

EDITORIAL

- 87 Keeping it clean

OPINION & COMMENT

- 89 **Commentary: Climate research must sharpen its view**
Jochem Marotzke, Christian Jakob, Sandrine Bony, Paul A. Dirmeyer, Paul A. O’Gorman, Ed Hawkins, Sarah Perkins-Kirkpatrick, Corinne Le Quéré, Sophie Nowicki, Katsia Paulavets, Sonia I. Seneviratne, Bjorn Stevens and Matthias Tuma
- 92 **Commentary: Delays in US mitigation could rule out Paris targets**
Benjamin M. Sanderson and Reto Knutti

FEATURE

- 95 **Snapshot: Extreme Arctic heat**
Graham Simpkins

RESEARCH HIGHLIGHTS

- 96 Our choice from the recent literature

NEWS & VIEWS

- 97 **Climate adaption: Holistic thinking beyond technology**
Emily Boyd
- 98 **Mitigation technology: Half full or nearly empty?**
Christopher Green
- 99 **Emission scenarios: Explaining differences**
Gokul Iyer and James Edmonds
- 101 **CO₂ fertilization: Average is best**
Robert S. Nowak

PERSPECTIVE

- 103 **Advancing Australia’s role in climate change and health research**
Donna Green, Andrew Pitman, Adrian Barnett, John Kaldor, Peter Doherty and Fiona Stanley

REVIEW ARTICLE

- 107 **A third option for climate policy within potential limits to growth**
Jeroen C. J. M. van den Bergh

LETTERS

- 113 **Sensitivity of projected long-term CO₂ emissions across the Shared Socioeconomic Pathways**
G. Marangoni, M. Tavoni, V. Bosetti, E. Borgonovo, P. Capros, O. Fricko, D. E. H. J. Gernaat, C. Guivarch, P. Havlik, D. Huppmann, N. Johnson, P. Karkatsoulis, I. Keppo, V. Krey, E. Ó Broin, J. Price and D. P. van Vuuren
→N&V p99
- 118 **Key indicators to track current progress and future ambition of the Paris Agreement**
Glen P. Peters, Robbie M. Andrew, Josep G. Canadell, Sabine Fuss, Robert B. Jackson, Jan Ivar Korsbakken, Corinne Le Quéré and Nebojsa Nakicenovic
→N&V p98

- 123 **Projected increase in El Niño-driven tropical cyclone frequency in the Pacific**
Savin S. Chand, Kevin J. Tory, Hua Ye and Kevin J. E. Walsh
- 128 **Future increases in extreme precipitation exceed observed scaling rates**
Jiawei Bao, Steven C. Sherwood, Lisa V. Alexander and Jason P. Evans
- 133 **Impacts of changing rainfall regime on the demography of tropical birds**
Jeffrey D. Brawn, Thomas J. Benson, Maria Stager, Nicholas D. Sly and Corey E. Tarwater
- 137 **Reduced CO₂ fertilization effect in temperate C3 grasslands under more extreme weather conditions**
W. A. Obermeier, L. W. Lehnert, C. I. Kammann, C. Müller, L. Grünhage, J. Luterbacher, M. Erbs, G. Moser, R. Seibert, N. Yuan and J. Bendix
→N&V p101
- 142 **Macroclimatic change expected to transform coastal wetland ecosystems this century**
Christopher A. Gabler, Michael J. Osland, James B. Grace, Camille L. Stagg, Richard H. Day, Stephen B. Hartley, Nicholas M. Enwright, Andrew S. From, Meagan L. McCoy and Jennie L. McLeod

ARTICLES

- 148 **Accelerating net terrestrial carbon uptake during the warming hiatus due to reduced respiration**
Ashley Ballantyne, William Smith, William Anderegg, Pekka Kauppi, Jorge Sarmiento, Pieter Tans, Elena Shevliakova, Yude Pan, Benjamin Poulter, Alessandro Anav, Pierre Friedlingstein, Richard Houghton and Steven Running
- 153 **Erratum**
- 153 **Corrigendum**
- 154 **Addendum**