# Closeout of *JOIDES Resolution* IODP Expedition Obligations and Operation of an Instrumented Gulf Coast Repository

# FY25 Q1 Operations and Management Report

1 October–31 December 2024

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to

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# Contents

# 1. Introduction

This quarterly operations and management report reflects activities and deliverables outlined in the Proposed Work section of the proposal Closeout of International Ocean Discovery Program (IODP) Expedition Obligations and Operation of an Instrumented Gulf Coast Repository submitted to the National Science Foundation (NSF), as implemented by Texas A&M University (TAMU). Administrative services in support of these activities are provided by the Texas A&M Research Foundation (TAMRF) through TAMU Sponsored Research Services (SRS).

# 2. Gulf Coast Repository

On behalf of NSF, the Gulf Coast Repository (GCR) at Texas A&M University stores and curates 151 kilometers of Deep Sea Drilling Project (DSDP), Ocean Drilling Program (ODP), Integrated Ocean Drilling Program, and IODP cores from the Pacific Ocean, the Caribbean Sea and Gulf of Mexico, and the Southern Ocean. The GCR also stores the San Andreas Observatory at Depth (SAFOD) core collection.

## Laboratories

The GCR infrastructure includes 9,000 square feet of newly renovated instrumented laboratories and 15,000 square feet of refrigerated space. The laboratories contain most of the instruments that were demobilized from the *JOIDES Resolution*.

During this quarter, hiring was initiated to fill new positions in the GCR from the former JRSO staff. Hiring will continue into the next quarter. A service center and related account was set up within TAMU's service center operating model, and an initial rate structure for use of GCR instrumentation was approved. An initial GCR web site was created, and a poster on the laboratories was presented at the American Geophysical Union (AGU) meeting in December.

At the end of FY25 Q1, the status of instrumentation removed from the ship and/or under development in the new laboratories is described below.

### Instruments installed and operational

- X-ray Linescan Imager (XSCAN)
- Section Half Multisensor Logger (SHMSL)
- Section Half Image Logger (SHIL)
- Whole-round Multisensor Logger (WRMSL)
- AGICO JR-6A Spinner Magnetometers
- AGICO Kappabridge MFK2-FA Magnetic Susceptibility Meter
- ASC Scientific D-2000 AF Demagnetizer
- ASC Scientific Thermal Demagnetizer
- ASC Scientific Impulse Magnetizers
- Malvern Panalytical AERIS X-Ray Diffractometer (XRD)
- Hitachi Scanning Electron Microscope (SEM)
- SEC SNE-4500M Plus scanning electron microscope with Bruker Quantax EDS (SEM and EDS)
- Rock powdering preparation equipment (X-Press, Shatter Box, Mixer Mills)

- Labconco Freeze Dryer

### Instruments uncrated; not yet operational

- Hyperspectral Line Scan Logger (HYPERSCAN)
- Superconducting Rock Magnetometer (SRM)
- Natural Gamma Radiation Logger (NGR) Frame
- Moisture and Density Station (MAD)
- Transmitted light and stereo microscopes
- Barnstead Water Purification System
- Metrohm Ion Chromatograph (IC)
- Metrohm Titrino Autotitrators (Alkalinity/PH/Chloride)
- Coulometrics CM5011 Coulometer
- Agilent Cary 100 UV-Visible Spectrophotometer
- Agilent 5110 ICP-OES
- Thermo Electron Flash EA 1112 Elemental Analyzer (CHNS)
- Agilent 7890 Gas Chromatographs (GCs)
- Weatherford Instruments Source Rock Analyzer (SRA)
- Tormach CNC Mill

### Instruments pending uncrating and installation

- Natural Gamma Radiation Logger (NGR) Instrument
- Thermal Conductivity
- Core Splitter

### Use of laboratory facilities

*X-ray fluorescence core scanning*

During this quarter, 1,657 core sections were scanned on the X-ray fluorescence (XRF) scanners as part of programmatic scanning for Expedition 403 (Eastern Fram Strait Paleo Archive).

Table 2.1. Core sections scanned

| Request type | Expedition | Name, country | XRF 1 | XRF 2 |
|---|---|---|---|---|
| Programmatic | 403 | Yeon, Ronge, Reilly, St. John, Goss, Kapuge, Monito, Redman, Gebhardt, Haygood, Lucchi, Rivera, Duxbury, Libman-Roshal, USA | 798 | 859 |
| **Totals** | | | **798** | **859** |

## Curatorial services

The GCR provides services in support of core sampling and curation of the IODP and predecessor programs Integrated Ocean Drilling Program, ODP, and DSDP core collection archived at the GCR.

## Sample requests

The following table provides a summary of the 3,205 legacy (post-moratorium) samples taken at the GCR during this quarter. Sample requests that show zero samples taken may represent cores requested for XRF analysis. For public relations or educational visits/tours, the purpose of the visit is shown in brackets in the "Sample request number, name, country" column, and no number is recorded in the "Number of samples taken" column if no new samples were taken.

Table 2.2. GCR sample requests

| Sample request number, name, country | Number of samples taken | Request type (R/E/ND) | Number of visitors |
|---|---|---|---|
| 104157IODP, Luo, China, | 547 | R | 0 |
| 106036IODP, Weimin Si, USA | 457 | R | 0 |
| 106065IODP, Siddoway, USA | 7 | R | 0 |
| 106086IODP, Ichiyama, Japan | 4 | R | 0 |
| 106110IODP, McKenzie, USA | 7 | R | 0 |
| 106073IODP, Clark, Switzerland | 49 | R | 0 |
| 106034IODP, Yi Wang, USA | 163 | R | 0 |
| 106024IODP, Ren, Australia | 36 | R | 0 |
| 106047IODP, Hai Li, China | 126 | R | 0 |
| 105110IODP, Guo, USA | 5 | R | 0 |
| 106112IODP, Bhattacharya, USA | 24 | R | 0 |
| 106120IODP, Burkett, USA | 23 | R | 0 |
| 106136IODP, Shakun, USA | 105 | R | 0 |
| 106116IODP, Basak, USA | 356 | R | 0 |
| 105981IODP, Browne, USA | 233 | R | 0 |
| 106189IODP, Li, China | 31 | R | 0 |
| 106081IODP, Clark, Switzerland | 253 | R | 0 |
| 106104IODP, Chu, China | 52 | R | 0 |
| 106187IODP, Brylka, Sweden | 17 | R | 0 |
| 106164IODP, Pina Paez, USA | 33 | R | 0 |
| 106167IODP, Ling, China | 61 | R | 0 |
| 106154IODP, Wickenhaeuser, USA | 6 | R | 0 |
| 106236IODP, Xiaowen, China | 19 | R | 0 |
| 106280IODP, Bojue, China | 54 | R | 0 |
| 106153IODP, Peng, China | 8 | R | 0 |
| 106247IODP, Wang, USA | 249 | R | 0 |
| 106367IODP, Peng, China | 91 | R | 0 |
| 106363IODP, Song, China | 5 | R | 0 |
| 106371IODP, Hu, China | 27 | R | 0 |
| 106008IODP, Herbert, USA | 152 | R | 0 |
| 106148IODP, Musgrave, Australia | 5 | R | 1 |
| Tours/demonstrations (2) | | | 10 |
| **Totals** | **3,205** | | **11** |

R = research, E = education, ND = nondestructive analysis.

### Use of core collection

The GCR promotes outreach use of the GCR core collection by conducting tours of the repository and providing materials for display at meetings and museums. The repository and core collection are also used for classroom exercises. Two repository tours were given this quarter: one to eight undergraduate TAMU geology and environmental science students who are working with Dr. Christina Belanger and another to visiting family members of a staff member.

### Expedition and legacy project curation and sample strategies

Sampling strategies, including Sample Allocation Committee review/approval for the Expedition 403 postexpedition sample party were conducted. The Expedition 403 sample party will be held 20–29 January at the Bremen Core Repository (BCR).

### Repository projects

Projects related to enhancement of the repository curatorial facility and the collections were conducted this quarter. A prototype for new rock saw stands was designed and built. Work continues related to increasing the organization of the residue and returned sample collection.

### Broader impacts

*21st Century Drilling Workshop*

TAMU SOD staff assisted with planning for the 21st Century Drilling Workshop, which will take place 24–28 February. This is a US Science Support Program (USSSP)–funded workshop that aims to broaden participation and knowledge of the early and mid-career scientific ocean drilling community, teach fundamentals of working with legacy core materials, and prepare participants to develop legacy proposals.

*COres for Research and Education School*

Planning for the COres for Research and Education (CORE) School is in the early stages, including preliminary communications with the assessment team based at Western Washington University.

*American Geophysical Union presentations*

TAMU SOD staff delivered more than 60 presentations at the AGU Meeting in December, including a summary of scientific staffing during IODP, a progress report on development of a hyperspectral scanner, and information on accessing IODP data and using the laboratories at the GCR, as well as research results from the science being completed by JRSO staff. A list of abstracts from the meeting are given at the end of this report.

## 3. Closeout

Closeout activities include completing the publications cycle for the last IODP expeditions, along with archiving publications and other digital materials, postexpedition science coordination, property disposition, legacy documentation, data access and migration, and financial closeout.

## Management and administration

Management and administration (M&A) activities include planning, coordinating, overseeing, reviewing, monitoring, assuring compliance for, and reporting on IODP closeout and GCR activities.

Advice and guidance related to closeout activities are provided by the program officer and the *JOIDES Resolution* Advisory Board (JRAB), which is a continuation of the JR Facility Board that oversaw the *JOIDES Resolution* Science Operator (JRSO) activities, but in an advisory capacity. Advice and guidance associated with the instrumented repository will be provided by a GCR Advisory Board, which will be formed when instruments have been set up and made operational.

## Publications

The Publications department is responsible for producing IODP scientific publications, including Expedition Reports and Data Reports contained in the volumes of the *Proceedings of the International Ocean Discovery Program*, technical documentation (*IODP Technical Notes*), and program reporting. Additionally, Publications archives legacy publications and digital assets and maintains current and legacy websites.

Publications hosted the Expedition 403 postcruise editorial meeting in College Station, Texas, during this quarter and continued production activities on five additional expedition volumes scheduled to publish in the next two quarters.

### Program publications

The Publications department worked on preparing Expedition Reports volumes for expeditions under moratorium and Expedition Research Results (Data Reports) for expeditions that are post-moratorium for the JRSO, The Institute for Marine-Earth Exploration (MarE3; Japan), and The European Consortium for Ocean Research Drilling (ECORD) Science Operator (ESO). Digital Object Identifiers (DOIs) were deposited for the following program publications during the quarter.

Table 3.1. New content published on the IODP Publications website

| Publications | DOI | Science operator |
|---|---|---|
| *Preliminary Reports* | NA | |
| Expedition Reports | NA | |
| Data Reports | 10.14379/iodp.proc.372B375.211.2024<br>10.14379/iodp.proc.398.204.2024<br>10.14379/iodp.proc.385.205.2024<br>10.14379/iodp.proc.385.204.2024<br>10.14379/iodp.proc.396.201.2024 | JRSO |

### Publications legacy and archiving

*Digital object identifiers*

Indexing, archiving, and tracking use of IODP, ODP, and DSDP legacy publications are enabled through registration of a CrossRef DOI for each leg/expedition chapter and volume. CrossRef tracks the number of times a publication is accessed online through the CrossRef DOI resolver tool. Program statistics for this quarter are shown in the table below.

Table 3.2. Number of online DOI resolutions

| Scientific drilling program | DOI prefix | Oct 2025 | Nov 2025 | Dec 2025 | FY25 Q1 totals |
|---|---|---|---|---|---|
| International Ocean Discovery Program | 10.14379 | 27,718 | 21,084 | 11,692 | **60,494** |
| Integrated Ocean Drilling Program | 10.2204 | 23,965 | 15,635 | 6,803 | **46,403** |
| ODP and DSDP | 10.2973 | 39,755 | 47,907 | 31,512 | **119,174** |

*NSF Public Access Repository*

Metadata for IODP volumes and data reports are deposited to the NSF Public Access Repository (PAR) upon publication.

*ScienceOpen*

IODP expedition reports and data reports are indexed at ScienceOpen in the IODP *Proceedings* collection at **https://www.scienceopen.com/collection/IODP_Publications**. Expedition-related publications are indexed at ScienceOpen in the Scientific Ocean Drilling Expedition Research Results collection at **https://www.scienceopen.com/collection/8b0582f6-47bf-4988-b90a-8533135e6fcc**. Collection statistics are shown in the table below.

Table 3.3. ScienceOpen collection statistics

| Collection | Articles (#) | Article views (#) | Authors (#) | Referenced articles (#) |
|---|---|---|---|---|
| *Proceedings of the International Ocean Discovery Program* collection | 846 | 32,429 | 2,069 | 10,008 |
| *Scientific Ocean Drilling Expedition Research Results* collection | 11,266 | 110,447 | 23,605 | 116,167 |

*Zenodo*

Complete volumes from the Integrated Ocean Drilling Program (Expeditions 301–348) are archived in the IODP Community at Zenodo (**https://zenodo.org/communities/iodp**; Resource type: Publication).

*Internet Archive and Bibliographic Database*

Digital archives of full volumes from DSDP, ODP, and both IODP programs are available as an Internet Archive collection at **https://archive-it.org/collections/9148**.

Metadata records for program publications and other leg/expedition-related publications can be found in the AGI Scientific Ocean Drilling Citation Database at **http://iodp.americangeosciences.org/**.

*HathiTrust*

Archived DSDP and ODP hard-copy volumes are available in digital format at HathiTrust, an open-access, trusted digital library/repository as follows:
ODP archive: **https://babel.hathitrust.org/cgi/mb?a=listis;c=1868324439**;
DSDP archive: **https://babel.hathitrust.org/cgi/mb?a=listis&c=1930557976**.

## Expedition-related publications

Legacy expedition-related publications published in peer-reviewed literature, along with current citation counts, are listed in Google Scholar profiles as follows:

International Ocean Discovery Program (Expeditions 349–405): **https://scholar.google.com/citations?user=i9nuMIgAAAAJ&hl=en**

Integrated Ocean Drilling Program (Expeditions 301–348): **https://scholar.google.com/citations?user=RUruDbgAAAAJ&hl=en**

Ocean Drilling Program (Legs 101–210 published since 2000): **https://scholar.google.com/citations?user=dRcpdRoAAAAJ&hl=en**

## Website management

The Publications department maintains the GCR website and provides access to previous scientific drilling program information including the IODP/JRSO and IODP Publications websites, as well as the ODP, DSDP, and ODP Legacy websites.

Table 3.4. Current and legacy website statistics

| URL | Website | FY25 Q1 page views | FY25 Q1 site visits |
|---|---|---|---|
| https://gcr.tamu.edu/ | Gulf Coast Repository | 1,730 | 293 |
| https://iodp.tamu.edu/ | IODP/JRSO Home | 52,1675 | 47,976 |
| http://publications.iodp.org/ | IODP Publications | 1,190,256 | 43,456 |
| https://www-odp.tamu.edu/ | ODP Home | 472,734 | 34,655 |
| http://www.odplegacy.org/ | ODP Legacy | 69,920 | 11,478 |
| http://www.deepseadrilling.org/ | DSDP Publications | 270,141 | 15,260 |
| **Totals** | | **2,526,456** | **153,118** |

## Digital asset management

TAMU SOD maintains an archive of all IODP digital assets, including expedition photos, videos, maps, logos, technical and operational reports, publications, and various other multimedia and documents, in a digital asset management system called MerlinOne (**https://iodp.merlinone.net/MX/Profiles/en/landing/**). During this quarter, 1,237 assets were uploaded, the majority of which were photos of the demobilization of the *JOIDES Resolution*. Over the same period, 7,243 assets were downloaded between JRSO staff and guest users, most of which were Friends and Family photos.

## Publications authored by staff

*Abstracts authored by staff*

Abstracts of conference presentations during this quarter authored by JRSO staff include the following. Bold type indicates TAMU SOD staff.

### American Geophysical Union Fall Meeting

- Abe, N., Dickerson, K., Deans, J.R., Lang, S.Q., McCaig, A.M., **Blum, P.**, and the IODP Expedition 399 Scientists, 2024. Quality check of measured data for different shapes of onboard physical property

measurements for hard rock samples in IODP Exp 399. Presented at the American Geophysical Union Fall Meeting, American Geophysical Union Fall Meeting, 9–13 December 2024. V13C-3284

- **Acton, G.D.**, **Childress, L.B.**, and **Percuoco, V.**, 2024. Probing the IODP LIMS with Lithology (LILY) database for the lithologic dependence of P-wave velocity and its anisotropy. Presented at the American Geophysical Union Fall Meeting, Washington, DC, Washington, DC. PP51E-0588
- **Alvarez Zarikian, C.A.**, Huang, H.-H.M., Martez, N., Abrantes, F.F.G., Llerena, F., Dauchy-Tric, L., Kaboth-Bahr, S., Rodriguez-Tovar, F.J., and the IODP Expedition 397 Scientists, 2024. Tracking Mediterranean Overflow along the southwestern Portuguese margin during late Pleistocene glacial-interglacial transitions (MIS 12/11, 6/5, and 2/1): insights from ostracods. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP41A-02
- Blattler, C.L., Tanaka, E., Flecker, R., Ducassou, E., **Williams, T.**, and the IODP Expedition 401 Scientists, 2024. A deep subsurface paleobrine derived from the Messinian salinity crisis in the Alboran Sea (western Mediterranean). Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP54A-08
- Burns, K., Frank, T., Jennings, A.E., and the IODP Expedition 400 Scientists (including **L. Childress**), 2024. Origin and Significance of Detrital Carbonate Beds in Pleistocene Strata, Northwestern Greenland Margin. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP23A-0544
- Cargill, S.K., Tauxe, L., **Roth, A.**, and the Expedition 400 Scientists (including **L. Childress**), 2024. A preliminary chronology for NW Greenland margin Sites U1603 and U1604 utilizing magnetic reversal stratigraphy and relative paleointensity. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP23A-0540
- Cooper, S.K., Leckie, R.M.M., **Childress, L.B.**, Lewis, J.C., Peart, L.W., White, L.D., and Pincus, M., 2024. School of Rock: an enduring legacy from two decades of professional development on the JOIDES Resolution. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP51E-0597
- Craig, P., Balestra, B., Chin, S., Amarathunga, U., Das, M., Sierro, F.J., Yousfi, M.Z., Flecker, R., Ducassou, E., **Williams, T.**, Brothers, A., and the IODP Leg 401 Scientific Team, 2024. Biogeographic distribution of living coccolithophore communities retrieved during the International Ocean Discovery Program (IODP) Expedition 401, Mediterranean–Atlantic Gateway Exchange. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP43A-0391
- Di Chiara, A., Satolli, S., Dwyer, D., Friedman, S.A., **Acton, G.D.**, Karatsolis, B.T., Pearson, P.N., Jones, T.D., Suzuki, T., Modestou, S., LeBlanc, D.E., Ibrahim, H., O'Connell, S., Jasper, C.E., Thulasi, T., Lee, S., Briais, A., Parnell-Turner, R., **LeVay, L.**, and the Expedition 395 Science Party, 2024. Geomagnetic excursions observed in high-resolution paleomagnetic records from North Atlantic IODP Sites U1555 and U1563. Presented at the American Geophysical Union Fall Meeting, Washington, DC, Washington, DC. PP51E-0586
- Dickerson, K., Fisher, A.T., Deans, J.R., Abe, N., Lang, S.Q., McCaig, A.M., **Blum, P.**, and the IODP Expedition 399 Science Party, 2024. Characterizing primary lithology and secondary modification of a deep, mafic-ultramafic section from the Atlantis Massif, Mid-Atlantic Ridge using core and downhole data and machine learning. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. V13C-3278

- Dodd, J.P., Phillips, S., **LeVay, L.**, Cooper, S.K., and Sibert, E.C., 2024. Results from scientific ocean drilling: the interdisciplinary legacy of the JOIDES Resolution, part I. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP41D
- Dodd, J.P., Phillips, S., **LeVay, L.**, Cooper, S.K., and Sibert, E.C., 2024. Results from scientific ocean drilling: the interdisciplinary legacy of the JOIDES Resolution, Part II. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP44A
- Dodd, J.P., Phillips, S., **LeVay, L.**, Cooper, S.K., and Sibert, E.C., 2024. Results from scientific ocean drilling: the Interdisciplinary legacy of the JOIDES Resolution, part III. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP51E
- Dodd, J.P., Phillips, S., **LeVay, L.**, Cooper, S.K., and Sibert, E.C., 2024. Results from scientific ocean drilling: the interdisciplinary legacy of the JOIDES Resolution, part IV. Presented at the American Geophysical Union Fall Meeting, Washington, DC, Washington, DC. PP54A
- Druitt, T.H., Metcalfe, A., Pank, K., Kutterolf, S., Preine, J., Karim, K., Huebscher, C., Koukousioura, O., Nomikou, P., Manga, M., **Ronge, T.**, Woodhouse, A., Beethe, S., Berthod, C., Chiyonobu, S., Chen, H., Clark, A., DeBari, S.M., Gertisser, R., Johnston, R.M., Peccia, A., Yamamoto, Y., Bernard, A., Perez, T.I.F., Jones, C., Joshi, K.B., Kletetschka, G., Xiaohui, L., McCanta, M.C., McIntosh, I.M., Morris, A., Polymenakou, P., Tominaga, M., and Papanikolaou, D., 2024. Far-travelled ash megaturbidite fed by shoreline-crossing pyroclastic currents from the 161 ka Kos Plateau tuff eruption. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. V22B-06
- Eason, D.E., Murton, B.J., White, N., Jackson, R., Taylor, R., Briais, A., **LeVay, L.**, Parnell-Turner, R., and the IODP Expedition 395 Scientists, 2024. Temporal evolution of the Reykjanes Ridge: insights into v-shaped ridge formation from IODP Expedition 395. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. V11B-02
- **Estes, E.R.**, Borrelli, C., **Childress, L.B.**, and Sylvan, J.B., 2024. Concentration and composition of organic carbon in pelagic sediments – exploring preservation mechanisms and analytical artifacts. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP41D-0343
- Feakins, S.J., Feng, X., Liu, Z., Zhang, Y., Schubert, B., Teixeira, M., Sierro, F.J., George, S.C., Hernandez Molina, F.J., Warny, S., Noto, D., Berke, M.A., Yousfi, M.Z., Flecker, R., Ducassou, E., **Williams, T.**, and the IODP Expedition 401 Scientists, 2024. Terrigenous plant material in the Iberian Margin detects Late Miocene changes in the Mediterranean Gateway. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP43E-02
- Filina, I., Loreto, F., Shuck, B., Abe, N., Pezard, P.H., Zitellini, N., Malinverno, A., **Estes, E.R.**, Akizawa, N., Cunningham, E., Di Stefano, A., Fu, Q., Gontharet, S., Kearns, L., Koorapati, R.K., Lei, C., Magri, L., Menapace, W., Morishita, T., Pandey, A., Poulaki, E.M., Pavlovics, V., Rodriguez-Pilco, M.A., Sanfilippo, A., Vannucchi, P., and Zhao, X., 2024. Summary of physical properties of rocks collected during the IODP Expedition 402 in the back-arc Tyrrhenian Basin. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. T31E-3172
- Flecker, R., Ducassou, E., **Williams, T.**, and the IODP Expedition 401 Scientists, 2024. Evidence of Miocene Mediterranean salt giant formation in the Atlantic: initial results from IODP Expedition 401. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP33F-06
- Haygood, L., Riedinger, N., Hodell, D.A., Abrantes, F.F.G., **Alvarez Zarikian, C.A.**, Galvez, O., Redman, B., and the IODP Expedition 397 Science Party, 2024. Investigating bottom-water redox conditions

at the Iberian margin. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP51E-0594

- Hemming, S.R., Alba, R.B., Chiara, A.D., Rasbury, T., Satolli, S., Dunkley Jones, T.S., Dwyer, D., Friedman, S.A., Hanson, E., Ibrahim, H., Jasper, C.E., Karatsolis, B.T., Morris, M.A., Modestou, S., O'Connell, S., Sinnesael, M., Parnell-Turner, R., Briais, A., **LeVay, L.J.**, and the Expedition 395 Scientists, 2024. History of terrigenous provenance variation on Bjorn Drift IODP Site U1554. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP41D-0350
- Ibrahim, H., Patterson, M.O.R., Kulhanek, D.K., Briais, A., Parnell-Turner, R., **LeVay, L.J.**, and the Expedition 395 Scientists, 2024. Record of the North Atlantic Current System under varying climate boundary conditions in the Plio-Pleistocene from IODP Site 1564. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP41D-0353
- Jasper, C.E., Wang, C., Tessler, M., Hemming, S.R., **Williams, T.**, Reilly, B., and Raymo, M.E., 2024. Cyclicity and provenance of Antarctic iceberg discharge events in Iceberg Alley during the Early-to-Mid Pleistocene. Presented at the American Geophysical Union Fall Meeting, American Geophysical Union Fall Meeting, 9–13 December 2024. PP11B-05
- Jennings, A.E., **Childress, L.B.**, Hatfield, R.G., Klotsko, S., Knutz, P.C., Reilly, B., the BADEX Science Team, and the Expedition 400 Scientists, 2024. Greenland Ice Sheet-ocean-climate interactions through space and time. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP23A-0539
- **Kars, M.A.C.**, and **Childress, L.B.**, 2024. Investigating the role of lithology and diagenesis on rock magnetic properties of diagenetically altered marine sediments. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. GP33A-3429
- Kilpatrick, A., Jasper, C.E., Hemming, S.R., Raymo, M.E., Sinnesael, M., Karatsolis, B.T., and the IODP Expedition 395 Scientists (including **L. LeVay**), 2024. Pacing of Northern Hemisphere ice sheet growth and retreat in the Early Pleistocene From Gardar Drift Site U1564. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. PP41D-0351
- Kletetschka, G., Morris, A., **Roth, A.**, Druitt, T.H., Kutterolf, S., **Ronge, T.**, Beethe, S., Bernard, A., Berthod, C., Chen, H., Chiyonobu, S., Clark, A., DeBari, S.M., Perez, T.I.F.F., Gertisser, R., Huebscher, C., Johnston, R., Jones, C.S., Joshi, K.B., Lin, X., Magna, M., McCanta, M.C., McIntosh, I.M., Pank, K., Peccia, A., Preine, J., Tominaga, M., Woodhouse, A., Yamamoto, Y., Koukousioura, O., Nomikou, P., Polymenakou, P., Whitlock, S.E., Schnur, S., and Ucar, H., 2024. Distinguishing detrital and chemical remanent magnetization in marine sediments: a novel magnetic efficiency approach from IODP Expedition 398, Santorini region. Presented at the American Geophysical Union Fall Meeting, Washington, DC, 9–13 December 2024. GP33A-3427
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*Articles authored by TAMU SOD staff*

Articles published during this quarter authored by staff include the following. Bold type indicates staff (**http://iodp.tamu.edu/staffdir/indiv.html**).

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# Postexpedition science coordination

## Moratorium activities

Early postexpedition activities include coordinating review and publication of the *Preliminary Report*, sample parties, programmatic XRF core scanning, and postexpedition editorial meetings for five JRSO expeditions that were under moratorium in the first quarter.

## Postmoratorium activities

Activities include Sample Allocation Committee (SAC) activity, science party communications, review coordination of the galley proofs of the *Proceedings* volume, and Editorial Review Board (ERB) tasks.

In addition, several staff members attended the AGU Fall Meeting in Washington, DC, to present research findings, network with the community at the USSSP booth and IODP Town Hall, and advertise the capabilities of the GCR laboratories following the installation of instruments that were demobilized from the *JOIDES Resolution*.

## Property disposition

*Shore-based*

Staff from several departments assisted in receiving, organizing, and uncrating the instruments, computers and monitors, and furniture that were demobilized from the *JOIDES Resolution*. In total, 10 containers and 3 flat racks were shipped from Amsterdam, The Netherlands. The flat racks and two radioactive sources from the downhole logging tools were sent directly to Schlumberger at their Larose, Louisiana, offices. Items no longer needed were scrapped or sent to TAMU's surplus center and removed from the property database.

# Legacy documentation

## Operational, coring tool, and CORK drawings

Operations and Engineering staff in the Science Operations Department updated and archived drawings of the majority of tools used in coring, drilling, and downhole measurement operations. An archive of observatory installations (circulation obviation retrofit kits [CORKs]) documentation was also created on a hole-by-hole basis to make it easier to locate information.

## Shipboard laboratory documentation

The primary wiki for laboratory manuals from the *JOIDES Resolution* was migrated to TAMU's main Confluence account. Efforts are under way to archive a snapshot of these legacy documents in pdf format within Zenodo.

## Clearance and permitting

A Standard Operating Procedure (SOP) document has been created to document the tasks involved with obtaining national clearances and environmental permits, including the steps involved in using the State Department's Marine Scientific Research Application Tracking System (RATS) portal, identifying coastal observers, evaluating environmental risks associated with seismic experiments and obtaining

NSF approval, identifying Nagoya Protocol (microbiology) issues, and identifying potential problems with seafloor cables.

### Scientific staffing

Work began on an SOP to document the tasks involved with issuing calls for applications for IODP expeditions; inviting Co-Chief Scientists, scientific participants, outreach officers, and observers; vetting participants to satisfy export control regulations; and entering participant information in our in-house Crew & Cruise database. This SOP will be finalized in the next quarter.

## Technology services

### Data access and migration

TAMU Technology Services oversees scientific ocean drilling data storage, management, and archiving; maintains information technology (IT) infrastructure on shore for the GCR and closeout activities; develops and maintains instrument-specific software for data acquisition in the GCR; and manages the Program's extensive databases.

### Expedition data requests

The following tables provide information on web data requests from the scientific community. Where possible, visits by employees were filtered out.

Table 5.1. Top 10 countries accessing web database

| Rank | Janus database | | LIMS database | |
|---|---|---|---|---|
| | Country | Visitor sessions | Country | Visitor sessions |
| 1 | United States | 925 | United States | 19,550 |
| 2 | China | 371 | Poland | 1,313 |
| 3 | Germany | 171 | China | 610 |
| 4 | Japan | 115 | United Kingdom | 463 |
| 5 | United Kingdom | 115 | Germany | 302 |
| 6 | Australia | 82 | Canada | 199 |
| 7 | Italy | 74 | Italy | 194 |
| 8 | Canada | 64 | Japan | 188 |
| 9 | France | 64 | France | 135 |
| 10 | Belgium | 57 | Spain | 113 |
| 11 | Other | 399 | Other | 1,001 |
| | **Total** | **2,437** | **Total** | **24,068** |

Table 5.2. Top 20 database web queries

| Rank | Janus database | | LIMS database | |
|---|---|---|---|---|
| | Query | Views | Query | Views |
| 1 | Site summary | 1,925 | Images—core photo | 6,897 |
| 2 | Images—core photo | 1,400 | Images—section photo | 4,814 |
| 3 | Hole Summary | 1,215 | Samples | 4,331 |
| 4 | Sample | 739 | Section summary | 3,978 |

| Rank | Janus database | | LIMS database | |
|---|---|---|---|---|
| | Query | Views | Query | Views |
| 5 | Core summary | 649 | Paleomag—SRM section | 3,519 |
| 6 | Depth point calculator | 554 | Core summary | 3,436 |
| 7 | Physical properties—GRA | 389 | Hole summary | 3,216 |
| 8 | Chemistry—carbonates | 355 | Images—microimg | 3,036 |
| 9 | Special holes summary | 326 | Physical properties—MAD | 3,022 |
| 10 | Physical properties—MAD | 318 | X-ray—XRD | 2,871 |
| 11 | Physical properties—MS | 297 | Physical properties—NGR | 2,839 |
| 12 | Images—prime data | 250 | Physical properties—MS | 2,509 |
| 13 | Paleontology—age model | 214 | Physical properties—GRA | 2,409 |
| 14 | Physical properties—RSC | 186 | Physical properties—RSC | 2,405 |
| 15 | Physical properties—NGR | 163 | Chemistry—carbonates | 2,383 |
| 16 | Hole trivia | 145 | Chemistry—interstitial water | 2,316 |
| 17 | Images—closeup | 121 | Paleomag—MSPOINT | 2,158 |
| 18 | Leg summary | 121 | Images—closeup | 2,104 |
| 19 | Chemistry—interstitial water | 117 | Physical properties—TCON | 2,024 |
| 20 | X-ray—XRD | 100 | Physical properties—PWL | 2,012 |
| | Other | 1,378 | Other | 17,174 |
| | **Total** | **10,962** | **Total** | **79,453** |

### Other projects and activities

TAMU SOD conducted routine system maintenance in accordance with the TAMU IT security policy. The TAMU IT staff continued to make progress toward centralized management policies that distribute security updates to all workstations. Crowdstrike endpoint monitors were replaced by Elastic, and a new centralized SIEM logging agent was deployed to protect system logs from tampering. Phase 2 of the annual Risk Assessment began.

Additionally, TAMU IT staff worked with the Oracle database support group to identify and address performance issues. A long-term project to retire Open Enterprise Server in favor of Active Directory file storage was completed. The hyperscan software development project is nearing completion.

Expedition 397 XRF data were released from moratorium during this quarter.

### Data migration to (1) NCEI and (2) Zenodo

Data migration efforts to Zenodo continued with 172 datasets created for IODP Expeditions 353, 359, and 367. A full list of expeditions for which data has been migrated to Zenodo is available at **http://iodp.tamu.edu/database/zenodo.html**.

## Financial closeout

Financial closeout tasks continued but will be reported in the JRSO award quarterly reports.