Winter 2018 Issue 13

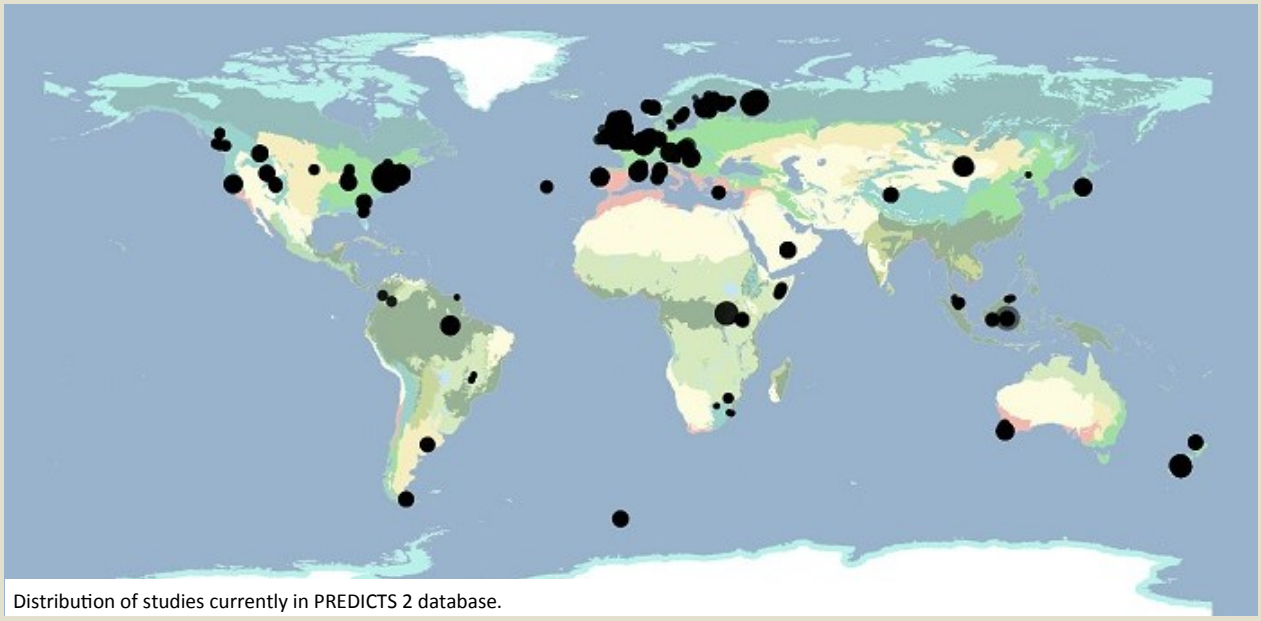
PREDICTS Newsletter

Projecting Responses of Ecological Diversity In Changing Terrestrial Systems

PREDICTS 2 database update

The PREDICTS 2 database is continuing to grow. It now contains 2,136,016 records from 5,151 sites, 119 studies and 11,250 unique species. The studies cover a mixture of transitions including agricultural expansion, deforestation, agricultural abandonment, agricultural de-intensification and intensification, active restoration, and pulse disturbances like logging. These numbers are continually changing as Rachael, Charlie and Katie are helping to fill gaps in coverage during their Master research project. We've also been working to include many studies from the first stage of PREDICTS into this new framework - although many of them only contain one sampling campaign of data. If we know when the land-use changed and what the site was like before the change, we can include these data to get a better understanding of how communities are impacted and recover from land-use change. Many thanks again to all data contributors for sharing their data with us!

Dr Adriana De Palma, Natural History Museum



Distribution of studies currently in PREDICTS 2 database.

New collaboration: "Plants Under Pressure"

The PREDICTS team is assessing the performance of two core IPBES indicators, the IUCN Sampled Red List Index (SRLI) and the Biodiversity Intactness Index (BII, produced by PREDICTS), together with the NHM's Plants Under Pressure project, in work generously funded by the Prince Albert II of Monaco Foundation. The new project will assess and model plant conservation status and sensitivity to human pressures including land use and climate change within a mutually coherent framework designed to test the respective performance of these leading biodiversity indicators at different ecological and spatial scales, and will produce detailed projections of future plant diversity under a range of scenarios. We would like to hear from anyone who has suitable data sets they would be willing to share, especially studies with plant abundance or occurrence data collected at multiple sites facing different human impacts (different land use classes or land use intensity) and that were surveyed using the same sampling procedure.

If you think you might have suitable data please email enquiries@predicts.org.uk

Current Students

Welcome to Sophie, Charlie, Rachael, Kate and Caroline who have all started a MRes project at Imperial College London or UCL or Swansea University and will be working within the PREDICTS framework. Here is what the students have to say about their ongoing projects:

Sophie Tudge

I graduated from the University of Birmingham in 2017 with a degree in Environmental Science and went straight into an MRes in Ecology, Evolution and Conservation at Imperial, which I'm currently studying for. My project with the PREDICTS team will focus on balancing food production and biodiversity persistence, by investigating how agricultural yield influences biodiversity.

Charlie Le- Marquand

I am undertaking my MRes in Ecology, Evolution and Conservation at Imperial College London. My project is looking at how urbanisation as a land use change is affecting biodiversity over time. To investigate this I have been looking for datasets that record species or community level abundance data over time in urbanised or developing areas, preferably recorded both before and after urban development and where sites were surveyed after development at multiple time points.

Rachael Thornley

I am studying an MRes in Ecology, Evolution and Conservation at Imperial College. My project will be using the 'PREDICTS 2' data set to compare the quality of different types of experimental data. In particular I will be looking at 'Before-After-Impact-Control' (BACI) experiments and 'Control-Impact' (space for time substitution design where the impact time is known).

Kate Marfleet

I graduated with a BSc in Biological Sciences from Lancaster University in 2015, before spending 2 years volunteering with the RSPB and 'The Clyde Marine Mammal project' in Scotland. I am now studying for an MRes in Biodiversity, Evolution and Conservation at UCL and my project with PREDICTS will look at the temporal dynamics of biodiversity response to restoration in Indonesia and Brazil.

Caroline McKeon

I graduated in 2017 with a BA in Zoology from Trinity College Dublin, and am currently undertaking an MRes in Biosciences at Swansea University. My project will be using data from both the COMPADRE Plant matrix database and PREDICTS, aiming to investigate the effects of land use change on plant demography, through the lens of variation in species' life histories.

Call for data:

With the new phase of PREDICTS we are trying to collate biodiversity data from temporal comparisons, where terrestrial sites have been surveyed over time. We are particularly interested in obtaining before-after-control impact studies, but are also looking for before-after comparisons (which do not have control sites) and control-impact studies that sample for several years at known times after a land-use change. If you have available data you are happy to share with the project and that are on:

- Biodiversity responses in urban areas, please get in contact with Charlie
- Before after control study design, please get in contact with Rachael
- Biodiversity responses to restoration, preferably before and after restoration with a focus on tropical areas (Brazil and Indonesia), please get in contact with Kate

If you have general question in regards of the project please get in contact with us at enquiries@predicts.org.uk.

Recent publications:

Adriana De Palma, Katia Sanchez Ortiz, Phillip A. Martin, Amy Chadwick, Guillermo Gilbert, Amanda E. Bates, Luca Börger, Sara Contu, Samantha L.L. Hill, Andy Purvis, *Challenges With Inferring How Land-Use Affects Terrestrial Biodiversity: Study Design, Time, Space and Synthesis*, Advances in Ecological Research, Academic Press, ISSN 0065-2504, https://doi.org/10.1016/bs.aecr.2017.12.004.(https://www.sciencedirect.com/science/article/pii/S0065250417300296)

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