



## WEDNESDAY 11 MAY

**09:00 – 10:00: Registration**

**10:00 – 10:30: Conference welcome**

**10:30 – 12:00: Session 1. Extreme weather events**

**Chair – Luke Evans, University of Reading**

**10:30 Michael Dietze, Boston University & Ecological Forecasting Initiative**

*Forecasting ecology in a changing world*

**Sponsored by Wiley**

11:00 Tim Newbold, Centre for Biodiversity and Environment Research, University College London

*Understanding how exposure to novel climatic conditions shapes biodiversity responses to environmental change*

11:10 Ramla Khan, The Open University

*Observing health of trees in the urban area of Milton-Keynes through remote sensing data using google earth engine*

11:20 Stuart Edwards, University of Reading

*Modelling the impact of temperature variability on pest-parasitoid population dynamics*

11:30 Jeremy Hemberger, University of California Davis

*Experimental heat waves disrupt bumble bee foraging through direct heat effects and reduced nectar production*

11:40 Fairlie Kirkpatrick Baird, NatureScot

*The effect of projected imminent increases in extreme drought on two key Scottish habitats, ombrotrophic wetlands and temperate rainforest*

11:50 Panel discussion

**12:00 – 13:00: Lunch**

**13:00 – 15:00: Session 2. Shifting climates shaping ecology**

**Chair – Cara Gallagher, University of Potsdam**

**13:00 Mark C. Urban, University of Connecticut & Center of Biological Risk**

*Project Life: applying lessons from climate science to forecast biodiversity*

**13:30 Greta Bocedi, University of Aberdeen**

*Process-based models for biodiversity forecasts*

14:00 Natalya Gallo, University of Bergen & Bjerknes Centre for Climate Research

*Combining field observations with ecosystem and climate models to study the responses of a Norwegian deep-sea fjord community to climate change*

14:10 Theresa Stratmann, Goethe University & Senckenberg Biodiversity and Climate Research Center

*Forecasting ungulate populations dynamics with a coupled herbivore-dynamic global vegetation model*

14:20 Orly Razgour, University of Exeter

*Integrating climate and genomic data to model ecological responses of bats to global change*

- 14:30 Henry Hakkinen, Institute of Zoology, Zoological Society of London  
*Roaming from sea to shore: modelling the vulnerability of seabirds to climate change using both marine and terrestrial information*
- 14:40 Duccio Rocchini, Università di Bologna  
*Tracking ecosystem heterogeneity changes from space under current climate change*
- 14:40 Rebecca Turner, UK Centre for Ecology & Hydrology  
*Microclimate-driven trends in spring-emergence phenology in a temperate reptile (*Vipera berus*): Evidence for a potential 'climate trap'?*

**15:00 – 15:30: Coffee break**

**15:30 – 17:00: Session 3. Ecological understanding to improve climate prediction & adaptation**

**Chair – Juan David González-Trujillo, Museo Nacional de Ciencias Naturales**

**15:30 Niklaus Zimmermann, Swiss Federal Research Institute WSL & ETH Zürich**  
*Climate predictors for biodiversity modelling and forecasting*

16:00 Tristan Quaife, University of Reading  
*Vegetation canopy structure, photosynthesis and the global carbon cycle*

16:10 Emma Cavan, Imperial College London  
*What the flux: how marine plankton influence ocean carbon sequestration and feedbacks in Earth System Models*

16:20 Dirk Nikolaus Karger, Swiss Federal Research Institute WSL  
*More than species number games – connecting biodiversity and earth system models using species area relationships*

16:30 Lisa Belyea, Queen Mary University of London  
*Are peatlands robust to climate change?*

16:40 Carole Helfter, UK Centre for Ecology & Hydrology  
*Phenology v. hydrology: net loss of carbon to the atmosphere as drought shifts the balance of emission and uptake in the Okavango Delta, Botswana*

16:50 Panel discussion

**17:00 – 18:30: Poster session**

**19:00 – 22:30: Conference dinner**

## THURSDAY 12 MAY

**09:30 – 10:00: Registration**

**10:00 – 12:00: Session 4. From research to operations**

**Chair – Vicky Pope, University College London & Climate Resilience and Sustainability**

**10:00 Emma Visman, UK Centre for Ecology and Hydrology**  
*Knowing climate differently: Moving climate science and information to knowledge and action*  
Sponsored by Wiley

10:30 Rachel Dobson, University of Leeds  
*Developing an early-warning system to forecast crop pest migration at high spatiotemporal resolution*

- 10:40 William Thurston, Met Office  
*Atmospheric dispersion model forecasts of desert locust swarm movement during the 2019-2022 upsurge*
- 10:50 Emily Black, University of Reading  
*Lessons learnt from a decade of developing climate services for drought management in Africa*
- 11:00 Vicky Boulton, University of Reading  
*Forecast-based action for conservation: combining meteorological forecasting and humanitarian innovation to protect biodiversity from extreme weather*
- 11:10 Mario Pesendorfer, University of Natural Resources and Life Sciences Vienna  
*The utility and challenges of forecasting mast-seeding of trees*
- 11:20 Rachel Cavanagh, British Antarctic Survey  
*Future risk for Southern Ocean ecosystem services under climate change*
- 11:30 David Bohan, INRAE  
*Farmer-led agroecological scenarios for biodiversity with climate change*
- 11:40 Panel discussion

**12:00 – 13:00: Lunch**

**13:00 – 15:00: Parallel workshops**

1. Nature for the National Adaptation Plans
2. The now and the future of modeling at the climate-ecology interface
3. Promoting your research
4. Nature-based solutions

**15:00 – 15:30: Coffee break**

**15:30 – 17:00: Session 5. Biodiversity change scenarios & targets**

**Chair – Joyce Kimutai, Kenya Meteorological Department**

- 15:30 Keynote – Ed Hawkins, University of Reading**  
*Policy-relevant climate projections: scenarios, warming levels and storylines*  
**Sponsored by the Royal Society of Chemistry**
- 16:00 Miguel Araújo, CSIC  
*Climate change and the reorganization of animal communities*
- 16:10 Jilda Caccavo, Laboratoire des sciences du climat et de l'environnement (LSCE) and Laboratoire d'océanographie et du climat (LOCEAN)  
*Climate genomics of Antarctic toothfish*
- 16:20 James Bullock, UK Centre for Ecology & Hydrology  
*A new set of UK future scenarios linking climate change with multiple environmental drivers*
- 16:30 Debbie Bassett, NatureScot  
*Climate and nature scenarios in Scotland from 2030 to 2100 and beyond*
- 16:40 David O'Brien, NatureScot  
*Indicators of climate change impact on biodiversity and resilience in Scotland*
- 16:50 Panel discussion

**17:00 – 17:30: Closing**

**P1: Juan David González-Trujillo, Museo de Ciencias Naturales de Madrid**

Assessing the effect of extreme weather events on biodiversity using climate change metrics

**P2: Guillermo Gea-Izquierdo, INIA-CSIC**

Extraordinary droughts trigger holm oak mortality in the Iberian Peninsula

**P3: Markus Hermann, Wageningen University and Research**

Future climate change effects of reoccurring heatwaves and elevated temperature fluctuations towards chemically stressed freshwater ecosystems

**P4: Alexandra Jebb, University of Aberdeen**

High inter-annual variation stresses marmots: associated changes in health markers after an extreme weather event

**P5: Shivona Bhojwani, University of Minnesota**

How does climate variability influence wetland flooding and waterbird habitat in human-made wetlands of Central India?

**P6: Aldo Compagnoni, Helmholtz Centre for Environmental Research, UFZ Martin Luther University**

The effect of the 2018 European heat wave on the demography of a short-lived perennial plant, *Plantago lanceolata*

**P7: Bikiem Ekberzade, Eurasia Institute for Earth Sciences, Istanbul Technical University**

Where will the forests go: predicting the potential future forest cover of an ancient land

**P8: Vojtěch Barták, Department of Spatial Sciences, Czech University of Life Sciences Prague**

Accidental associations between species distributions and climate: how much are we (un)certain?

**P9: Nomikos Skyllas, University of Groningen**

Arctic terns and the changing Atlantic Ocean wind regime

**P10: Dikko Gafna, Karlsruhe Institute of Technology Germany**

Climate change poses a risk to anti-malarial plants in Samburu, Kenya

**P11: Lisbeth Hordley, Butterfly Conservation**

Climate-driven range shifts in cool-adapted moths

**P12: Cara Gallagher, University of Potsdam**

Energy-mediated responses to climate-change induced modifications to prey size and distribution in marine top predator movements and population dynamics

**P13: Abdoelmoniem Attaelmanan, University of Khartoum**

Exploring the effects of CO<sub>2</sub> elevation on seedlings' growth of *Acacia Senegal* in the era of changes; experimental study

**P14: Johan Reyes Chavez, Edge Hill University**

Fern and Lycophyte niche displacement under predicted climate change in Honduras

**P15: Chloe Cargill, University of St Andrews**

Forecasting apex predator distribution at the regional level: seabirds in the Drake Passage, Southern Ocean

**P16: Carl Reddin, Museum für Naturkunde, Leibniz Institute for Evolution and Biodiversity Science**

Global warming generates predictable extinction patterns of marine benthic invertebrates following a simple model of occupancy loss

**P17: Erik Kusch, Aarhus University**

KrigR — A tool for downloading and statistically downscaling climate reanalysis data

**P18: Katja Irob, Freie Universität Berlin**

Large herbivore and plant functional composition as drivers of drought resilience in savannas

**P19: Qinghua Zhao, Namur University**

Long-term contrasting effects of temperature and biodiversity on the stability of natural aquatic food webs

**P20: Penelope Fialas, University of Exeter**

Modelling continental-scale responses of European bats to climate and land-use change

**P21: Aisha Magaji, Yusuf Maitama Sule University Kano Nigeria**

Predicting seasonal-priority conservation hotspots for avian biodiversity using species distribution modeling in the Drylands of Nigeria

**P22: Lewis Browett, Manchester Metropolitan University**

Seawater influx elicits a compositional and functional change in plant associated microbial communities

**P23: Haftay Hailu Gebremedhn, Haramaya University**

Carbon stock and sequestration changes under traditional grazing management practices in semiarid pastoral ecosystem of eastern Ethiopia

**P24: Paul Frémont, CEAGenoscope**

Contemporary and end of century plankton biogeography at genomic scale: bridging ecology and biogeochemistry

**P25: Niklas Moser, University of Jyväskylä**

Process-guidance improves predictive performance of neural networks for carbon turnover in forest ecosystems

**P26: Sarah Dalrymple, Liverpool John Moores University**

The potential for plant translocations as bioassays of climate change

**P27: Jacob Smith, University of Cambridge**

Integrating meteorological and epidemiological models for crop disease early warnings: complementing expert surveys with online media scraping

**P28: Lydia Burgess-Gamble, Environment Agency**

Promoting Adaptation to Changing Coasts— cross border climate change adaptation project

**P29: Clive Mitchell, NatureScot**

Tackling trade-offs between climate and nature

**P30: Lucy Dowdall, Liverpool John Moores University**

EcoservR for predicting change in ecosystem service provision

**P31: Joris Wiethase, University of York**

Modelling species responses to changing climate and habitat alteration, using spatio-temporal models in INLA

**P32: William Farren, ZSL Institute of Zoology**

Megaherbivores promote riparian habitat heterogeneity in ephemeral rivers

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