

'Challenges and solutions to mobilising global biodiversity data for resilience science'

Caterina Schwedt, Samy Gaiji, Nick King, Andrew Jarvis

The current global changes are unprecedented, both in scale and speed. The subsequent multiple environmental and developmental challenges such as climate change and food security are increasingly understood to be man-made. As the architects of these changes, we have a responsibility to seek solutions that adequately address them and mitigate their apocalyptic consequences. Such solutions require access to the highest quality scientific data and the tools for scientific analysis and interpretation to support proactive decision- and policy-making.

Mobilising billions of historical and new biodiversity records globally is crucial for establishing a thorough understanding of the state and resilience of our planetary ecosystems. These data enable both predictive modelling of future trends as well as back-casting against historical baselines to improve our understanding of ecosystem resilience.

The Global Biodiversity Information Facility is the single largest global multilateral initiative enabling the free sharing of biodiversity data over the internet. The global network currently comprises 55 countries and 45 international organisations, collectively mobilising more than 205 million data records from 316 institutions around the world (<http://data.gbif.org>) - creating a global biodiversity commons - a global 'public good' for research. GBIF enables access to previously inaccessible information, and contributes to research investigations that were previously impossible, improving understanding and informing new policy development.

This presentation will focus on a selection of the most important applications of the GBIF biodiversity infrastructure to resilience science, using a wide range of examples including climate change, food security, agrobiodiversity, forestry, marine and human health issues.