MARCH 2014 VOL 7 NO 3
www.nature.com/naturegeoscience

nature geoscience

SLOW WARMING IN THE 2000s
Volcanic contribution

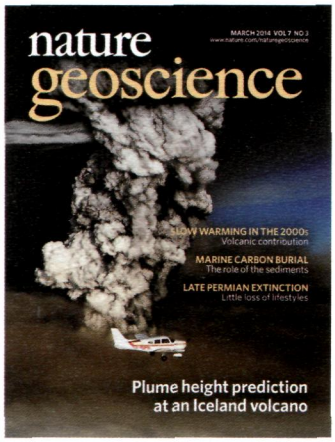
MARINE CARBON BURIAL
The role of the sediments

LATE PERMIAN EXTINCTION
Little loss of lifestyles

Plume height prediction at an Iceland volcano

MARCH 2014 VOL 7 ISSUE 3

nature geoscience



COVER IMAGE

The 2011 eruption of a 20-km-high volcanic plume from Grímsvötn Volcano, Iceland, led to the closure of northern European airspace. Geodetic measurements from the volcano reveal a correlation between plume height, surface deformation and magma-chamber pressure, implying that volcanic-plume behaviour can be predicted before eruption onset. The image shows the Grímsvötn volcanic plume on 21 May 2011, at an altitude of about 10,000 feet and within an hour of the start of the eruption. The aircraft is a 4-seat Piper Cherokee Warrior.

Article p214; News & Views p168

IMAGE: OLAFUR SIGURJONSSON

COVER DESIGN: DAVID SHAND

ON THE COVER

Slow warming in the 2000s
Volcanic contribution
Letter p185

Marine carbon burial
The role of the sediments
Letter p201

Late Permian extinction
Little loss of lifestyles
Article p233; News & Views p171

Nature Geoscience is printed on paper recycled from post-consumer waste.

EDITORIAL

COMMENTARY

BOOKS & ARTS

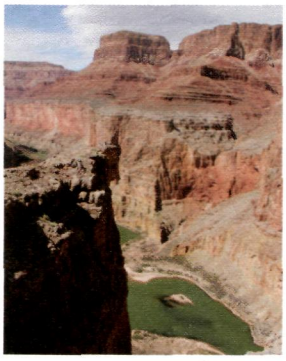
RESEARCH HIGHLIGHTS

NEWS & VIEWS

REVIEW ARTICLE

LETTERS

Arctic sea ice is a key component of the modern climate system. Marine sediment analyses suggest that perennial sea ice in the Arctic Ocean first formed — transiently — about 44 million years ago.
Image: © Dennis Darby
Letter p210; News & Views p165



The age of the Grand Canyon is fervently debated. Thermochronological reconstructions of canyon incision show that although parts of the canyon were carved more than 50 million years ago, two key segments formed less than 6 million years ago, implying that the canyon is a young feature.
Image: © Laurie Crossey
Letter p239

ARTICLES

nature publishing group

Nature Geoscience (ISSN 1752-0894, USPS 025065) is published monthly by Nature Publishing Group, a division of Macmillan Publishers Ltd, The Macmillan Building, 4 Crinan Street, London N1 9XW, UK.

US Periodicals postage paid at Jamaica, NY, and additional mailing post offices. US POSTMASTER: Send address changes to Nature Publishing Group, Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA.

Printed in United Kingdom