A mosaic of visible to near-infrared images of the surface of Mercury, obtained by the MESSENGER spacecraft on 14 January 2008. The circular feature in the upper right is the Caloris impact basin, 1500 kilometers in diameter. Results from the flyby are discussed in a special section beginning on page 58.


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Mercury, Up-Close Again

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Return to Mercury: A Global Perspective on MESSENGER’s First Mercury Flyby
S. C. Solomon et al.  >> Science Podcast

Spectroscopic Observations of Mercury’s Surface Reflectance During MESSENGER’s First Mercury Flyby
W. E. McClintock et al.

Reflectance and Color Variations on Mercury: Regolith Processes and Compositional Heterogeneity
M. S. Robinson et al.

Volcanism on Mercury: Evidence from the First MESSENGER Flyby
J. W. Head et al.

Geology of the Caloris Basin, Mercury: A View from MESSENGER
S. L. Murchie et al.

Laser Altimeter Observations from MESSENGER’s First Mercury Flyby
M. T. Zuber et al.

Mercury Cratering Record Viewed from MESSENGER’s First Flyby
R. G. Strom et al.

The Structure of Mercury’s Magnetic Field from MESSENGER’s First Flyby
B. J. Anderson et al.

Mercury’s Magnetosphere After MESSENGER’s First Flyby
J. A. Slavin et al.

MESSENGER Observations of the Composition of Mercury’s Ionized Exosphere and Plasma Environment
T. H. Zurbuchen et al.

Mercury’s Exosphere: Observations During MESSENGER’s First Mercury Flyby
W. E. McClintock et al.

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Big Land Purchase Triggers Review of Plans to Restore Everglades
California Emissions Plan to Explore Use of Offsets
Life’s Innovations Let It Diversify, at Least Up to a Point
Where Have All Thoreau’s Flowers Gone?

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Billion-Dollar Cancer Mapping Project Steps Forward
Panel to Take Closer Look at Scientific Whaling
Tiny Transistor Gets a Good Sorting Out

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Preserving Iraq’s Battered Heritage
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Epilepsy: When Death Strikes Without Warning
Competing Teams Plot Two Different Paths to a New Particle Smasher
A Global View of Gene Activity and Alternative Splicing by Deep Sequencing of the Human Transcriptome
M. Sultan et al.
Shotgun sequencing of 27-base pair segments of messenger RNA from human kidney and immune cells identifies previously undescribed transcriptional units and splice junctions.
10.1126/science.1160342

BIOCHEMISTRY
The Crystal Structure of a Sodium Galactose Transporter Reveals Mechanistic Insights into Na+/Sugar Symport
S. Faham et al.
The structure of a sugar transporter suggests how these proteins may rearrange to permit the sugar to enter and leave the binding site on opposite sides of the membrane.
10.1126/science.1160406

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As fertilized mouse eggs develop into embryos and maternal proteins are eliminated, the degradative process of autophagy is required for proper growth.

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When strengthened, individual synapses on dendritic spines contain an activated small regulatory protein that spreads to nearby spines, possibly altering their sensitivity.

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The rat hippocampus provides a representation of the animal’s entire spatial environment, coding distances up to 1 meter away in the dorsal region and up to 15 meters at the ventral tip. >> Perspective p. 46
TIMP-dependent dephosphorylation.

SCIENCE SIGNALING
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REVIEW: Tissue Inhibitors of Metalloproteinases in Cell Signaling—Metalloproteinase-Independent Biological Activities
W. G. Stetler-Stevenson
TIMPs can act directly through cell surface receptors or indirectly through modulation of proteases.

PERSPECTIVE: The Cytoplasmic Tail of MUC1—A Very Busy Place
D. D. Carson
The cytoplasmic domain of mucin 1 (MUC1) plays numerous roles in intracellular signaling pathways.

SCIENCE NOW
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HIGHLIGHTS FROM OUR DAILY NEWS COVERAGE

Why It’s Hard to Say Goodbye
Study links loss of a loved one to the brain’s pleasure center.

Don’t Judge a Plant by Its Species
An ant, an aphid, and a milkweed are changing thoughts about community ecology.

African Lion-Killer Had Help
Virus conspired with tick-borne parasites and extreme droughts.

Farewell, Micella.

SCIENCE CAREERS
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Educated Woman, Postdoc Edition, Chapter 18: End of the Road
M. P. DeWhyse
Micella Phoenix DeWhyse celebrates her Independence Day—and we’re sad; with related podcast interview.

Taken for Granted: By the Numbers
B. L. Benderly
A committee calls for better government data collection about jobs for scientists.

In Person: Research in France
A. Bikfalvi
Understanding the French public research system is critical to foreign scientists coming into the country.

July 2008 Funding News
J. Fernández
Learn about the latest in research funding, scholarships, fellowships, and internships.

Separate individual or institutional subscriptions to these products may be required for full-text access.
Science 321 (5885), 12-144.

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