

GEOLOGICAL MAGAZINE

journals.cambridge.org/geo

Submit your paper online

<http://mc.manuscriptcentral.com/geo>



CAMBRIDGE
UNIVERSITY PRESS

EDITOR-IN-CHIEF

Professor Peter Clift *Department of Geology and Geophysics, Louisiana State University, Baton Rouge, LA 70803, USA*
pclift@lsu.edu

EXECUTIVE EDITORS

Dr Chad Deering *Geological and Mining Engineering and Sciences, Michigan Technological University, 630 Dow Environmental Sciences, 1400 Townsend Drive, Houghton, MI 49931, USA*
cddeering@mtu.edu

Dr Stephen M. Hubbard *University of Calgary, Department of Geosciences, Calgary, Alberta, Canada*
shubbard@ucalgary.ca

Professor Olivier Lacombe *University Pierre et Marie Curie, 4 Place Jussieu, 75005 Paris, France*
olivier.lacombe@upmc.fr

Professor Paul Upchurch *Department of Earth Sciences, University College London, Gower Street London WC1E 6BT, UK*
p.upchurch@ucl.ac.uk

BOOK REVIEW EDITOR

Please contact the Editorial Office at geolmag@cambridge.org

EDITORIAL BOARD

Dr Paul M. Barrett *Natural History Museum, London, UK*

Dr Susanne Buiter *University of Oslo, Norway*

Professor Alan Collins *University of Adelaide, Australia*

Professor Yildirim Dilek *Miami University, USA*

Professor Xian-Hua Li *Institute of Geology and Geophysics CAS, China*

Dr Guido Meinhold *University of Göttingen, Germany*

Dr Nathan Niemi *University of Michigan, USA*

Professor Mark Patzkowsky *Penn State University, USA*

Professor Victoria Pease *Stockholm University, Sweden*

Dr Taylor Schildgen *University of Potsdam, Germany*

Professor Francisco Siero *University of Salamanca, Spain*

Dr Shuguang Song *Peking University, China*

Dr Holly Stein *Colorado State University, USA*

Dr Hans-Dieter Sues *Smithsonian National Museum of Natural History, USA*

Professor Ben A. van der Pluijm *University of Michigan, USA*

Dr Bas van de Schootbrugge *Utrecht University, Netherlands*

Dr Andrew G. Whitham *CASP, UK*

Dr Robert S. Yeats *Oregon State University, USA*

Dr Zhaochong Zhang *China University of Geosciences, China*

The *Geological Magazine* was originally established in 1864 and has been published continuously ever since. It covers the whole field of earth sciences, has a worldwide readership and has a particular strength in providing a niche for interdisciplinary papers and papers that would be of interest to geologists from many different specialities. Papers of any length are considered, provided that the length is justifiable.

The *Magazine* publishes both original and review articles, rapid communications, discussions of papers which have already appeared in the *Magazine*, book reviews and a list of new publications.

There are no page charges for papers published in the *Magazine*.

© Cambridge University Press 2017

Internet Access

This journal can be found online at <https://www.cambridge.org/geo>. *Geological Magazine* (ISSN 0016-7568) is published in six parts in 2017, January, March, May, July, September and November. Six parts form a volume in 2017.

The subscription price (excluding VAT) of volume 154, 2017, which includes print and electronic access, is £868 (US \$1476 in USA, Canada and Mexico). The electronic-only price available to institutional subscribers is £675 (US \$1229 in USA, Canada and Mexico). Single parts are £164 net (US \$279 in USA, Canada and Mexico) plus postage. Prices include delivery by air where appropriate. Orders, which must be accompanied by payment, should be sent to any bookseller or subscription agent, or direct to the publisher: Cambridge University Press, The University Printing House, Shaftesbury Road, Cambridge CB2 8BS. Subscriptions in the USA, Canada and Mexico should be sent to Cambridge University Press, Journals Fulfillment Department,

One Liberty Plaza, New York, NY 10006. EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number. Japanese prices for institutions are available from Kinokuniya Company Ltd, P.O. Box 55, Chitose, Tokyo 156, Japan. Periodicals postage paid at New York, NY, and at additional mailing offices. **POSTMASTER:** send address changes in USA, Canada and Mexico to *Geological Magazine*, Cambridge University Press, One Liberty Plaza, New York, NY 10006, USA.

Copying: This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, Mass. 01923, USA. Organizations in the USA who are also registered with C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of US copyright law) subject to payment to C.C.C. This consent does not extend to multiple copying for promotional or commercial purposes.

Organizations authorized by the Copyright Licensing Agency may also copy material subject to the usual conditions.

For all other use, permission should be sought from Cambridge or the American Branch of Cambridge University Press.

Claims for missing issues can only be considered if made immediately after receipt of the subsequent issue.

Advertising: Details of advertising in *Geological Magazine* may be obtained from the publisher.

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see www.fsc.org for information.