

ambient temperature range.

—Phil Szuromi

Science p. 906, 10.1126/science.aec5660

GALAXIES

A galactic outflow driven by a radio jet

Star formation in galaxies is regulated by various feedback processes, including from a supermassive black hole accreting at the galaxy's center, an active galactic nucleus (AGN). Theoretical models of AGN feedback indicate that gas can be ejected by a jet launched by the AGN; however, directly observing that process is difficult. Kader *et al.* combined observations at multiple wavelengths to investigate different components of a nearby galaxy with a low-power AGN. They identified an outflow of ionized gas and showed that it is driven by a jet from the AGN. The jet undergoes precession, producing a biconical outflow of gas. —Keith T. Smith

Science p. 911, 10.1126/science.adp8989

BIRD DECLINE

Accelerating loss

Human activities, including dramatic changes to land cover and land use, are known to negatively influence populations of many species. As human populations and technologies have expanded, so has the rate of our influence on ecosystems. Leroy *et al.* investigated whether this "Great Acceleration" has led to increasing abundance changes in birds, one of the most highly studied taxonomic groups. Using data from the North American Breeding Bird Survey, the authors found that about half of the 261 species analyzed showed significant declines from 1987 to 2021, and a quarter showed accelerating declines. Hotspots of accelerating abundance decline were located in regions with high-intensity agriculture (high cropland area, fertilizer use, or pesticide use). —Bianca Lopez

Science p. 917, 10.1126/science.ads0871

NEUROIMMUNOLOGY

Pain-resolving leukocytes

Women experience slower pain resolution and are more susceptible to developing chronic pain, but the underlying mechanisms are poorly understood. Using a mouse model of skin inflammation, Sim *et al.* found that monocytes that produce interleukin-10 (IL-10) signal to sensory neurons to drive faster pain resolution in males. Androgen signaling in male mice promoted pain resolution and the accumulation of IL-10⁺ monocytes in the skin, effects that could be elicited by local treatment with the lipid mediator resolvins D1. In humans experiencing traumatic injury, pain resolved faster in men than in women, a result that was associated with higher IL-10 levels. —Claire Olingry

Sci. Immunol. (2026)

10.1126.sciimmunol.adx0292

CLIMATE IMPACTS

Ocean heat loss from melting Antarctic ice

Antarctica's coastal ocean energy budget is composed of ocean heat supplied to coastal waters from the open ocean that is balanced by heat loss to the ocean surface and heat used to melt Antarctic ice in contact with the ocean. Current ocean models, however, do not include this latter heat sink. Moorman *et al.* showed that ice melt accounts for 60% of the total heat loss and that neglecting it biases model results toward widespread warming of coastal waters, reduced sea ice, enhanced heat loss to the atmosphere, and reduced exchange of water masses. This heat sink will become increasingly important in global ocean heat budgets as ocean forcing of the Antarctic Ice Sheet increases. —Peter U. Clark

Sci. Adv. (2026) 10.1126/sciadv.aec7443

IN OTHER JOURNALS

Edited by **Corinne Simonti**
and **Jesse Smith**

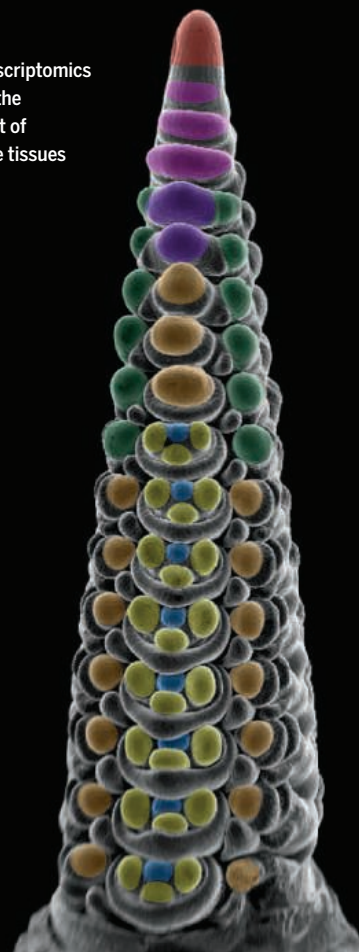
PLANT TRANSCRIPTOMES

Single-cell spikelet sequencing

Barley inflorescences are made up of multiple pools of stem cells, which form the basis for flower formation and subsequent seed development. Demesa-Arevalo *et al.* combined single-cell RNA-sequencing data from barley inflorescences with spatial *in situ* gene expression data from sectioned tissue to make a searchable virtual database of cell-level transcriptional profiles. The authors were able to identify transcriptional characteristics of incipient primordia cells before they attained their classical marker gene identity or became morphologically distinct. This work provides a resource for understanding cell lineage trajectories and the genetic networks underlying reproductive development in grasses.

—Madeleine Seale *Nat. Plants* (2026) 10.1038/s41477-025-02176-6

Spatial transcriptomics illuminates the development of reproductive tissues in barley.



WOMEN'S HEALTH

Menopause and mental health

Menopause has been associated with psychological and cognitive changes, and hormone replacement

therapy (HRT) is currently used to minimize menopausal changes. Zuhlsdorff *et al.* studied the links among menopause, HRT, and mental health using data from 125,000 UK Biobank participants. Menopause

ECOPHYSIOLOGY

A sign of the times

Species adapted to hot and dry conditions are present across such regions globally. Nonetheless, extreme heat and limited water remain physiological challenges, even in adapted species. Schradin *et al.* studied African striped mice from the semidesert Succulent Karoo in South Africa for over a decade and found that their blood osmolality was higher during the dry, hot season when water and food are scarce. Although it is a natural response to reduced water, high blood osmolality can lead to organ damage, cellular dysfunction, and death in extreme cases. This study suggests that this metric can be used to assess heat and resource stress across species. Such a tool will be especially important as our world continues to suffer from anthropogenic climate change.

—Sacha Vignieri *J. Exp. Biol.* (2026) 10.1242/jeb25139

High blood osmolality may serve as a sign of heat stress even in desert-adapted species such as the African striped mouse.



was associated with increased depression, anxiety, and sleep problems. Before menopause, women who subsequently underwent HRT had more mental health issues compared with women not given HRT, and HRT did not alleviate the symptoms. At the structural level, menopause was associated with reduced gray matter volumes in all groups. These results will help in the identification of interventional approaches to minimize the negative effects of menopause on mental health.

—Mattia Maroso

Psychol. Med. (2026)
10.1017/S0033291725102845

MALARIA

Malaria wears the Crown

Malaria parasites rely on a small but essential organelle called the apicoplast to survive and multiply inside red blood cells. Shahar *et al.* used dynamic imaging to follow the apicoplast over the parasite's 48-hour growth cycle. The apicoplast, which has its own genetic material, passed through several distinct morphologies

tightly linked to nuclear division. During one key morphological stage, the apicoplast stretched across multiple nuclei in the so-called "Crown" stage. The Crown stage was essential for proper inheritance of the apicoplast by daughter parasites. Disrupting this process prevented successful parasite replication, potentially revealing a target for future malaria treatments. —Stella M. Hurtley

J. Cell Biol. (2025) 10.1083/jcb.202504052

BATTERY DIAGNOSTICS

Tracking reaction dynamics in batteries

Lithium-ion battery electrode performance suffers from spatially inhomogeneous reactions, yet tracking their evolution during operation remains challenging. Zhao *et al.* demonstrate that operando magnetic field mapping can nondestructively monitor the distribution of reaction currents, where the measured external magnetic field patterns reflect internal current density variations in space and time. Using this method, the authors discovered a self-regulating

feedback mechanism in which reaction hotspots induce local concentration polarization that suppresses further activity and drives current redistribution. Moreover, they showed that the method can also expose hidden manufacturing defects and help to visualize reaction bottlenecks caused by localized mechanical stress, which provides a powerful diagnostic framework for battery design and early failure detection. —Jack Huang

Joule (2025) 10.1016/j.joule.2025.102201

ATMOSPHERIC ELECTRICITY

The real forest fairies?

Lightning may be the most spectacular example of atmospheric electrical activity, but other, more subtle phenomena also exist. McFarland *et al.* report observations of coronal discharges in the leaves of trees during the passage of a thunderstorm. They measured ultraviolet emissions from the coronae they detected and determined that the corresponding electrical currents were about 1 microampere, large enough to help remove hydrocarbons emitted by the

trees and to produce subtle tree leaf damage. These coronae also might provide charge to overhead thunderstorms. —Jesse Smith

Geophys. Res. Lett. (2026)
10.1029/2025GL119591

HUMAN CONFLICT

Peace through insurance

Technology-enabled livestock insurance reduced drought-induced conflict in Kenya. During droughts, pastoralists face pressure to migrate their herds farther from their traditional territories in search of grazing, which elevates tensions with other land users. Index-based, preemptive insurance payouts to pastoralists were triggered when remote-sensing indicators crossed a drought threshold. Gehring and Schaudt showed that from 2000 to 2020, these payments stabilized livestock prices, smoothed income shocks, and allowed for smaller herds, reducing pressure to migrate. This prevented an estimated 8 to 28 conflict incidents and 11 to 38 related deaths per year. —Brad Wible

Q. J. Econ. (2026) 10.1093/qje/qjag005



In Other Journals

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