



## Short course in Geographical information system and R environment for conservation biology April 16-18, 2024

This three-day short course will take place in room S24a at the GEO building from 2 to 6 pm at the University of Bayreuth. This course includes short lectures, laboratory instruction, interactive access to biological collections and environmental databases, and training in data management using the R environment and QGIS program.



$$rr = \sum_{i=1}^3 \bar{x}_i$$

### COURSE OBJECTIVES AND LEARNING OUTCOMES:

Through this course, students are supposed to acquire the following skills:

- how to gather and handle data from biological collections.
- how to manipulate and merge this data in vector (points and grids) and matrix formats using R environment and QGIS program.
- how to classify rare and common species based on geographic range, types of habitats, and population size.

**FORMAT:** The course consists of three days of lectures (four hours each) and hands-on practical sessions.

### INTENDED AUDIENCE:

Master's and PhD students. This course is open to anyone who is interested. No prior knowledge is necessary. The course will run with a minimum of one and a maximum of 10 participants.

### PROGRAM:

This short course will introduce students to the importance of species lists in decision-making, with a particular focus on rare species. The concept of rare species and the most widely accepted method for their classification based on patterns will be addressed in both theoretical and practical contexts. Students will learn how to search for data in biological repositories and refine the data for subsequent analysis. Additionally, students will learn how to download environmental data and integrate it with species data into a single layer.

### COURSE INSTRUCTOR AND CONTACT:

Dr. Everton A. Maciel ([Everton.Maciel@uni-bayreuth.de](mailto:Everton.Maciel@uni-bayreuth.de))

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