

COVER IMAGE

Elevated atmospheric CO₂ (550 ppm) could cause an additional 175 million people to be zinc deficient and 122 million protein deficient (assuming 2050 population and CO₂ projections) due to the reduced nutritional value of staple food crops such as wheat, rice and legumes.

Article p834

IMAGE: PXHERE

COVER DESIGN: TULSI VORALIA

ON THE COVER

El Niño

Winds of change
Letter p798; News & Views p766

US climate lawsuits

Approaches and outcomes
Article p829

Coastal flood risk

Europe in need of protection
Letter p776; News & Views p765

EDITORIAL

753 Diversifying views

COMMENTS

754 Urban transformative potential in a changing climate

Patricia Romero-Lankao et al.

756 Action pathways for transforming cities

Cynthia Rosenzweig and William Solecki

759 Limiting climate change requires research on climate action

Linda Steg

BOOKS & ARTS

762 Eyeing the end of times

Michael Paolisso

RESEARCH HIGHLIGHTS

764 Our choice from the recent literature

NEWS & VIEWS

765 Flood risk: Next-generation coastal risk models

Laurens M. Bouwer

766 Climate dynamics: Winds shift El Niño flavour

Sang-Wook Yeh

REVIEW ARTICLES

768 Re-examining tropical expansion

Paul W. Staten, Jian Lu, Kevin M. Grise, Sean M. Davis and Thomas Birner

LETTERS

776 Climatic and socioeconomic controls of future coastal flood risk in Europe

Michalis I. Vousdoukas et al.

→N&V p765

781 Increased human and economic losses from river flooding with anthropogenic warming

Francesco Dottori et al.

787 Seasonally dependent responses of subtropical highs and tropical rainfall to anthropogenic warming

Fengfei Song, L. Ruby Leung, Jian Lu and Lu Dong

793 Pacific contribution to the early twentieth-century warming in the Arctic

Lea Svendsen, Noel Keenlyside, Ingo Bethke, Yongqi Gao and Nour-Eddine Omrani



California's 2012–2015 drought is shown to have altered community structure (plants, arthropods, birds, reptiles and mammals), indirectly promoting the long-term persistence of rare species by stressing dominant ones, such as the giant kangaroo rat (*Dipodomys ingens*) pictured.

Credit: John Roser

Letter p819



Changes in arctic vegetation have been observed over the past few decades, but the underlying causes remain elusive. A novel technique to analyse satellite observations shows that greening of the land surface in the world's cold regions is strongly correlated with recent climate warming.

Credit: NASA's Goddard Space Flight Center/Cindy Starr

Letter p825

- 798 **Cross-equatorial winds control El Niño diversity and change**
Shineng Hu and Alexey V. Fedorov
→N&V p766
- 803 **Detection of continental-scale intensification of hourly rainfall extremes**
Selma B. Guerreiro et al.
- 808 **Projected increases and shifts in rain-on-snow flood risk over western North America**
Keith N. Musselman et al.
- 813 **Climate warming leads to divergent succession of grassland microbial communities**
Xue Guo et al.
- 819 **Ecological winners and losers of extreme drought in California**
Laura R. Prugh et al.
- 825 **Greening of the land surface in the world's cold regions consistent with recent warming**
T. F. Keenan and W. J. Riley

ARTICLES

- 829 **Strategies in and outcomes of climate change litigation in the United States**
Sabrina McCormick et al.
- 834 **Impact of anthropogenic CO₂ emissions on global human nutrition**
Matthew R. Smith and Samuel S. Myers

CORRECTIONS

- 840 **Author Correction: Under-estimated wave contribution to coastal sea-level rise**
Angélique Melet et al.
- 840 **Author Correction: Biological responses to the press and pulse of climate trends and extreme events**
R. M. B. Harris et al.