International Ocean Discovery Program
JOIDES Resolution Science Operator
FY25 Q3 Operations and Management Report

1 July–30 September 2025

Cooperative Agreement OCE-1326927

Submitted by the JRSO to

The National Science Foundation

31 October 2025

Introduction

This technical report reflects the activities for the fourth quarter (Q4) of the no-cost extension year of the National Science Foundation (NSF) award to manage and operate the *JOIDES Resolution* for the International Ocean Discovery Program (IODP). Post-IODP obligations related to expeditions conducted during IODP are funded by a separate award to the Texas A&M University Research Foundation (TAMRF). Consequently, the activity in the no-cost extension year relates to tasks that are not explicitly covered by the post-IODP obligation award.

Financial closeout and administrative activities

During Q4, administrative activities on the project focused on the following areas:

- Subcontracts: the remaining active subaward was the Rutgers agreement for storage of cores, which ended on 30 September 2025. The PI has been notified that this agreement will not be continued via the *JOIDES Resolution* Science Operator (JRSO) award, and the final invoice is pending. After receipt and approval of the final invoice, the agreement will be administratively closed.
- No-cost extension: a no-cost extension to 31 March 2026 was approved, providing additional time for the setup and training on analytical equipment ordered in Q2. 25% of the IODP General Manager's time continues to be charged to the JRSO funds to coordinate the JRSO project closeout and other fiscal activities.
- Expenditures: expenses related to approved wrap-up activities continue to be processed. This includes equipment, salaries related to equipment setup and training, and other activities.

Other activity

Effort associated with NSF's tasking JRSO to support various aspects of IODP^3–NSF Expedition 501 located offshore New England continued during this quarter. The second TAMU staff member disembarked at the end of Expedition 501 on 1 August 2025. The TAMU mobilization specialist attended the end port call to complete shipping paperwork and appropriate procedures to return the cesium source to TAMU and observed demobilization activities.

Recently approved and purchased analytical equipment continued to be received and installed with associated training. The replacement microscope cameras were installed and accepted. Installation and training on the particle size analyzer and the furnace and low temperature cryostat accessories for the Kappabridge magnetometer were also completed, and the instruments were accepted and the invoices paid. Work continued on the SAFOD google site, and an abstract was submitted on the status of SAFOD cores to the Geological Society of America annual meeting. A purchase order was issued to the System for Earth and Extraterrestrial Sample Registration (SESAR) at Columbia University to assign IODP Site, Hole, Core, Section and Section Half samples International Generic Sample Numbers (IGSNs), which enhances the ability of the science community to find and access these samples and makes it easier for individual researchers to associate the section half samples requested from the repositories with the parent samples when registering their samples with SESAR.

Publications authored by staff

Articles and abstracts published during this quarter where some of the research occurred when staff were active on this award include the following. Bold type indicates JRSO staff.

Articles authored by JRSO staff

Abrantes, F., Magalhães, V., Hodell, D.A., Herbert, T.D., Alonso-Garcia, M., Castaño, M., Ferreira, F., Freitas, M., Gebara, L., Gil, I., Gonzáles-Martín, M., Lopes, A., Lopes, C., Matos, L., Mega, A., Molina, G., Naughton, F., Oliveira, D., Rebotim, A., Rodrigues, T., Salgueiro, E., Santana, A., Treyos-Tamayo, R., **Alvarez Zarikian, C.A.**, and the Expedition 397 Scientists, 2025. Data report: an improved splice using XRF data, IODP Expedition 397 Site U1586. In Hodell, D.A., Abrantes, F., Alvarez Zarikian, C.A., and the Expedition 397 Scientists, Iberian Margin Paleoclimate. Proceedings of the International Ocean Discovery Program, 397: College Station, TX (International Ocean Discovery Program). https://doi.org/10.14379/iodp.proc.397.202.2025

Chen, X., Wu, J., Pang, X., Dang, H., Zhong, L., Yu, J., Colin, C., Liu, Z., de Lange, G.J., Kaboth-Bahr, S., Xuan, C., Ikeda, H., Herbert, T.D., May Huang, H.-H., **Alvarez Zarikian, C.A.**, Abrantes, F.F.G., and Hodell, D.A., 2025. Depth fluctuations of Mediterranean Outflow Water along its northward propagation during the Late Pleistocene. Geophysical Research Letters, 52(14):e2025GL116967. https://doi.org/10.1029/2025GL116967

de Castro, M.J., Venancio, I.M., Santos, T.P., Lessa, D.V.O., Ballalai, J.M., Albuquerque, A.L.S., and IODP Expedition 383 Shipboard Scientists (including **C.A. Alvarez Zarikian**), 2025. Migration of oceanic fronts in the Pacific Southern Ocean during the Mid-Pleistocene transition. Marine Micropaleontology, 200:102501. https://doi.org/10.1016/j.marmicro.2025.102501

Metcalfe, A., Druitt, T., Pank, K., Kutterolf, S., Preine, J., Kelfoun, K., Hübscher, C., Nomikou, P., **Ronge, T.A.**, Chiyonobu, S., Koukousioura, O., Woodhouse, A., Beethe, S., Manga, M., McIntosh, I., Tominaga, M., Berthod, C., Chen, H., Clark, A., DeBari, S., Gertisser, R., Johnston, R., Peccia, A., Yamamoto, Y., Bernard, A., Fernandez Perez, T., Jones, C.K., Joshi, K.B., Kletetschka, G., McCanta, M., Morris, A., Polymenakou, P., Li, X., Nedelec, J.-M., Lee, H.-Y., and Papanikolaou, D., 2025. Submarine ash megabed fed by far-traveled, shoreline-crossing pyroclastic currents from a large explosive volcanic eruption. Science Advances, 11(33):eads9642. https://doi.org/10.1126/sciadv.ads9642

Naim, F., Cook, A.E., Knutz, P.C., Jennings, A.E., **Childress, L.B.**, Bryant, R.M., Cargill, S.K., Coxall, H.K., Frank, T.D., Grant, G.R., Gray, R.E., Le Houedec, S., Ives, L., Kumar, V., Martens, J., Nelissen, M., Özen, V., Passchier, S., Pérez, L.F., Ren, J., Romans, B.W., Seki, O., Staudigel, P., Tauxe, L., Tibbett, E.J., Yokoyama, Y., Zhang, Y., and Zimmermann, H., 2025. Data report: gas hydrate assessment in Baffin Bay at IODP Expedition 400 drill sites. In Knutz, P.C., Jennings, A.E., Childress, L.B., and the Expedition 400 Scientists, NW Greenland Glaciated Margin. Proceedings of the International Ocean Discovery Program, 400: College Station, TX (International Ocean Discovery Program). https://doi.org/10.14379/iodp.proc.400.201.2025

Pecher, I.A., Cook, A.E., Solomon, E.A., Wang, X., Han, S., Paganoni, M., Luo, M., Heeschen, K.U., McNamara, D.D., Nole, M., **LeVay, L.**, Petronotis, K., Barnes, P.M., Wallace, L.M., and Saffer, D.M., 2025. Dissociating gas hydrate beneath the hydrate stability zone. Geophysical Research Letters, 52(13):e2024GL112200. https://doi.org/10.1029/2024GL112200