



***JOIDES Resolution* Facility Board Meeting
May 24-26, 2022 – Alexandria, VA, and Zoom**

Roster

Members

James Allan (In Person), National Science Foundation, USA
Gilbert Camoin (Remote), ECORD Managing Agency, France
Mike Coffin (In Person), ANZIC, University of Tasmania, Australia
Marguerite Godard (In Person), University of Montpellier, France
Gil Young Kim (Not Attending), KIGAM, Republic of Korea
Larry Krissek, Chair (In Person), Ohio State University, USA
Steffen Kutterolf (In Person), GEOMAR, Germany
Mitch Malone (In Person), Texas A&M University, USA
Ken Miller (In Person), Rutgers University, USA
Dhananjai Pandey (Remote), Ministry of Earth Science, India
Amelia Shevenell (Remote), University of South Florida, USA
Ryuji Tada (Remote), Chiba Institute of Technology, Japan
Wentao Wang (Remote), Ministry of Science and Technology, China

Liaisons

Henk Brinkhuis (Remote), IODP Forum Chair, Netherlands
Sarah Davies (Remote), ECORD Science Operator, UK
Nobu Eguchi (In Person), *Chikyu* Science Operator, MarE3, Japan
Barry Katz (In Person), EPSP Chair, USA
Kathie Marsaglia (In Person), SEP Co-Chair, USA
Charna Meth (In Person), IODP Science Support Office, USA
Tim Reston (In Person), SEP Co-Chair, UK
Nobukazu Seama (Not Attending), *Chikyu* IODP Board, Japan
Gabriele Uenzelmann-Neben (In Person), ECORD Facility Board, Germany

Observers

Gary Acton (In Person), *JOIDES Resolution* Science Operator, USA
Carl Brenner (In Person), U.S. Science Support Program, USA
Angelo Camerlenghi (Remote), ECORD Science Support & Advisor Committee, UK
Gail Christeson (Remote), National Science Foundation, USA
David Goldberg (Remote), U.S. Science Support Program, USA
Bob Houtman (In Person), National Science Foundation, USA
Xiaomeng Jie (Remote), Ministry of Science and Technology, China
Sarah Kachovich (In Person), ANZIC PMO, Australia
Rich Kaczmarek (In Person), National Science Foundation, USA
Tim Kashmer (Remote), National Science Foundation, USA

Shin'ichi Kuramoto (In Person), *Chikyu* Science Operator, MarE3, Japan
Yangyang Li (Remote), IODP-China PMO, China
Harue Masuda (Remote), Japan Drilling Earth Science Consortium, Japan
Katerina Petronotis (In Person), *JOIDES Resolution* Science Operator, USA
Terry Quinn (Remote), National Science Foundation, USA
Becky Robinson (In Person), U.S. Advisory Committee for Scientific Ocean Drilling,
USA
Sanny Saito (Remote), J-DESC Support Office, Japan
Karen Stocks (Remote), IODP Science Support Office, USA
Gen Totani (In Person), MEXT, Japan
Shouting Tuo (Remote), IODP-China PMO, China
Michiko Yamamoto (In Person), IODP Science Support Office, USA

Consensus Statements

Consensus 1: The JRFB recommends approval of the FY23 Program Plan as presented by the *JOIDES Resolution* Science Operator. The JRFB understands the JRSO’s concerns about cost uncertainties related to widely fluctuating fuel prices and rising inflation, and supports the approach of maximizing the science to the extent possible.

Consensus 2: The JRFB recommends approval of the FY24 *JOIDES Resolution* schedule to drill proposals 895, 927, 985, and 979, pending availability of funding for four expeditions. If the schedule has to be adjusted due to demobilization or decreased funds, the JRFB recommends removing proposal 979.

2023		2024					
	12-Oct	12-Dec	9-Feb	8-Apr	4-Jun	2-Aug	30-Sep
FY23	FY24						
Exp 400	Transit/Dry dock	895: Mediterranean-Atlantic Gateway Exchange	927: Tyrrhenian Continent-Ocean Transition	Transit/Tie up	985: Eastern Fram Strait Paleo-archive	979: Arctic-Atlantic Gateway Paleoclimate	

Consensus 3: The JRFB is impressed with the JRSO’s resiliency as it ramped up ship operations over the past year and with its flexibility in managing the uncertainties and challenges of COVID-19. The JRSO has produced excellent science under difficult circumstances.

Consensus 4: The JRFB applauds the continued efforts of Lorri Peters and her IODP Publications Services team in making the results from scientific ocean drilling more accessible and discoverable. The increase in the number of views of the publications is impressive.

Consensus 5: The JRFB thanks the EPSP for its dedication and professionalism in reviewing safety for IODP. The JRFB applauds Barry Katz’s continued leadership and the service of the panel members, most of whom are industry professionals, to IODP.

Consensus 6: The JRFB supports continuation of the services provided by SEP and EPSP to the ECORD Facility Board and *Chikyu* IODP Board through the end of IODP in September 2024.

Consensus 7: The fifty-plus year history of scientific ocean drilling has been one of joint international exploration of the oceans and addressing scientific questions. The JRFB recognizes the shared interest and desire of the international community for continued cooperation and scientific collaborations beyond the end of IODP in FY24. Fulfilling the promise of the 2050 Science Framework requires international cooperation, though we recognize that challenges for funding the next phase(s) of ocean drilling must be met and details of international coordination worked out. Nevertheless, we hope that

international cooperation and collaboration remain the hallmark of scientific ocean drilling.

Consensus 8: The JRFB encourages NSF and the JRSO to continue to explore possibilities for extending the *JOIDES Resolution* beyond FY24 to minimize any gap in operations as the potential for a new U.S. drill ship is explored. Extending *JOIDES Resolution* operations is important for maintaining interest within the scientific ocean drilling community and for testing new approaches to and partnerships in addressing our science.

Consensus 9: If the operational period for the *JOIDES Resolution* is extended, the JRFB recommends that the IODP Science Support Office transfer submitted proposals to the new program after obtaining proponent permission. In that transfer, the JRFB recommends that proponents should submit an addendum stating how their proposal supports the 2050 Science Framework. The JRFB also recommends that proposals should retain their current status (e.g., at the JRFB = ready for scheduling), assuming successful review of the addendum.

Consensus 10: If the operational period for the *JOIDES Resolution* is to be extended, new proposal submissions would be needed to assure a robust proposal pool. The JRFB recommends that the first call for proposals begin on April 1, 2023, in this situation. The JRFB further recommends that the *JOIDES Resolution* continues working in the Atlantic Ocean in FY25.

Consensus 11: The JRFB received and accepted the draft guidelines for proposals that will address the 2050 Science Framework. The JRFB thanks Ken Miller, Lisa McNeill, and Charna Meth for developing the guidelines from the JRFB Working Group on Science Framework Proposals report. The JRFB recommends opening the draft proposal guidelines to the broad international community for comment. When soliciting these comments, the JRFB also recommends that the community be asked for input on how to improve the efficiency and rigor of the proposal review process.

Consensus 12: Given that scientific ocean drilling proposals take time to develop and review thoroughly and that a critical mass of proposals is needed to build efficient ship schedules, the JRFB recommends opening the submission and review processes for proposals that will use a new U.S. drillship when the ship is approved or approximately 5 to 6 years before operations are expected to begin.

Consensus 13: The JRFB is very grateful to Charna Meth and the IODP Science Support Office for organizing and supporting its very successful May 2022 hybrid meeting in the Washington, DC area. The JRFB could not have met its goals for this meeting without the IODP Science Support Office's efforts. In addition, the JRFB appreciates the IODP Science Support Office's encouragement to hold this meeting in a location that maximized the opportunities to interact with NSF personnel in-person.

Consensus 14: The JRFB bids Marguerite Godard *au revoir* with immense gratitude for her outstanding service to the Board and IODP over the past three years. Her extensive experience with scientific ocean drilling and her focus on the issues addressed by the JRFB have had a strong positive impact on the program. The JRFB highly appreciates and acknowledges the contributions Marguerite has made and thanks her for her selfless service to the international scientific ocean drilling community.

Consensus 15: The JRFB expresses its sincere thanks to Ryuji Tada for his service as a member of the Board. We regret that we have not had the opportunity to benefit from his in-person presence, but his active virtual participation and his vast scientific ocean drilling experience have helped advance discussions at each meeting. We send Ryuji our best wishes for his future and have no doubt that he will stay involved in scientific ocean drilling, guiding and assisting the community and its members with his expertise, knowledge, and supportive style.

Consensus 16: The JRFB thanks Mike Coffin for his willingness to serve recently as the ANZIC representative and for his insightful contributions during that time. In addition, the JRFB thanks Mike for his decades of service to scientific ocean drilling representing the United States, Japan, ECORD, and ANZIC in a wide range of capacities. His dedication to and passion for scientific ocean drilling have been evident throughout that time.

Consensus 17: The JRFB and the entire scientific ocean drilling community are extremely grateful to Jamie Allan for his extensive and outstanding contributions to the JRFB specifically, and to IODP and its predecessors more generally. Jamie's leadership of, and passionate support for, scientific ocean drilling has contributed significantly to the successes of the present program and to defining the paths toward scientific ocean drilling's future. On behalf of an international scientific ocean drilling community that has benefited tremendously from your service, we thank you for your efforts and wish you all the best in the next chapter of your life. Happy skiing!!!

Consensus 18: The JRFB grieves over the premature demise of Leanne Armand at age 53 from a highly aggressive cancer. Leanne was a major force in IODP from 2017 to 2021, both as ANZIC Program Scientist and subsequently as ANZIC Director. Her contributions to scientific ocean drilling were profound, as she ably guided the ANZIC Program Member Office through the ANZIC Ocean Planet Workshop and development of the 2050 Science Framework. Her enthusiasm for and engagement with international scientific ocean drilling were boundless, illuminating, and enlivening at every JRFB and other IODP meeting she joined. The JRFB offers its sincere condolences to her husband, her two sons, other family, friends, and colleagues.

Action Items

Action Item 1: The IODP Science Support Office will close the JRFB’s Request for Information. The responses were extremely useful in informing planning efforts for the next phase of scientific ocean drilling, including proposal requirements and capabilities for the next U.S. drillship. As many of these processes have moved onto next steps, additional responses to the RFI are no longer needed.

Action Item 2: The IODP Science Support Office will distribute the draft Statement of Task for the JRFB Working Group on Virtual Expeditions to JRFB members for comment.

Action Item 3: The IODP Science Support Office will post the draft guidelines for proposals that will address the 2050 Science Framework and will work with Ken Miller and Lisa McNeil to evaluate and incorporate comments into the next draft.

Action Item 4: The IODP Science Support Office will work with Barry Katz to develop a “best practices” document for any future panels, programs, review processes, policy documents, etc. related to EPSP’s charge.

Action Item 5: The IODP Science Support Office will investigate how much of the digital data held in SSDB is present in other repositories.

Action Item 6: The JRFB Chair will inform the co-chief scientists of Expedition 395 that their alternate site request was approved by the JRFB.

Action Item 7: The JRFB requests that USSSP initiate a call for two non-U.S. members to replace Marguerite Godard and Ryuji Tada on the JRFB.

Meeting Notes

1. Welcome and Logistics

The *JOIDES Resolution* Facility Board (JRFB) chair, Larry Krissek, called the meeting to order with a welcome and asked attendees to give self-introductions. Larry reviewed the hybrid meeting format, the consensus statements and action items from the 2021 JRFB meeting, and the current agenda. Charna Meth reviewed the meeting logistics.

2. National Science Foundation Report

Jamie Allan discussed that the JRSO's program plan for FY23 is \$3M higher than NSF's long-term budgeting plan due to inflation and other costs, but its budget is financially possible while retaining the ability for FY24 pre-funding. Timely submission of membership funds will be essential for maintaining cash flow.

NSF recommends scheduling four expeditions with low operational risk and complexity for FY24, but financial analysis indicates that full funding for this schedule might not be available due to inflation. Jamie reiterated that the program depends on all partners following through on MOU responsibilities and FY24 pledges. The current analysis also indicates that no pre-funding will be available for FY25 activities.

NSF is currently considering if it can and should support post-IODP operations on the *JOIDES Resolution* under a new U.S.-led science program. The extension period could not go beyond FY28 due the expiration of the *JOIDES Resolution's* environmental impact statement. NSF estimates costs in FY25 would be \$75M for 10 months of operations, far above the current NSF funding level. International cooperation in this extension period is welcome, and MOUs may be needed to sustain post-IODP core storage at current repositories.

Key factors that will influence NSF's decision on extending the ship include: (1) results of the *JOIDES Resolution's* hull and machinery inspection in June 2022, (2) results from NSF's mid-award review of the JRSO in July 2022, and (3) letters of interest from international partners for participating in the extension period at an estimated rate of \$470k/berth (letters are needed by August 1, 2022). The funding challenges for extending the *JOIDES Resolution* are significant, meaning that berth or other service exchanges are not the same as financial contributions.

Jamie stated that there is clearly widespread community support for NSF acquiring a new drilling vessel, and that NSF is grateful to the U.S. community for its substantial effort in defining its science mission requirements (SMRs) for such a vessel. Once the community submits its SMRs to NSF, an internal NSF panel will determine the accepted SMRs, which will serve as the basis for conceptual design within NSF's Major Facility Design process. Jamie noted that entering conceptual design is not a guarantee that the project will be built. Financial and design constraints, as well as U.S. national interests, will be important factors in the final determination, and the total acquisition timeline (i.e.,

SMR to completion) is at least 10 years. NSF is grateful that the IODP Forum indicates continued interest in collaboration from international partners.

The JRFB members asked if the \$470k/berth rate will change with inflation. Jamie explained that \$470k/berth is an estimate and could change. The dollars/berth will be based on the total operating cost in a year divided by the total berths in a year. The U.S. and all partners will pay an equal amount per berth. It was further discussed that the decision about whether to extend the operational period for the *JOIDES Resolution* and the decision to acquire a new ship are separate decisions; one does not depend on the other.

The JRFB members asked NSF to define what is meant by a “U.S.-led program”. Jamie explained that a U.S.-led program would still welcome international interest and that specifics of a future structure have not been defined. He noted the leveraging of global intellectual prowess is a strength of IODP, but NSF also needs to better meet the needs of the United States. In the present program, NSF is typically paying four times as much as its partners for each berth on the *JOIDES Resolution* without receiving the expected opportunities on other platforms. It was further discussed that the U.S. community is working on these issues and hopes to preserve some of the best parts of how IODP works in terms of proposal review and international collaboration, while also recommending a financial structure that is more equitable. Many leading oceanographic institutions in the United States have formed the Scientific Ocean Drilling Alliance (US-SODA) to provide assistance and guidance to NSF, and Larry stated that it is clear that the U.S. community sees great value and need in interacting with international colleagues.

3. JOIDES Resolution Science Operator Report

Mitch Malone presented the JRSO’s protocols for operating during the COVID-19 pandemic, which are evolving with the pandemic, and he reviewed operations, maintenance, and upgrades to the *JOIDES Resolution* over the past year. Expedition 396 (Mid-Norwegian Continental Margin Magmatism) was the first expedition since the start of the pandemic to sail with scientists on the ship, although in reduced numbers. The JRSO was able to implement Expedition 396 (Mid-Norwegian Margin Magmatism and Paleoclimate), 391 (Walvis Ridge), 392 (Agulhas Plateau), and 390 (South Atlantic Transect 1) with slightly reduced science parties, mostly due to institutional restrictions. Despite quarantine procedures, a COVID-19 outbreak did occur on Expedition 391, resulting in the ship returning to port and the loss of about 18 days of operation time. Expedition 390 experienced a catastrophic failure of a draw works brake, ending the expedition about 8 days early. All expeditions had good core recovery.

The JRSO’s budget is being strongly impacted by COVID-19 protocols (costing approximately \$500k/port call), inflation (increasing the day rate by ~\$5,000/day between February 2021 and February 2022), and fuel (approximately twice the budgeted amount). Overall, the JRSO is projecting a budget shortfall of ~\$5.5M, some of which is being covered by previous year cost savings.

Mitch also provided an update on IODP publications, in particular focusing on how the group is making publications more accessible and discoverable. IODP publications can be found in the AGI database (www.iodp.americangeosciences.org), ScienceOpen, and CrossRef. In addition, the group is now providing downloadable expedition-related bibliographies from the JRSO website. The JRSO's annual science metrics report (available on the JRSO website) shows additional statistics, citations, and impact of the publications.

The JRFB thanked and commended the JRSO for implementing and conducting exciting science during extremely difficult times. The JRFB was impressed with the JRSO's ability to coordinate and respond to the different aspects of the pandemic situation while keeping everyone safe.

4. ECORD Facility Board Report

Gabi Uenzelmann-Neben provided the ECORD Facility Board (EFB) report and update. Alexandra Turchyn has become the EFB vice-chair and will take over as chair in 2023. Gabi briefly discussed recent mission-specific platform (MSP) expeditions and stated that ECORD had to postpone Expedition 377 (Central Arctic Paleoceanography; ArcOp) due to severe security issues related to Russian territorial waters. At its most recent meeting, the EFB recommended that ECORD implement Expedition 389 (Hawaiian Drowned Reefs) in 2023. The EFB will recommend an expedition for 2024 at its next meeting this September. Gabi reported that the number of MSP proposals is increasing, which bodes well for future drilling. ECORD is still considering many issues related to proposal review and program organization as they plan for a post-IODP scientific ocean drilling program.

Gilbert Camoin added that there are 12 upcoming Magellan Plus workshops, all of which are focused on generating MSP proposals for a future drilling program. The JRFB asked about the recent webinars discussing the ECORD-Japan future partnership. Angelo Camerlenghi stated that these recordings are available on the ECORD YouTube channel.

5. Chikyu IODP Board Report

Nobu Eguchi presented the *Chikyu* IODP Board (CIB) report on behalf of Nobi Seama, CIB chair. Nobu showed the *Chikyu* operation schedule for JFY 2021-2022. The onshore science party for Expedition 386 (Japan Trench Paleoseismology) was held earlier this year on *Chikyu*; only Japanese science party members were able to participate in-person due to COVID-19 border restrictions. At last year's CIB meeting, the CIB reaffirmed its commitment to a post-IODP program and recognized that multiple JAMSTEC vessels could be used to implement expeditions as MSPs in the future. The CIB will also consider if a riserless proposal could be implemented during JFY2025, which is after the end of IODP. Nobu announced that the next CIB meeting will take place August 30-31, 2022, in Kobe, Japan, and on Zoom.

6. Science Support Office Report

Charna Meth outlined the major tasks of the IODP Science Support Office (SSO), reviewed accomplishments from the past year, and discussed future planned activities. Charna summarized there are currently 96 active proposals in the IODP proposal system, and that the proposals are split about evenly between SEP and the facility boards. The majority of the proponents are from ECORD countries, and the majority of proposals request to use the *JOIDES Resolution*. Over the past year, the SSO added a new section for post-IODP planning to the iodp.org website, implemented new SEG-Y header format requirements, updated the graphics of SSDB to enhance user experience, and began work on a master site table to show the current status of sites for a given proposal. In addition to the SSO's standard work, the office also supported drafting proposal requirements based on the JRFB Working Group on Science Framework Proposal Requirements and Assessments report, began providing more support to the IODP Forum, and hosted office hours for proponents submitting to the SSDB.

7. USAC Report

Becky Robinson summarized the activities of three USAC working groups: Science Communications, Legacy Data, and Facility Business Plan. USAC has also been working with USSSP on three IMPACT Workshops, which were held online last summer. They are now working on creating a communication strategy around implementing the 2050 Science Framework and broadening diversity.

At the request of NSF, USSSP has been working with the U.S. community to prioritize science objectives and initiatives for a new U.S. scientific ocean drilling vessel, to prioritize regions of operations for that vessel, and to define vessel design characteristics to meet these priorities. The U.S. community provided input on these Science Mission Requirements (SMRs) through an online survey, virtual workshops, and an in-person workshop. Becky summarized the emerging results of the process and how community input is being integrated into a final report for NSF, which is expected to be completed this fall.

Becky provided an overview of the U.S. Scientific Ocean Drilling Alliance (US-SODA). The institutions involved in US-SODA are encouraging the community to educate NSF about the need, impact, and scope of scientific ocean drilling through institutional letters. A petition in support of continued and future scientific ocean drilling is open to all and available at <https://us-soda.org>.

Larry commented that about half of the participants at the SMR in-person workshop were graduate students and early career researchers, and that the participants expressed a strong desire and need for continued international collaboration.

8. EPSP Report

Barry Katz presented a summary of the February 2022 Environmental Protection and Safety Panel (EPSP) meeting, which took place in College Station, Texas, and online. Barry discussed that the EPSP is continually looking at improving its operations, and that he appreciates the SSO for helping to improve the way minutes are recorded. At the February meeting, EPSP conducted 10 reviews (Proposals 895, 971, 985, 874, 973, 976, 979, 955, 972, and 834). Barry discussed EPSP's review approach and that the EPSP sometimes approves areas (e.g., boxes, ribbons, polygons) instead of specific sites. EPSP has started requiring proponents to submit their safety review report about two months before an EPSP meeting to allow for an initial check of the packages. The next EPSP meeting, if needed, is scheduled for late March 2023.

Larry said he was incredibly impressed at the EPSP meeting by the professionalism and dedication of the EPSP members, particularly as many are industry professionals who often don't directly use the *JOIDES Resolution*. The experience they bring to IODP is invaluable.

9. Conflict-of-Interest Discussion

Prior to the beginning of the Science Evaluation Panel (SEP) report and scheduling discussions, Larry asked each JRFB participant with a potential conflict of interest (COI) to describe their level of involvement in the proposal. Participants with COIs were asked to either leave the meeting or refrain from providing input (depending on their level of involvement) during the SEP report and initial scheduling discussions. All COIs were asked to leave the meeting during final discussions and scheduling decisions.

10. SEP Report

Co-chairs Tim Reston and Kathie Marsaglia provided the SEP report, noting SEP procedures and terms of reference, and reviewing outcomes from the past year. The panel has been meeting virtually since May 2020, leading to the development of an introductory meeting to help new panel members learn SEP procedures. The virtual introductory meeting will continue, with all members invited, before the upcoming hybrid meeting in Southampton, UK. At the next SEP meeting, the panel will consider six proposals, including two that were externally reviewed and including two at the special request of EFB in preparation for transition to its post-IODP program. Tim and Kathie then presented overviews of the proposals being considered by the JRFB for scheduling at this meeting. Larry presented the overview of Proposal 943, as Kathie and Tim are conflicted; Kathie and Tim left the meeting during that presentation, and remained out of the room for all scheduling discussions.

11. Expedition Scheduling

Larry stated that guidance from NSF is to schedule four expeditions for FY24 with low cost and low operational risk. Based on this guidance, proposals that present significant challenges in obtaining clearances for drilling in EEZs were removed.

Katerina Petronotis presented options for scheduling FY24 expeditions by taking into consideration weather windows, logistical issues, amount of transit, and likelihood of clearance approval. The overall scheduling approach was designed to maximize science while minimizing risks given the NSF guidance.

The JRFB discussed the scheduling options multiple times over the course of the meeting, with consensus forming on Proposals 895, 927, 985, and 979. If the schedule has to be adjusted due to demobilization or decreased funds, the JRFB recommends removing proposal 979. Given the geographic location of the remaining proposals, the *JOIDES Resolution* is expected to remain in the Atlantic Ocean for at least one year if the operational time for the ship is extended beyond IODP.

12. Requests from Scheduled Expeditions

Larry reported that the Expedition 391 co-chiefs requested using part of Expedition 397T (a transit) to drill sites that weren't drilled during Expedition 391 due to COVID-19. Larry approved the work because the opportunity does not impact other expeditions, the request addresses the approved science objectives, and the drilling will occur within the original region of the expedition. The JRSO is working with the co-chiefs on staffing.

Larry also discussed a request from Expedition 395 co-chiefs to drill a new alternate site (REYK-14B) that is at a significant distance from the other sites scheduled for the expedition. The site is west of the Reykjanes Ridge on the Eirik Drift and has been reviewed by SEP and EPSP. After confirming that the FY24 schedule will not overlap with the objectives of the request, the JRFB approved the alternate site.

13. JRSO Draft FY23 Annual Program Plan

Mitch Malone presented the JRSO Annual Program Plan (APP) for FY23, which includes five Category 1 expeditions (397, 398, 399, 395, and 400). The approach in developing the APP was to minimize costs, but if inflation continues at current rates, then the JRSO will need substantial help from NSF beyond the APP request to complete the expeditions. To keep the budget down, the JRSO is assuming no COVID-19 costs, and they will delay planned drill pipe refurbishment, which will need to be done in FY24 if the *JOIDES Resolution* is extended. Mitch stated that the JRSO is concerned about this APP approach because many of the key roles at NSF will have new people in those positions next year if / when the JRSO might need additional funding.

Jamie commented that it is not clear at this time if NSF can provide additional funds to help with COVID-19 costs and rising inflation. The funds to pay for a JRSO budget overrun would likely have to come from the Trust Fund account where international contributions are saved. These funds do not expire at the end of each fiscal year, but using these funds in FY23 would effect NSF's ability to pre-fund for FY24. Jamie reminded partners that it will be particularly important to pay dues on time next year to help with this cash flow situation.

The JRFB asked for more details about the risk of not refurbishing drill pipe this year. Mitch responded that if there was a catastrophic loss of drill pipe in FY23, then they would have to send old, uninspected pipe back to the ship. The refurbishing and inspection process normally results in a loss of 10% of the pipe. When the JRFB has delayed inspections in the past (i.e., between programs changes), the loss was closer to 40%. The refurbishing and inspection process will take multiple months, and acquisition of new pipe will be subject to the Buy American Act, likely making it more expensive.

14. IODP Forum Report

Henk Brinkhuis discussed that since the prior JRFB meeting, the IODP Forum met twice; first in October 2021 in Rome and the second in April 2022 in Vienna. The consensus items are located on the IODP website. Henk reiterated that IODP Forum meetings are open to participants from all partner countries/consortia and are meant to be transparent in its actions to support productive conversations. As IODP concludes, the IODP Forum can serve as a venue for discussing legacy material (e.g., cores, data), while also facilitating dialogue and information sharing around plans for future programs. The next meeting, which is scheduled for September 2022, will focus on these two aspects.

Jamie added that the IODP Forum works well when it concentrates its consensus items on IODP and legacy business. Discussions about future programs should be recorded as discussion because the current partners have different priorities and needs. Jamie agrees that any future program should collaborate where possible, and he stated that it is important for the funding agencies to speak directly with each other.

Gilbert agreed that it is important to keep discussion open, particularly as ECORD and Japan are ready to begin preparing their own program. ECORD and Japan are drafting a Memorandum of Understanding, and they plan to jointly implement expeditions while keeping their own identities. Once their program is defined, they would like to build an alliance of programs, and Gilbert believes the IODP Forum will be key for keeping discussions open for an international framework.

Angelo asked if the U.S. scientific community will be able to participate in a future ECORD-Japan program. Jamie responded that U.S. scientists who would like to participate on ECORD-Japan expeditions would need to write a proposal to NSF's Marine Geology and Geophysics program for salary support; there won't be a standing PMO to support participation on other vessels. Carl Brenner added that there is interest in the U.S. community to develop a plan that continues productive collaborations with international colleagues, while respecting the needs identified by NSF and the U.S. community.

15. Evolution of SEP and EPSP

The conversation focused on future activities for SEP and EPSP, given that their workloads are decreasing as some IODP platforms have stopped accepting new

proposals. Larry began by presenting the current workload for each panel and what might be anticipated between now and the end of IODP.

For SEP, Tim and Kathie discussed that the upcoming SEP meeting will have a hybrid format to provide training opportunities to members who haven't experienced an in-person meeting due to COVID-19. The co-chairs are assigning more watchdogs to each proposal and assigning lead watchdog roles to those who haven't served in those positions yet. The agenda also includes time for members to discuss how they would like to handle future meetings.

Barry stated that EPSP could be asked to review all proposals at the JRFB to help get them ready to be drilled, but given that the next programs will operate under different rules, doing so might not be worth the time. Barry offered to continue to review sites until the end of the program, and he offered to continue to help improve documentation of EPSP processes to assist with transition to future programs.

On behalf of ECORD, Gabi said that they are grateful for the services provided to them by SEP and EPSP. Larry suggested that the program maintain flexibility over the next six months before making additional decisions about these panels. He also encouraged JRFB members to reach out to him or Charna with additional thoughts on activities that SEP or EPSP could undertake.

16. Archiving SSDB Data

Karen Stocks described the current data components of SSDB data (modern-era digital data, legacy digital data, and legacy analog data), the quantity of each component, and general confidentiality and ownership issues. She proposed that during the final year of IODP, and with guidance from the community, some SSO staff time could be used for obtaining permission to release SSDB data into other public databases for archiving purposes.

The JRFB discussed if SSDB data is already available in other databases and, if not, should the data be made available in public databases. The JRFB agreed that the issue of how much SSDB digital data is currently availability in other repositories should be examined further before next steps are determined. The SSO will reach out to SEP or others informally with specific data questions.

17. JRFB Working Group on Virtual Expeditions

Larry reviewed the action item from the JRFB's 2021 meeting stating that a working group on virtual expeditions be formed. Larry has written a draft statement of task that focuses on the concept of minimum requirements for what would be considered a virtual expedition. Nobu reported that J-DESC has started a similar working group and would like to collaborate with the JRFB working group. ECORD is also interested in the concept. The draft statement of task will be sent to JRFB members for comment.

18. Preparing for Possible JOIDES Resolution Extension

The JRFB discussed how to prepare for the possibility of an extension of the *JOIDES Resolution*'s operation time. Jamie reminded the JRFB of the funding situation and the internal NSF review and decision process for any possible *JOIDES Resolution* extension.

If the *JOIDES Resolution* is extended, the operations would occur under a new program, which would need drilling proposals. Larry discussed that proposals take time to develop and review, and, for example, 61% of the proposals drilled during this IODP (2013-present) were submitted prior to the start of the program. Building an efficient schedule also requires a critical mass of proposals to reduce transit times, operate in proper weather windows, balance more and less expensive operation plans, manage permitting issues, and consider changing or ongoing security concerns. Overall, the total number of proposals that can be considered in any year is often less than the total at a facility board.

The JRFB then discussed how to seed a future program with proposals to assure that an extension period could begin operating as soon as possible. The JRFB recognized that proposals submitted to IODP cannot be automatically transferred to a new program without proponent permission. Given that, the JRFB recommended that the SSO obtain proponent permission to transfer proposals and require proponents to also submit an addendum stating how their proposal supports the 2050 Science Framework. The JRFB also recommended that proposals retain their current status (e.g., at the JRFB = ready for scheduling) in the extension period, assuming successful review of the addendum.

Mitch stated that additional proposals would be needed to create the proposal pool to schedule efficiently for a full four-year extension period, leading the JRFB to agree that there should be a new call for proposals on April 1, 2023. In this situation, the JRFB recommends that the *JOIDES Resolution* continues working in the Atlantic Ocean in FY25.

19. Draft Proposal Guidelines for the Next U.S. Drillship

Following from the JRFB's request at its 2021 meeting, Ken Miller provided a summary of the draft proposal guidelines for the next U.S. drillship. The guidelines were derived from the report of the JRFB Working Group on Science Framework Proposal Requirements and Assessments (WG-SFP) and was written by Ken, Lisa McNeill, and Charna, with review input from some of the WG-SFP members. Ken stated that the draft guidelines build on the current IODP proposal guidelines, include that science will be guided by 2050 Science Framework, and emphasize thinking about science communication at the proposal stage. The draft guidelines include the new requirements recommended in the WG-SFP report and incorporated other edits to make the document easier to read and use.

The JRFB discussed different models of proposal preparation steps and reviews (e.g., ICDP) and how best to educate proponents who are new to the system. The JRFB agreed to open the draft guidelines to comment from the international community, as well as to ask for input on how to improve the efficiency and rigor of the proposal review process.

20. Timeline for Requesting Proposals for a New U.S. Ship

Larry reiterated that it takes a significant amount of time for drilling proposals to pass through a robust and thorough review system. During IODP, the average time from first submission of a proposal to the start of an expedition was 6.5 year +/- 3.9 years. As the community looks towards a potential future U.S. drillship, it is worth considering: How many proposals are needed to start addressing the 2050 Science Framework when the ship is ready to begin operations? How many current proposals will still be viable when a new program begins? How many years before a new ship is expected to sail should the program begin accepting proposals?

The JRFB discussed that a new U.S. ship should be approved before a call for proposals is issued so that proponents know that there will be a vessel and what technology the vessel is expected to have. It might be difficult to incorporate operator input if an operator is not known at that time. Jamie described the different stages of facility construction and acquisition at NSF, and that NSF will ask for assistance at different stages along that path. NSF is still exploring a leasing option, and that option will be looked at during the conceptual design process. Community input and pressure will be necessary to maintain momentum. Given this discussion, the JRFB recommends opening the submission and review processes for proposals that will use a new U.S. drillship when the ship is approved or approximately 5 to 6 years before operations are expected to begin.

21. Meeting Close and Other Business

Mike announced that Ron Hackney has been selected as the next ANZIC Director. He will assume his duties on July 1, 2022, and will replace Mike on the JRFB. Mike also asked the JRFB to encourage nominations for the AGU Taira International Scientific Ocean Drilling Research Prize.

The JRFB reviewed the draft consensus statements and action items. Larry stated that the drafts will be circulated for additional comments from JRFB members. Charna will poll JRFB members to determine dates for the May 2023 JRFB meeting, which will be held in the Washington, DC, area. The meeting will initially be planned for three days, but it may be shortened to two days. Larry closed the meeting by thanking everyone for participating.