ROBERT SCHLEGEL, PhD

Environmental Data Scientist

+33 6 11 93 37 04
Nice, France

PROFILE

Results-oriented professional with over a decade of experience on international projects at the nexus of climate and ecology. As a resourceful problem solver, I draw upon my robust academic research background to develop practical solutions based on science and technology to support resilience against the adverse effects of climate change on both human communities and the environment.

CORE SKILLS

- R + Python programming languages
- Shiny, Quarto, HTML, SQL
- Full-stack app development
- Data acquisition pipelines
- Spatial and temporal analyses of big data
- Management, development, and publication of datasets
- Machine learning algorithm development
- Project management
- Curriculum development
- Teaching - Instructing - Demonstrating
- Mentoring
- Certified PADI diving instructor

CORE KNOWLEDGE

- Marine heatwaves (MHW)
- Coastal ecology - kelp forests
- Species distribution modelling (SDM)
- Climate change
- Biodiversity
- Languages: English, French, German

EDUCATION

2018 - PhD Biodiversity | University of the Western Cape - SA
2014 - MPhil Applied Marine Science | University of Cape Town - SA
2008 - BA Psychology | University of Washington - USA

EXPERIENCE

Research Engineer | Sorbonne University

Villefranche-sur-Mer - FR - Oct 2025 – Present

Active team member across two large national (RiOMar) and international (HYPERNETS) projects. Multi-faceted data engineering/ science support provided via multiple human (French, English) and programming (Python, R) languages across the full project scope. From data acquisition and algorithm development through to research publication and presentation at international conferences. Research focusses explicitly on the coastal marine zone, how it is changing due to climate forcing, and what this means for the environment and human societies.

Key responsibilities

- Development and implementation of data acquisition and quality control pipelines for hi-resolution multi-/hyper-spectral *in situ* and satellite data
- Sourcing and amalgamation of relevant *in situ* data to accompany high-dimensional model/reanalysis data products
- Development of machine learning algorithm to autonomously detect anomalous surface features in coastal waters
- Development and publication of industry standard python software
- Research, writing, publishing, and presenting on climate change related topics

Key achievements

- Presenting and valorising research outputs
- Development of internal code repository and accompanying Python and R scripts used for a range of required applications

Co-Founder, Director | Ecomonitor

Nice - FR - Jul 2024 – Sep 2025

Strategic development and operations management at an environmental data analysis-focused start-up. Spearheaded the integration of biodiversity and climate change science into the rapid prototyping and development of operational web-based tools to deliver actionable analytics to partners and clients, thereby enhancing the value proposition of their existing products and services.

Key responsibilities

- Project management, market research, and product development
- Interacting with partners and clients to develop valuable insights
- Adapting and applying academic research outputs into an industry context
- Interconnecting a wide range of subjects from carbon credits to disaster risk reduction
- Resilience and problem-solving in a fast-paced, constantly evolving, high-pressure environment

Key achievements

- Developed a library of workflows and analyses in R and python to automate the sourcing, analysis, and visualisation of environmental and social datasets for operational report generating routines
- Developed multiple interactive proofs of concept, showcasing investible nature based solutions

Lead Data Scientist | FACE-IT

Villefranche-sur-Mer - FR - Nov 2020 – Jul 2024

Headed daily operations for Work Package 1 (WP1) within a Horizon2020 funded EU research project focussed on understanding the impacts of climate change on socio-ecological fjord systems.

Key responsibilities

- Management of, and reporting on, all WP1 projects + research outputs
- Liaising with other WP leads on multiple projects and collaborating on data + research needs
- International travel for fieldwork, meetings, and representation of FACE-IT
- Development of, and ensuring adherence to, a Data Management Plan (DMP) for all work packages

Key achievements

- Sourced and amalgamated thousands of disparate datasets relevant to Arctic research
- Developed and published the FjordLight dataset, with corresponding eponymous R library
- Released three operational apps (R Shiny) to valorise the work performed at FACE-IT

ADDITIONAL

- Steering committee member for the North-Heat project
- Member of both the CLIVAR and Ilico research groups for MHWs
- Contributing author to both the WMO and NOAA annual state of the climate reports

REFERENCES

Prof. Jean-Pierre Gattuso | SU, CNRS | FR, jean-pierre.gattuso@imev-mer.fr

Prof. Kai Bischof | MARUM, UB | DE, kbischof@uni-bremen.de

Prof. AJ Smit | DBCB, UWC | SA, ajsmit@uwc.ac.za