Building global biodiversity knowledge through open access data

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An open-access platform to enable the integration of European and Brazilian biodiversity research tools has been developed through an EU-funded programme. The EUBRAZILOPENBIO (EU-Brazil Open Data and Cloud Computing e-Infrastructure for Biodiversity) project, which was completed earlier this year, will help promote cross-border innovation and the sharing of best practice in a vitally important field of research.

Indeed, one of the great challenges of the 21st century will be addressing biodiversity loss, which is already estimated to cost the EU around EUR 450 billion a year. This is one reason why Horizon2020, the EU's new research funding programme, has stressed the importance of tackling

biodiversity loss quickly and effectively.

Tackling the complexity of biodiversity requires dealing with multiple multi-disciplinary datasets, from climatology to earth sciences. Much of this data is fragmented. This is why EUBRAZILOPENBIO has sought to develop a platform that will enable cross-border research, and support the needs of the biodiversity scientific community by reducing the time and costs needed to set up dedicated working environments and workflows.

The project is very much in line with the Open Access Movement, which promotes the concept of openness for scientific research, and is aligned with the OpenAIRE initiative launched in 2010 to establish an infrastructure for EU-funded researchers to publish their work.

EUBRAZILOPENBIO has also developed a number of useful research tools, such as a new version of the Catalogue of Life cross-mapping tool developed in the i4Life project. By using this EUBRAZILOPENBIO Crossmapper service, taxonomists and data curators can find relationships between their own regional lists of species and different information systems, within the same virtual research environment.

Based on a list of species of Brazilian flora, containing over 43 000 species and around 30 000 synonyms, and the global Species2000/ITIS Catalogue of Life (CoL), which indexes about 250 000 plant species and 300 000 synonyms, the service allows the comparison of any pair of checklists. The tool can provide a list of species present in one checklist, but absent in the other, for example.

An Ecological Niche Modelling service has also been developed, providing researchers with an integrated working environment that enables the definition and execution of computing-intensive modelling tasks. It works by retrieving high-resolution environmental data collected

from different biodiversity networks, such as the Global Diversity Information Facility (GBIF) and SpeciesLink. This makes the process easier to handle and allows biodiversity researchers to create models and run them under different conditions in a quicker and less fragmented way.

Both Brazil and Europe have much to contribute to the fight against biodiversity loss, and the EUBRAZILOPENBIO project is a significant step in the right direction. It is expected that the breadth and depth of the completed data infrastructure, along with the openness of its resources, will herald a new era of cost-effective, cross-disciplinary research within the global biodiversity research community.

More information: Project factsheet: cordis.europa.eu/projects/rcn/99564_en.html

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