

**Postdoctoral research fellowship:
Spatial mapping of intertidal mussel beds along the South African coast**

The Coastal and Ocean Sciences Team (COST), at the National Research Foundation-South African Institute for Aquatic Biodiversity (NRF-SAIAB), invites applications for a postdoctoral position focused on mapping South African intertidal mussel beds using integrated field surveys, drone/aerial photogrammetry, satellite remote sensing, and machine learning approaches. The successful candidate will contribute to the broader project: Operation IMBAsA: IMagining Blue Carbon Alternatives for Climate Action. This position offers an exciting opportunity to work within a vibrant, diverse, and interdisciplinary team, focusing on coastal ecology, blue carbon science, and innovative ecological approaches to coastal rehabilitation in South Africa.

Project Overview: This project aims to estimate mussel cover across selected South African rocky intertidal habitats through the integration of traditional ecological surveys, drone/aerial derived high-resolution imagery; 3D photogrammetric modelling; sentinel-2 satellite imagery; historical mussel abundance data. The fellowship will contribute to developing methodologies for coastal habitat mapping and ecological monitoring, with applications in blue carbon research, conservation, and climate adaptation. The successful candidate will map and quantify intertidal mussel cover along the South African coastline by processing imagery and integrating historical and new ecological datasets; conducting spatial and statistical analyses across mixed datasets; and possibly implementing and validating machine learning classifiers.

Candidate Requirements: We seek applicants with expertise in one or more of the following areas: coastal or marine ecology, remote sensing and GIS, spatial ecology, machine learning/deep learning applications in environmental science and/or quantitative.

Experience with software such as QGIS, Pix4DMapper, R, or Python will be advantageous.

The successful candidate should demonstrate:

- Strong analytical and quantitative skills;
- Scientific writing and publication experience;
- Ability to work independently as well as within an interdisciplinary research team;
- Willingness to conduct fieldwork on rocky shores.

Personal Attributes: The NRFs shared values are People-centred, Ethics and Integrity, Accountability, Passion for Excellence, World-class Service and Respect. These values reflect the organisation's core ethics and principles. They are lived values that inspire and articulate the NRFs aspirations regarding workplace behaviour and institutional culture.

Fellowship Details

- Duration: Initially one year, renewable for a second year subject to performance and funding availability.
- Location: Makhanda/Grahamstown (NRF-SAIAB), South Africa.
- Start date: As soon as possible following shortlisting and selection.

How to apply: Interested candidates should send a CV (including names of two professional references), copy of doctorate certificate and a letter of motivation to Prof. Francesca Porri (f.porri@saiab.nrf.ac.za).

Deadline for submission: **10 June 2026**

Only shortlisted candidates will be contacted



The NRF-SAIAB is committed to a holistic approach towards a modern transformation of the knowledge enterprise, based on excellence, impact, equity and diversity. The NRF-SAIAB reserves the right not to appoint any applicants to this position as advertised. Final appointments are dependent on approval by the NRF.

