Filipe S. Dias

Data Analyst

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PROFILE:

Data analyst with a PhD in Forestry and Natural Resources and 15+ years of experience in ecological data analysis. Expert in statistical modelling, data visualisation and spatial analysis, with a proven ability to translate complex datasets into practical recommendations for management and policy. Comfortable in multidisciplinary environments and skilled at presenting results to audiences ranging from field workers to senior scientists.

SKILLS:

Statistical Analysis (R)	Data Wrangling (R, SQL)	Spatial analysis (QGIS, GDAL, PostGIS)
Bayesian Statistics (Stan)	Data Visualization (R)	

SELECTED WORK HISTORY:

Researcher (2026 -)

Centro de Estudos Florestais, Instituto Superior de Agronomia, Universidade de Lisboa

Currently working on the project Satellite Information for Resilience Monitoring and Early warning of Ecosystem tipping points (SIRENE), funded by the European Space Agency (ESA), which has the overarching goal of improving the detection and prediction of climate-driven tipping points in terrestrial ecosystems, especially in vulnerable regions such as tropical rainforests, boreal forests, and drylands.

Freelance Data Analyst (2025)

WWF Portugal

- Developed a nationwide **geospatial prioritization framework** that identified **nine priority areas for ecological restoration** and informed WWF Portugal's **Re-Store Portugal** initiative (**PostgreSQL/PostGIS, QGIS**). which aims to invest **€1.8 million by 2030** in three of those areas.

Auxiliary Researcher (2019-2024)

Centro de Investigação em Biodiversidade e Recursos Genéticos (CIBIO/BIOPOLIS)

- Developed a **Bayesian approach** for modelling **ecological community dissimilarity** using beta-diversity indices implemented developed with **Stan's probabilistic programming language** Link 1, Link 2
- **Led** the analysis of a comprehensive **50-year, nationwide** study of **canopy-cover changes** in **Portugal's cork oak and holm oak woodlands that** delivered the **first large-scale, quantitative evidence** of **Iberian oak degradation**. Link

- **Analysed** data from a **survey** to assess the **potential impact** of a **proposed bauxite mine** on a key population of **western chimpanzees** in a **forest–savanna mosaic** (Distance sampling + Generalized Additive Models in R). Link
- **Co-authored a pan-European methodological framework and practical guidelines for mapping functional and structural ecological connectivity** Link
- **Participated** in a study that **reconstructed the historical process of plant discovery** in **Cabo Verde's endemic flora** using **Bayesian methods** Link
- **Supervised** the analysis of a study that **mapped and predicted invasive alien-plant richness** across **Portugal's riparian ecosystems** Link
- **Supervised** the analysis of a study that used **remote-sensing data** and **Generalized Additive Models (GAMs)** to evaluate the effectiveness of **3,013 post-fire restoration projects** after the **2016-2017 wildfires** Link

Data Analyst (2011 - 2022)

WWF Portugal

- **Managed** an **online GIS application** (built with **QGIS** and **Lizmap**) that provided **landowners** and **forest managers** with free access to **biodiversity** and **ecosystem services** data Link
- Conducted **spatial conservation prioritization analyses** using **Pareto optimization** to identify areas important for the conservation of **biodiversity** and **ecosystem services**. The identified areas were included in **WWF's Green Heart of Cork project** and their landowners participated in **Payments for Ecosystem Services (PES)** schemes worth over **79 000 EURO** between 2011 and 2021. Link 1 Link 2
- **Extracted, transformed, and loaded (ETL)** data on **biodiversity** and **ecosystem services** into **PostgreSQL** databases (**QGIS**, **GRASS GIS**, **GDAL**, **R**, and **PostGIS**) and produced **maps and spatial visualizations** for **reports, proposals, and communication materials**.
- Provided **training and technical support** to **WWF staff** and **partner institutions** on **GIS workflows**, **spatial data management**, and **mapping tools**.

PhD Candidate (2011-2015)

Centro de Ecologia Aplicada "Prof. Baeta Neves", Instituto Superior de Agronomia, Universidade de Lisboa

- **Showed** that **FSC certification** markedly **improves the ecological condition of streams** in cork oak woodlands (Mixed models, R) Link
- **Demonstrated** that FSC conservation zones in Mediterranean **cork oak woodlands** significantly **improve oak regeneration and increase shrub species richness and diversity**, providing the first empirical evidence that **set-aside areas can counteract the widespread regeneration failure** threatening these ecosystems (Distance sampling + Generalized Addtive Models, R) Link

- Designed and implemented a **multi-objective optimization framework using Pareto optimization** to identify **optimal areas for biodiversity conservation and ecosystem service provision** (R). Link

- Authored **peer-reviewed publications and technical reports, and presented research findings to scientists, policymakers, and land managers.**

EDUCATION:

- PhD in Forestry and Natural Resources (2011 - 2015)

Instituto Superior de Agronomia, Universidade de Lisboa

- MSc in Conservation Biology (2008)

Faculdade de Ciências, Universidade de Lisboa

- Licenciate Degree in Environmental Biology (2003-2007)

Faculdade de Ciências, Universidade de Lisboa

LANGUAGES:

Portuguese (Native), English (Fluent), French (Basics), Spanish (Basics)

INTERESTS AND HOBBIES:

- Birding

- Working out

- Building computers

- Football, cycling and handball analytics