Proceedings of the International Ocean Discovery Program

Volume 371

Tasman Frontier Subduction Initiation and Paleogene Climate
Expedition 371 of the R/V JOIDES Resolution
Townsville, Australia, to Hobart, Australia
Sites U1506–U1511
27 July–26 September 2017

Volume authorship
Sutherland, R., Dickens, G.R., Blum, P., and the Expedition 371 Scientists
Publisher’s notes

This publication was prepared by the JOIDES Resolution Science Operator (JRSO) at Texas A&M University (TAMU) as an account of work performed under the International Ocean Discovery Program (IODP). Funding for IODP is provided by the following international partners:

- National Science Foundation (NSF), United States
- Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan
- European Consortium for Ocean Research Drilling (ECORD)
- Ministry of Science and Technology (MOST), People’s Republic of China
- Korea Institute of Geoscience and Mineral Resources (KIGAM)
- Australia-New Zealand IODP Consortium (ANZIC)
- Ministry of Earth Sciences (MoES), India
- Coordination for Improvement of Higher Education Personnel (CAPES), Brazil

Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the participating agencies, TAMU, or Texas A&M Research Foundation.

The bulk of the shipboard-collected core data from this expedition is accessible at http://iodp.tamu.edu/database/index.html. If you cannot access this site or need additional data, please contact Data Librarian, International Ocean Discovery Program JOIDES Resolution Science Operator, Texas A&M University, 1000 Discovery Drive, College Station TX 77845-9547, USA. Tel: (979) 845-8495; Fax: (979) 458-1617; Email: database@iodp.tamu.edu.

A complete set of the logging data collected during the expedition is available at http://mlp.ldeo.columbia.edu/logdb/scientific_ocean_drilling. If you have problems downloading the data, wish to receive additional logging data, or have questions regarding the data, please contact Database Administrator, Borehole Research Group, Lamont-Doherty Earth Observatory of Columbia University, PO Box 1000, 61 Route 9W, Palisades NY 10964, USA. Tel: (845) 365-8343; Fax: (845) 365-3182; Email: logdb@ldeo.columbia.edu.

Supplemental data were provided by the authors and may not conform to IODP publication formats.

JRSO expedition photos are the property of IODP and are public access.

Some core photographs have been tonally enhanced to better illustrate particular features of interest. High-resolution images are available upon request.

Cover photograph shows the R/V JOIDES Resolution from a drone on 4 August 2017 at Site U1506 on northern Lord Howe Rise, Zealandia. Photo credit: Adam Kurtz and IODP JRSO.

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Examples of how to cite this volume or part of this volume are available at http://publications.iodp.org/proceedings/371/371title.html#bib.

ISSN
World Wide Web: 2377-3189

Volume DOI
https://doi.org/10.14379/iodp.proc.371.2019

Publication date
2 February 2019
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Supplementary material
Supplementary material for the Volume 371 expedition reports includes age models and DESClogik workbooks in Microsoft Excel format, cleaned track data in CSV format, and Rig Instrumentation System files in ASC format. A full list of directories can be found in SUPP_MAT in the volume zip folder or on the Supplementary material for Volume 371 expedition reports web page.

Expedition research results

Data reports
Titles are available in HTML.

Syntheses
Titles are available in HTML.

Drilling location maps
A site map showing the drilling locations for this expedition and maps showing the drilling locations of all International Ocean Discovery Program (IODP) expeditions, produced using QGIS (http://www.qgis.org), and all Integrated Ocean Drilling Program, Ocean Drilling Program (ODP), and Deep Sea Drilling Project (DSDP) expeditions, produced using Generic Mapping Tools (GMT) of Paul Wessel and Walter H.F. Smith (http://gmt.soest.hawaii.edu), are available in PDF.

IODP Expedition 371 site map
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Integrated Ocean Drilling Program map (Expeditions 301–348)
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Acknowledgments

The Expedition 371 science party thanks the personnel aboard the R/V JOIDES Resolution for their skill, hard work, and professionalism. We particularly acknowledge the technical support staff for their superb attitude and dedication throughout the expedition and the operational and engineering staff from both the JOIDES Resolution Science Operator (JRSO) and Siem Offshore AS for their help and guidance with drilling operations and logistics, which were complicated by difficult geology, weather, a medical emergency, and a change of the Master of the Drilling Vessel during the voyage. The expedition was made possible by shore-based International Ocean Discovery Program (IODP) staff who helped before, during, and after the expedition. We thank the scientists who were original proponents but unable to participate and the many people involved in site survey data compilation and new acquisition, particularly those involved in the TAN1312, TAN1409, and Tectonic Event of the Cenozoic in the Tasman Area (TECTA) voyages. The governments of New Zealand, France, and New Caledonia funded the site survey voyages, and the government of Australia made data available to the project. Workshops that nurtured this proposal were funded by the Australia-New Zealand IODP Consortium (ANZIC) (Australia and New Zealand) and the National Science Foundation (USA).
Foreword

The International Ocean Discovery Program (IODP) represents the latest incarnation of almost five decades of scientific ocean drilling excellence and is generally accepted as the most successful international collaboration in the history of the Earth sciences. IODP builds seamlessly on the accomplishments of previous phases: the Deep Sea Drilling Project, Ocean Drilling Program, and Integrated Ocean Drilling Program. The 2013–2023 IODP Science Plan (Illuminating Earth’s Past, Present, and Future) defines four themes and thirteen challenges for this decade of scientific ocean drilling that are both of fundamental importance in understanding how the Earth works and of significant relevance to society as the Earth changes, at least in part in response to anthropogenic forcing. This phase of IODP represents a renewed level of international collaboration in bringing diverse drilling platforms and strategies to increasing our understanding of climate and ocean change, the deep biosphere and evolution of ecosystems, connections between Earth’s deep processes and surface manifestations, and geologically induced hazards on human timeframes.

The Proceedings of the International Ocean Discovery Program presents the scientific and engineering results of IODP drilling projects, expedition by expedition. As in the preceding Integrated Ocean Drilling Program, expeditions in the new IODP are conducted by three implementing organizations, each providing a different drilling capability. These are the US Implementing Organization (USIO; through September 2014) and the JOIDES Resolution Science Operator (JRSO; as of October 2014), providing the leased commercial vessel JOIDES Resolution for riserless drilling operations; JAMSTEC’s Center for Deep Earth Exploration (CDEX), providing the drillship Chikyu for riser and occasional riserless operations; and the European Consortium for Ocean Research Drilling (ECORD) Science Operator (ESO), providing “mission-specific” platforms (MSPs) for expeditions that extend the IODP operational range where neither drillship is suitable, for example, in polar environments and in shallow waters. Scheduling decisions for each capability are made by three independent Facility Boards, each of which includes scientists, operators, and platform funding partners: the JOIDES Resolution Facility Board (JRFB), Chikyu IODP Board (CIB), and ECORD Facility Board (EFB). At the beginning of the new IODP, the three Facility Boards agreed to utilize Publication Services at the USIO and now the JRSO for production of all expedition Proceedings volumes and reports.

The new IODP differs from prior scientific ocean drilling programs in that it has neither a central management organization nor commingled funding for program-wide activities. Yet this phase of IODP retains a fundamental integrative structural element: a “bottom-up” evaluation of all proposals for drilling expeditions by a single advisory structure composed of scientists representing all international program partners. International scientists may submit drilling proposals to the Science Support Office; all submitted proposals are then evaluated by a Science Evaluation Panel in the context of the Science Plan.

The new IODP also has a second internationally integrative level for high-level discussion and consensus-building: the IODP Forum. The Forum is charged with assessing program-wide progress toward achieving the Science Plan. At present, IODP involves 26 international financial partners, including the United States, Japan, an Australia/New Zealand consortium (ANZIC), Brazil, China, India, South Korea, and the eighteen members of ECORD (Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Israel, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom). This enhanced membership in the new IODP represents a remarkable level of international collaboration that remains one of the greatest ongoing strengths of scientific ocean drilling.

James A. Austin Jr.
Chair, IODP Forum
International Ocean Discovery Program

JOIDES Resolution Science Operator

Website: http://iodp.tamu.edu

IODP JRSO
International Ocean Discovery Program
Texas A&M University
1000 Discovery Drive
College Station TX 77845-9547
USA
Tel: (979) 845-2673; Fax: (979) 845-4857
Email: information@iodp.tamu.edu

IODP JRSO Curation and Laboratories
IODP Gulf Coast Repository (GCR)
Texas A&M University
1000 Discovery Drive
College Station TX 77845-9547
USA
Tel: (979) 845-8490; Fax: (979) 845-1303
Email: rumford@iodp.tamu.edu

European Consortium for Ocean Research Drilling, Science Operator (ESO)

Website: http://www.ecord.org

IODP ESO Coordinator: Science, Logistics, and Operations
British Geological Survey
The Lyell Centre
Research Avenue South
Edinburgh EH14 4AP
United Kingdom
Tel: (44) 131-667-1000; Fax: (44) 131-668-4140
Email: eso@bgs.ac.uk

IODP ESO Curation and Laboratories
IODP Bremen Core Repository (BCR)
Center for Marine Environmental Sciences (MARUM)
University of Bremen
Leobener Strasse
28359 Bremen
Germany
Tel: (49) 421-218-65560; Fax: (49) 421-218-98-65560
Email: bcr@marum.de

IODP ESO Petrophysics
European Petrophysics Consortium
Department of Geology
University of Leicester
Leicester LE1 7RH
United Kingdom
Tel: (44) 116-252-3611; Fax: (44) 116-252-3918
Email: sjd27@leicester.ac.uk

Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

Website: http://www.jamstec.go.jp/chikyu/e

IODP Japan Science Operator
Center for Deep Earth Exploration (CDEX)
Japan Agency for Marine-Earth Science and Technology
Yokohama Institute for Earth Sciences
3175-25 Showa-machi
Kanazawa-ku, Yokohama
Kanagawa 236-0001
Japan
Tel: (81) 45-778-5643; Fax: (81) 45-778-5704
Email: cdex@jamstec.go.jp

IODP Japan Curation and Laboratories
IODP Kochi Institute for Core Sample Research (KCC)
Japan Agency for Marine-Earth Science and Technology
200 Monobe Otusu
3175-25 Showa-machi
Nankoku City, Kochi 783-8502
Japan
Tel: (81) 88-864-6705; Fax: (81) 88-878-2192
Email: kcc.contact@jamstec.go.jp
Expedition 371 participants*

Expedition 371 scientists

Rupert Sutherland  
Co-Chief Scientist  
Department of Geography, Environment, Earth Sciences  
Victoria University of Wellington  
New Zealand  
rupert.sutherland@vuw.ac.nz

Gerald R. Dickens  
Co-Chief Scientist  
Department of Earth, Environmental and Planetary Sciences  
Rice University  
USA  
jerry@rice.edu

Peter Blum  
Expedition Project Manager/Staff Scientist  
International Ocean Discovery Program  
Texas A&M University  
USA  
blum@iodp.tamu.edu

Claudia Agnini  
Paleontologist (nannofossils)  
Dipartimento di Geoscienze  
Università degli Studi di Padova  
Italy  
claudia.agnini@unipd.it

Laia Alegret  
Paleontologist (foraminifers)  
Departamento de Ciencias de la Tierra (Paleontología)  
Universidad de Zaragoza  
Spain  
laia@unizar.es

Joyeeta Bhattacharya  
Sedimentologist  
Department of Earth, Environmental and Planetary Sciences  
Rice University  
USA  
jb79@rice.edu

Aurelien Bordenave  
Sedimentologist  
Geological Survey of New Caledonia  
New Caledonia  
aurelien.bordenave@gouv.nc

Liao Chang  
Paleomagnetist  
School of Earth and Space Sciences  
Peking University  
China  
liao.chang@pku.edu.cn

Julien Collot  
Physical Properties Specialist  
Geological Survey of New Caledonia  
New Caledonia  
jlcollot@gouv.nc

Marlow J. Cramwinckel  
Organic Geochemist/Palynologist  
Department of Earth Sciences  
Utrecht University  
The Netherlands  
m.j.cramwinckel@uu.nl

Edoardo Dallanave  
Paleomagnetist  
Department of Earth and Environmental Sciences, Geophysics Section  
Ludwig-Maximilians-Universität München  
Germany  
Present affiliation (16 January 2019):  
Faculty of Geosciences  
University of Bremen  
Germany  
dallanav@uni-bremen.de

Michelle K. Drake  
Sedimentologist  
Ocean Sciences Department  
University of California, Santa Cruz  
USA  
mkdrake@ucsc.edu

Samuel J.G. Etienne  
Sedimentologist  
Department of Industry, Mines and Energy of New Caledonia  
Geological Survey of New Caledonia  
New Caledonia  
samuel.etienne@gouv.nc

Martino Giorgioni  
Sedimentologist  
Instituto de Geociência  
Universidade de Brasília  
Brazil  
Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) - Brazil  
gmartino@unb.br

Michael Gurnis  
Physical Properties Specialist  
Seismological Laboratory  
California Institute of Technology  
USA  
gurnis@gps.caltech.edu

*Affiliations at time of expedition, except where updated by participants.
Dustin T. Harper  
Stratigraphic Correlator  
Department of Earth and Planetary Sciences  
University of California, Santa Cruz  
USA  
dtharper@ucsc.edu  

Huai-Hsuan May Huang  
Paleontologist (ostracods)  
Atmosphere and Ocean Research Institute  
The University of Tokyo  
Japan  
huanghualhsuan@gmail.com  

Allison L. Keller  
Sedimentologist  
Department of Earth Sciences  
University of California, Riverside  
USA  
akell002@ucr.edu  

Adriane R. Lam  
Paleontologist (foraminifers)  
Department of Geosciences  
University of Massachusetts  
USA  
arlam@geo.umass.edu  

He Li  
Inorganic Geochemist  
Institute of Oceanology, Chinese Academy of Sciences  
China  
lihe@qdio.ac.cn  

Hiroki Matsui  
Paleontologist (foraminifers)  
Department of Earth Science  
Tohoku University  
Japan  
hmatsui531@gmail.com  

Cherry Newsam  
Paleontologist (nannofossils)  
Department of Earth Sciences  
University College London  
United Kingdom  
cherry.newsam.11@ucl.ac.uk  

Yu-Hyeon Park  
Organic Geochemist  
Department of Oceanography  
Pusan National University  
Republic of Korea  
parky@pusan.ac.kr  

Kristina M. Pascher  
Paleontologist (radiolarians)  
GNS Science  
New Zealand  
krisitina.pascher@gmail.com  

Stephen F. Pekar  
Sedimentologist  
School of Earth and Environmental Sciences  
Queens College (CUNY)  
USA  
stephen.pekar@qc.cuny.edu  

Donald E. Penman  
Sedimentologist  
Department of Geology and Geophysics  
Yale University  
USA  
donald.penman@yale.edu  

Saneatsu Saito  
Physical Properties Specialist  
Research and Development Center for Ocean Drilling Science  
Japan Agency for Marine-Earth Science and Technology  
Japan  
saito@jamstec.go.jp  

Wanda R. Stratford  
Physical Properties Specialist  
Marine Geosciences  
GNS Science  
New Zealand  
w.stratford@gns.cri.nz  

Thomas Westerhold  
Stratigraphic Correlator  
Center for Marine Environmental Sciences (MARUM)  
University of Bremen  
Germany  
twesterhold@marum.de  

Xiaoli Zhou  
Inorganic Geochemist  
Institute of Marine and Coastal Sciences  
Rutgers, The State University of New Jersey  
USA  
xiaoli.zhou@rutgers.edu
Observers

Gayane Asatryan
Observer/Paleontologist (radiolarians)
School of Earth and Environmental Sciences
University of Queensland
Australia

Present affiliation (9 November 2018):
Museum für Naturkunde
Leibniz-Institut für Evolutions- und Biodiversitätsforschung
Germany
Gayane.Asatryan@mfn.berlin

Hugh E.G. Morgans
Observer/Paleontologist (foraminifers)
Paleontology and Environmental Change Section
GNS Science
New Zealand
h.morgans@gns.cri.nz

Education and outreach

Debra E. Beamish
Education/Outreach Officer
Australia
beamish5@tpg.com.au

Adam J. Kurtz
Education/Outreach Officer
USA
adamkurtz47@gmail.com

Operational and technical staff

Siem Offshore AS officials

Steve Bradley
Master of the Drilling Vessel

Jake Robinson
Master of the Drilling Vessel

Mark Robinson
Offshore Installation Manager

JRSO shipboard personnel and technical representatives

Timothy Blaisdell
Applications Developer

Susan Boehm
Thin Section Laboratory

Inva Braha
Marine Laboratory Specialist (temporary)

Lisa Brandt
Chemistry Laboratory

Chad Broyles
Curatorial Specialist

Lisa Crowder
Assistant Laboratory Officer

Douglas Cummings
Publications Specialist

Aaron de Loach
Core Laboratory

Keith Dupuis
Underway Geophysics Laboratory

Sheryl Frazier
Physical Properties Laboratory

Timothy Fulton
Senior Imaging Specialist

Luke Furfey
Marine Laboratory Specialist (temporary)

Clayton Furman
Logging Engineer (Schlumberger)

Randy Gjesvold
Marine Instrumentation Specialist

Michael Hodge
Marine Computer Specialist

Minh Huynh
Marine Computer Specialist

Nicolette Lawler
X-Ray Laboratory

Daniel Marone
Marine Laboratory Specialist (temporary)

Aaron Mechler
Chemistry Laboratory

Mike Meiring
Engineer

Stephen Midgley
Operations Superintendent

William Mills
Laboratory Officer
Beth Novak  
Paleomagnetism Laboratory

Garrick Van Rensburg  
Marine Instrumentation Specialist

IODP Publication Services staff*

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