EUROPEAN CONSORTIUM FOR
OCEAN RESEARCH DRILLING

MINUTES

ECORD Facility Board Meeting #11

20-21 September 2022

Aix-en-Provence, France

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ROSTER

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***** *Apologies*
****** *By videoconference*

20 September 2022

1. Introduction

1.1 Welcome and logistics (G. Uenzelmann-Neben/G. Camoin/N. Hallmann)

(9:00)

G. Uenzelmann-Neben welcomed the participants and opened the meeting. G. Camoin presented the logistical information.

1.2 Welcome, opening remarks and rules of engagement (G. Uenzelmann-Neben)

(9:07)

** Moment of silence for Leanne Armand and Dirk 'Dick' Kroon **

G. Uenzelmann-Neben presented the rules of engagement (see agenda book page 11).

1.3 Introduction of participants (All)

(9:12)

G. Uenzelmann-Neben let all the participants begin self-introductions.

1.4 Meeting agenda approval (G. Uenzelmann-Neben)

(9:25)

G. Uenzelmann-Neben presented the agenda and the roster. The ECORD Facility Board approved the agenda.

ECORD Facility Board Consensus 22-09-01:
The ECORD Facility Board approves the agenda of the ECORD Facility Board Meeting #11.

2. ECORD Facility Board and other ECORD entities

Reports were presented for the EFB (G. Uenzelmann-Neben), EMA (G. Camoin), the BCR (U. Röhl), the EPC (T. van Peer), ESO outreach (U. Prange), ESSAC (A. Camerlenghi) and MagellanPlus (N. Hallmann).

2.1 EFB: Membership and activities since last meeting (G. Uenzelmann-Neben)

(9:26)

G. Uenzelmann-Neben gave an update on the ECORD Facility Board (EFB) activities.
The EFB members with voting rights are 1) the six Science Board members: EFB Chair Gabriele Uenzelmann-Neben (GER), EFB Vice Chair Alexandra Turchyn (UK), Michele Rebesco (ITA), Yasuhiro Yamada (JPN), Fengping Wang (CHN) and Beth Christensen (USA); 2) the members of the ECORD Vision Task Force: ECORD Council core members, EMA Director, ESO Manager and ESSAC Chair; and 3) NSF and MEXT with one representative each.

Alexandra Turchyn (UK) is EFB Vice-Chair and will replace Gabriele Uenzelmann-Neben (GER) as EFB Chair on 1 January 2023. Yasuhiro Yamada (JPN) and Fengping Wang (CHN) will rotate off on 31 December 2022.

G. Uenzelmann-Neben gave an overview of MSP proposals at the EFB:

637-Full2: New England Shelf Hydrogeology - in the EFB waiting room (see Agenda Item 6.1).

708-Full - Expedition 377: Arctic Ocean Paleoceanography - in the EFB waiting room (2022 cancellation).

716-Full - Expedition 389: Hawaiian Drowned Reefs – scheduled for 2023 (see Agenda Item 4).

730-Full2: Sabine Bank Sea Level - in the EFB waiting room. The retired Principal Investigator (PI) has been contacted to identify a new PI.

813-Full - Expedition 373: Antarctic Cenozoic Paleoclimate - in the EFB waiting room (see Agenda Item 6.2).

G. Uenzelmann-Neben summarized MSP proposals at the SEP (see Agenda Item 7):

796-ADP: NADIR: Nice Amphibious Drilling - needs to be revised.

931-Pre: East Antarctic Ice Sheet Evolution - needs to be developed as full proposal.

1003-Pre2: N. CAVA Volcanic Ash - needs to be developed as full proposal.

1005-Full: Sunda Sea Level and Weathering - needs to be revised.

1006-Pre: Mediterranean - Black Sea Gateway Exchange - needs to be developed as full proposal.

1007-Full: Sunda Shelf Carbon Cycling - needs to be revised.

The MagellanPlus Workshop Series Programme will help to get more MSP proposals into the system (see Agenda Item 2.7).

G. Uenzelmann-Neben summarized issues that need to be considered for the future:

- Review process (SEP and EPSP): funding of SSO, SEP and EPSP will end in September 2024
- Fate of existing proposals at SEP and at the EFB: proposals need to be linked to the 2050 Science Framework (addenda have been received for proposals 637-Full2 and 813-Full) and the EFB agreed on the transfer of MSP proposals to an MSP-only phase.
- Programme administration: SSO equivalent
- Future facility board(s) for MSP proposals
- Data management: site survey data, expedition data
- ECORD expedition reports and publications
- Core storage
- Future ESO
- New implementation approaches: regional or technological clustering, collaborations with other platform providers and ICDP, implementation in several phases

ECORD Facility Board Consensus 22-09-02:
The ECORD Facility Board approves the Nomination of Osamu Ishizuka as new Curatorial Advisory Board (CAB) member.

2.2 ECORD News and Budget (G. Camoin)

(9:31)

G. Camoin presented the ECORD news and budget projections until FY24.

Extension of IODP and ECORD through 2024: At the moment, ECORD has 15 member countries. Germany still needs to sign the 2019-23 ECORD MoU. Spain is ready to sign an agreement (CNRS-MCIN) and to pay the membership fees to be again a full ECORD member (see ECORD Council Consensus 22-09-03). USFY24 is an 'option' year in Memoranda underlying the JR Consortium for IODP. The ECORD Council supports the extension of the 2019-2023 ECORD MoU through 2024 (see ECORD Council Consensus 21-10-05). A commitment of the ECORD funding agencies for FY24 is needed. The CNRS will produce a draft of the addendum to the 2019-2023 ECORD MoU covering FY24. The ECORD Council decided to extend the terms of EMA (CNRS), ESO (BGS), ESSAC (OGS-Trieste) and the BCR through 2024 (see ECORD Council Consensus 21-10-06).

ECORD membership: In 2019 and early 2020, ECORD was in contact with its past members Israel, Poland and Belgium as well as with Croatia, Greece and Russia concerning a potential membership. Since the start of the COVID-19 crisis there was no contact anymore, but the contact will be started again. In 2021, ECORD has been in contact with the United Arabian Emirates through the Italian community concerning a potential ECORD membership. In 2022, Iceland contacted ECORD.

There are following changes in the ECORD structure:

1) G. Lüniger (GER) is ECORD Council Chair in 2022. S. Guillot (FRA) is incoming ECORD Council Vice-Chair since 1 July 2022 and he will become ECORD Council Chair starting on 1 January 2023.
2) G. Uenzelmann-Neben (GER) will be EFB Chair until 31 December 2022. Alexandra Turchyn (UK) will be Vice-Chair in 2022 before becoming Chair on 1 January 2023.
3) A. Camerlenghi (ITA) is ESSAC Chair and A. Morris (UK) is ESSAC Vice-Chair until 31 December 2024.

Tim Reston (UK) is SEP Co-Chair and Henk Brinkhuis is IODP Forum Chair until 30 September 2024.

ECORD partnership: The ECORD Council decided to extend the 2019-2023 ECORD-NSF MoU through USFY24 and to pay half of the current contribution to the funding of the *JOIDES Resolution* in FY24, i.e., $3.5M USD (see ECORD Council Consensus 21-10-07). NSF requested letters of interest from their international partners by 1 August 2022. The letters should have stated the expected yearly level of donation to support JR operations during the potential 2025-2028 period; each berth is estimated to cost $470K USD. ECORD sent this letter to NSF at the end of July.
The 2013-2023 ECORD-JAMSTEC MoU does not include an 'option' year. The ECORD Council decided to extend the 2019-2023 ECORD-JAMSTEC MoU through 2024 (see ECORD Council Consensus 21-10-08).

Cancellation of ArcOP 2022 due to the uncertainty regarding the geopolitical situation (see ECORD Council Consensus 22-06-02)

G. Camoin presented the ECORD FY20 to FY24 budgets[*].

The objectives of the next ECORD Council ESSAC meeting, which will be held in Gargonza, Italy, during the week of 14 November 2022 are:

- Post-2024 ECORD MoU/Agreement
- Post-2024 status of EMA, ESO and ESSAC
- ECORD-Japan Scientific Ocean Drilling Programme
- Development of the MSP concept: proposal guidelines, expedition funding and staffing
- Projected ECORD participation in post-2024 MSP expeditions

[*] See confidential annex.

2.3 ESO: Curation activities - BCR (U. Röhl)

(9:57)

U. Röhl gave an update on the Bremen Core Repository (BCR). The BCR currently archives about 162 km of cores from the Atlantic Ocean, Arctic Ocean, Mediterranean Sea, Black Sea and Baltic Sea. Core curation includes the documentation, preservation and protection of the cores as well as the promotion of the responsibility of taking samples from the cores for scientific purposes. The MARUM is also involved in data management tasks, outreach and training.

Activities over the last year: The BCR hosted two Sampling Parties for IODP Expeditions 396 and 391. A high level of sampling has been performed during the pandemic, including the Sampling Party for IODP Expedition 396. From June 2021 to May 2022, 33,659 samples for 204 requests have been taken. Remote support has been provided for IODP Expedition 386: Japan Trench Paleoseismology. Visitors and tours are back; a prominent visitor in early July 2022 was Prince Albert II from Monaco. The 14th ECORD Summer School "Sea level, climate variability, and coral reefs" was held on 5-16 September 2022.

Milestones in 2023: A high level of sampling will be performed on cores from more recent expeditions (Expeditions 396 and 391). The BCR will host 2-4 Sampling Parties for IODP-JR Expeditions with about 20 km of core. The ECORD Training Course and Summer School will be organized in 2023. The BCR will get prepared for the offshore phase of IODP Expedition 389: Hawaiian Drowned Reefs.

The BCR is well prepared for post-2024. Additional racks have been added to the current IODP reefer, which has now a remaining capacity of 34 km. The new building including a new reefer is under construction and anticipated to be completed late 2023.

For further information:

- Short BCR report: agenda book pages 21-22

2.4 ESO: Downhole logging data and core petrophysic measurements (S. Davies/S. Draper)

(10:04)

Tim van Peer presented the activities of the European Petrophysics Consortium (EPC).

Staff updates: Katharina Hochmuth left the EPC team and has been replaced by Andrew McIntyre. Tim van Peer joined the team as Senior Petrophysicist.

IODP Expedition 386: Japan Trench Paleoseismology: EPC remotely supported the offshore phase of Expedition 386 as well as the OSP aboard *Chikyu*. EPC will support the upcoming onshore personal Sampling Party.

IODP Expedition 377: Arctic Ocean Paleoceanography (ArcOP): EPC personnel planned and prepared for Expedition 377 prior to its postponement. EPC worked on new logging equipment and a revised logging protocol for ArcOP.

Equipment: New slimline logging tools and equipment are a good investment for future. They are suitable for ArcOP, but also for other potential expeditions. A penetrometer and a shear vane have been purchased.

ECORD Summer School: An online logging summer school has been organised on 4-8 July 2022: Downhole Logging for IODP Science. Participants from eight countries by institution and eleven countries by nationality attended this online course. A ship-to-shore event and "petrophysics in the kitchen" have been organised. In-person courses work better than online courses with a global audience. The attendees wish to learn more about IODP.

2023: EPC will get prepared for the offshore phase of IODP Expedition 389: Hawaiian Drowned Reefs. An in-person summer school will be organized in 2023.

For further information:

- Short EPC report: agenda book pages 23-24

2.5 ESO: Outreach activities on MSP expeditions (U. Prange/M. Bednarz)

(10:16)

U. Prange presented outreach activities related to MSP expeditions.

IODP Expedition 386: Japan Trench Paleoseismology:

- OSP aboard *Chikyu*
- Re-establishing blog for the hybrid OSP
- Social Media
- Media coverage: radio interview Radio Eins (German); Ohio State News; blogposts
- Media event onboard *Chikyu*

IODP Expedition 377: Arctic Ocean Paleoceanography (ArcOP):

- Preparing outreach plans and material
- Liaising with Onboard Outreach Officer and filmmakers from Galaxie
- Cancelling activities after postponement of ArcOP

IODP Expedition 389: Hawaiian Drowned Reefs:

- Updating communications plan
- Reestablishing contacts for outreach and media

For further information:

- Short outreach report: agenda book pages 25-26

(10:27)
coffee break
(10:51)

2.6 ESSAC: Staffing, courses and other activities (A. Camerlenghi)

(10:51)

In January 2022, the ESSAC Office moved from Plymouth, UK to Trieste, Italy. Angelo Camerlenghi (ITA) is ESSAC Chair and Antony Morris (UK) is ESSAC Vice-Chair. Hanno Kinkel is ESSAC Science Coordinator.

Distinguished Lecturer Programme (DLP): in progress.

ECORD Summer Schools and Scholarships: Three ECORD Summer Schools have been organised in 2022:
1) "Downhole Logging for IODP Science" was held online from 4 to 8 July. About 20 participants attended this summer school.
2) The 2022 Urbino Summer School in Paleoclimatology was held from 7 to 20 July. Fourty-six participants attended this summer school and fifteen scholarships were funded.
3) The 2022 Bremen Summer School with the topic "Sea level, climate variability, and coral reefs" was held at MARUM from 5 to 16 September. About 30 participants attended this summer school and six scholarships were funded.
Besides supporting the three traditional ECORD Summer Schools in Bremen, Urbino and Leicester, ESSAC supported participation of young scientists at the GLAcial Sedimentology School (GLASS), which was held at the Oregon State University, USA, from 23 to 27 May 2022. Twenty-three participants attended this course and eight scholarships were funded. In addition, ESSAC will support participation at the ANZIC Marine Geoscience Masterclass, including the funding of two scholarships.
In total, about 100 participants have been trained in ECORD Summer Schools, and so far, 29 ECORD Scholarships were given.

Staffing of ECORD scientists on IODP Expeditions:
Expedition 391: Walvis Ridge Hotspot: Staffing is completed. Ten ECORD scientists including one Co-chief Scientist were sailing.
Expedition 392: Agulhas Plateau Cretaceous Climate: Staffing is completed. Twelve ECORD scientists including two Co-chief Scientists were sailing.
Expedition 390: South Atlantic Transect 1: Staffing is completed. Eleven ECORD scientists including one Co-chief Scientist were sailing.

Expedition 393: South Atlantic Transect 2: Staffing is completed. Ten ECORD scientists including one Co-chief Scientist were sailing.
Expedition 377: Arctic Ocean Paleoceanography: Staffing is completed. Eighteen ECORD scientists including one Co-chief Scientist were ready to sail. The expedition has been cancelled.
Expedition 397: Iberian Margin Paleoclimate: Staffing is completed. Ten ECORD scientists including two Co-chief Scientists are ready to sail late 2022.
Expedition 398: Hellenic Arc Volcanic Field: Staffing is completed. Twelve ECORD scientists including two Co-chief Scientists are ready to sail in 2023.
Expedition 395: Reykjanes Mantle Convection and Climate: Staffing is completed. Ten ECORD scientists including one Co-chief Scientist are ready to sail in 2023.
Expedition 399: Building Blocks of Life, Atlantis Massif: Staffing is completed. Seven ECORD scientists including one Co-chief Scientist are ready to sail in 2023.
Expedition 389: Hawaiian Drowned Reefs: Staffing in progress.
Expedition 400: NW Greenland Glaciated Margin: Staffing in progress.

There will be soon two open calls for Expedition 401: Mediterranean-Atlantic Gateway Exchange and Expedition 402: Tyrrhenian Magmatism and Mantle Exhumation (TIME), which will open on 1 October 2022.

ESSAC-JDESC joint initiatives: Two identical ECORD-Japan webinars have been organised on 12 and 14 April 2022 to inform the scientific community of the new ECORD-Japan post-2024 partnership. An ECORD-Japan Workshop Planning Group is planned to enhance scientific collaboration between ECORD and Japan in a post-2024 scientific ocean drilling programme, which will be inclusive to all international partners. A first online workshop is planned for January 2023 with a wide participation to review existing proposals and to identify gaps. A second (hybrid) workshop with a smaller participation is planned for autumn 2023 to organise proponent teams and to define a roadmap for proposal submission.

A joint ECORD/IODP-ICDP scientific session "Achievements and perspectives in scientific ocean and continental drilling" co-sponsored by Japan Geoscience Union and J-DESC will be organised at the EGU 2023.

The ECORD PufferSphere will travel to the Italian Geological Society (SGI) and Italian Society of Mineralogy and Petrology (SIMP) joint congress "Geosciences for a sustainable future", which will be organised in Turin, Italy, from 19 to 21 September 2022.

2.7 Past and future MagellanPlus workshops (L. Lourens/N. Hallmann)

(11:10)
ECORD and ICDP fund MagellanPlus workshops and travel grants to support the development of new and innovative scientific drilling proposals for all IODP platforms and ICDP. The MagellanPlus workshop programme provides financial support of up to 15 k€ per

workshop. Since 2014, 41 MagellanPlus workshops have been organised and 24 IODP pre- and full proposals have been generated. Since 2012, more than 1500 participants from 13 ECORD and 26 non-ECORD countries, of those seven IODP and 19 non-IODP countries, have been involved in MagellanPlus workshops.

The MagellanPlus Steering Committee suggested to issue two calls for workshop proposals with deadlines of 15 January and 15 May 2022 generating MSP drilling proposals addressing the Strategic Objectives of the 2050 Science Framework. The ECORD Council approved a budget increase from 70 k€ to 110 k€ for 2022 (ECORD Council Consensus 21-06-10) in order to fund two additional workshops and to provide more travel grants: 60-75 k€ for regular workshops, 15-30 k€ for exploratory workshops and 20 k€ for travel grants. In 2022, seven workshop proposals have been received and the MagellanPlus Steering Committee decided to fund six workshops. So far, four workshops have been organised in 2022, and eight more workshops will still be held in 2022. Of those, nine are regular workshops to develop a drilling proposal and three are exploratory workshops to bring together scientists who explore how MSPs could be used to address Strategic Objectives of the 2050 Science Framework. Another workshop is already scheduled for January 2023. The next MagellanPlus call for workshop proposals will be issued in autumn 2022.

For further information:

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

3. Outcomes of Expedition 386: Japan Trench Paleoseismology (D. McInroy/J. Everest)

(11:22)

J. Everest presented a summary of the Onshore Science Party of Expedition 386: Japan Trench Paleoseismology.

The Onshore Science Party (OSP) comprises three phases:

1) Phase 1 from 14 February to 15 March 2022: hybrid with Japan-based scientists aboard the D/V *Chikyu* and remote participation of everyone else;
2) Phase 2 from 16 March to 14 November 2022: Science Party data review and reporting, assisted by ESO;
3) Phase 3 from 15 November to 6 December 2022: Personal Sampling Party aboard the D/V *Chikyu*.

During the OSP, ESO set up 'Slack' online work spaces for all disciplines allowing rapid communication across different time zones. All data were made available to the Science Party on the MARUM Nextcloud server throughout the OSP after full QA by ESO and MarE3. After the OSP aboard *Chikyu*, samples were sent to members of the Science Party, the BCR and EPC for various analyses. XRF scanning has been completed in Innsbruck and at the

AIST.
The Expedition Report will be submitted to TAMU by the end of October 2022. The Editorial Board Meeting will be organised in College Station, Texas, from 6 to 10 March 2023.

See agenda book pages 28-29 for further information about IODP Expedition 386.

DISCUSSION about the hybrid mode of Expedition 386:
B. Christensen asked what has been learned from the hybrid implementation mode of Expedition 386. The organization is challenging, and a section in the Expedition Report will describe communications during the offshore and onshore phase (J. Everest). At the moment feedback is collected from the scientists and the Expedition Report will include a complete description of the procedures (D. McInroy). The expedition was successful, but ESO would advice against virtual expeditions (D. McInroy). It is important to document what has been lost when implementing an expedition in a hybrid mode (B. Christensen). Some aspects of Expedition 386 might help to improve the implementation of future MSP expeditions, for example, interactions between the offshore and the onshore teams can be enhanced (D. McInroy).

4. Upcoming MSP expedition: Expedition 389: Hawaiian Drowned Reefs (D. McInroy)

(11:46)
D. McInroy summarized the scientific objectives, operational planning and permitting.

Operational planning: Co-chief Scientists are Jody Webster (AUS) and Christina Ravelo (USA). Eleven primary sites and nine alternate sites were proposed. The water depths range from 129 to 1234 m. Penetration depths are 45-110 (minimum) mbsf. ESO is aiming to use a seafloor drill as high recovery and high-quality cores can be obtained, and permitting is easier than with a geotechnical vessel with coring rig as the public perception is more acceptable. A Call to Tender has been issued from 14 April to 1 June 2022 and technically compliant bids have been received, but they have been over budget. On 30 June, the drilling budget has been revised and approved by the ECORD Council. The elevated budget includes fuel contingency. A new Call to Tender is in preparation and will be issued after final approval at the meeting with the UK Cabinet Office on 28 September. The offshore phase will last up to 60 days and will take place some time between mid-August and end of October 2023 starting in Honolulu, Hawaii. The OSP will be up to four weeks long and will be organised in Bremen early 2024.

Permitting: Paperwork is being updated since 2019 and ESO is interacting with several state and federal agencies.

X-ray CT core scanning: Co-chief scientists and ESO are looking for options for XCT scanning of the cores. ESO predict an underspend in 2022 and recommend to carry forward the underspend into 2023 for core scanning. A proposal will be presented to ECORD later this

year.
Option for deep water seafloor drill test: The seafloor drill technology could be demonstrated in deep water and hard rock in the vicinity of Hawaii. Once reef coring is finished, 3-4 days could be added at the end of the expedition to prove seafloor drill cabability in these environments. This option has been added to the Call to Tender. If feasible, a costed proposals will be prepared for ECORD.

DISCUSSION about IODP Expedition 389: Hawaiian Drowned Reefs:
Ideally, three to five bidders would respond to the Call to Tender. Some bidders might be excluded when specifying penetration depths of 120 or 150 mbsf, that is why a shallower penetration of 110 mbsf has been chosen (D. McInroy). ESO wants to see a track record of the suppliers for their systems. The deep-water test refers to water depths of greater than 2000 m with penetration depths of several tens of meters in hard rock (D. McInroy).
G. Acton mentioned the 4300 m deep site 1223 of ODP Expedition 200, which is close by and where the upper 40 m have been drilled during a one day-operation. This site would be of high scientific interest. A new X-ray system has been built at College Station, Texas, that could be accessed (G. Acton).
M. Bednarz asked for visual underwater outreach materials that could be produced during Expedition 389. During Expedition 310, landing of the drilling rig has been filmed (G. Camoin). Seafloor drills have cameras for operational reasons, however, the shallowest drill site of Expedition 389 is at a water depth of 129 m, i.e., it would be too dark for filming (D. McInroy). Filming could be done at a shallower test site (D. McInroy). For one project, an ROV was hired to film the operation (G. Acton). Water clarity should be ok for the upper 50 m (G. Camoin).

See agenda book page 30 for further information about IODP Expedition 389.

(12:14)
lunch break
(14:00)

5. IODP Facility Boards and entities

There were reports on the *Chikyu* IODP Board (N. Seama), the *JOIDES Resolution* Facility Board (L. Krissek), the *JOIDES Resolution* Science Operator (G. Acton), the IODP Forum (H. Brinkhuis), the Science Support Office (C. Meth) and the Science Evaluation Panel (T. Reston).

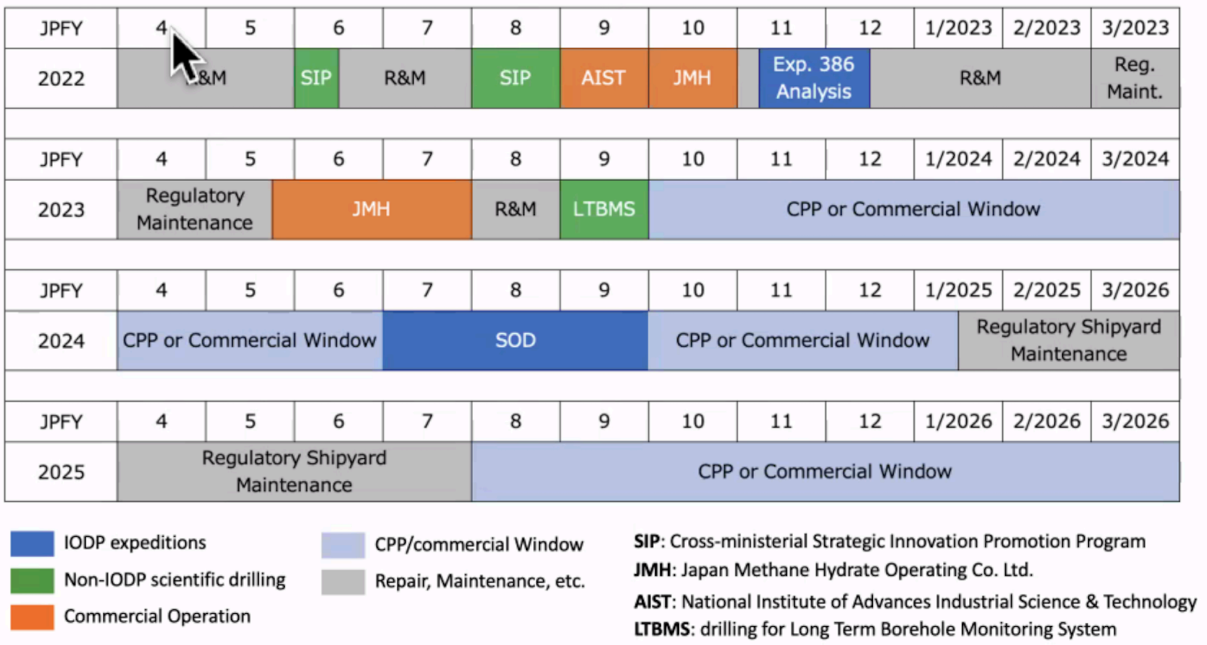
5.1 *Chikyu* IODP Board (N. Seama)

(14:00)
CIB membership: There are two ECORD CIB members: Gilbert Camoin presenting the

ECORD funding agencies and Achim Kopf as Science Board member.

The last CIB meeting was held in Kobe and online on 30-31 August 2022.

N. Seama presented the tentative *Chikyu* operational plan for JPFY2022 to JPFY2025:



N. Seama presented ten out of 13 CIB consensus statements (see agenda book pages 33-34):

- CIB Consensus_0822-03 on the CAB nomination
- CIB Consensus_0822-04 on the KCC report
- CIB Consensus_0822-05 on virtual expeditions
- CIB Consensus_0822-06 on core repositories and curatorial policies
- CIB Consensus_0822-08 on SEP proposal review request
- CIB Consensus_0822-09 on CIB implementation recommendation
- CIB Consensus_0822-10 on APL 939
- CIB Consensus_0822-11 on active *Chikyu* proposals
- CIB Consensus_0822-12 on post-2024 scientific ocean drilling
- CIB Consensus_0822-13 on the next CIB meeting

For further information:

- Minutes of the CIB August 2022 meeting: https://www.jamstec.go.jp/cib/

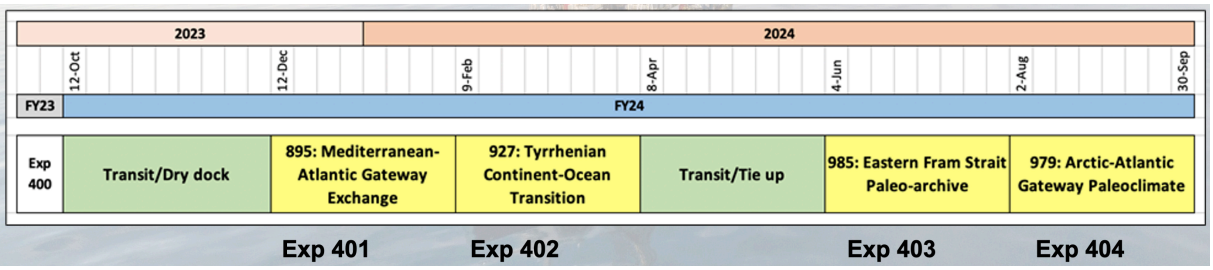
5.2 *JOIDES Resolution* Facility Board (L. Krissek)

(14:12)

L. Krissek presented the FY24 JR schedule and some forward-looking steps.

FY24 JR schedule: Guidance from NSF was to schedule four expeditions of low cost and low

operational risk, and to realize that the fourth expedition may have to be canceled due to increased operational costs or start of JR demobilisation.



The JRFB recognizes the importance of international collaboration in the history of scientific ocean drilling. The JRFB supports efforts to extend JR operations beyond 2024. Activities by SEP and EPSP will depend on JR extension vs demobilisation.

If JR operations are extended, the JRFB recommends to transfer existing proposals to the new programme with proponent consent and an addendum stating how the 2050 Science Framework is addressed, and with maintaining the current review/approval status. A call for new proposals would be issued with a deadline of 1 April 2023 and the JR would continue working in the Atlantic in USFY2025.

Draft guidelines for proposals that will address the 2050 Science Framework have been received. The JRFB approved closing the community Request for Information (RFI).

The JRFB Working Group on Virtual Expeditions will coordinate efforts with groups considering similar topics. Its tasks include to define the minimum requirements for a research effort to be considered a virtual expedition and to develop recommendations for procedures related to the evaluation, endorsement and scientific outcomes of such an expedition. Chair of this working group is Larry Krissek.

For further information:

- Minutes of the *JOIDES Resolution* Facility Board May 2022 meeting: https://www.iodp.org/jrfb-minutes/1182-jrfb-2022-may-minutes/file

COMMENT on existing proposals:
G. Camoin asked what would happen to the existing JR proposals if the JR would not be extended. Will the proponents have the opportunity to submit an addendum relating their proposal to the 2050 Science Framework to any other programme able to perform riserless drilling (G. Camoin)? This issue will be discussed at the next JRFB meeting (L. Krissek).

5.3 *JOIDES Resolution* Science Operator (G. Acton)

(14:29)
G. Acton presented results of IODP Expeditions 391: Walvis Ridge Hotspot, 392: Agulhas Plateau Cretaceous Climate, 390/393: South Atlantic Transect as well as an update on the

ongoing IODP Expedition 397T: transit and coring. Maintenance has been performed during Expedition 397P tie-up in Cape Town from 7 August to 10 September (see agenda book pages 39-46).

Current JR pandemic issues: Quarantines are taking a cumulative toll on crew and JRSO staff. COVID protocols have a substantive cost (about $500K per port call). Siem has 20 doses of Paxlovid coming to the ship at the Lisbon port call to treat high-risk individuals. JRSO developed COVID Mitigation Protocols Established (COPE) for Safe JR Operations: http://iodp.tamu.edu/scienceops/JR_COVID-Mitigation-Protocols.pdf

JRSO budget: NSF FY22 budget guidance is of $65M USD and the JRSO budget is of about $67.7M USD so that the difference had to be covered by JRSO carryover funds. COVID-related costs have not been included in the FY22 Annual Program Plan, the day rate increased as well as the fuel costs. Additional funding is needed given an actual budget of about $71M USD. JRSO received $3.9M million extra from NSF to cover these additional costs. The FY23 Annual Program Plan with a budget of about $71M USD still needs final approval. NSF has requested an estimated closeout budget from JRSO.

JR inspections and NSF review: Class inspections have been performed in January 2021 and February 2022. An NSF inspection in June 2022 resulted in a very positive report. A summary of the Mid-Award Site Visit Panel Report from 19 to 21 July 2022 is available: http://iodp.tamu.edu/publications/assessment.html

COMMENT on JR demobilisation:
NSF has determined that the demobilisation of the JR would occur in FY24 if the award would not be renewed (J. Allan).

5.4 IODP Forum (H. Brinkhuis)

(14:55)
H. Brinkhuis summarized the outcomes of the IODP Forum meeting, which was held in Palisades, NY, USA, on 14-15 September 2022.

Consensus Statements of the September 2022 IODP Forum meeting:
https://www.iodp.org/forum-minutes-and-consensus-items

5.5 Science Support Office (C. Meth)

(15:10)
The tasks of the IODP Science Support Office (SSO) are: 1) to support the JRFB and its advisory panels, including liaison functions with other facility boards, the IODP Forum, science operators and PMOs; 2) to manage the IODP proposal submission/review process; 3) to provide an IT platform (PDB, SSDB); and 4) to maintain the IODP website.

Proposal submission history: Since the start of the International Ocean Discovery Program in 2013, 180 new proposals have been received. Of those, 54% have been declined, 19% are under active review at SEP and 13% were forwarded to the Facility Boards for scheduling. An additional 20 proposals carried over from the Integrated Ocean Drilling Program are still active in the system.

C. Meth summarized the proposal statistics (see agenda book pages 50-58). At the moment there are 94 active IODP proposals in the system: 67 JR, 11 *Chikyu*,11 MSP and 5 Multiple proposals. Of those, 58 are at the Facility Boards and 36 are at SEP (2 are in the holding bin). The proposals target mainly the Pacific (39) and the Atlantic (23) oceans. ECORD and the USA are nearly equal in the number of lead proponents (ECORD: 35, U.S.: 37, Others: 22). ECORD has the highest number of unique proponents (ECORD: 486, U.S.: 364, Others: 353). Of the 94 active proposals, 57 are full proposals and 22 are pre-proposals, plus nine APL and six umbrella proposals.

5.6 Science Evaluation Panel (T. Reston)

(15:25)

T. Reston gave a panel update. SEP is responsible for the evaluation of all IODP proposals in terms of scientific excellence as well as completeness and quality of the site characterization data packages.

SEP membership: The Science Subgroup has 31 members and the Site Subgroup has 21 members (as of June 2022; see agenda book page 61). The new SEP Science Co-chair is Kathleen Marsaglia (USA) who started on 1 April 2022. Tim Reston (UK) is the new SEP Site Co-chair who started his term in December 2021. Pre-SEP introductory meeting are organised for new panel members and a similar meeting is held before every SEP meeting.

Five watchdogs with expertise in science, site survey data and operation are responsible for the evaluation of an IODP proposal. General evaluation criteria for IODP proposals include 1) wide interest of scientific questions, 2) compelling and feasible scientific proposal, 3) advancement of the IODP Science Plan and 4) engagement of new communities or other science programmes. Site Characterization Classification to assess if the reviewed data are sufficient to support the scientific objectives.

So far, SEP organised four virtual meetings in June 2020, January 2021, July 2021 and January 2022. The most recent meeting in June 2022 was hybrid.

At the January 2022 SEP meeting, eleven proposals have been reviewed, of which seven were JR proposals, one *Chikyu* and four MSP. The results of the January 2022 SEP meeting are shown in Table 1. MSP proposals 1003-Pre2: N. CAVA Volcanic Ash and 1006-Pre: Mediterranean - Black Sea Gateway Exchange need to be developed as full proposals. MSP

proposal 1005-Full: Sunda Sea Level and Weathering needs to be revised. MSP proposal 995-Full: Canterbury Bight Offshore Freshened Groundwater was declined.

Table 1: Outcomes of the January 2022 SEP meeting. Yellow: MSP proposal. Blue: JR proposal.

969	Full	JR	Guangfa Zhong	Huatung Basin Mesozoic Ocean Relics	Decline
992	Full	JR	Peter Haeussler	Prince William Sound Subduction and Climate	Revise
995	Full	MSP	Aaron Micallef	Canterbury Bight Offshore Freshened Groundwater	Decline
990	Full2	JR / NR Chikyu	Rie Nakata	Hyuga-Nada Observatory	External review
971	Full2	JR	Alessio Sanfilippo	Kane Megamullion Deep Drilling	JRFB. Rated Good
885	Add	JR	Jangjun Bahk	Ulleung Basin Landslides	JRFB. Rated Good
941	Add	JR	Yasuhiko Ohara	Godzilla Megamullion Lithosphere Architecture	External Review (dec-ision at last meeting)
1004	APL2	JR	Uisdean Nicholson	Nadir K-Pg Impact Crater	Revise
1003	Pre2	MSP	Ann Dunlea	N. CAVA Volcanic Ash	Revise to Full
1005	Full	MSP	Peter Clift		Revise
1006	Pre	MSP	Wout Krijgsman	Mediterranean-Black Sea Gateway Exchange	Revise to Full

At the June 2022 SEP meeting, three full proposals, one APL and two addenda at the request of the EFB have been reviewed. The results of the June 2022 SEP meeting are shown in Table 2. MSP proposal 1007-Full: Sunda Shelf Carbon Cycling needs to be revised.

Table 2: Outcomes of the June 2022 SEP meeting. Red: EFB special request, green: back from external review, orange: revised, blue: new proposal.

ID	Type	PI	Short Title	Recommendation
637	Add8	Brandon Dugan	New England Shelf Hydrogeology	Good for SF2050
813	Add2	Trevor Williams	Antarctic Cenozoic Paleoclimate	Good for SF2050
941	Full2	Yasuhiko Ohara	Godzilla Megamullion Lithosphere Architecture	Holding Bin
990	Full2 (Add)	Rie Nakata	Hyuga-Nada Observatory	Holding Bin
1004	APL3	Uisdean Nicholson	Nadir K-Pg impact Crater	Holding Bin
1007	Full	Zhifei Liu	Sunda Shelf Carbon Cycling	Revise

T. Reston summarized MSP proposals currently at SEP that may be forwarded to the EFB:

#	type	platform	Last reviewed	Lead	Title	Status / last review
796	ADP	MSP	6/2015	Achim Kopf	NADIR – Nice Amphibious Drilling	Revise to L2S proposal
931	Pre	MSP	1/2018	Amelia Shevenell	East Antarctic Ice Sheet Drilling	Revise to Full
1003	Pre2	MSP	1/2022	Ann Dunlea	N. CAVA Volcanic Ash	Revise to Full
1005	Full	MSP	1/2022	Peter Clift	Sunda Shelf Sea Level	Revise
1006	Pre	MSP	1/2022	Wout Krijgsman	Mediterranean-Black Sea Gateway Exchange	Revise to Full
1007	Full	MSP	6/2022	Zhifei Liu	Sunda Shelf Carbon Cycling	Revise

The next (hybrid) SEP meeting will be held in La Jolla, CA, USA, in January 2023.

(15:35)
coffee break
(16:00)

6. Review of the MSP proposals @ EFB

Two MSP proposals that are currently at the ECORD Facility Board were reviewed and discussed: 1) #637 New England Shelf Hydrogeology and 2) #813 Antarctic Cenozoic Paleoclimate (Expedition 373).

6.1 Proposal 637-Full2+Add8: New England Shelf Hydrogeology

6.1.1 Summary of objectives, SSD and previous EFB decision (B. Christensen)

(16:00)

B. Christensen summarized the scientific objectives, the proposal history and the drilling plan. Proposal #637-Full2 was submitted in April 2005. In March 2014, the EFB decided to keep the proposal in the waiting room because it was considered as too expensive to be implemented. The proponents organized a workshop co-funded by USSSP and ICDP on 22-23 May 2017 to discuss the options and the achievable scientific objectives. In January 2018, the proponents submitted an addendum to IODP to support the new drilling sites (and their number) and how they address the science objectives. Addendum 7 includes three sites with three holes. In 2019, the proponents submitted a full proposal to ICDP, as an amphibious drilling plan. In April 2021, the proponents submitted IODP proposal 972: New England Slope Hydrogeology (APL). Addendum 8 aligns the proposal to the 2050 Science Framework.

6.1.2 Drilling operations and costs (D. McInroy)

(16:13)

Water depths:	33 – 79 m
# of sites	2 primary, 2 alternate
Coring strategy	1 hole per site, choose 3rd site at sea
Penetration: (primary sites):	550 mbsf per hole 1650 m total
Lithologies:	Sands, silts and clays
Timing	March – August Avoid hurricanes and winter storms

The drilling plan includes three sites (2 primary and one of the two alternate sites) at water depths of 33-79 m and penetration depths of down to 550 mbsf at each of the three sites. A geotechnical vessel or a large liftboat could be used. D. McInroy presented the cost estimates assuming three holes with wireline logging.*

* See confidential annex.

Permitting is complicated by windfarm activity and needs a minimum six months notice and ESO would aim for 12 months to de-risk. ESO has consulted the Bureau of Ocean Energy Management (BOEM) for advice. Site MV-03C is located in a windfarm development area and site MV-04C is close to this area. This might complicate the permitting process. ESO and the propoenents will discuss if site MV-03C can be moved out of this area. An application for consent for Marine Scientific Research in U.S. waters done by the Office of Ocean and Polar Affairs through the British Embassy in the U.S. is needed. BOEM form 0134 "Notice of Scientific Research Related to Minerals Other than Oil, Gas, and Sulphur on the Outer Continental Shelf" needs to be included. This form covers "Deep Stratigraphic Tests" for scientific research and helps to avoid entering the "Permit to Drill" route with the Bureau of Safety and Environmental Enforcement (BSEE), which governs oil and gas activity.

IKCs have not yet been identified. ESO will liaise with the lead proponent concerning requirements for casing, packing and pumping to be specified for tendering. Maybe there will be an opportunity to use a platform, which is currently in the region doing windfarm development.

DISCUSSION about an expedition based on proposal 637-Full2+Add8: New England Shelf Hydrogeology:
G. Camoin asked about a potential difference between the proposed two platform types concerning microbiological sampling. ESO will not dictate the platform in the call for tender, but leave the bidders and suppliers suggesting their preferred platform option. It will be a question of availability and cost (D. McInroy). A stable platform offers better recovery and quality in the predicted lithologies. A choice between the two platform types is a question of budget and benefit/risk (D. McInroy). ESO will contract a company to organise the hazard survey.

6.2 IODP Expedition 373: Antarctic Cenozoic Paleoclimate

6.2.1 Summary of objectives, SSD and previous EFB decision (A. Turchyn)

(16:34)
A. Turchyn summarized the scientific objectives, the drilling plan and the proposal history. SEP forwarded this proposal to the EFB in January 2014. Originally, two main transects of primary and alternate sites along existing seismic lines have been planned. One would have covered icehouse objectives (has been dropped) and the other will cover the greenhouse objectives. In spring 2014, an addendum has been submitted focusing only on the greenhouse transect.

The RVIB *Nathaniel B. Palmer* would not be an IKC, but a contract arrangement. Any option that uses an academic seafloor drill was ruled out as the MeBo systems will not be available for IODP expeditions and the RD2 is also not ready for IODP operations. The use of a commercial seafloor system has been suggested, but this would increase the costs. Bidding in

2018 for a commercial seafloor drill was unsuccessful. In 2022, the proponents submitted an addendum to align the proposal to the 2050 Science Framework.

6.2.2 Drilling operations and costs (D. McInroy)

(16:47)

Water depths:	353 – 1407 m
# of sites	16 primary, 47 alternate
Coring strategy	Up to 16 holes
Penetration: (primary sites):	50 mbsf per hole 800 m total
Lithologies:	Semi-lithified siltstone, mudstone, sandstone, conglomerate, lignite
Timing	Dec – Feb Minimum ice season

The water depths range from 353 to 1407 m. Penetration depths are 16 x 50 mbsf. There are three platform options using 1) a commercial seafloor drill and a hired vessel, 2) a commercial seafloor drill and a research vessel as IKC, and 3) an academic seafloor drill and a research vessel as IKC. D. McInroy presented cost estimates for these three options.* The BGS RD2 is no longer available as it has been decommissioned and the MeBo systems are fully booked until the end of 2024. If ECORD wants to use the MeBo systems in the future, an early commitment (a few years in advance) is needed. Commercial systems allow more flexibility.

Permitting: ESO needs to proceed under the Antarctic Treaty and consulted the UK Foreign & Commonwealth Office (FCO).

IKC potential: Commercial vessel options are expensive and there are only few research vessels that can carry a commercial seafloor system. One option is the Australian research and supply icebreaker RSV *Nuyina*, however, it is challenging to secure. Following exchanges with the Australian Antarctic Division (AAD), a strong representation of Australian scientists on the proposal who can apply for ship time is needed. The proposed science should be aligned with the scientific objectives of the AAD. ECORD needs to encourage the donation of a significant, in-demand facility in prime Antarctic summer season.

DISCUSSION about an expedition based on proposal 813-Full: Antarctic Cenozoic Paleoclimate:

Operating for 60 days in the prime Antarctic summer season using an academic icebreaker is a problem; would it be possible to move the drilling operation at the edges of the typical summer season (A. Camerlenghi)? Such an approach would need many site options and would depend on the ship as well as the seafloor operators as this would be a risky approach (D. McInroy). B. Christensen asked if the expedition could be combined with another expedition in this region. The EFB suggested to combine proposals 813-Full and 913-pre, but no feedback has been received (G. Uenzelmann-Neben). Both proposals are geographically close, but longer transits would lead to shorter coring times, i.e., some sites could not be drilled (D. McInroy).

The RSV Nuyina is funded for 200 days of operation per year (R. Hackney). The actual science schedule for the next five years is full, but the Australian Antarctic Division wants to

* See confidential annex.

cooperate with other organisations so that there might be a chance for ECORD (R. Hackney). The chance might be improved when asking for a partial instead for a full IKC. ANZIC is ready to provide support to ECORD.

The meeting was closed at 17:05.

21 September 2022

8. Discussion of the FY24 MSP operation schedule

8.1 Closed session (EFB members)

(9:00)

ECORD Facility Board Consensus 22-09-03:
The ECORD Facility Board recommends to schedule an expedition based on IODP Proposal 637: New England Shelf Hydrogeology in FY24, if budget allows.

8.2 Open session (G. Uenzelmann-Neben/All)

(10:31)
The outcomes of the closed session have been presented to all.

7. MSP proposal(s) that could potentially be forwarded by SEP in the future

7.1 Summary of scientific objectives (T. Reston)
7.2 Site survey data (T. Reston)
(10:34)

Proposal 796-ADP: NADIR - Nice Amphibious Drilling

T. Reston presented the scientific objectives, the drilling plan and the proposal history (see agenda book pages 86-91). The aim is to characterize the strata of the Plio-Quaternary Var aquifer, and the marine metastable slope E and W of the 1979 collapse structure and its redeposited material downslope at the Ligurian margin (Nice, France). The proposal was last reviewed by SEP in June 2015 and needs to be revised. There is no current ICDP proposal: proposal was submitted to ICDP in January 2015; proponents were asked for a revision; proposal has been rejected in 2016 with encouraging feedback. The proponents are planning to resubmit and have communicated recently. The proposal will need reformatting into the

new joint Land-2-Sea proposal format. Two onshore and four offshore sites along a narrow corridor have been selected.

Proposal 931-Pre: East Antarctic Ice Sheet Evolution

T. Reston presented the scientific objectives and the drilling plan (see agenda book pages 92-97). The target is to recover Late Cretaceous to late Quaternary strata from the Sabrina Coast shelf, offshore of the Aurora Basin, East Antarctica, in order to reconstruct ice sheet evolution and paleoclimate. The proposal was last reviewed by SEP in January 2018 and the proponents were asked to develop a full proposal.

Proposal 1003-Pre: N CAVA Volcanic Ash

T. Reston presented the scientific objectives and the drilling plan of proposal 1003-Pre: Northern Central American Volcanic Arc (CAVA) Volcanic Ash (see agenda book pages 114-120). The objective is to construct ~750 kyr to 7.5 Myr records of the frequency, magnitude, and composition of the volcanic ash (layers and dispersed) in the marine sediments offshore of Southern Mexico and Northern Central America; and to constrain the effects of subseafloor post-depositional alteration of volcanogenic material on carbon cycling pathways and the subseafloor biosphere. The proposal was reviewed by SEP in July 2021 and January 2022. The proponents were asked to develop a full proposal. In response to SEP feedback, the number of primary sites has been reduced from 28 to 20, the depth of the holes has been reduced from 100 m to 60-75 m and the proponents are specifically targeting the RV *Marion Dufresne* using the *Calypso* giant piston coring (GPC) system. A proposal for a pre-drilling site survey has been submitted on 31 August 2021 to collect bathymetric data, echo-sound data, seismo-acoustic data, gravity cores and multicores using the RV *Sonne*. Clearance from four non-IODP countries would be needed.

Proposal 1006-Pre: Mediterranean-Black Sea Gateway Exchange

T. Reston presented the scientific objectives and the drilling plan (see agenda book pages 121-131). The objective is to address fundamental questions concerning the dynamic evolution of the Mediterranean-Black Sea gateway and its paleoenvironmental consequences. The proposal was last reviewed by SEP in January 2022 and the proponents were asked to develop a full proposal. Three primary and five alternate sites are proposed in the northern Aegean, Sea of Marmara and the Black Sea. The JR cannot pass under the Bosporus bridges. There is a good seismic data coverage, but no data have been uploaded.

Proposal 1005-Full: Sunda Shelf Sea Level

T. Reston presented the scientific objectives and the drilling plan (see agenda book pages 98-104). The proposal aims at constraining the magnitude and timing of major sea-level variation across the Sunda Shelf in Southeast Asia and the duration of shelf exposure as well as measuring the amount of chemical weathering that occurs each time the continental shelf is exposed during sea-level low stands. A carbon budget for SE Asia will be constructed and its potential impact on climate will be determined. The proposal was reviewed by SEP in January

2022 and SEP recommended to revise the proposal. Site survey data have been submitted to the SSDB, but additional data are needed. A re-interpretation of seismic data is needed.

Proposal 1007-Full: Sunda Shelf Carbon Cycling

T. Reston presented the scientific objectives, the drilling plan and the proposal history (see agenda book pages 105-113). The objective is to reconstruct Plio-Pleistocene sea-level change, drainage system development and carbon cycling. The proposal was reviewed by SEP in June 2022 and SEP recommended to revise the proposal. A workshop is needed to clarify if proposals 1005-Full and 1007-Full are independent or competing. Site survey data have been submitted to the SSDB, but additional data are needed.

7.3 Drilling operations and costs (D. McInroy)

(11:11)

Proposal 796-ADP: NADIR - Nice Amphibious Drilling

Water depths:	20 – 104 m
# of sites	4 primary, 4 alternate, 2 onshore
Coring strategy	3 holes per site 1 cored, 2 opened and instrumented
Penetration: (primary sites)	60-150 mbsf per hole 1200 m total (400 m cored, 800m opened)
Lithologies:	Gravel to clay, pro delta sequences, transgressive shelf deposits
Timing	June to August Weather/ swell (if using barge)

The proponents proposed four primary and four alternate sites at water depths of 20-104 m and with 60-150 m penetration depths. The coring strategy includes three holes per site. There are three platform options: 1) a moored barge with a mining rig, 2) a commercial ship with a geotechnical rig and 3) a seafloor drill. D. McInroy presented cost estimates for these three options.* The barge approach would be much cheaper than using a geotechnical vessel, but requires low-swell conditions. The significant wave height is generally below 1 m (August 2013). The use of seafloor drills might complicate instrumentation installation. The proponents have stated that they have 3rd party requirements to install borehole instruments. The drill sites are located in French waters close to the airport of Nice so that there might be special requirements. Onshore and offshore operational components could be ligned up as perhaps the same infrastructure, the coring rig, could be used. Mobilisation costs could be shared and operational consistency could be achieved if the same equipment is used for both operational phases.

Proposal 931-Pre: East Antarctic Ice Sheet Evolution

Water depths:	336 - 679 m
# of sites	7 primary, 6 alternate
Coring strategy	1 hole per site
Penetration: (primary sites):	150-200 mbsf per hole 1400 m total (max.)
Lithologies:	Diamict, silt, sand, and mud
Timing	Dec – Feb Weather / ice

The proponents proposed seven primary and six alternate sites with one hole per site and up to 200 m penetration. There are three platform options: 1) an IKC vessel with an academic seafloor drill, 2) an IKC vessel with a commercial seafloor drill and 3) a commercial

ship with a commercial seafloor drill.
D. McInroy presented cost estimates for these three options.* The offshore duration is limited to 60 days for costing, i.e., this will require a descoping of the coring strategy, e.g., limiting penetraton depth in some holes and/or the number of holes.

Permitting: ESO needs to proceed under the Antarctic Treaty and consult the UK Foreign & Commonwealth Office (FCO).

IKC potential: Commercial vessel options are expensive and there are only few research vessels that can carry a commercial seafloor system. One option is the Australian research and supply icebreaker RSV *Nuyina*, however, it is challenging to secure. A strong representation of Australian scientists on the proposal who can apply for ship time is needed. The proposed science should be aligned with the scientific objectives of the Australian Antarctic Division (AAD). ECORD needs to encourage the donation of a significant, in-demand facility in prime Antarctic summer season.

Proposal 1003-Pre: N CAVA Volcanic Ash

Water depths:	1208 – 4714 m
# of sites	20 primary, 36 alternate
Coring strategy	2-3 holes per site, 51 holes
Penetration: (primary sites):	75 mbsf per hole (max. , GPC likely less) 3825 m total
Lithologies:	Clay, silty clay, ash layers
Timing	November - June

The proponents proposed 20 primary and 36 alternate sites at water depths of 1208-4714 m and with a maximum penetration depth of 75 m. The coring strategy includes 2-3 holes per site. There are two platform options: 1) an IKC research vessel with Giant Piston Coring (GPC) and 2) a geotechnical vessel. D. McInroy presented cost estimates for these two options.* The *Calypso* Corer on the R/V *Marion Dufresne* takes regularly 50-60 m cores. Clearance from five non-IODP countries would be needed.

Proposal 1005-Full: Sunda Shelf Sea Level

Water depths:	32 – 424m
# of sites	7 primary, 7 alternate
Coring strategy	Assumed 1 hole per site
Penetration (primary sites):	258 – 884 mbsf per hole 2932 m total
Lithologies:	Sandstones, siltstones, mudstones
Timing	October-May Avoid summer monsoon

The proponents proposed 7 primary and 7 alternate sites at water depths of 32-424 m and with 258-884 m penetration depths. A geotechnical vessel needs to be used. D. McInroy presented a cost estimate for this option.* Potential collaboration with China Multifunction Platform.

* See confidential annex.

Permitting: Clearance from Vietnam would be needed. It has to be considered that the proposed drill sites are close to oil and gas fields.

Proposal 1006-Pre: Mediterranean-Black Sea Gateway Exchange

Water depths:	41 – 424m
# of sites	3 primary, 5 alternate
Coring strategy	6 holes at 3 sites AEG-01: 730 + 100 mbsf MAR-01: 400 mbsf BSB-01A: 470 + 200 + 200 mbsf
Penetration (primary sites):	100-650 mbsf per hole 2100 m total
Lithologies:	Silts, sands, clay, clayey silt, clastic sediments with potential intercalation of thin (detrital) evaporite layers, distal clastics and hemipelagics.
Timing	No constraints

The proponents proposed 3 primary and 5 alternate sites at water depths of 41-424 m and with 100-650 m penetration depths. The coring strategy includes six holes at three sites. A geotechnical vessel needs to be used. D. McInroy presented a cost estimate for this option. *

Permitting: Clearance from Greece, Turkey and Bulgaria (alternate sites only) would be needed.

The future security situation in the Black Sea needs to be considered.

Proposal 1007-Full: Sunda Shelf Carbon Cycling

Water depths:	46 – 161m
# of sites	10 primary, 10 alternate
Coring strategy	2-3 holes at 5/7/10 sites (Basic/Int/Full)
Penetration (primary sites):	Assumed 2 holes per site, 5 site basic plan 166-466 mbsf per hole 3370 m total
Lithologies:	Sandstones, siltstones, mudstones
Timing	October-May Avoid summer monsoon

The proponents proposed 10 primary and 10 alternate sites at water depths of 46-161 m and with 166-466 m penetration depths. A geotechnical vessel needs to be used. D. McInroy presented a cost estimate for this option considering the basic implementation plan with five drill sites and assuming two holes per site.* Potential collaboration with China Multifunction Platform.

Permitting: Clearance from Thailand, Malaysia and Indonesia would be needed.

It should be discussed if the proposals 1005-Full and 1007-Full could be merged.

DISCUSSION about MSP proposals at SEP:

G. Uenzelmann-Neben asked if ESO could cluster proposals 813-Full and 913-pre. The summer season is narrow and getting two operations back-to-back is challenging (D. McInroy). Maybe both expeditions could be shortened so that they can be implemented back-

* See confidential annex.

to-back (G. Uenzelmann-Neben). Such an approach would save mobilisation costs (D. McInroy). Proposal 913-Pre is still immature (T. Reston). As an encouragement, it could be shown to the PIs that implementation could be realized in maybe three to four years in case they decide to cluster the proposals (G. Uenzelmann-Neben). Combining these two proposals in one expedition could be tough as there is always substantital weather downtime (H. Brinkhuis).
G. Uenzelmann-Neben asked if the two Sunda Shelf proposals 1005-Full and 1007-Full could be clustered. China wants to implement a joint expedition with ECORD and Shouting Tuo took the example of the Sunda Shelf project (G. Camoin). G. Camoin attended a meeting together with the 1007-Full proponents and recommended that they work together with Peter Clift, the 1005-Full lead proponent, to see how these two proposals can be implemented at the same time. There is good potential for an ECORD-China collaboration (G. Camoin). There is room for multiple MSPs (instead of combining the two proposals in one MSP expedition) as there is a lot of variability in the stratigraphy of this basin (K. Marsaglia).
The two Antarctic and the two Sunda Shelf proposals are good examples where workshops for Flagship Initiatives could play a role in helping proponents to have a dialogue and list their priorities (A. Camerlenghi).

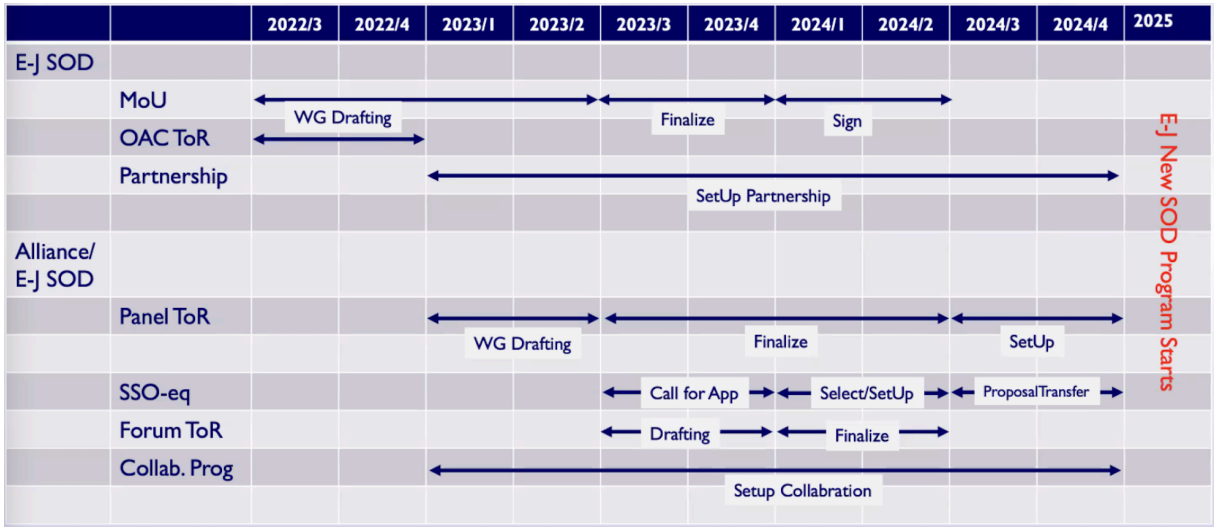
9. Post-2024 ECORD-Japan Scientific Ocean Drilling Programme

9.1 Overview (G. Camoin/N. Eguchi)

(11:46)
N. Eguchi presented the ECORD-Japan Scientific Ocean Drilling Programme.

Several ECORD-Japan bilateral meetings have been organised since September 2021. ECORD and Japan agree to build up a joint scientific ocean drilling programme. The basic principles of the ECORD-Japan programme reaffirm the principles of the successive scientific ocean drilling programmes: a single international Science Framework; international staffing of expeditions and advisory panels; being transparent, open, flexible and international; programme-wide standard policies and guidelines; sustainable management of knowledge-based resources (samples, data and publications) and public access to knowledge-based resources. ECORD and Japan agree to establish a joint 'Operation Advisory Committee' (OAC), Vision Task Force and Outreach Task Force in the post-2024 ECORD-Japan scientific ocean drilling programme. An ECORD-Japan Working Group will work on the ECORD-Japan MoU. Another ECORD-Japan Working Group will work on the organization of workshops to enhance scientific collaboration between ECORD and Japan in a post-2024 scientific ocean drilling programme. The programme needs services of an SSO-equivalent for proposal and data management as well as those of SEP- and EPSP-equivalents for proposal evaluation. ECORD and Japan have the vision of an alliance of national / consortia programmes.

N. Eguchi presented the provisional timeline for the post-2024 ECORD-Japan programme and the proposed alliance of national / consortia programmes:



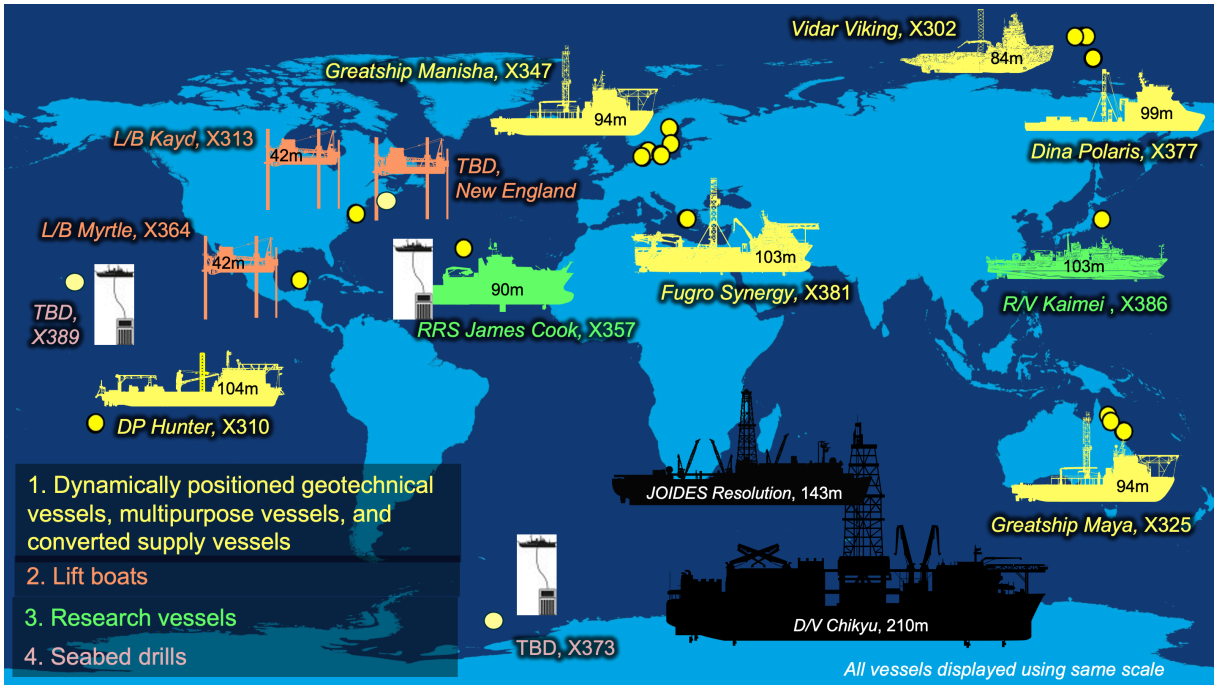
DISCUSSION about the ECORD-Japan Scientific Ocean Drilling Programme:
Programmes with drilling facilities (e.g., China), but also programmes without facilities (e.g., India, ANZIC, Korea) may join the alliance (G. Camoin). Being part of the alliance means that these programmes would have access to the evaluation system where they would also have representatives. Programmes can provide any IKCs to be part of the implementation of expeditions (G. Camoin). B. Christensen asked if participation would require membership. It is more a partnersip as, for example, ANZIC is an own programme with own funding and ANZIC will not become member of the ECORD-Japan programme (G. Camoin). They could provide cash or in-kind contributions and be a partner (G. Camoin). Partnership would be possible through IKCs or berth trading (G. Camoin). Not necessarily nations, but institutions can join the alliance (A. Morris). This is the same situation in ECORD, i.e., ECORD members are governmental entities, but also institutions. An alliance of institutions could join the alliance (N. Eguchi).

9.2 Development of the MSP concept: proposal guidelines, expedition funding and staffing (D. McInroy/G. Uenzelmann-Neben/A. Camerlenghi/G. Camoin/N. Eguchi)

(11:57)
G. Camoin presented the MSP concept and capabilities and how this concept could be applied in the future.

So far, nine MSP expeditions have been completed and a tenth expedition is in planning (Expedition 389). A different platform has been used for each expedition (see figure below). Four categories of platforms/systems have been used: 1) dynamically positioned geotechnical vessels, multipurpose vessels, and converted supply vessels, 2) lift boats, 3) research vessels

and 4) seabed drills.



ECORD has systematically pushed the IODP boundaries by introducing new technologies in IODP, providing access to new drilling environments, opening up IODP to new scientific topics/themes/fields and reaching new scientific communities. The MSP concept allows for technological flexibility as a wide array of drilling and coring systems is used. MSPs are sourced as needed and there is no major infrastructure to be maintained. The adequate technology is selected to achieve the scientific objectives and expeditions can be tailored to better adapt to the scientific needs. New opportunities are provided by technological development. MSPs worked in lithologies where alternative coring methods might yield better recovery, e.g., highly altered ultramafic rocks during Expedition 357, shallow-water carbonates during Expedition 310, shallow-water siliciclastics during Expedition 313 and rocks in the Chicxulub Crater during Expedition 364.

Possible future MSP platforms might include the research icebreakers RSV *Nuyina* and RSS *Sir David Attenborough* as well as moored barges and modular, self-elevating platforms. D/V *Chikyu* can also be used as an MSP as it can also operate in a riserless mode. MSPs will continue to offer scientific drilling access to a wide range of geographic areas, drilling depths, drilling environments and science targets. A prominent role for MSPs is anticipated to achieve the goals of the 2050 Science Framework. The ECORD-Japan programme will encourage active collaboration with other programmes and initiatives to implement joint expeditions in an MSP mode regardless of the technology and/or drilling/coring environment. For example, collaboration with ICDP to achieve land-to-sea transects is of prime importance. Land-to-Sea drilling is one of the Enabling Elements of the 2050 Science Framework. MSPs offer the opportunity for operational collaboration between domains, as well as scientific collaboration (e.g., share coring infrastructure and equipment).

A significant effort has been done by ECORD to encourage the science community to submit MagellanPlus workshop proposals to generate MSP drilling proposals (see Agenda Item 2.7). Since 2021, various MagellanPlus calls have been issued and the MagellanPlus budget has been increased. The community reacted and submitted proposals with a great diversity of scientific themes for three exploratory workshops providing 2-3 MSP drilling proposals each as well as nine regular workshops covering also the drilling of land-to-sea transects.

G. Camoin presented new ways for implementing scientific ocean drilling expeditions. MSP expeditions offer a remarkable operational flexibility concerning the duration of the expeditions, their staffing and their funding. Concerning the duration of MSP expeditions, the IODP Proposal Submission Guidelines already state that MSP expeditions have variable operational times and do not follow the standard two-month expedition. New implementation approaches might include regional and/or technological clustering, joint efforts between programmes, joint efforts with ICDP and other programmes/initiatives and implementation in several phases (Flagship Initiatives). Concerning the staffing of MSP expeditions, there is no need to limit to about 30 Science Party members as in the past and current programmes. A more dynamic process to determine the number of Science Party members for each expedition based on scientific objectives and needs is a better approach. The size of the Science Party can be expanded depending on the scientific needs so that as many samples/data as possible can be analyzed and valorized. In addition to the offshore and onshore teams, there could be an additional category of scientists ensuring that the high-quality science threshold requirement is met during the moratorium period. Provision of IKCs and/or cash contributions from any scientific ocean drilling member and non-member country/institution represents a model for future MSP expeditions. IKCs may include fully or partly funded drilling platforms, support vessels, essential scientific service that the MSP operator would normally pay for. IKCs are rewarded by extra Science Party positions on any expedition.

Communication concerning the new ECORD-Japan Scientific Ocean Drilling Programme has been done via webinars, conference townhalls and other ECORD channels like the ECORD Newsletter and the website. The science community needs to be informed, and therefore, ECORD and Japan will organise ECORD and Japan tours to present the new programme and new opportunities provided by this programme.

DISCUSSION about post-IODP:
The ECORD-Japan tours will be open to the international community and might be organised in a hybrid mode or they could also be recorded (G. Camoin). The level of contributions to join the alliance is not yet set. Only four ECORD countries provide a budget of more than $1M USD, i.e., 11 current ECORD members could not access ocean drilling as they could not be JR consortium members (G. Camoin). The range of financial contribution to ECORD is large with $80K up to $5.6M USD per year. The number of Science Party members is based on the contribution, but the educational system is open to everybody. Provision of IKCs or cash contributions allows for a certain number of berths on any expedition (G. Camoin). At

the moment, the costs for a berth on an MSP expedition are similar to the costs of a JR berth, i.e., $470K USD. Giving more access by increasing the Science Party might lower the berth costs (G. Camoin). ECORD-Japan wants the maximum presentation from the international community (G. Camoin). The quota system within ECORD concerning the staffing of expeditions is not rigidly respected as a long-term commitment gives the needed flexibility (A. Camerlenghi). The selection of scientists for any MSP expedition is merit-based (G. Camoin).
Institutions or an alliance of institutions could join the alliance. For example, four research institutions in Italy provided funds for some years to access scientific ocean drilling and thus saved the Italian community before the Italian government was involved again (A. Camerlenghi).
Expanding the Science Party could, for example, be achieved using remote technology (Y. Yamada). More research can be done with this different participation model.

(12:31)
lunch break
(14:02)

10. Asahiko Taira International Scientific Ocean Drilling Research Prize (U. Röhl)

(14:02)

The Asahiko Taira International Scientific Ocean Drilling Research Prize is awarded annually in recognition of outstanding, transdisciplinary research accomplishment in ocean drilling. The prize is given in partnership between the American Geophysical Union and the Japan Geoscience Union. The nominee must be an active scientist within 15 years of receiving the PhD in any discipline. The nominators must be active AGU members. Nominations for the 2023 Taira Prize will be possible from 15 October 2022 to 15 April 2023 (see https://bit.ly/33eodcR). The Taira Prize is an engraved crystal award with a $18K USD monetary prize. There will be a recognition in *Eos* and at the AGU Fall Meeting. The Chair of the Taira Prize committee is Mike Coffin.

11. Review of Decisions and Actions (N. Hallmann/G. Uenzelmann-Neben/All)

(14:10)

G. Uenzelmann-Neben presented the consensus items.

12. Next EFB meeting (G. Uenzelmann-Neben)

(14:14)

ECORD Facility Board Consensus 22-09-04:

The next ECORD Facility Board meeting will be held in September 2023 in Edinburgh, UK.

13. Any other business (G. Uenzelmann-Neben)

None.

ACKNOWLEDGEMENTS

ECORD Facility Board Consensus 22-09-05:
The ECORD Facility Board expresses its sincere thanks to Fengping Wang for her service as a member of the Board. We regret that we have not had the opportunity to benefit from her in-person presence, but her active virtual participation has helped advance discussions at each meeting. We send Fengping our best wishes for her future and have no doubt that she will stay involved in scientific ocean drilling.

ECORD Facility Board Consensus 22-09-06:
The ECORD Facility Board thanks Yasuhiro Yamada for his outstanding service to the Board and IODP over the past years. His extensive experience with scientific ocean drilling and his insightful contributions have been highly appreciated at the EFB meetings. We send Yasuhiro our best wishes for his future endeavours and hope that he will stay involved in scientific ocean drilling.

ECORD Facility Board Consensus 22-09-07:
The ECORD Facility Board warmly thanks Gabi for her extensive and outstanding contributions to the EFB and her hard work in chairing the board for the last four years, especially during the pandemic. The EFB looks forward to working with Gabi over the coming years as we transition to the new ECORD-Japan Programme.

ECORD Facility Board Consensus 22-09-08:
The ECORD Facility Board warmly thanks Jamie Allan for his active participation to the EFB activities since 2017. We extend our thanks to Jamie for his pivotal role in shaping scientific ocean drilling programmes over the last three decades, especially as an NSF Program Director in the current IODP. The EFB will miss his insights while ECORD is building with Japan a new programme centered on the MSP concept. We wish Jamie the best for his upcoming retirement and future endeavors, with the hope to meet him on a regular basis to exchange on scientific ocean drilling programmes while appreciating some great wines.

G. Uenzelmann-Neben closed the meeting at 14:18.

LIST OF ACRONYMS

AAD: Australian Antarctic Division
Add: Addendum
ADP: Amphibious Drilling Proposal
AIST: National Institute of Advanced Industrial Science and Technology, Japan
ANZIC: Australian and New Zealand IODP Consortium
APL: Ancillary Project Letter
ArcOP: Arctic Ocean Paleoceanography, IODP Expedition 377
BCR: Bremen Core Repository
BGS: British Geological Survey
BOEM: Bureau of Ocean Energy Management
BSEE: Bureau of Safety and Environmental Enforcement
CAB: Curatorial Advisory Board
CIB: *Chikyu* IODP Board
CNRS: Centre National de la Recherche Scientifique - National Center for Scientific Research, France
COPE: COVID Mitigation Protocols Established
CT: Computer Tomography
DLP: Distinguished Lecturer Programme
ECORD: European Consortium for Ocean Research Drilling
EFB: ECORD Facility Board
EGU: European Geosciences Union
EMA: ECORD Managing Agency
EPC: European Petrophysics Consortium
EPSP: Environmental Protection and Safety Panel
ESO: ECORD Science Operator
ESSAC: ECORD Science Support and Advisory Committee
FCO: UK Foreign & Commonwealth Office
FY: Fiscal Year
GPC: Giant Piston Corer
ICDP: International Continental Scientific Drilling Program
IKC: In-kind contribution
IODP: Integrated Ocean Drilling Program (2003-2013) & International Ocean Discovery Program (2013-2023)
JAMSTEC: Japan Agency for Marine Earth Science and Technology
J-DESC: Japan Drilling Earth Science Consortium
JOIDES: Joint Oceanographic Institutions for Deep Earth Sampling
JPFY: Japanese Fiscal Year
JR: *JOIDES Resolution*
JRFB: *JOIDES Resolution* Facility Board
JRSO: *JOIDES Resolution* Science Operator
KCC: Kochi Core Center
MarE3: Marine-Earth Exploration and Engineering Division
MARUM: Zentrum für Marine Umweltwissenschaften der Universität Bremen - Center for Marine Environmental Sciences, University of Bremen
mbsf: metres below seafloor
MCIN: Ministry for Science and Innovation, Spain
MeBo: Meeresboden-Bohrgerät - seafloor drill
MEXT: Ministry of Education, Culture, Sports, Science & Technology, Japan
MoU: Memorandum of Understanding
MSP: Mission-specific platform
NSF: National Science Foundation
OAC: Operation Advisory Committee
ODP: Ocean Drilling Program
OGS: Istituto Nazionale di Oceanografia e Geofisica Sperimentale - National Institute of Oceanography and Experimental Geophysics
OSP: Onshore Science Party
PDB: Proposal Database
PI: Principal Investigator
PMO: Program Member Office
QA: Quality Assurance
RD2: Rockdrill 2
RFI: Request for Information
ROV: Remotely Operated Vehicle
SEP: Science Evaluation Panel
SF2050: 2050 Science Framework
SGI: Società Geologica Italiana - Italian Geological Society
SIMP: Società Italiana di Mineralogia e Petrologia - Italian Society of Mineralogy and Petrology
SOD: Scientific Ocean Drilling
SSDB: Site Survey Data Bank
SSO: Science Support Office
TAMU: Texas A&M University
ToR: Terms of Reference
USFY: U.S. Fiscal Year
USSSP: U.S. Science Support Program
XRF: X-ray fluorescence