

Contents

January 2023 / Volume 13 / Issue 1

Editorial

- 1 Methane possible

Correspondence

- 2 Consider the risks of bottom-up approaches for climate change adaptation
Muhammad Uzair Qamar and Stacey A. Archfield

Comments

- 4 Words for climate change are powerful but not magical
Anabela Carvalho
- 6 Feasible climate mitigation
Paul C. Stern, Thomas Dietz, Kristian S. Nielsen, Wei Peng and Michael P. Vandenbergh
- 9 Only halving emissions by 2030 can minimize risks of crossing cryosphere thresholds
Uta Kloenne et al.

Research highlights

- 12 Our choice from the recent literature

News & views

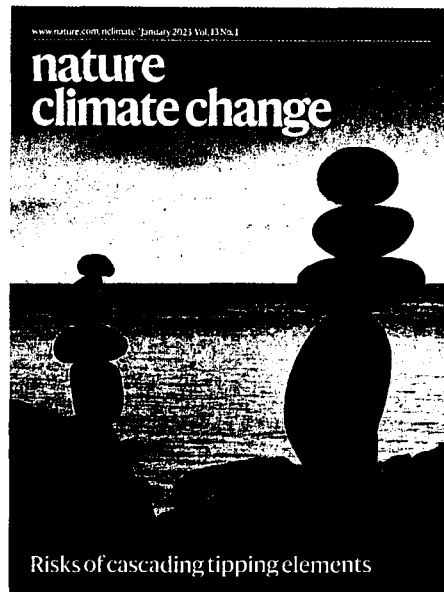
- 13 **Policy support**
Angry politics fails the climate
Alexa Spence and Charles A. Ogunbode
- 15 **Network analysis**
Connected climate tipping elements
Valerie N. Livina

Policy brief

- 17 **Adaptive river basin planning**
Negotiating Nile infrastructure management should consider climate change uncertainties
Mohammed Basheer et al.

Research briefing

- 20 Europe's net-zero goal increases infrastructure investment needs



ON THE COVER

It has been argued that climate change can cause abrupt transitions in parts of the Earth system, so-called tipping elements. In this issue, we feature two articles, by Liu et al. and Wunderling et al., that use network models to assess how these tipping elements could interact, indicating risks that tipping in one component could lead to further abrupt changes in other regions.

Articles p67, 75

Image: Eric Boulanger / EyeEm/EyeEm/Getty
Cover design: Valentina Monaco

Perspective

- 22 Financials threaten to undermine the functioning of emissions markets
Simon Quemin and Michael Pahle

Articles

- 32 Multidimensional partisanship shapes climate policy support and behaviours
Adam P. Mayer and E. Keith Smith
See N&V p13
- 40 Tracking artificial intelligence in climate inventions with patent data
Vilhelm Verendel
- 48 Cooperative adaptive management of the Nile River with climate and socio-economic uncertainties
Mohammed Basheer et al.
See PB p17
- 58 Meta-analysis on necessary investment shifts to reach net zero pathways in Europe
Lena Klaußen and Bjarne Steffen
See RB p20
- 67 Teleconnections among tipping elements in the Earth system
Teng Liu et al.
See N&V p15
- 75 Global warming overshoots increase risks of climate tipping cascades in a network model
Nico Wunderling et al.
- 83 Reduced CO₂ uptake and growing nutrient sequestration from slowing overturning circulation
Y. Liu, J. K. Moore, F. Primeau and W. L. Wang
- 91 Nation-wide mapping of tree-level aboveground carbon stocks in Rwanda
Maurice Mugabowindekwe et al.

Analysis

- 98 Unprecedented droughts are expected to exacerbate urban inequalities in Southern Africa**
Maria Rusca, Elisa Savelli, Giuliano Di Baldassarre, Adriano Biza and Gabriele Messori