

PREDICTS Newsletter



Projecting Responses of Ecological Diversity In Changing Terrestrial Systems

Public Release of PREDICTS database

Since we released site-level metadata and [accompanying paper](#) (based on our data as of March 2014), the PREDICTS database has increased in size by an extraordinary amount: the number of measurements has increased from 1.6 million to just over 3 million, with data coming from more than 400 published articles. The number of sampling locations has nearly doubled to just under 25,000 (Figure 1). We now have measurements in every major biome, every mega-diverse country and all but one of the recognised biodiversity hotspots. These achievements have only been possible because of the generous contributions of data providers from all over the world.

The complete PREDICTS database will be made publicly available, via the Natural History Museum's [data portal](#), later this year, along with a paper that describes the dataset. We offered co-authorship on this paper to all our data providers via email in March 2015 - if you expect to be an author on this paper but have not received an email from us, please let us know as soon as possible in an email to dbmanuscript@predicts.org.uk. We will be spending August and September contacting all contributors whose data have been incorporated into the database since March 2015 and all contributors who have not yet responded to our offer of coauthorship - please check your inbox and spam folders if you have not heard from us! The manuscript currently has 291 authors with affiliations in 44 different countries.

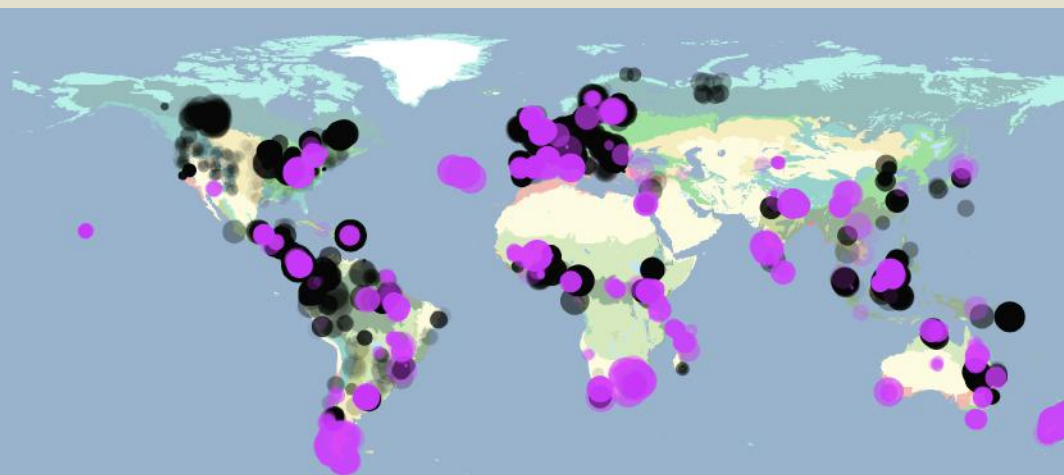


Figure 1. Sampling locations. Circle radii are proportional to log10 of the number of samples at that site. All circles have the same degree of partial transparency. Sites added to the database since March 2014 are shown in pink.

Want to work on PREDICTS?

A three-year senior postdoctoral position is available to work on the next stage of PREDICTS. The job is based at the Natural History Museum in London, with some time at UNEP-WCMC in Cambridge. It would suit a conservation ecologist and would ideally start in October. The closing date is 23rd August. For the advert and further details, see <http://www.nationalmuseums.org.uk/jobs/job/5874/>.

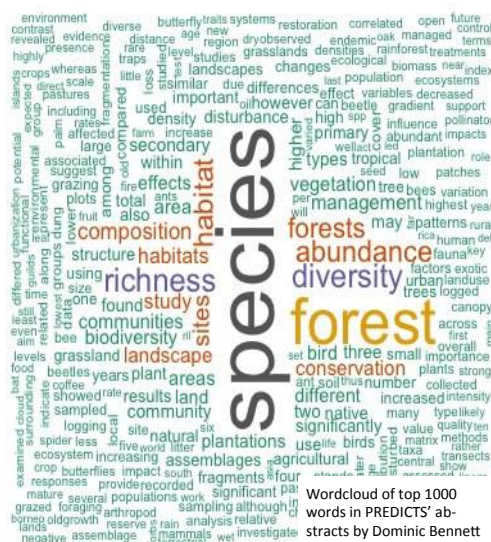
NHM hacks PREDICTS and the Living Planet Index

The PREDICTS and LPI (Living Planet Index) teams held a joint Biodiversity Hackathon at the Natural History Museum in London on the 20th June. The goal was to develop more efficient methodologies for these two databases, drawing on the expertise of teams of conservationists and programmers.

The day was a great success. In only a few hours, the teams had managed to develop a wide range of ideas, and write a lot of the code needed to put these new methods into practice. The approaches included mapping the co-author network of those who have already provided data, mining relevant abstracts using machine learning, and developing plug-ins for immediate on-screen information on which studies have already been deemed suitable or unsuitable. Hopefully another hackathon will be arranged soon - we will keep you updated on this.



Image kindly provided by Ines Teles @dwyl.io



Wordcloud of top 1000 words in PREDICTS' abstracts by Dominic Bennett

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Policy Forum for Wales

On 7th July, Luca Börger and Andy Purvis took part in a Policy Forum for Wales keynote seminar, "[Natural resources, climate adaptation and biodiversity policy in Wales](#)", held in Cardiff. They presented new PREDICTS results: fine-scale estimates of species richness for the whole of Wales, relative to the richness of intact assemblages. It's hoped that these estimates will go into the evidence base being compiled to help support implementation of the Environment (Wales) Bill.

Ecological traits affect the response of bees to human impacts in European agricultural landscapes

My PhD has been focussing on how bees respond to land-use change across the globe. In a recent paper, however, I've focussed on European bees. I merged PREDICTS data on abundance and diversity of bees in Europe with information on species' ecological traits in order to ask whether species' sensitivities to land use pressures are significantly affected by their ecological traits. Using data for 257 bee species at 1,584 sites, I found that species' sensitivity to land use was most strongly influenced by foraging range and flight-season duration, but also by niche breadth, phenology and reproductive strategy, with effects that differed among cropland, pastoral and urban habitats. The results have a number of implications for which species should be targeted by management activities and in what systems. For example, our results showed that small bodied pollen-specialists were particularly sensitive to intensive agriculture, suggesting that although enhanced floral resources may help, they will require careful placement with respect to foraging ranges of smaller bee species. The paper has been accepted by Journal of Applied Ecology and will hopefully be published shortly. Another manuscript currently underway assesses how geographically and taxonomically biased datasets affect inferences about bee responses to land use. Thank you very much to everyone who has contributed data.



*Adriana De Palma,
PhD student NHM*

News

27th International Congress for Conservation Biology

Claudia Gray presented a talk at the ICCB in Montpellier (2nd - 7th August) titled "Do terrestrial protected areas mitigate human pressures? A global analysis of local biodiversity within protected areas using the PREDICTS database".

PREDICTS welcomes new interns

Laura and Gemma

I have just finished the second year of my degree in Natural Sciences at Peterhouse, Cambridge, and next year I am hoping to study and undertake research in the field of zoology. I am currently working as an intern in the Science Programme of UNEP-WCMC, where I am using the PREDICTS model to investigate the effects of climate (both current climate and climate change) on the responses of biodiversity to land use.

Gemma Annetts, UNEP WCMC Intern

I graduated from St Catherine's College this summer with a first-class BA in Zoology. My internship with the Science Programme at UNEP WCMC focuses on modelling the effects of land use change on different trophic levels using the PREDICTS database. After my internship, I will begin an MSc in Ecology, Evolution and Conservation at Imperial College London.

Laura Bentley, UNEP WCMC Intern



PREDICTS at the EU Macro Meeting 2015

Members of the PREDICTS project recently presented our work at the EU Macro Meeting 2015 - a joint meeting between the British Ecological Society (BES), the Gesellschaft für Ökologie (GfÖ), and the Center for Macroecology, Evolution & Climate (CMEC). Adriana De Palma presented her work on phylogenetic signal in bee species sensitivities to land-use transitions, and Helen Phillips showcased her work on the effect of land-use change across four continents in the tropics. Rogier Hintzen also presented a poster on integrating correlative and mechanistic approaches to biodiversity modelling.

Invitation to join us at the PREDICTS Symposium – 14th September 2015

The initial tranche of funding for PREDICTS comes to an end on September 30th. To mark the occasion, we're holding a PREDICTS one-day symposium at the Natural History Museum on Monday 14th September, from 10am to 4pm.

As well as an overview of the project, there'll be presentations on our latest – still unpublished – research from members of the project team, and speed talks from project alumni on what they're up to now. If you'd like to come along, please email samantha.hill@nhm.ac.uk; places are limited, so will be offered on a first come, first served

basis. We're also hoping to live-stream the talks, so you'll be able to see them even if you can't make it: we will e-mail the details once we have them, as well as posting them on the [News](#) page at www.predicts.org.uk.

Although this event will mark the end of the current phase, we have new funding to extend PREDICTS to collate and analyse data from studies that have surveyed sites both before and after land-use change. This will give us a more dynamic picture of how land-use change reshapes ecological assemblages.

Thanks to Domenico Tozzi for producing the PREDICTS logo.

[#Predictsproject](#) Contact email: enquiries@predicts.org.uk

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