**NEWS**

**IN BRIEF**

722 Roundup of the week’s news

**IN DEPTH**

725 FIRE DOWN BELOW
New study shows that Mount St. Helens may share magma with other volcanoes nearby
*By E. Hand*

726 THORIUM SEEN AS NUCLEAR’S NEW FRONTIER
Unsung reactor fuel is more abundant than uranium and, proponents say, safer
*By P. Bagla*

728 HOW WARMING OCEANS UNLEASHED AN ICE STREAM
Accelerating retreat of a Greenland glacier could raise sea level for decades to come
*By C. Gramling*

**SPECIAL SECTION**

Oceans and climate change

**INTRODUCTION**

750 Oceans of change

**NEWS**

752 Ghosts of oceans past
*By W. Cornwall*

756 Breaking the waves
*By G. Popkin*

760 Moveable feast
*By M. Lavelle*

**PERSPECTIVES**

764 The silent services of the world ocean
*T. F. Stocker*

766 The deep ocean under climate change
*L. A. Levin and N. Le Bris*

769 Warm-water coral reefs and climate change
*M. D. Spalding and B. E. Brown*

**REVIEWS**

772 Climate change and marine vertebrates
*W. J. Sydeman et al.*

778 Climate change in the oceans: Human impacts and responses
*E. H. Allison and H. R. Bassett*

**FACET**

729 FOSSILS, CELLS POINT TO EARLY APPEARANCE OF THE BRAIN
Nervous systems were well developed by the Cambrian explosion, having evolved in earlier organisms
*By E. Pennisi*

**INSIGHTS**

**PERSPECTIVES**

736 ONE ERA YOU ARE IN—THE NEXT YOU ARE OUT
Evolutionary trends in body size changed during a past mass extinction event
*By P. J. Wagner*

738 MORE EFFICIENT TOGETHER
Hybrid bioinorganic photosynthesis yields a wide range of chemicals
*By T. Zhang*

739 FLOW CYTOMETRY STRIKES GOLD
Flow cytometry remains unparalleled as a high-throughput, high-content single-cell analysis technology
*By J. P. Robinson and M. Roederer*

740 TO CATCH AND SMASH CHARGE ON THE HOP
High-harmonic spectroscopy can probe charge migration controlled by a laser field
*By K. Ueda*

**ON THE COVER**

Melting water streams from an iceberg in Disko Bay on the western coast of Greenland. The iceberg calved from the Holllissat Glacier (also known as Sermeq Kujalleq or Jakobshavn Glacier), one of the world’s fastest-moving and most-studied glaciers. Melting polar ice sheets are one consequence of human-induced global warming and could contribute to a substantial increase in global sea levels in the future. See page 750.
*Photo: © Paul Souders/Corbis*

**SEE ALSO**

– *EDITORIAL P. 721*
– *NEWS STORY P. 728*
– *REPORT P. 809*
– *REPORT BY J. MOUGINOT ET AL. 10.1126/science.aac7111*
742 BREACHING THE GUT-VASCULAR BARRIER
A vascular barrier in the intestinal tract controls pathogen dissemination
By R. Boustead and B. Jabri
▶ REPORT P. 830

743 STAKEHOLDERS IN CLIMATE SCIENCE: BEYOND LIP SERVICE?
Local knowledge coproduction must be rewarded By N. L. Klent et al.

BOOKS ET AL.
745 THE PLANET REMADE
By O. Morton, reviewed by E. Oelkers

746 THE BRAIN ELECTRIC
By M. Gay, reviewed by A. A. Faisal

LETTERS
747 PUTTING RUSSIA ON THE GENOME MAP
By T. K. Oleksyk et al.

747 TEMPERING THREATS TO TEMPERATE FORESTS
By D. Waller et al.

748 HOW TO MEASURE SUSTAINABLE PROGRESS
By P. Dasgupta et al.

RESEARCH

IN BRIEF
783 From Science and other journals

RESEARCH ARTICLE
786 GROWTH CONTROL
A brain circuit that synchronizes growth and maturation revealed through Dilp8 binding to Lgr3
D. M. Vallojo et al.
RESEARCH ARTICLE SUMMARY: FOR FULL TEXT: dx.doi.org/10.1126/science.aac6767

742 & 830 REPORTS

787 SCATTERING DYNAMICS
Imaging resonances in low-energy NO-He inelastic collisions
S. N. Vogels et al.

790 ATTOSECOND DYNAMICS
Measurement and laser control of attosecond charge migration in ionized iodoacetylene P. M. Kraus et al.
▶ PERSPECTIVE P. 740

795 GEOCHEMISTRY
Evidence for primordial water in Earth’s deep mantle L. J. Hallis et al.

798 MAGNETIC RESONANCE
Torque-mixing magnetic resonance spectroscopy J. E. Losby et al.

801 GAMMA-RAY ASTRONOMY
An extremely bright gamma-ray pulsar in the Large Magellanic Cloud
The Fermi LAT Collaboration

812 EXTINCTION EVENTS
Body-size reduction in vertebrates following the end-Devonian mass extinction L. Sallan and A. K. Galimberti
▶ PERSPECTIVE P. 736; PODCAST

815 SMALL RNAs
MicroRNA-encoded behavior in Drosophila J. Pico-Osorio et al.

820 HUMAN EVOLUTION
Ancient Ethiopian genome reveals extensive Eurasian admixture throughout the African continent M. Gallego Llorente et al.

823 GENOME EDITING
Dynamics of CRISPR-Cas9 genome interrogation in living cells S. C. Knight et al.

826 ANTIVIRAL IMMUNITY
Nlrp6 regulates intestinal antiviral innate immunity P. Wang et al.

830 MUCOSAL IMMUNITY
A gut-vascular barrier controls the systemic dissemination of bacteria I. Spadoni et al.
▶ PERSPECTIVE P. 742

DEPARTMENTS
721 EDITORIAL
Climate warning, 50 years later
By Marcia McNutt

722 WORKING LIFE
Leaping into the unknown
By Jeremy C. Borniger

Science Staff ................................. 718
New Products .................................. 871
Science Careers .............................. 872