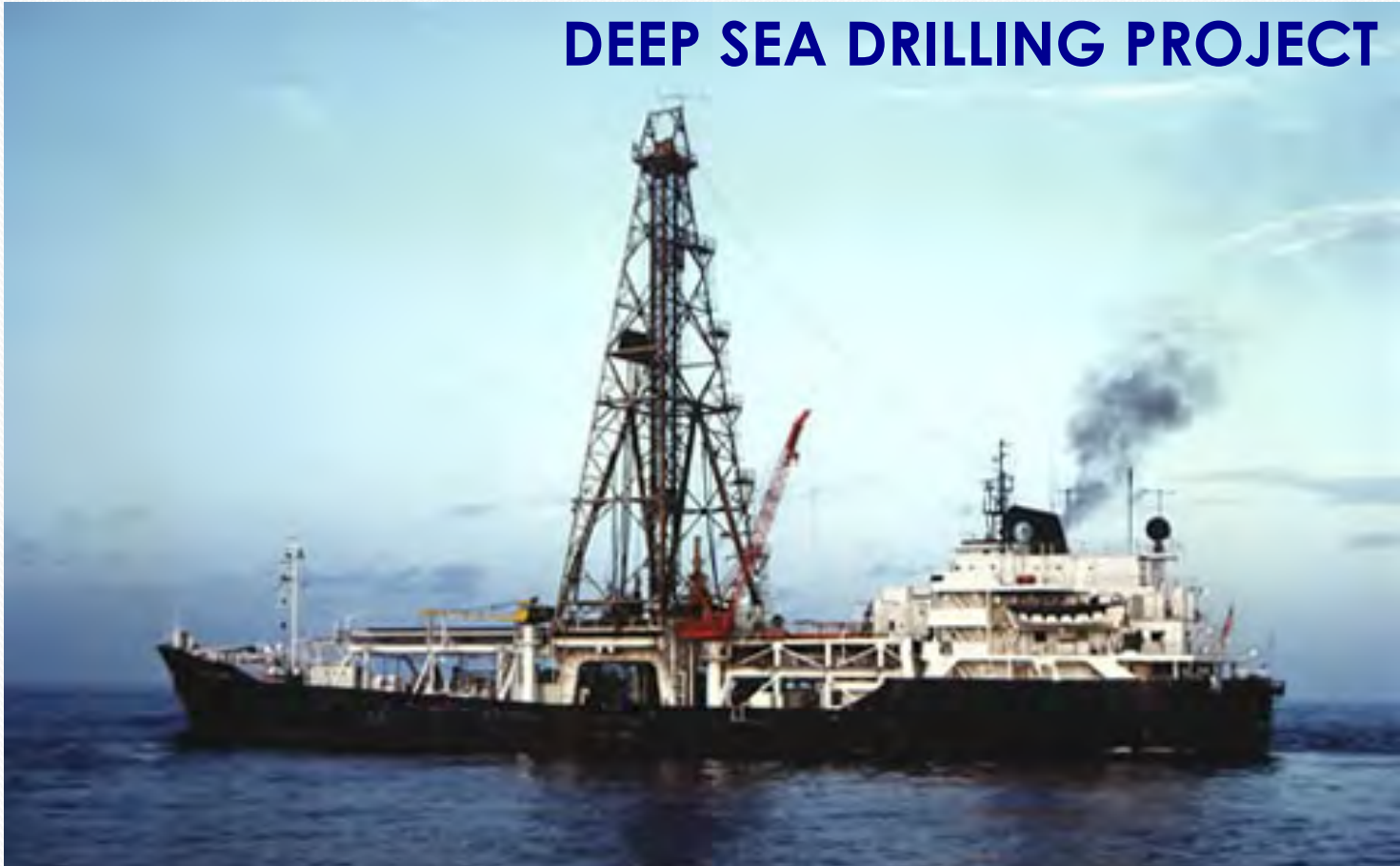
It is the largest, longest and most innovative research program ever conceived in the field of Earth Sciences.

IODP Funding Model

- Each platform operated independently by respective country or consortia
- Science Support Office funded by NSF



DEEP SEA DRILLING PROJECT



The Levingston Shipbuilding Company laid the keel of the D/V ***Glomar Challenger*** on October 18, 1967, in Orange, Texas. The ship was launched on March 23, 1968, from that city. It sailed down the Sabine River to the Gulf of Mexico, and after a period of testing, the **Deep Sea Drilling Project accepted the ship on August 11, 1968**

OCEAN DRILLING PROGRAM




The scientific research vessel **JOIDES Resolution** began operations in 1978 as the *Sedco/BP 471*, originally an oil exploration vessel. In January 1985, after being converted for scientific research, the vessel began working for the Ocean Drilling Program (ODP). Drilling with ODP continued until September 2003.

IODP was launched in 2003 and build on the legacy of the Deep Sea Drilling Program (DSDP) and Ocean Drilling Program (ODP)



IODP
INTERNATIONAL OCEAN
DISCOVERY PROGRAM
2013-2023



IODP
INTEGRATED OCEAN
DRILLING PROGRAM
2003-2013

**Multiple platforms:
3 platform providers**

ODP



1985-2003

DSDP



1968-1983

**Project
MOHOLE**



1958-1966



A strong partnership



Exploring the Earth Under the Sea

23 member countries



- USA
- Japan
- **ECORD (15)**
- China
- India
- Brazil
- ANZIC
- S Korea

ECORD: a Consortium part of IODP



VIDEO ECORD

<https://www.ecord.org/about-ecord/about-us/ecord-explained-in-4-minutes-video/>

In 2003, the **European Consortium for Ocean Research Drilling (ECORD)** was created to coordinate the European contribution to IODP as a single partner.

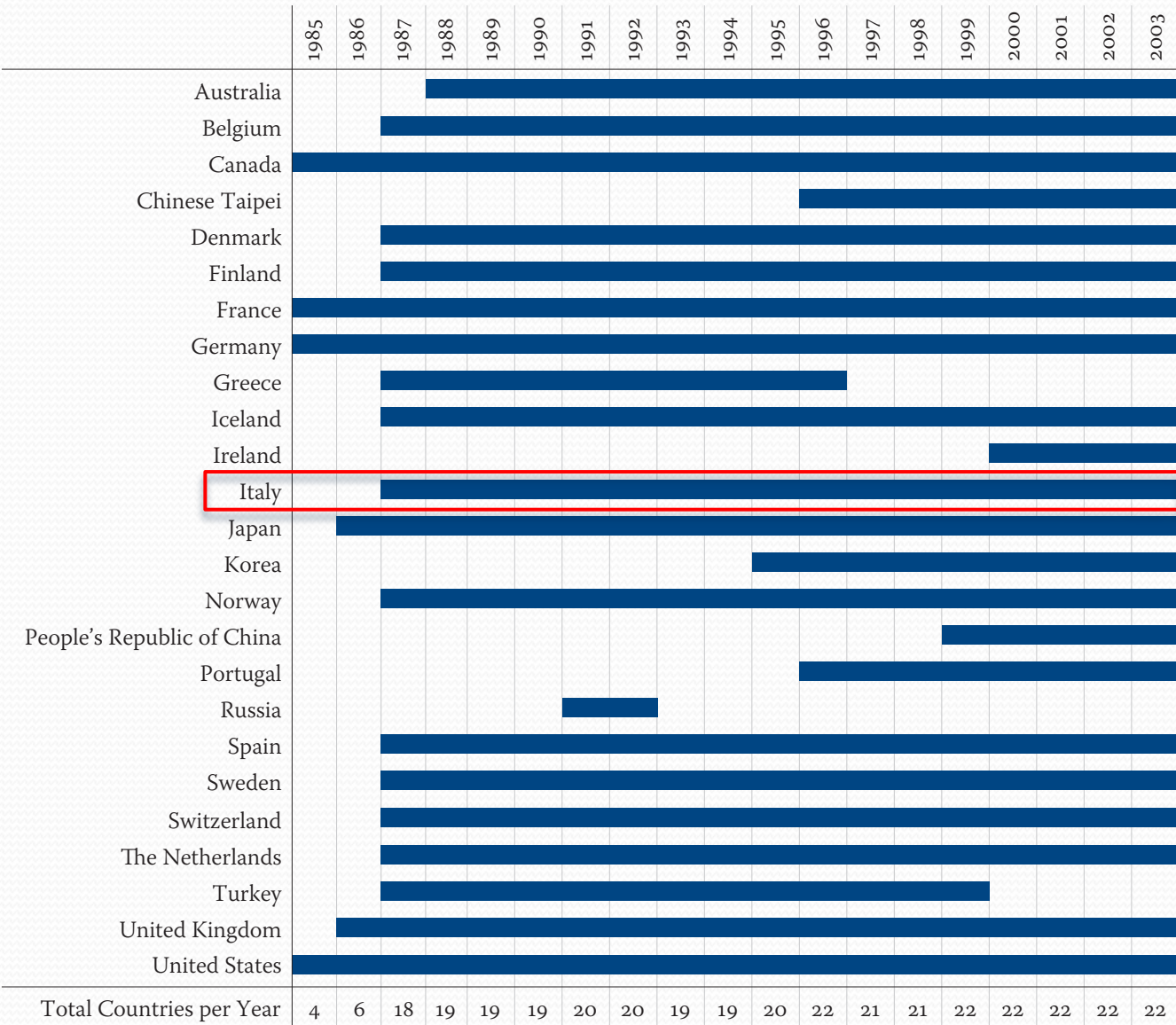
ECORD supports the **participation of scientists in all IODP expeditions** and takes part in all decisions of the programme.

Italy joined the drilling program ODP in 1986 and then became a member country of ECORD, since its foundation.



ODP Member Countries

IODP Member Countries



2004 – 2013 2014



ECORD membership varies from 30 kUS\$ to 5 MUS\$/year.
Italy: 550 kUS\$
7th ECORD contributor



L'INIZIO di IODP-Italia...

Maria Bianca Cita

Prima ricercatrice non-USA a bordo della GC – DSDP L:eg 2

Italy has participated in this project since 1968:

it has given and continues to give generations of senior and junior Italian geoscientists the opportunity to gain experience and contribute to the international community of marine geology.



The Italian contribution to the DSDP-ODP-IODP project is internationally recognized for the excellent scientific quality of the research carried out before, during and after cruises.



Fig. 25. Two contemporary pioneers who have significantly advanced knowledge of sedimentary geology in the Mediterranean region. (A) Kenneth Hsü of the ETH-Zürich on a field trip in Switzerland in honour of his 60th birthday in 1989. The remarkably creative career of Hsü has included important contributions to Mediterranean geology, most notably provocative championing of the Messinian desiccation model. (B) Maria Bianca Cita of the University of Milan on board the *Glomar Challenger* in the Mediterranean during Leg 42A of the Deep Sea Drilling Project, 1975. Noted for pioneering biostratigraphic work in the Mediterranean region and elsewhere, Cita has also continuously and vigorously promoted marine geological research that has resulted in numerous important discoveries in the Mediterranean.



L'INIZIO di IODP-Italia...

Antonio Praturlon

Presidente del Comitato 05 per le Scienze Geologiche - CNR

Italy has officially joined ODP in 1986:

CNR contributed the Italian annual Fee to ESCO (ECORD)





INTERNATIONAL OCEAN DISCOVERY PROGRAM
IODP (2013-2023)



INTEGRATED OCEAN DRILLING PROGRAM
IODP (2004-2013)



OCEAN DRILLING PROGRAM
ODP (1985-2003)



DEEP SEA DRILLING PROJECT
DSDP (1968-1983)

L'ITALIA afferisce a IODP come paese membro di ECORD

ECORD Member Countries



Austria	1	Österreichische Akademie der Wissenschaften (ÖAW)
Canada	2	Canadian Consortium for Ocean Drilling (CCOD)
Denmark	3	Danish Agency for Science and Higher Education
Finland	4	Suomen Akatemia
France	5	Centre National de la Recherche Scientifique (CNRS)
Germany	6	Deutsche Forschungsgemeinschaft (DFG)
Ireland	7	The Geological Survey of Ireland (GSI)
Italy	8	Consiglio Nazionale delle Ricerche (CNR)
Netherlands	9	Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)
Norway	10	Forskingsradet
Portugal	11	Fundação para a Ciência e a Tecnologia (FCT)
Spain	12	Ministerio de Economía y Competitividad
Sweden	13	Vetenskapsradet (VR)
Switzerland	14	Fonds National Suisse (FNS)
United Kingdom	15	United Kingdom Research and Innovation (UKRI)

Platform Providers

NSF *JOIDES Resolution*

JAMSTEC *Chikyu*

ECORD
Mission-Specific Platforms

ECORD

ECORD Council
Funding Agencies

EMA
Managing Agency

EFB
MSP Scheduling Committee

ESSAC
Scientific Committee

MG+ (MagellanPlus)
Workshop series (ECORD - ICDP)

ESO
Implementing Organization

EOTF
Outreach Task Force
Science community, Public, Media, Stakeholders, Teachers

EVTF
Vision Task Force
Other science programmes, EC

Commissione IODP-Italia

Commissione per il coordinamento della partecipazione italiana all'International Ocean Discovery Program (IODP)

Istituita nel 2014 per **assolvere alle attività di coordinamento, sviluppo e diffusione di iniziative nell'ambito di IODP** e dell'European Consortium for Ocean Research Drilling (ECORD), la Commissione IODP-Italia ha il compito principale di promuovere la partecipazione dell'Italia al consorzio ECORD e di sviluppare, coordinare e supportare la partecipazione dei ricercatori italiani alle attività di ricerca, formazione e comunicazione svolte in ambito ECORD e IODP e riguardanti l'esplorazione delle aree marine e oceaniche mediante la perforazione scientifica e le moderne tecniche e metodologie di monitoraggio in pozzo.

La Commissione IODP-Italia ha inoltre il compito di promuovere iniziative idonee a favorire un più ampio coordinamento tra la partecipazione italiana all'IODP e all'International Continental Drilling Program (ICDP).

icdp |



INTERNATIONAL
CONTINENTAL SCIENTIFIC
DRILLING PROGRAM

Also working to build
ICDP-Italy



La Commissione "ECORD-IODP and ICDP"

replaced the former Advisory Committee IODP-Italia with new members and assignments, in order to implement a joint IODP-ICDP support (scientific drilling community)

Coordinates, facilitates and support initiatives to foster participation of Italian scientists and educators in IODP expeditions, research, institutional and outreach activities.

It is composed of **experts in different research fields:**

- **Elisabetta Erba** - President (Univ.di Milano)
- **Marco Sacchi** - Vice President (CNR-ISMAR)
- **Andrea Argnani** (CNR-ISMAR)
- **Chiara Boschi** (CNR-IGG)
- **Angelo Camerlenghi** (OGS)
- **Fabio Florindo** (INGV)
- **Massimo Frezzotti** (ENEA – Univ. Roma 3)
- **Isabella Raffi** (Univ. di Chieti)
- **Cesare Ravazzi** (CNR-IDPA)
- **Leonardo Sagnotti** (INGV)
- **Riccardo Tribuzio** (Univ. di Pavia)

IODP-Italia Advisory Committee

iodp-italia@cnr.it

Scientific Secretariat: **Annalisa Iadanza** (CNR-DSSTTA)

Rappresentanti italiani negli organismi di governo di ECORD

- **ECORD Council:**
Delegato: Annalisa Iadanza, DSSTTA-CNR (1^o gennaio 2020-oggi);
Alternato: Marco Sacchi, ISMAR-CNR (1^o gennaio 2020 -oggi)
- **ESSAC Committee:**
Delegato: Riccardo Tribuzio, Univ. Pavia (1^o gennaio 2020-oggi);
Alternato: Andrea Argnani, ISMAR-CNR (1^o gennaio 2020-oggi)
- **ESSAC Vice Chair:**
Angelo Camerlenghi, OGS (1^o gennaio 2021-31 dicembre 2021);
sarà ESSAC Chair nel biennio 2022-2023.

Membri nei Panels IODP

IODP Science Evaluation Panel (SEP):

Site Evaluation Subgroup: Silvia Ceramicola, OGS (2019-2022)

Science Subgroup: Paola Vannucchi, Univ. di Firenze.

Componenti internazionali nelle Commissioni:

- ECORD Facility Board (EFB): Michele Rebesco, OGS (2021-2023)
- Curatorial Advisory Board di IODP (CAB): Elisabetta Erba, Univ. d.di Milano (2016-2020)

MIUR

allocates a national annual funding Since 2013 (FOE 2013)



CNR
DSSTTA

IODP-Italia national office

Coordinates ~ Supports ~ Fosters Italian participation in IODP



Italian Geoscience Community

CNR-DSSTTA
administrative
and financial
management

Science
Coordinator

IODP-Italia Advisory Committee
science support



ECORD Membership ~70% annual funding

Getting involved in ECORD and IODP

The **ECORD Science Support and Advisory Committee (ESSAC)** is responsible for the planning and coordination of Europe's scientific contribution to and participation in IODP. The main purpose of ESSAC is to maximise ECORD's scientific contribution to IODP. ESSAC therefore not only plays a major role within the ECORD science community but is also the contact point with IODP for all scientific and educational activities.



SCIENTISTS

- Submit an IODP drilling proposal
- Apply to sail on an IODP expedition
- Convene a MagellanPlus workshop to develop new projects
- Volunteer to serve on an ECORD committee or IODP panel
- Request data and samples to use in your research
- Host/Be an ECORD Distinguished Lecturer

EARLY-CAREER SCIENTISTS

- Take part in ECORD Summer Schools or Training Courses
- Apply for an ECORD Scholarship
- Apply for ECORD Research Grants
- Apply to sail on an IODP expedition
- Request data and sample to use in your research



OUTREACH & EDUCATION SPECIALISTS

- Apply to sail on an IODP expedition
- Organise ship-to-shore videos during IODP expeditions
- Take part in School of Rock Initiatives
- Request materials and activities for the classroom

How to get involved in IODP?

Sailing on IODP expeditions /applying as shore-based scientist

<https://www.ecord.org/expeditions/apply-to-sail/>

Shipboard Italian Scientists 2014-2022 (tot. 19) [+1 JAP]

Distribuzione geografica

ATL Oceano Atlantico: 3

PAC Oceano Pacifico: 9

IND Oceano Indiano: 5 [+1 JAP]

SOUTH Oceano Antartico (*Southern Ocean*): 2

MED Mar Mediterraneo: 0

How to get involved in IODP?

Sailing on IODP expeditions /applying as shore-based scientist

<https://www.ecord.org/expeditions/apply-to-sail/>

Shorebased Italian Scientists 2014-2022 (tot. 7)

Distribuzione geografica

ATL Oceano Atlantico: **2**

PAC Oceano Pacifico: **0**

IND Oceano Indiano: **0**

SOUTH Oceano Antartico (*Southern Ocean*): **4**

MED Mar Mediterraneo: **1**

Member	Total berths	Total quota berths	Berth entitlement	Quota difference	% of quota berths	% budget	% difference
France	70	68	77	-9.2	21.8	24.7	-2.9
Germany	118	96	100	-4.2	30.77	32.1	-1.4
UK	89	69	64	4.5	22.12	20.7	1.5
Sum	277	233	242	-8.9	74.7	77.5	-2.8
Austria	9	4	2	2.2	1.3	0.6	0.7
Canada	4	4	1	2.8	1.3	0.4	0.9
Denmark	3	2	3	-0.8	0.6	0.9	-0.2
Finland	1	1	1	-0.4	0.3	0.5	-0.1
Ireland	3	3	2	0.8	1.0	0.7	0.3
Italy	17	11	9	2.5	3.5	2.7	0.8
Netherlands	11	10	10	0.4	3.2	3.1	0.1
Norway	17	16	20	-3.7	5.1	6.3	-1.2
Portugal	3	2	2	0.4	0.6	0.5	0.1
Spain	5	5	1	4.3	1.6	0.2	1.4
Sweden	11	10	9	1.4	3.2	2.8	0.5
Switzerland	10	8	11	-2.7	2.6	3.4	-0.9
Belgium	1	1	0	0.9	0.3	0.0	0.3
Iceland	0	0	0	-0.1	0.0	0.0	0.0
Israel	1	1	0	0.8	0.3	0.1	0.3
Poland	1	1	0	0.9	0.3	0.0	0.3
Sum	96	79	70	8.9	25.3	22.5	2.8
TOTAL ECORD	373	312	312	0			

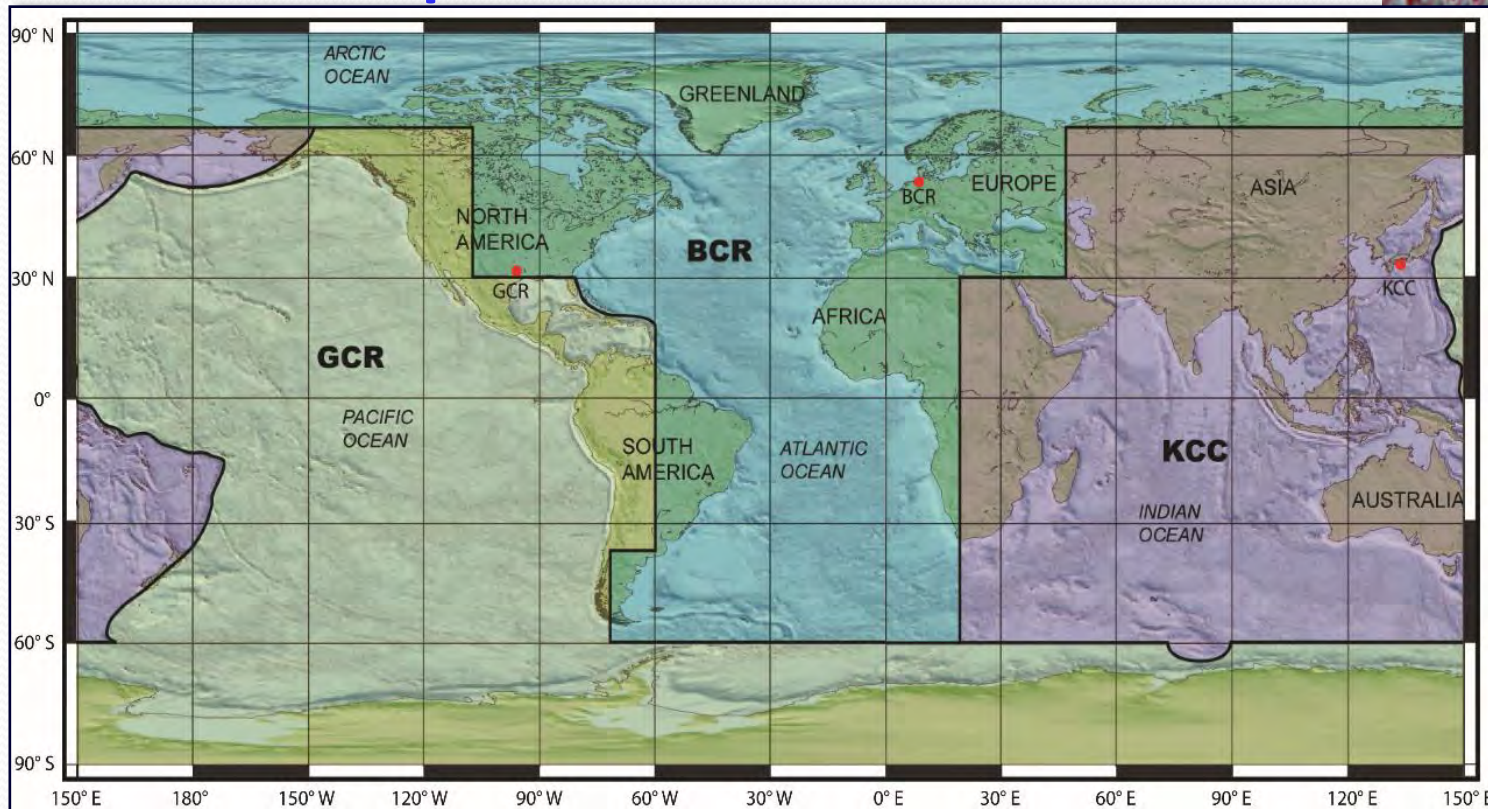
Quotas for berths on each IODP expedition
 apply for each member regarding their funding level

How to get involved in IODP?

Requesting DSDP-ODP-IODP samples

<http://www.iodp.org/resources/access-data-and-samples>

IODP Core Repositories



All DSDP-ODP-IODP samples are entered in a database and are **public** for requests

<http://dis.iodp.pangaea.de/BCRDIS/>

How to get involved in IODP?

Submitting IODP proposals

How Drilling Proposals Are Selected



How to get involved in IODP?

Submitting IODP proposals

- Proposal submission deadline *1 Oct, 1 Apr*)
- Submitting Site survey data
- MagellanPlus workshops funding (1-2 calls/year:
15 Jan / 15 May) <http://www.ecord.org/science/magellanplus/>

IODP Active Proposal– Italian Co-Proponents (tot. 25)

Short titles

Last update available from IODP database: March 2021

Distribuzione geografica proposal attivi con Italiani coinvolti:

ATL Oceano Atlantico: 8

PAC Oceano Pacifico: 6

IND Oceano Indiano: 3

SOUTH Oceano Antartico (Southern Ocean): 3

MED Mar Mediterraneo: 5

How to get involved in IODP?

ECORD Summer Schools and Training Course

suspended in 2020-21; next ed.: scheduled in 2022



Partecipazione italiana alle Summer School di ECORD

	2013	2014	2015	2016	2017	2018	2019	2020-21
Urbino Summer School in Paleoclimatology	2	n.a.	1	2	n.a.	n.a.	4	
Bremen Summer School	2	1	2	3		2	1	
Petrohysic Summer School Leicester				1	2	0	2	
ECORD Training Course					1	3	4	
IODP-PAIS Summer School							1	
TOTALE	4	1	3	6	3	5	11	

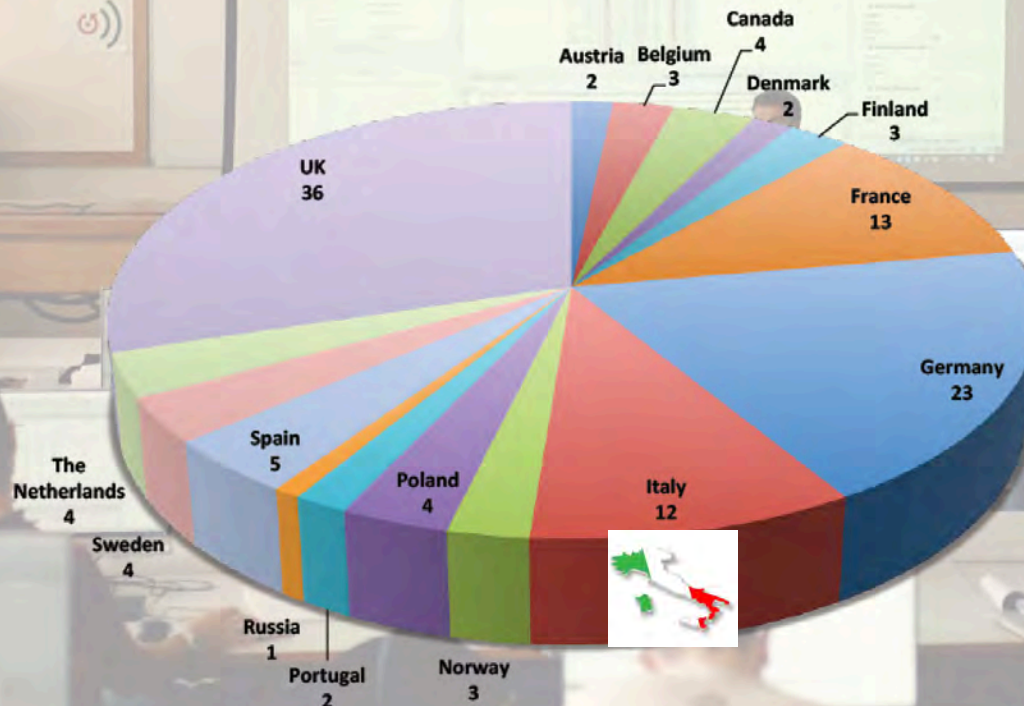
How to get involved in IODP?

ECORD Summer Schools and Training Course

suspended in 2020-21; next ed.: scheduled in 2022

ECORD SCHOLARSHIPS 2013 - 2019

Distribution of all ECORD scholarships by country (2013-2019)



n= 121



How to get involved in IODP?

ECORD Distinguished Lecturer Program

suspended in 2020-21; ed. 2022 TBD

Nessun ricercatore Italiano

How to get involved in IODP?

ECORD Research Grants - research mini proposal on IODP, ODP and DSDP samples and data <http://www.ecord.org/education/>

2015	1	Karen Gariboldi	Università di PISA	Role of Volcanic Ashes in Enhancing Primary Production: Evidences in the Deep Time
2018		Ornella Quivelli	Università di BARI	Millennial – submillennial scale climate variability during Marine Isotope Stage 19: calcareous nannofossili and molecular biomarker evidence in the ODP Site 980 (North Atlantic)
	2	Pietro Bazzocalupo	Università di BARI	Response of Coccolithophore Calcification to past oceanic changes during the Last Deglaciation and the Holocene
2019	1	Rudy Conte	Università di VENEZIA	Antarctica): linking sedimentary record and past ocean dynamics.
	(1)	Valerio Funari	CNR-ISMAR	Geochemical characterization of metalliferous mud and dolostone at the top of the “Basement Unit 1” from the Tyrrhenian Sea, ODP Leg 107
2020		Valentina Brombin	Università di FERRARA	Sr-Nd and C isotopic characterisation of basalts from the “very fast”- spreading (10- Tto 12-Ma) ridges of the Eastern Equatorial Pacific Ocean (ODP LEG 203)
		Liyenne Cavalheiro	Università di MILANO	Cretaceous climate evolution off Eastern Anatarctica (ODP 692, Weddell Sea)
	3	Elisabetta Olivo	OGS	(Southeastern Ross Sea, Antarctica): A geological record of Pleistocene ice sheet dynamics

IODP-Italia

current Funding scheme and initiatives

For successful applicants to IODP/ECORD calls

- Participants - IODP expeditions SHIPBOARD
- Participants - IODP expeditions SHOREBASED
- Participants - post-cruise meetings
- Members of IODP/ECORD panels

- Participants - ECORD summer schools and training courses
- Participants – IODP/ECORD workshops

Bando per assegni di Ricerca IODP-Italia

EXPLOITING RESULTS of IODP-ODP-DSDP DRILLING

IODP-Italia

current Funding scheme and initiatives

Azioni specifiche IODP-Italia

- **Assegni di Ricerca post-DOC IODP-Italia**
- **Webinar series IODP/ICDP.** In futuro cicli di conferenze itineranti
- **Stand IODP-Italia** a conferenze nazionali (SGI)
- **Video-tours** nei Laboratori di Geologia marina (ISMAR e OGS, altro) – *in progress*

BANDO 2018: 3 Assegni di Ricerca IODP-Italia

successful proposals:

LIMONTA Mara	Univ. di MILANO BICOCCA - Dip. di Scienze dell'Ambiente e del Territorio e di Scienze della Terra	High resolution provenance study of turbiditic sediments of the Bengal and Nicobar deep-sea fans: tectonic and climatic implications
FERRANDO Carlotta	Univ. di PAVIA - DIP. di Scienze della Terra e dell'Ambiente	Oceanic crust accretion at ultraslow-spreading ridges: insights from a 800m-long crustal transect drilled at IODP Hole U1473A, Atlantis Bank gabbroic massif (Southwest Indian Ridge)
BORDIGA Manuela	OGS	Geochemistry and marine biology united to refine climate models

BANDO 2021: 2 Assegni di Ricerca IODP-Italia

7 applications

Valutazione in corso

Prossimo appuntamento con IODP-Italia

STAND VIRTUALE
durante il
CONGRESSO della SOCIETA' GEOLOGICA ITALIANA
Trieste, 14 -16 Settembre 2021



**Vogliamo costruire-rafforzare la
COMUNITA' SCIENTIFICA ITALIANA
che impara da e contribuisce a IODP
...e anche IODP-Italia**

Stiamo in contatto !

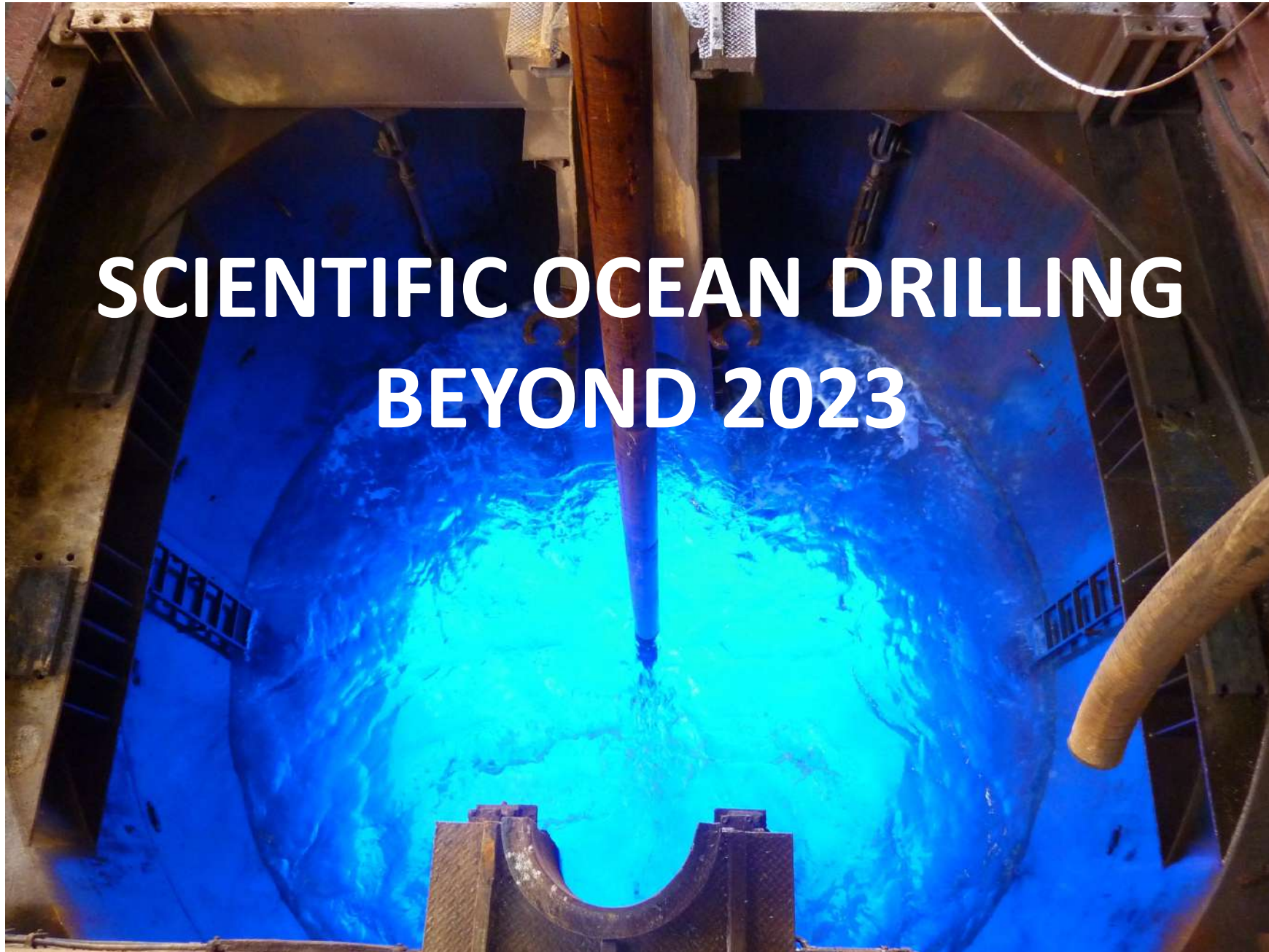
IODP-Italia website

<http://www.iodp-italia.cnr.it>

iodp-italia@cnr.it

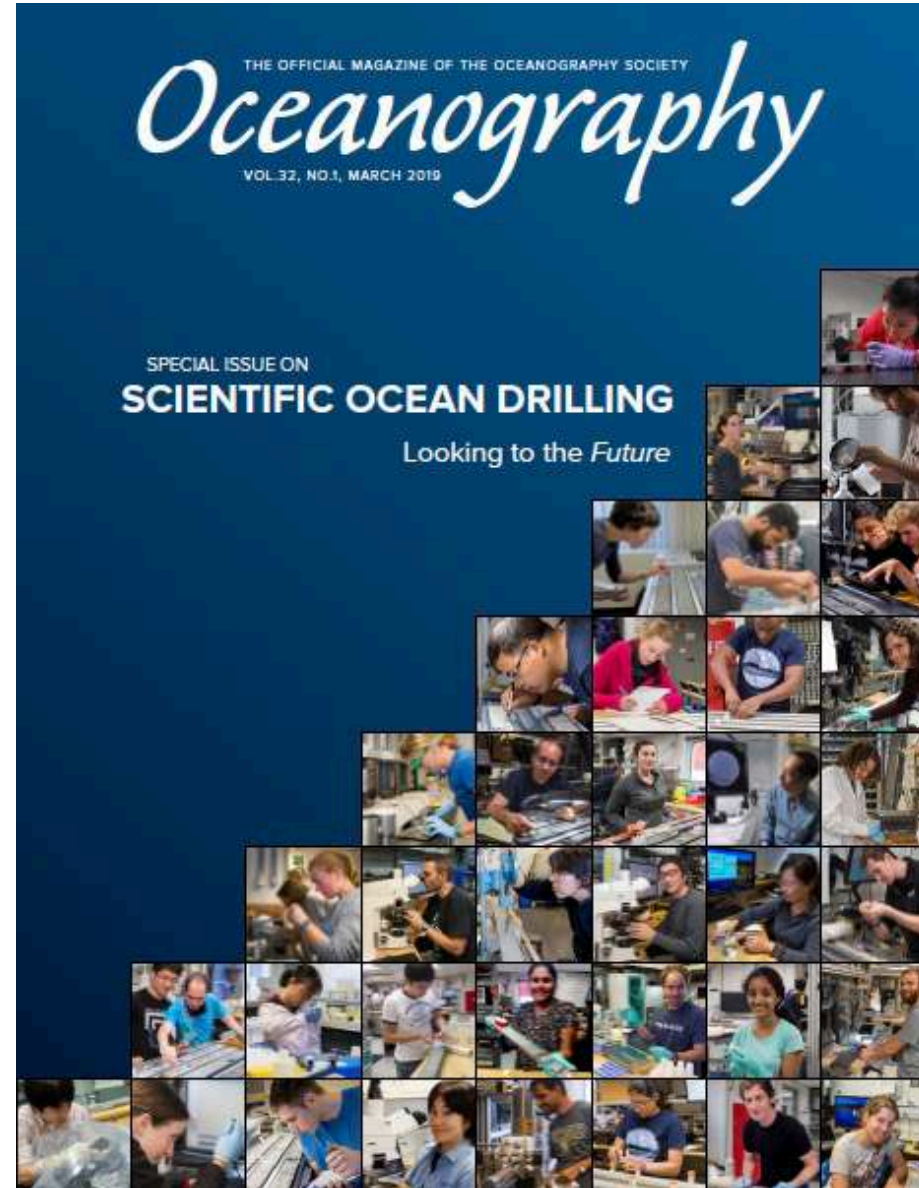
IODP-Italia

Subscribe to the mailing lists to receive news and calls



SCIENTIFIC OCEAN DRILLING BEYOND 2023

50 Years of Scientific Ocean Drilling



SCIENTIFIC OCEAN DRILLING HAS:

Recovered more than **490 km** of cores

Recovered cores and geophysical data that have yielded insight into **first-order questions about how our planet works**

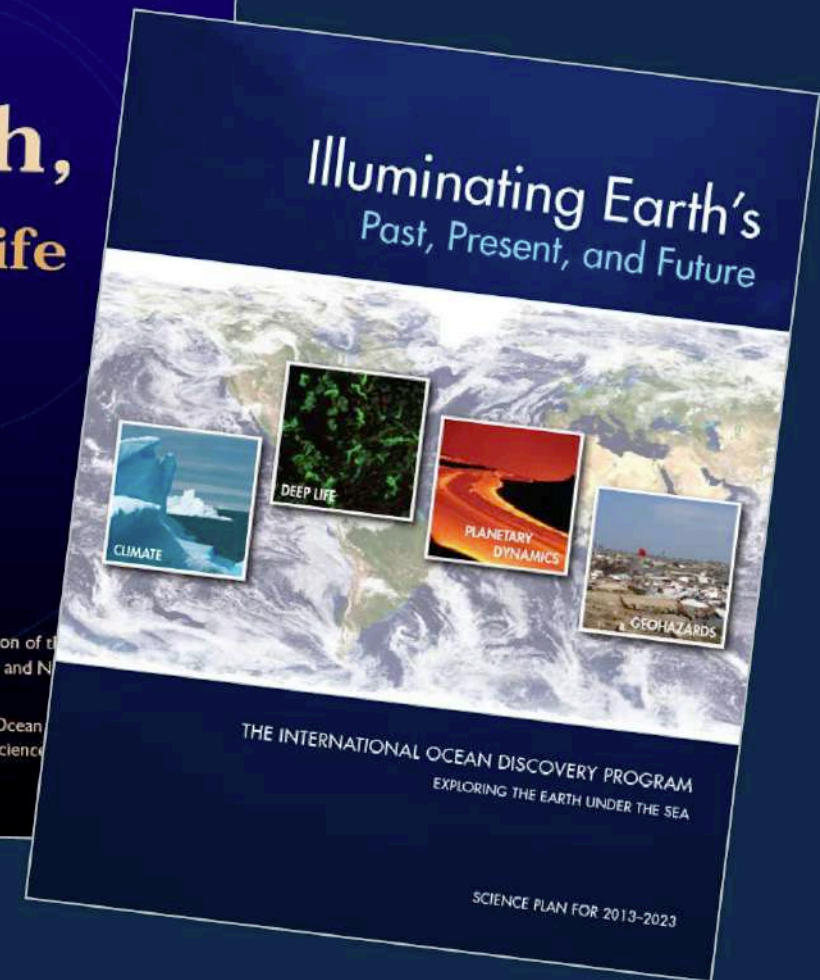
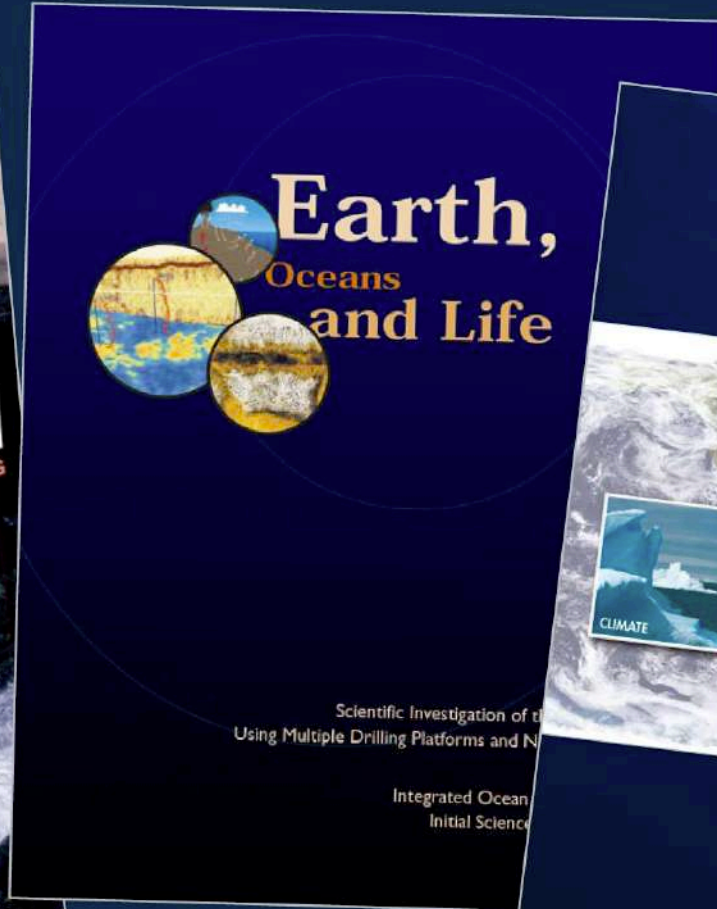
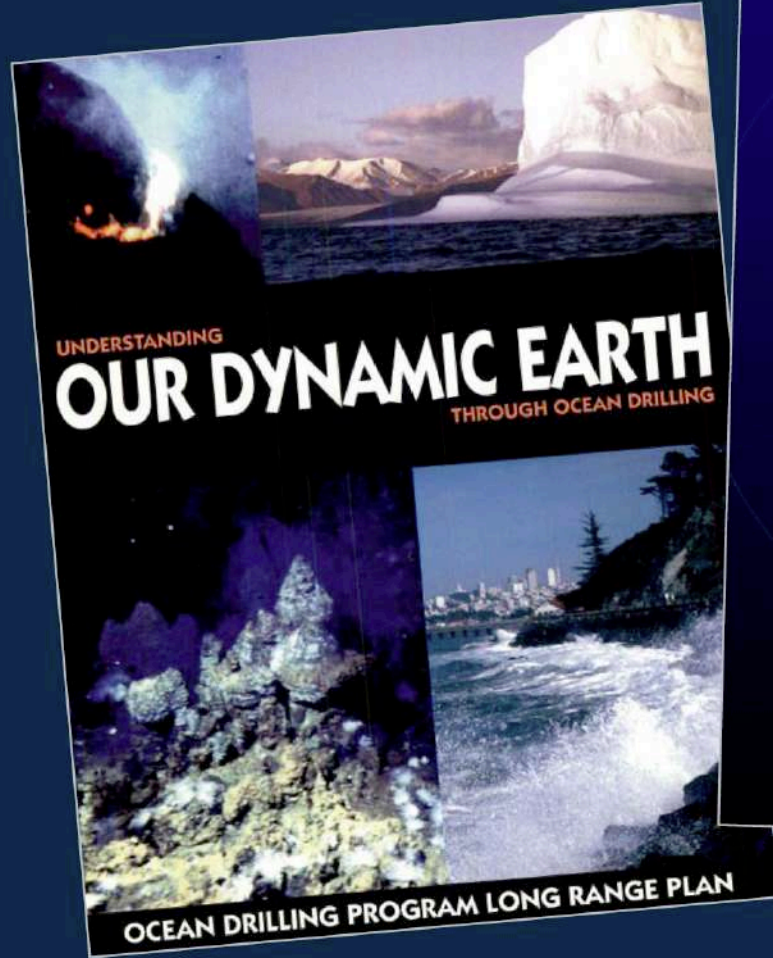
Provided the Earth, ocean, and life sciences communities **access to the seafloor not achievable in any other way.**

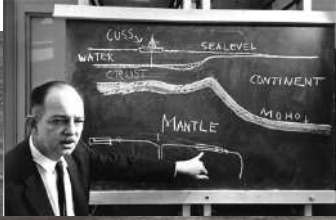


Allowed the training of the **next generation of geoscientists** (across at least two generations)

Produced more than **11,000 peer-reviewed publications**, of which more than 500 appearing in the leading Nature and Science.

Involved more than **5,000 scientific participants** from around the globe





1968



1983



2003



2023

?

What next?

5 2050

EXPLORING EARTH BY SCIENTIFIC OCEAN DRILLING



Mission

The *2050 Science Framework for Scientific Ocean Drilling* guides multidisciplinary subseafloor research into the interconnected processes that characterize the complex Earth system and shape our planet's future.

Vision

To be globally recognized as the authoritative source of information about ocean and Earth system history and its links to society.

Anthony Koppers
Rosalind Coggon

Co-lead Editor, Chair Science Framework Working Group
Co-lead Editor

and the Science Framework Authors and Reviewers

representing the international scientific ocean drilling community ⁶

The 2050 Science Framework Structure

ENDURING PRINCIPLES

Open access to samples and data. Standard measurements. Bottom-up proposal submissions and peer review.
Transparent regional planning. Promoting safety and success through site characterization.
Regular framework assessments. Collaborative and inclusive international program. Enhancing diversity.



STRATEGIC OBJECTIVES

Broad areas of scientific inquiry that focus on understanding the interconnected Earth system.



FLAGSHIP INITIATIVES

Long-term drilling endeavors that aim to inform issues of particular interest to society, typically combining goals from multiple Strategic Objectives.



ENABLING ELEMENTS

Key facets of scientific ocean drilling that facilitate our research activities, enhance our scientific outputs, and maximize their impact.



FLAGSHIP INITIATIVES



1

**Ground Truthing Future
Climate Change**



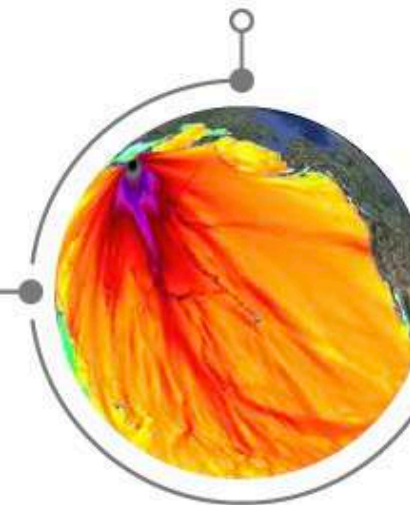
2

**Probing the
Deep Earth**



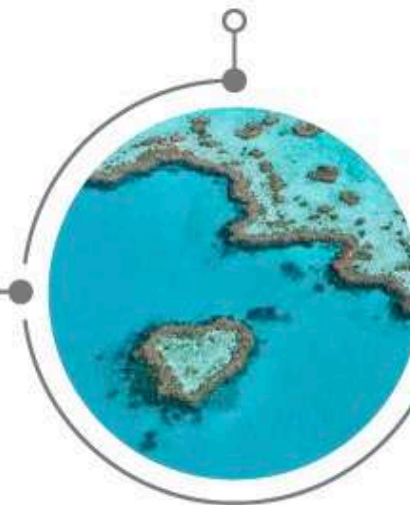
3

**Assessing Earthquake
and Tsunami Hazards**



4

**Diagnosing
Ocean Health**



5

**Exploring Life and
Its Origins**



ENABLING ELEMENTS



BROADER IMPACTS AND OUTREACH



LAND TO SEA

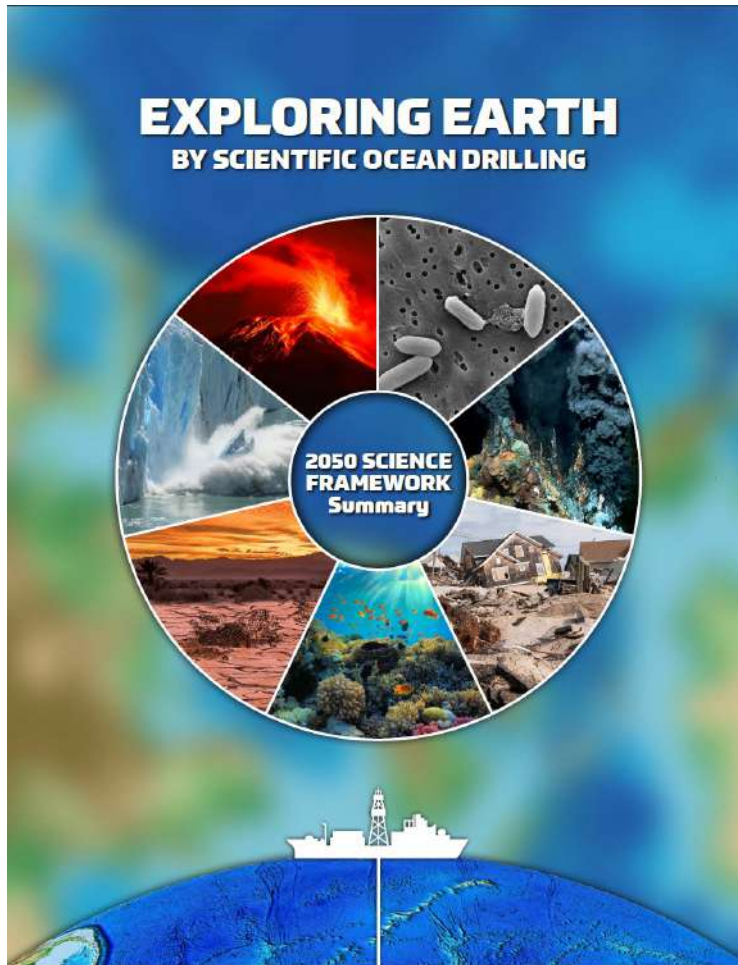


TERRESTRIAL TO EXTRATERRESTRIAL

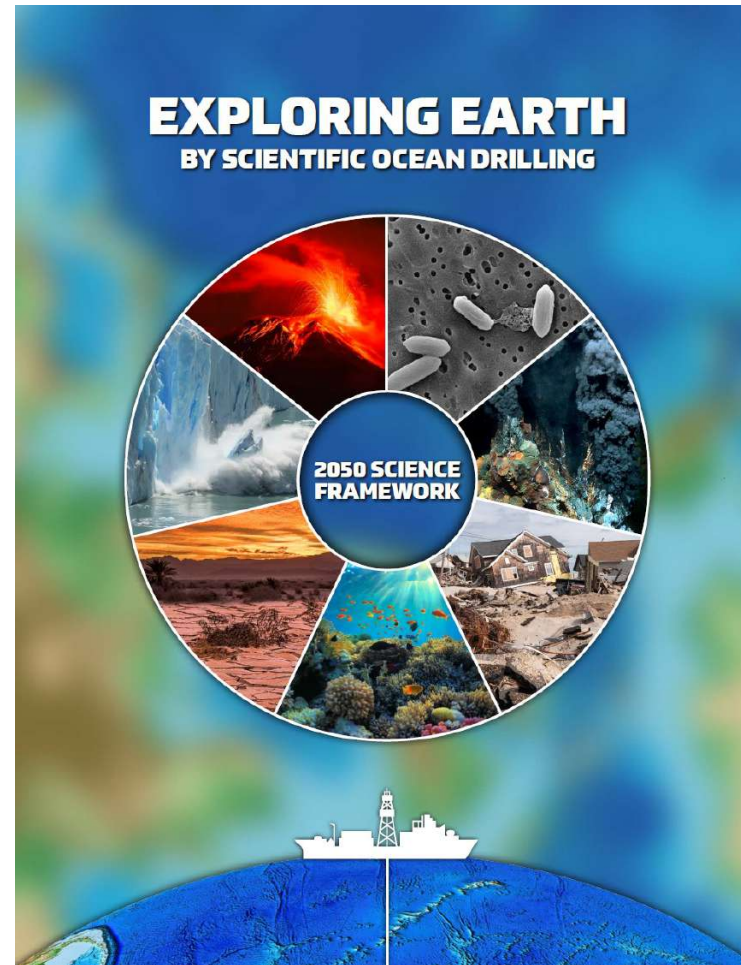


**TECHNOLOGY DEVELOPMENT
AND BIG DATA ANALYTICS**

Three 2050 Science Framework Documents



12-page Summary
or Brochure



124-page Framework
Document



2-page Flyer
or Pamphlet

PRESENT

Platform Providers:



The U.S. National Science Foundation (**NSF**)



Japan's Ministry of Education, Culture, Sports, Science and Technology (**MEXT**)



The European Consortium for Ocean Research Drilling (**ECORD**)

Additional Funding Partners:

China's Ministry of Science and Technology (**MOST**)

~~Korea Institute of Geoscience and Mineral Resources (**KIGAM**)~~

Australian-New Zealand IODP Consortium (**ANZIC**)

India's Ministry of Earth Science (**MoES**)

~~Coordination for Improvement of Higher Education Personnel, Brazil (**CAPES**)~~

FUTURE (POST 2023 or 2024)

Platform Providers:



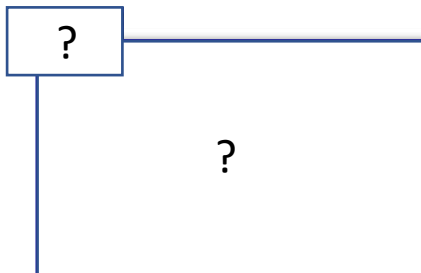
The U.S. National Science Foundation (**NSF**)



Japan's Ministry of Education, Culture, Sports, Science and Technology (**MEXT**)



The European Consortium for Ocean Research Drilling (**ECORD**)



China's Ministry of Science and Technology (**MOST**)?

Additional Funding Partners:

Korea Institute of Geoscience and Mineral Resources (**KIGAM**)

Australian-New Zealand IODP Consortium (**ANZIC**)

India's Ministry of Earth Science (**MoES**)

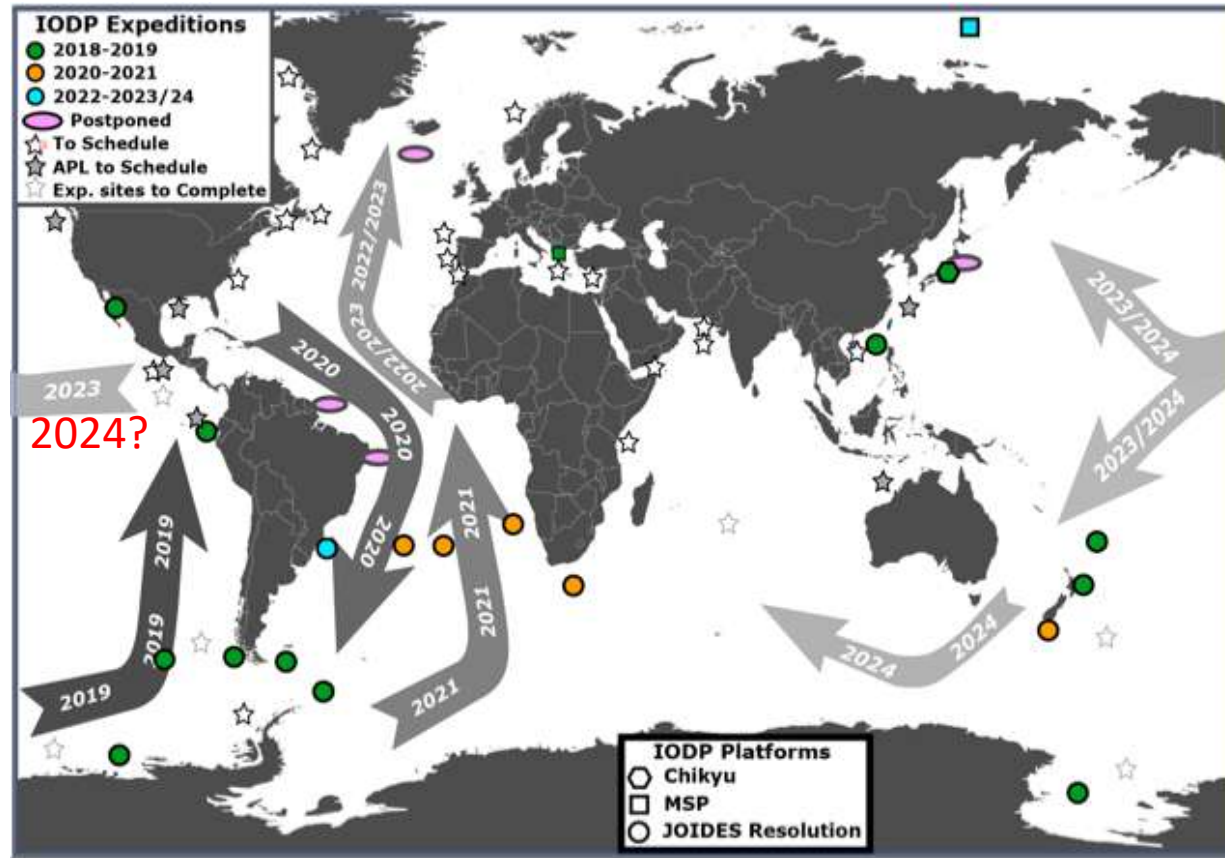
Coordination for Improvement of Higher Education Personnel, Brazil (**CAPES**)

FUTURE (POST 2023)



One program?

Multiple programs?





ECORD

Science Operator

Capabilities of mission-specific platforms (MSPs) & coring technologies

Credit: Simone Sauer / ECORD / IODP

THANKS TO DAVID MCINROY



British Geological Survey dbm@bgs.ac.uk

Why are MSPs needed?



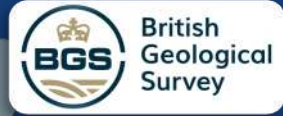
- To work in lithologies where alternative coring methods might yield better recovery

- To implement science that cannot be implemented by any other IODP operator or national facilities



ECORD

Science Operator



X313
New Jersey
Shelf



1



X347 Baltic Sea

2

X302
Central Arctic



2



X364 Gulf of Mexico
(Chicxulub)

3



X357
Central North Atlantic

4



X381
Gulf of Corinth

5



X386 Japan Trench (planning)

6



X310 Tahiti

7

IODP Mission Specific Platforms 2004-2021



X325
Great Barrier Reef

8



X313
New Jersey
Shelf



X347 Baltic Sea

X302
Central Arctic



X364 Gulf of Mexico
(Chicxulub)



X357
Central North Atlantic



X381
Gulf of Corinth



X386 Japan Trench (planning)



X310 Tahiti

Dynamically positioned
geotechnical vessels,
multipurpose vessels, and
converted supply vessels



X325
Great Barrier Reef



X313
New Jersey
Shelf



1



X347 Baltic Sea

2

X302
Central Arctic



2



X364 Gulf of Mexico
(Chicxulub)

3



X357
Central North Atlantic

4



X381
Gulf of Corinth

5



X386 Japan Trench (planning)

6



X310 Tahiti

7

Lift boats
(and other small-scale
elevating platforms)



X325
Great Barrier Reef

8



X313
New Jersey
Shelf



1



X347 Baltic Sea

2

X302
Central Arctic



2



X364 Gulf of Mexico
(Chicxulub)

3



X357
Central North Atlantic

4



X381
Gulf of Corinth

5



X386 Japan Trench (planning)

6



X310 Tahiti

7



X325
Great Barrier Reef

8

Research vessels

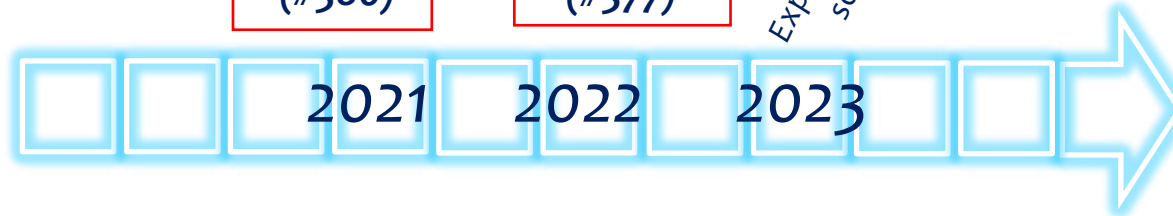




**Japan
Trench
Pseismo.
(#386)**

**Arctic
Ocean
Paleocean.
(#377)**

*Expedition to be
scheduled*



**Proposals @
ECORD
Facility Board**



**Hawaiian
Drowned Reefs
(#389)**



**Antarctic
Cenozoic
Palaeoclimate
(#373)**



**New England
Hydrogeology
(#P637)**



**Sabine Bank
Sea Level
(#P 730)**



berths 2021-23: 30-45

MagellanPlus Workshop Series Programme <https://www.ecord.org/science/magellanplus/>

Summary of MSP coring methods 2004-2021

X302: ACEX



X310 Tahiti



X347: Baltic Sea



Seacore R100

Wirth mining / Seacore R100

Geoquip GMTR120

Offshore wireline

X313 New Jersey

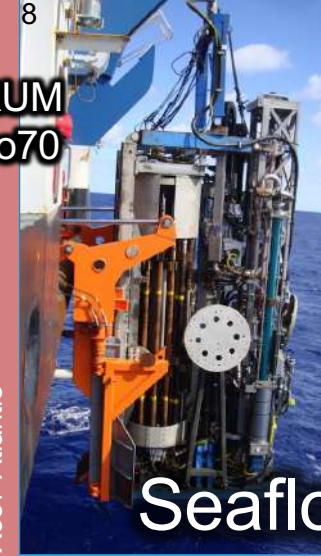


Atlas Copco CS4002

Mining-style wireline

MARUM MeBo70

X357 Atlantis



Sea floor drills



BGS RD2

Fugro Seacore R190

4



X325 GBR

5

Bluestone TT150

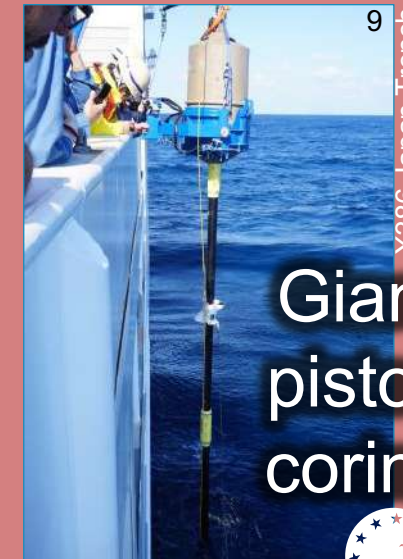


X364: Chicxulub

Atlas Copco T3WDH

Rumohr cores (gravity cores)

X347: Baltic Sea



Giant piston coring

X386 Japan Trench



Seafloor drill technology

MARUM MeBo70 & MeBo200



1

BGS RD2



1

Benthic Geotech PROD 1, 2, 3 & 4



2

Williamson A-BMS



3

Cellula CRD100



4

Williamson BMS



3

Fugro SFD & SFDII



5

Helix RovDrill 2



6

Royal IHC SWORD



7

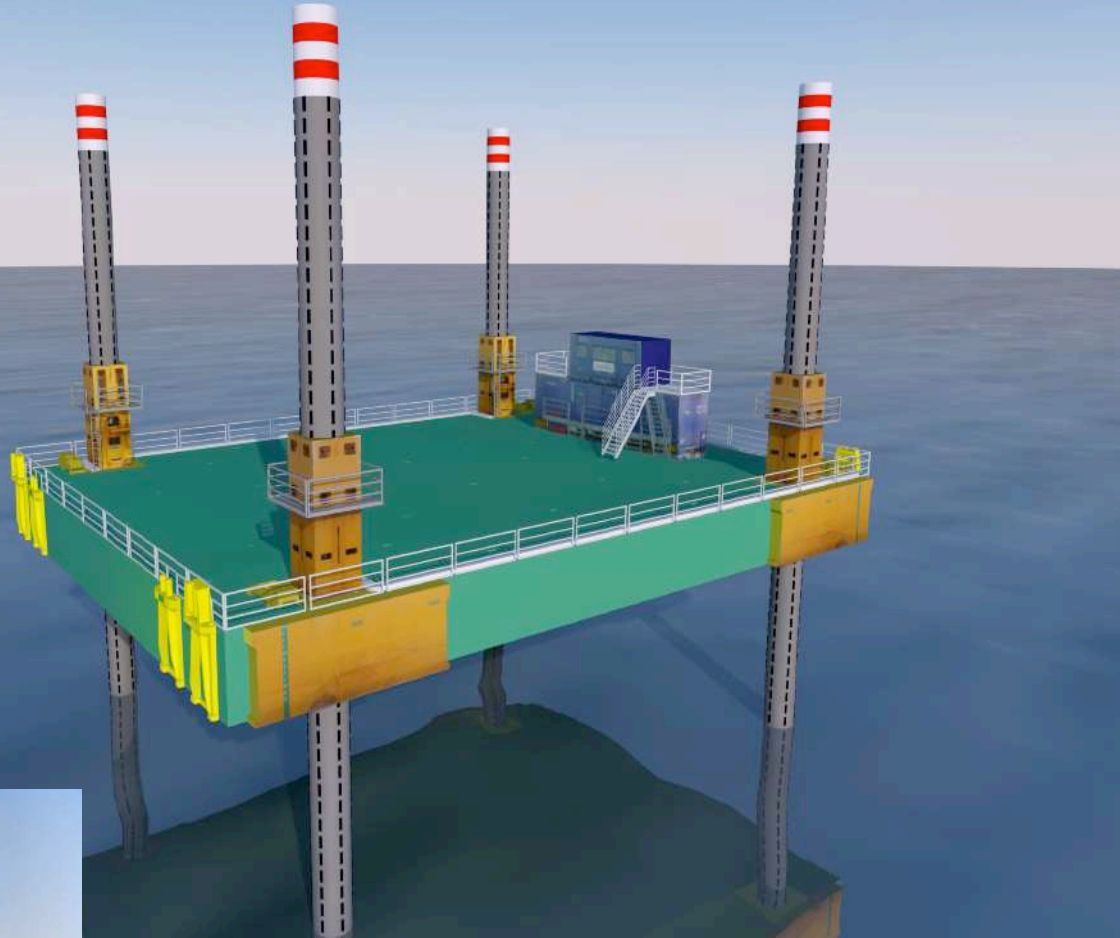


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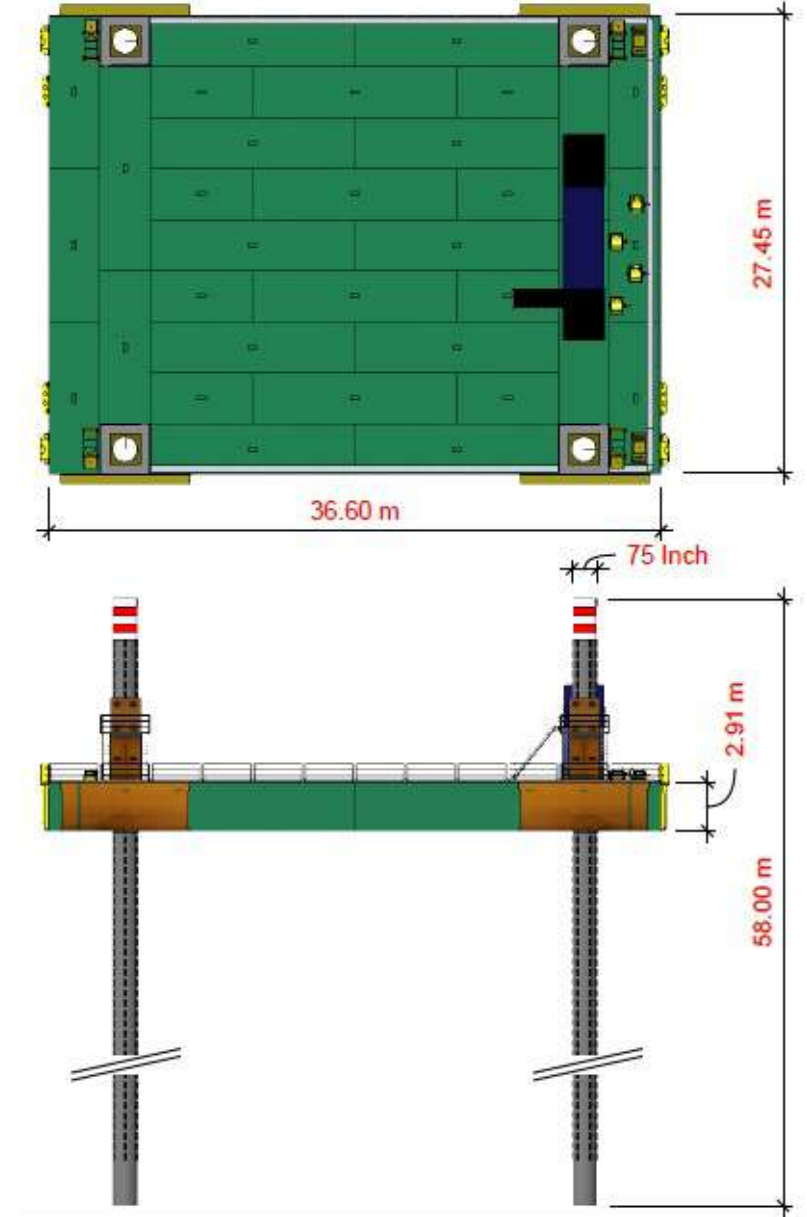


COMBIFLOAT C-9

SELF ELEVATING PLATFORM



- Can elevate in up to 56m water depth
- Size can be altered
- Can be transported and mobilised almost anywhere





Credit: Australian Antarctic Division

RSV Nuyina



Australian Government

Department of the Environment and Energy
Australian Antarctic Division

Possible future MSP platforms
for polar regions

RRS Sir David Attenborough



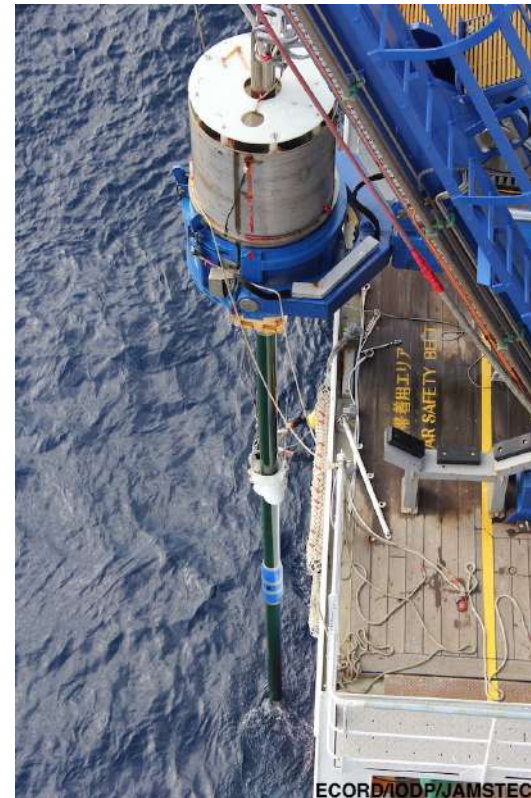
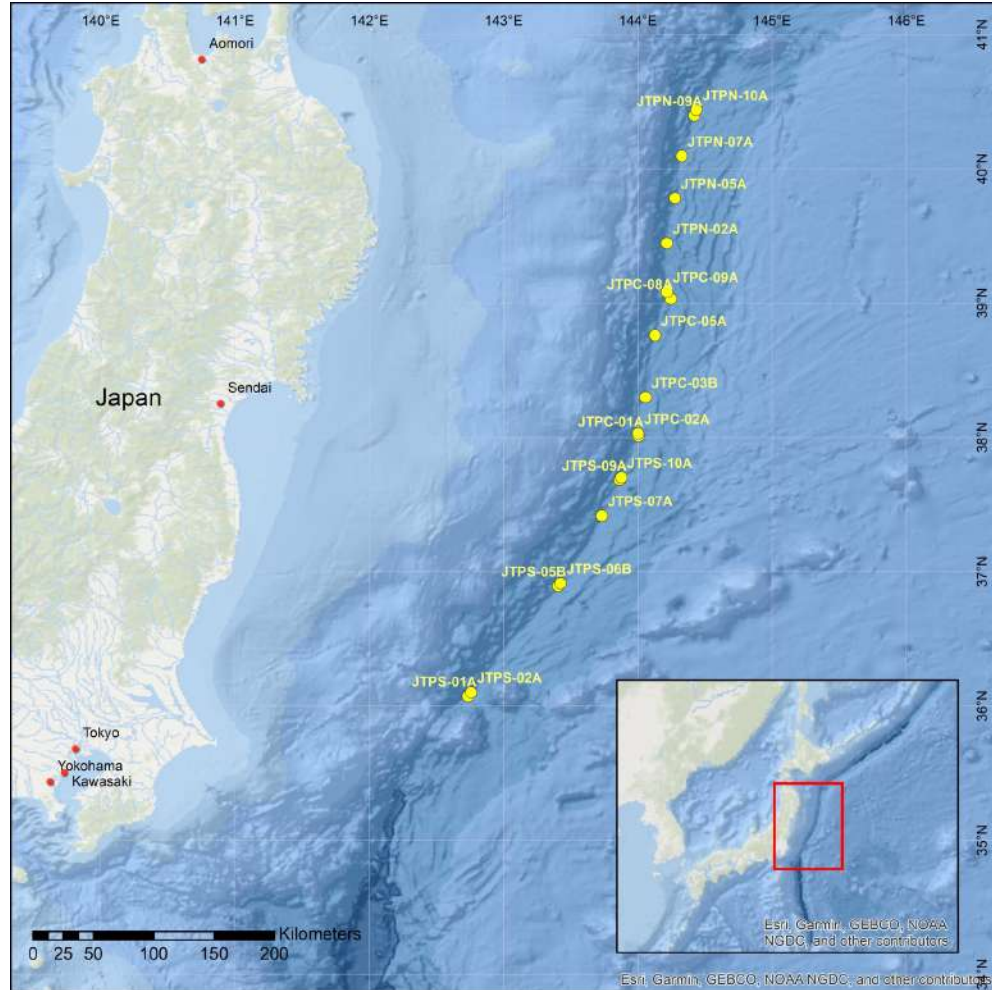
**Natural
Environment
Research Council**



Credit: UKRI / Natural Environment Research Council



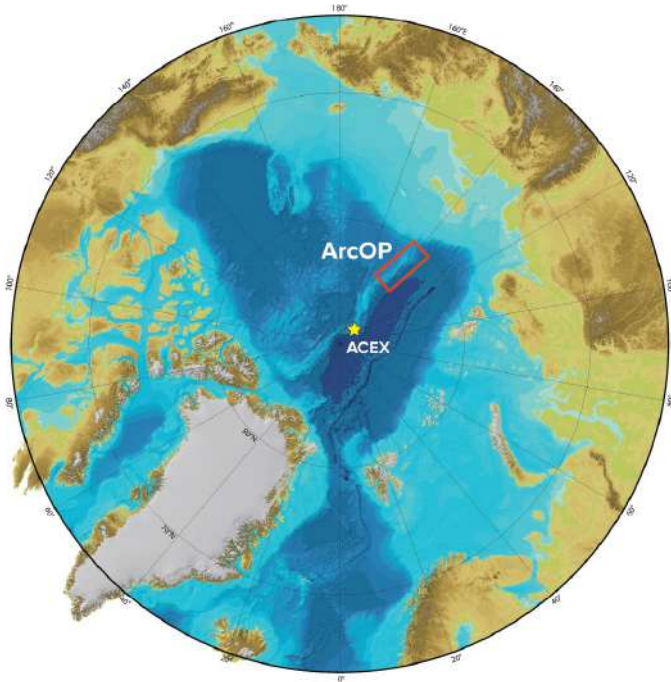
IODP Expedition 386: Japan Trench Paleoseismology, April – June 2021



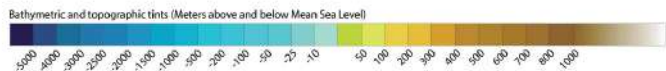
Exp. 377 Arctic Ocean Paleoceanography (ArcOP) Aug-Sept 2022



Drillship: *Dina Polaris*

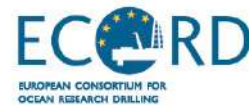


★ Arctic Coring Expedition (ACEX, 2004)
 □ ArcOP working area with potential drill sites



Tracking Arctic climate change from a Greenhouse to an Icehouse world

GOAL:
 Recovery of a continuous stratigraphic record of the long-term Cenozoic climate history of the central Arctic Ocean.



Take-home messages

- New Science Framework until 2050, with periodic assessments
- New structure of the program: Flagship Initiatives
- One or multiple Programs?
- Land-Sea: Amphibious projects
- For our community: FOCUS ON MISSION SPECIFIC PLATFORMS
- New proposals needed – Magellan Workshops