Mapping global biocultural diversity

Developing and improving R workflows for the spatial analysis of cultural and linguistic diversity

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Project description

There are nearly 7000 languages spoken across the world, but nearly half of them are endangered (Bromham et al. 2022). While cultural diversity is valuable in itself, a plurality of cultural perspectives and indigenous worldviews are also crucial for biodiversity conservation and sustainable development (Sustainable Development Goal 4.7; Díaz *et al.*, 2019). While earlier studies have noted the spatial overlap between cultural diversity and biodiversity (Garnett et al., 2018; Hua et al., 2019), a deeper understanding of these patterns is hampered by data availability. Together with an international consortium, we have been addressing this gap and are now finalizing the first free and open vector database of language distributions worldwide. This new resource opens up exciting possibilities.

In the Bright Minds project, the student will build on this newly developed database to do two things. First, cross-validate and quality-check our data by comparing it to other sources. Secondly, adapt and improve existing functions in the glottospace R package to access and visualize these spatial data. This package is widely used and has been downloaded about 6500 times since its release two years ago.

Job requirements

I am looking for a student who has a background in programming (in R) and (geospatial) data analysis, or the desire to become more skilled in this field. Data processing and analysis will be done in R, and can build on earlier work (Norder et al. 2022). The work can either be done remote or on campus, regular meetings will be held with the supervisor. This project is an opportunity to contribute to a concrete global sustainability challenge, open science, and to develop your programming skills.