

The background of the cover is a photograph of a volcanic eruption. A large plume of dark ash and smoke rises from a dark, silty slope on the right side of the frame. The sky is filled with a dense, glowing orange and red ash fall, creating a dramatic, high-contrast scene. The overall color palette is dominated by the warm tones of the lava and ash, with the dark silty slope providing a stark contrast.

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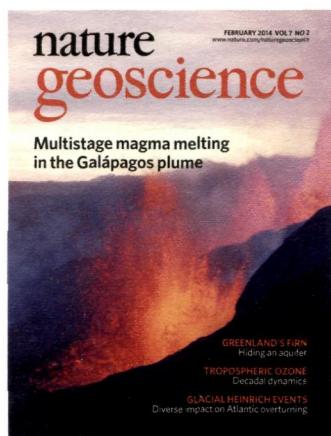
geoscience

**Multistage magma melting
in the Galápagos plume**

GREENLAND'S FIRN
Hiding an aquifer

TROPOSPHERIC OZONE
Decadal dynamics

GLACIAL HEINRICH EVENTS
Diverse impact on Atlantic overturning



COVER IMAGE

Upwelling mantle plumes are thought to be sheared by the motions of the overlying tectonic plates. Seismic imaging of a hotspot beneath the Galápagos Islands, however, identifies a plume that is not deflected in the direction of plate motion and whose characteristics are instead controlled by multistage melting processes. The image shows lava and spatter issued on 27 October 2005 from two separate vents at Sierra Negra, one of the most active and voluminous volcanoes that overlie the Galápagos mantle plume.

Article p151

IMAGE: DENNIS GEIST

COVER DESIGN: DAVID SHAND

ON THE COVER

Greenland's firn
Hiding an aquifer

Letter p95; News & Views p86

Tropospheric ozone
Decadal dynamics

Article p136; News & Views p88

Glacial Heinrich events
Diverse impact on Atlantic

overturning
Article p144



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

EDITORIAL

77 The paper trail

COMMENTARY

78 Science to prevent disasters

Erin Coughlan de Perez, Fleur Monasso, Maarten van Aalst and Pablo Suarez

IN THE PRESS

81 China lands on the Moon

Emily Lakdawalla

RESEARCH HIGHLIGHTS

82 Our choice from the recent literature

NEWS & VIEWS

83 Climate science: Uncertain temperature trend

Judith Curry

84 Volcanology: Volcanic bipolar disorder explained

Mark Jellinek

86 Cryosphere: Greenland's lurking aquifer

Joel Harper

87 Palaeoclimate: Lags within the Younger Dryas

Ana Moreno

88 Atmospheric science: Blown with the wind

Guang Zeng

LETTERS

91 High levels of molecular chlorine in the Arctic atmosphere

Jin Liao, L. Gregory Huey, Zhen Liu, David J. Tanner, Chris A. Cantrell, John J. Orlando, Frank M. Flocke, Paul B. Shepson, Andrew J. Weinheimer, Samuel R. Hall, Kirk Ullmann, Harry J. Beine, Yuhang Wang, Ellery D. Ingall, Chelsea R. Stephens, Rebecca S. Hornbrook, Eric C. Apel, Daniel Riemer, Alan Fried, Roy L. Mauldin III, James N. Smith, Ralf M. Staebler, J. Andrew Neuman and John B. Nowak

95 Extensive liquid meltwater storage in firn within the Greenland ice sheet

Richard R. Forster, Jason E. Box, Michiel R. van den Broeke, Clément Miège, Evan W. Burgess, Jan H. van Angelen, Jan T. M. Lenaerts, Lora S. Koenig, John Paden, Cameron Lewis, S. Prasad Gogineni, Carl Leuschen and Joseph R. McConnell

→N&V p86

99 Emergence of oblique dunes in a landscape-scale experiment

Lü Ping, Clément Narteau, Zhibao Dong, Zhengcai Zhang and Sylvain Courrech du Pont

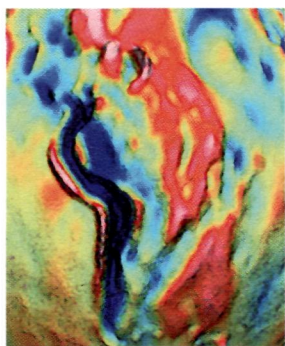
104 Small influence of solar variability on climate over the past millennium

Andrew P. Schurer, Simon F. B. Tett and Gabriele C. Hegerl

109 Delayed hydrological response to Greenland cooling at the onset of the Younger Dryas in western Europe

O. Rach, A. Brauer, H. Wilkes and D. Sachse

→N&V p87



The dynamics of Earth's mantle are difficult to constrain. Analysis of GOCE satellite gravity data can be used to identify gravity anomalies to mid-mantle depths and hence to identify regions of tectonic-plate subduction and plume upwelling in the mantle. Image: IGN, IGP, Univ. Paris 7
Letter p131



The dynamics of dune evolution under bimodal wind regimes are poorly understood owing to a lack of long-term wind records and the limitations of most experimental set-ups. A four-year landscape-scale experiment in the Tengger Desert, Mongolia, demonstrates that the orientation of oblique dune crests is controlled by the wind regime. Image: Sylvain Courrech du Pont and Clément Narteau
Letter p99

- 113 Minimal change in Antarctic Circumpolar Current flow speed between the last glacial and Holocene**
I. N. McCave, S. J. Crowhurst, G. Kuhn, C-D. Hillenbrand and M. P. Meredith
- 117 Nicoya earthquake rupture anticipated by geodetic measurement of the locked plate interface**
Marino Protti, Victor González, Andrew V. Newman, Timothy H. Dixon, Susan Y. Schwartz, Jeffrey S. Marshall, Lujia Feng, Jacob I. Walter, Rocco Malservisi and Susan E. Owen
- 122 Supervolcano eruptions driven by melt buoyancy in large silicic magma chambers**
Wim J. Malfait, Rita Seifert, Sylvain Petitgirard, Jean-Philippe Perrillat, Mohamed Mezouar, Tsutomu Ota, Eizo Nakamura, Philippe Lerch and Carmen Sanchez-Valle
→N&V p84
- 126 Frequency and magnitude of volcanic eruptions controlled by magma injection and buoyancy**
Luca Caricchi, Catherine Annen, Jon Blundy, Guy Simpson and Virginie Pinel
→N&V p84
- 131 Mapping the mass distribution of Earth's mantle using satellite-derived gravity gradients**
Isabelle Panet, Gwendoline Pajot-Métivier, Marianne Greff-Lefftz, Laurent Métivier, Michel Diament and Mioara Mandaia

ARTICLES

- 136 Tropospheric ozone trends at Mauna Loa Observatory tied to decadal climate variability**
Meiyun Lin, Larry W. Horowitz, Samuel J. Oltmans, Arlene M. Fiore and Songmiao Fan
→N&V p88
- 144 Muted change in Atlantic overturning circulation over some glacial-aged Heinrich events**
Jean Lynch-Stieglitz, Matthew W. Schmidt, L. Gene Henry, William B. Curry, Luke C. Skinner, Stefan Mulitza, Rong Zhang and Ping Chang
- 151 Mantle flow and multistage melting beneath the Galápagos hotspot revealed by seismic imaging**
Darwin R. Villagómez, Douglas R. Toomey, Dennis J. Geist, Emilie E. E. Hoofft and Sean C. Solomon



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