call for data

PREDICTS: Projecting Responses of Ecological Diversity in Changing Terrestrial Systems

The PREDICTS project, which started in March this year, is a three-year NERC-funded project to model and predict at a global scale how local terrestrial diversity responds to human pressures such as land use, land cover, pollution, invasive species and infrastructure. PREDICTS is a collaboration between Imperial College London, the UNEP World Conservation Monitoring Centre, Microsoft Research Cambridge, UCL and the University of Sussex. In order to meet its aims, the project relies on extensive data describing the diversity and composition of biological communities at a local scale (i.e. estimates from individual sites or plots, rather than across whole landscapes). Such data are collected on a vast scale through the committed efforts of field ecologists.

We require estimates of diversity and composition that are comparable among different sampling locations. Therefore, we are looking specifically for data collected from more than one site using a consistent methodology. The ideal data are abundances or densities of all sampled species at each site (i.e., a site x species matrix). However, abundance data are almost impossible to collect for some taxonomic groups, so we are also collecting data on the presence/absence of species or site-level estimates of community composition or diversity. We are particularly interested in studies where land use or land cover vary among the sites.

In the first six months of the project, we have collated over half a million records from 5877 sites (Figure 1), representing 9068 species, thanks to the generosity of 86 authors who have sent us data. However, a database of this nature necessarily includes biases towards certain parts of the world and particular taxonomic groups. We are especially keen to acquire data that address some of these biases. Currently the most under-represented biomes are tundra, boreal forest, savanna and deserts; the taxonomic groups that we need most data for are plants and invertebrates.

Alongside the large database that we are compiling, we will develop models that help un-

Figure 1. Sites that we have data for after the first six months of the project, superimposed on a map of the world’s biomes (derived from the IMAGE model; Bouwman et al. 2006).
understand how biological communities are responding to human pressures and use these to project into the future. Results from the models will provide input to policy processes, such as the Global Biodiversity Outlook and the Intergovernmental science–policy Platform on Biodiversity and Ecosystem Services (IPBES); we hope this will contribute towards meeting targets for reducing the rate of biodiversity loss. To meet these aims, we need your help!

If you have appropriate data that you would be willing to share with us, please get in touch (enquiries@predicts.org.uk). As well as data from individual studies, we welcome contributions from existing large-scale monitoring and data-collation efforts. All contributions will be acknowledged appropriately and all data contributors will be included as co-authors on an open-access paper describing the database (this will be published by the end of the project in 2015).

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References

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