# Q QUATERNARY RESEARCH



# **EDITORS**

Derek B. Booth Nicholas Lancaster Lewis A. Owen



# QUATERNARY RESEARCH

#### SENIOR EDITORS

Derek B. Booth Nicholas Lancaster Lewis A. Owen

#### ASSOCIATE EDITORS

Lesleigh Anderson, Patrick J. Bartlein, Robert Booth, Louisa Bradtmiller, Aaron Diefendorf, John Dodson, Jason Dortch, Mary Edwards, Tyler Faith, Jaime Fucugauchi, Kathleen Johnson, Terri Lacourse, Pete Langdon, Thomas Lowell, Curtis W. Marean, Barbara Mauz, James O'Connor, W. Wyatt Oswald, Jeff Pigati, Yeong Bae Seong, James Shulmeister, Ashok K. Singhvi, Xiaoping Yang

#### **EDITORS EMERITI**

A. Lincoln Washburn Estella B. Leopold Stephen C. Porter Eric J. Steig Alan R. Gillespie

#### **MANAGING EDITOR**

Karin Perring

Quaternary Research Center Box 351360 University of Washington Seattle, WA 98195-1360

#### EDITORIAL BOARD

#### ZHISHENG AN

Institute of Earth Environment, Chinese Academy of Sciences Quaternary geology, monsoon and global change, dust and aerosols

# GAIL ASHLEY

Rutgers University Paleoenvironments, paleohydrology of springs, wetlands and rivers, geoarchaeology

#### JULIE BRIGHAM-GRETTE

University of Massachusetts Stratigraphy, sedimentology, chronology of Arctic climate and sea level

#### JOHN DODSON

Institute of Earth Environments, Xi'an, China Australia, Pacific Islands, China, vegetation history, human impacts

#### YEHOUDA ENZEL

Hebrew University of Jerusalem Desert geomorphology, palaeohydrology of lakes and streams

#### DAVID FINK

Australian Nuclear Science and Technology Organisation Cosmogenic dating

#### SHERI FRITZ

University of Nebraska–Lincoln Paleoclimate, paleolimnology, diatom ecology of North and South America

#### ALAN R. GILLESPIE

University of Washington Glacial geology, paleoclimate, megaflooods, Central Asia

#### LISA GRAUMLICH

University of Washington paleoclimatology, paleoecology, climate change, mountain ecosystems

# VANCE T. HOLLIDAY

University of Arizona Geoarchaeology, North American Archaeology, Peopling of the New World, Soils, Late Quaternary Stratigraphy

### RICHARD G. KLEIN

Stanford University

Human origins, Quaternary paleontology

## MELANIE LENG

British Geological Survey, University of Nottingham Stable isotope geochemistry, climate and environmental change

# DANIEL R. MUHS

U.S. Geological Survey

Quaternary sea level history, Eolian

stratigraphy, soils North America, Pacific,

Atlantic, and Caribbean Islands

# COLIN V. MURRAY-WALLACE

University of Wollongong

Coastal evolution, neotectonism, geochronology,

Quaternary sea-level changes

#### JAY OUADE

Department of Geosciences, University of Arizona geochemistry, paleoclimatology, Quaternary geology

## MARIA SOCORRO LOZANO-GARCIA

Universidad Nacional Autónoma de México Tropical paleoecology, paleoclimatology, human impact on ecosystems

### CATHY L. WHITLOCK

Montana State University
Paleoecology and vegetation history:
North and South America

#### YURENA YANES

University of Cincinnati

Isotope geochemistry, paleoclimatology,

Quaternary mollusks, taphonomy,

paleoecology

#### LIPING ZHOU

Peking University

Land-sea correlation, loess, geochronology, geomorphology, Central Asia, East Asia

Cover photo. Waterfall Bluff is a remote location in eastern Pondoland, South Africa (Eastern Cape Province) where the Mlambomkulu River falls into the Indian Ocean. The rock shelter at Waterfall Bluff preserves the first direct evidence of coastal foraging in southern Africa dating to the the last glacial maximum as well as other detailed archaeological records documented by Fisher et al. that show hunting and gathering activities in a persistent near-coastal environment from 38,000 years ago to 11,000 years ago. Photo: Erich C. Fisher (see the article by Fisher et al., pages 1-41 this issue).