

# DR. LIAM D. BAILEY

## ECOLOGIST/DATA SCIENTIST

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## ABOUT ME

I am an ecologist and data scientist with an interest in using data science techniques for conservation outcomes. Much of my work has involved programming in R, including designing new computational methods, GIS, data wrangling, and data standardisation. During my time in academia I have gained extensive skills in statistical analysis, science communication, and data visualisation. I am currently based in Berlin where I have recently completed a post-doctoral project at the Leibniz Institute for Zoo and Wildlife Research (IZW), using agent-based modelling to understand the impacts of management strategies on the spotted hyena (*Crocuta crocuta*).

## EXPERIENCE

### DFG Eigene-stelle Post-doctoral Researcher

#### Institute of Zoo and Wildlife Research (IZW)

📅 Apr 2020 - Apr 2023 📍 Berlin, Germany

- Agent-based modelling in R with R6
- Building repeatable data extraction and analysis pipelines
- Scientific writing and publishing

### Freelance Data Scientist

#### WWF Germany

📅 2020 📍 Berlin, Germany

- Cleaning and presenting large spatial data
- Cleaning and wrangling large text datasets
- Generating interactive maps and RMarkdown reports

### Coordinator (volunteer)

#### CorrelAid Berlin

📅 Jan 2019 - Jan 2022 📍 Berlin, Germany

- Assisting NGOs with data science challenges
- Coordinating events
- Analysing survey data

### Data Scientist

#### Babbel

📅 Nov 2019 - Apr 2020 📍 Berlin, Germany

- Communicating complex data and results to corporate stakeholders
- A/B testing
- Working in a dynamic team environment

### SPI-Birds lead developer

#### NIOO-KNAW & NTNU

📅 2019 📍 Netherlands & Norway

- Designing and implementing a standard protocol for the storage of long-term ecological data
- Writing a researcher newsletter with LaTeX

### DAAD Post-doctoral Research Fellow

#### Institute of Zoo and Wildlife Research (IZW)

📅 2018 - 2019 📍 Berlin, Germany

### Developer and maintainer of R package *climwin*

#### Australian National University (ANU)

📅 2015 - Present

## SKILLS

R  
Data visualization & design  
Statistical analysis  
GIS (QGIS, R)  
git  
SQL Database (Access, RSQLite)  
Python



## AWARDS



1st place: Australian National University  
Hirota Naora Award for Best Presentation



2nd place: International Congress for  
Conservation Biology student talk prize

## EDUCATION

Ph.D. (Ecology)

**Australian National University (ANU)**

📅 2013 – 2017

📍 Canberra, Australia

Thesis title: 'Between the devil and the deep blue sea: Consequences of extreme climatic events in the Eurasian oystercatcher (*Haematopus ostralegus*).'

Bachelor of Environmental Science, First Class Honours

**Monash University**

📅 2007 – 2011

📍 Melbourne, Australia

## FEATURED WORKS

### 📊 Data Visualization

- TidyTuesday Data visualization challenge 🔗 See GitHub repository here
- 30 Day Mapping challenge 2022 🔗 See GitHub repository here

### 📺 Talks and Workshops

- 'Using R6 object-oriented programming to build agent-based models' (UseR! 2021) ▶ See video here
- Workshop 'Storytelling with Data: An academic perspective' 🔗 See GitHub repository here

### 📄 Relevant Publications

- **Bailey, L.D. et al.** (2022) 'Bird populations most exposed to climate change are less sensitive to climatic variation.' *Nature Communications*  
doi: 10.1038/s41467-022-29635-4
- Culina, A., Adriaensen, F., **Bailey, L.D., et al.** (2020) 'Connecting the data landscape of long-term ecological studies: the SPI-Birds data hub.' *Journal of Animal Ecology*  
doi: 10.1111/1365-2656.13388
- **Bailey, L.D.** & van de Pol, M. (2016) 'climwin: An R Toolbox for Climate Window Analysis' *PLOS ONE*  
doi: 10.1371/journal.pone.0167980

### 📖 Book Chapters

- van de Pol, M. & **Bailey, L.D.** (2019) 'Quantifying the climatic sensitivity of individuals, populations, and species.' In: *Effects of Climate Change on Birds (2nd edition)* doi: 10.1093/oso/9780198824268.003.0005.

## REFERENCE

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