

## Contents

### Commentary

- 1965 **Global environmental changes: setting priorities for Latin American coastal habitats**  
Alexander Turra, Aldo Croquer, Alvar Carranza, Andrés Mansilla, Arsenio J. Areces, Camilo Werlinger, Carlos Martínez-Bayón, Cristina Aparecida Gomes Nassar, Estela Plastino, Evangelina Schwindt, Fabrizio Scarabino, Fungyi Chow, Felix Lopes Figueroa, Flávio Berchez, Jason M. Hall-Spencer, Luis A. Soto, Marcos Silveira Buckeridge, Margareth S. Copertino, Maria Tereza Menezes De Széchy, Natalia Pirani Ghilardi-Lopes, Paulo Horta, Ricardo Coutinho, Simonetta Fraschetti and Zelinda Margarida De Andrade Nery Leão

### Reviews

- 1970 **Evolutionary refugia and ecological refuges: key concepts for conserving Australian arid zone freshwater biodiversity under climate change**  
Jenny Davis, Alexandra Pavlova, Ross Thompson and Paul Sunnucks
- 1985 **Migrate or evolve: options for plant pathogens under climate change**  
Sukumar Chakraborty
- 2001 **Altered dynamics of forest recovery under a changing climate**  
Kristina J. Anderson-Teixeira, Adam D. Miller, Jacqueline E. Mohan, Tara W. Hudiburg, Benjamin D. Duval and Evan H. DeLucia
- 2022 **Bryophyte-cyanobacteria associations as regulators of the northern latitude carbon balance in response to global change**  
Zoë Lindo, Marie-Charlotte Nilsson and Michael J. Gundale
- 2036 **Impacts of climate change on avian populations**  
Stephanie Jenouvrier

### Primary Research Articles

- 2058 **Vulnerability of terrestrial island vertebrates to projected sea-level rise**  
Florian T. Wetzel, Helmut Beissmann, Dustin J. Penn and Walter Jetz
- 2071 **Rapid climate driven shifts in wintering distributions of three common waterbird species**  
Aleksi Lehtikoinen, Kim Jaatinen, Anssi V. Vähätalo, Preben Clausen, Olivia Crowe, Bernard Deceuninck, Richard Hearn, Chas A. Holt, Menno Hornman, Verena Keller, Leif Nilsson, Tom Langendoen, Irena Tománková, Johannes Wahl and Anthony D. Fox
- 2082 **Upward ant distribution shift corresponds with minimum, not maximum, temperature tolerance**  
Robert J. Warren II and Lacy Chick
- 2089 **Extreme plasticity in life-history strategy allows a migratory predator (jumbo squid) to cope with a changing climate**  
Henk-Jan T. Hoving, William F. Gilly, Unai Markaida, Kelly J. Benoit-Bird, Zachary W.-Brown, Patrick Daniel, John C. Field, Liz Parassenti, Bilin Liu and Bernardita Campos
- 2104 **Traceable components of terrestrial carbon storage capacity in biogeochemical models**  
Jianyang Xia, Yiqi Luo, Ying-Ping Wang and Oleksandra Hararuk

- 2117 Evaluation of terrestrial carbon cycle models for their response to climate variability and to CO<sub>2</sub> trends**  
Shilong Piao, Stephen Sitch, Philippe Ciais, Pierre Friedlingstein, Philippe Peylin, Xuhui Wang, Anders Ahlström, Alessandro Anav, Josep G. Canadell, Nan Cong, Chris Huntingford, Martin Jung, Sam Levis, Peter E. Levy, Junsheng Li, Xin Lin, Mark R Lomas, Meng Lu, Yiqi Luo, Yuecun Ma, Ranga B. Myneni, Ben Poulter, Zhenzhong Sun, Tao Wang, Nicolas Viovy, Soenke Zaehle and Ning Zeng
- 2133 Temperature and precipitation drive temporal variability in aquatic carbon and GHG concentrations and fluxes in a peatland catchment**  
K. J. Dinsmore, M. F. Billett and K. E. Dyson
- 2149 Does dissolved organic carbon regulate biological methane oxidation in semiarid soils?**  
Benjamin W. Sullivan, Paul C. Selmants and Stephen C. Hart
- 2158 Enhanced root exudation stimulates soil nitrogen transformations in a subalpine coniferous forest under experimental warming**  
HuaJun Yin, Yufei Li, Juan Xiao, Zhenfeng Xu, Xinyin Cheng and Qing Liu
- 2168 No cumulative effect of 10 years of elevated [CO<sub>2</sub>] on perennial plant biomass components in the Mojave Desert**  
Beth A. Newingham, Cheryl H. Vanier, Therese N. Charlet, Kiona Ogle, Stanley D. Smith and Robert S. Nowak
- 2182 Effects of seasonal snow on the growing season of temperate vegetation in China**  
Zhen Yu, Shirong Liu, Jingxin Wang, Pengsen Sun, Weiguo Liu and Damon S. Hartley
- 2196 Exploring tree species colonization potentials using a spatially explicit simulation model: implications for four oaks under climate change**  
Anantha M. Prasad, Judith D. Gardiner, Louis R. Iverson, Stephen N. Matthews and Matthew Peters
- 2209 Canopy-scale relationships between stomatal conductance and photosynthesis in irrigated rice**  
Keisuke Ono, Atsushi Maruyama, Tsuneo Kuwagata, Masayoshi Mano, Takahiro Takimoto, Kentaro Hayashi, Toshihiro Hasegawa and Akira Miyata
- 2221 Nitrogen and carbon contents and  $\delta^{15}\text{N}$  and  $\delta^{13}\text{C}$  signatures in six bryophyte species: assessment of long-term deposition changes (1980–2010) in Spanish beech forests**  
Verónica Delgado, Alicia Ederra and Jesús Miguel Santamaría
- 2229 Annual plants change in size over a century of observations**  
Elizabeth A. Leger
- 2240 Persistent versus transient tree encroachment of temperate peat bogs: effects of climate warming and drought events**  
Monique M. P. D. Heijmans, Yasmijn A. M. van der Knaap, Milena Holmgren and Juul Limpens
- 2251 Hypoxia impacts large adults first: consequences in a warming world**  
Melody S. Clark, Gunnar Husmann, Michael A. S. Thorne, Gavin Burns, Manuela Truebano, Lloyd S. Peck, Doris Abele and Eva E. R. Philipp
- 2264 Vulnerability of the calcifying larval stage of the Antarctic sea urchin *Sterechinus neumayeri* to near-future ocean acidification and warming**  
Maria Byrne, Melanie A. Ho, Lucas Koleits, Casandra Price, Catherine K. King, Patti Virtue, Bronte Tilbrook and Miles Lamare
- 2276 Landscape influences on climate-related lake shrinkage at high latitudes**  
Jennifer K. Roach, Brad Griffith and David Verbyla