

## Contents

- 1251 **Overfishing of top predators eroded the resilience of the Black Sea system regardless of the climate and anthropogenic conditions**  
Marcos Llope, Georgi M. Daskalov, Tristan A. Rouyer, Vesselina Mihneva, Kung-Sik Chan, Alexander N. Grishin and Nils Chr. Stenseth
- 1266 **Forecasting ecological and evolutionary strategies to global change: an example from habitat selection by lemmings**  
Douglas W. Morris, Debra E. Moore, Som B. Ale and Angélique Dupuch
- 1277 **Genetic variation in expression of defense phenotype may mediate evolutionary adaptation of *Asclepias syriaca* to elevated CO<sub>2</sub>**  
Rachel L. Vannette and Mark D. Hunter
- 1289 **Predicting insect phenology across space and time**  
J. A. Hodgson, C. D. Thomas, T. H. Oliver, B. J. Anderson, T. M. Brereton and E. E. Crone
- 1301 **Warming up the system: higher predator feeding rates but lower energetic efficiencies**  
Olivera Vucic-Pestic, Roswitha B. Ehnes, Björn C. Rall and Ulrich Brose
- 1311 **CH<sub>4</sub> production and oxidation processes in a boreal fen ecosystem after long-term water table drawdown**  
Kim Yrjälä, Tero Tuomivirta, Heli Juottonen, Anuliina Putkinen, Kaisa Lappi, Eeva-Stiina Tuittila, Timo Penttilä, Kari Minkkinen, Jukka Laine, Krista Peltoniemi and Hannu Fritze
- 1321 **Methane emissions from tropical freshwater wetlands located in different climatic zones of Costa Rica**  
Amanda M. Nahlik and William J. Mitsch
- 1335 **Post-Soviet farmland abandonment, forest recovery, and carbon sequestration in western Ukraine**  
Tobias Kuemmerle, Pontus Olofsson, Oleh Chaskovskyy, Matthias Baumann, Katarzyna Ostapowicz, Curtis E. Woodcock, Richard A. Houghton, Patrick Hostert, William S. Keeton and Volker C. Radeloff
- 1350 **Diagnosing and assessing uncertainties of terrestrial ecosystem models in a multimodel ensemble experiment: 1. Primary production**  
Weile Wang, Jennifer Dungan, Hirofumi Hashimoto, Andrew R. Michaelis, Cristina Milesi, Kazuhito Ichii and Ramakrishna R. Nemani
- 1367 **Diagnosing and assessing uncertainties of terrestrial ecosystem models in a multimodel ensemble experiment: 2. Carbon balance**  
Weile Wang, Jennifer Dungan, Hirofumi Hashimoto, Andrew R. Michaelis, Cristina Milesi, Kazuhito Ichii and Ramakrishna R. Nemani
- 1379 **A spatially explicit analysis to extrapolate carbon fluxes in upland tundra where permafrost is thawing**  
Hanna Lee, Edward A. G. Schuur, Jason G. Vogel, Martin Lavoie, Dhiman Bhadra and Christina L. Staudhammer
- 1394 **Effects of experimental warming of air, soil and permafrost on carbon balance in Alaskan tundra**  
Susan M. Natali, Edward A. G. Schuur, Christian Trucco, Caitlin E. Hicks Pries, Kathryn G. Crummer and Andres F. Baron Lopez
- 1408 **Long-term change within a Neotropical forest: assessing differential functional and floristic responses to disturbance and drought**  
Brian J. Enquist and Carolyn A. F. Enquist
- 1425 **Probabilistic spatio-temporal assessment of vegetation vulnerability to climate change in Swaziland**  
Wisdom Dlamini
- 1442 **Modeling to discern nitrogen fertilization impacts on carbon sequestration in a Pacific Northwest Douglas-fir forest in the first-postfertilization year**  
Baozhang Chen, Nicholas C. Coops, T. Andy Black, Rachhpal S. Jassal, Jing M. Chen and Mark Johnson
- 1461 **The effect of fire and permafrost interactions on soil carbon accumulation in an upland black spruce ecosystem of interior Alaska: implications for post-thaw carbon loss**  
Jonathan A. O'Donnell, Jennifer W. Harden, A. David McGuire, Mikhail Z. Kanevskiy, M. Torre Jorgenson and Xiaomei Xu
- 1475 **Drought-resistant fungi control soil organic matter decomposition and its response to temperature**  
J. C. Yuste, J. Peñuelas, M. Estiarte, J. Garcia-Mas, S. Mattana, R. Ogaya, M. Pujol and J. Sardans
- 1487 **Direct measurement of soil organic carbon content change in the croplands of China**  
Xiaoyuan Yan, Zucong Cai, Shuwei Wang and Pete Smith
- 1497 **Importance of denitrifiers lacking the genes encoding the nitrous oxide reductase for N<sub>2</sub>O emissions from soil**  
Laurent Philippot, Janet Andert, Christopher M. Jones, David Bru and Sara Hallin