Acoustic Tracking Array Platform (ATAP)

WHAT IT IS AND WHY IT MATTERS

There is still so much to learn about how aquatic animals (those that live in water) live. Studying them is difficult because they live underwater, where they cannot be easily observed. Fortunately, new technologies help researchers understand where these animals go, which areas are important to them, how long they stay in one place, and what environmental factors (like water temperature) influence their movements.

One powerful tool is **acoustic telemetry** which consists of two parts:

1. An **acoustic tag**, which is attached to or inserted into an animal.
2. **Acoustic receivers**, placed in the ocean, estuaries, or freshwater environments to detect tagged animals as they pass.

South Africa has developed a large acoustic tracking network called the **Acoustic Tracking Array Platform (ATAP)** which includes over 300 receivers, stretching from the Western Cape to southern Mozambique. Currently, ATAP tracks the movements and migrations of:

- 13 species of fish
- 17 species of sharks
- 11 species of rays
- 1 species of skate
- 3 species of turtles

Understanding animal movements helps us identify critical habitats that need protection. Protecting these areas helps species grow to full size and reproduce, supporting healthy fish populations and contributing to more sustainable fisheries. This benefits the communities who rely on these fisheries for their livelihoods.

QUALIFICATIONS

There are two main career paths for learners interested in this field: **Research and Technical**. Both are important, and they often work together. Ideally, both routes require an MSc in Ichthyology or Marine Science, and at school level, the following are recommended:

- English
- Mathematics
- Natural Science

Once at university, at undergraduate level, enrol for a:

- Bachelor of Science (BSc), majoring in:
  - Ichthyology and Zoology (ideal)
  - OR Botany

Photo credit: Ryan Daly

– OR Environmental Science (A BSc is typically a three-year degree)

Move onto to postgraduate studies:

- **BSc Honours** (one year), ideally in Ichthyology
- **Master of Science (MSc)** (two years), ideally in Ichthyology, Fisheries Science, Zoology or Marine Science
- Optional: **Doctor of Philosophy (PhD)** (three years)

Technical Skills (optional, but useful, and may be acquired over time)

- Skippering a boat
- SCUBA diving
- Towing and driving a boat
- General fieldwork skills
- Swimming is helpful but not required

CAREER PATHS

Depending on your skills and education, you could become a:

Primary Roles

- Researcher
- Technician
- Data Scientist

Other Career Options

Many students who have used telemetry during their studies have gone on to work as:

- Marine or environmental scientists
- University lecturers
- Managers of non-governmental/non-profit organizations

Scientific support staff at NGOs
Instrument technicians or scientists
Marine technicians
Environmental consultants
GIS or data management specialists
Postdoctoral fellows (researchers)

Photo credit: Ryan Daly

Aquatic Ecophysiology Research Platform



WHAT IT IS

Aquatic ecophysiology is an exciting, inter-disciplinary field that studies the connections between environmental factors that affect the body functions of aquatic animals, caring for marine resources to maintain their sustainability, and assess the effects of climate change. At NRF-SAIAB, this research explores how temperature, salinity, oxygen levels, pollution, and climate change impact the normal functioning of aquatic species. This work helps us understand how species adapt, how ecosystems stay healthy, and how to protect biodiversity. Our work also supports careers in science, conservation, government, and industry for people passionate about protecting aquatic life.

WHY THIS RESEARCH MATTERS

Aquatic ecophysiology helps us predict how species will respond to climate change, such as warming waters, ocean acidification and changes in salinity. It shows how much stress species can tolerate and how they might adapt. Studying pollutants like heavy metals, microplastics, and new contaminants at the physiological level helps develop pollution control strategies. The research also helps protect endangered species by identifying their needs and assessing how vulnerable they are to change. Understanding how aquatic animals deal with stress, resist disease, and grow efficiently is important for sustainable fisheries and aquaculture. Research into invasive species—one of the major threats to biodiversity—helps us manage their impact and protect native ecosystems.

RELEVANT UNIVERSITY QUALIFICATIONS

Bachelor's Degrees:

- BSc in Marine Biology
- BSc in Biological Science
- BSc in Environmental Science
- BSc in Zoology
- BSc in Aquatic or Fisheries Science

Master's Degrees:

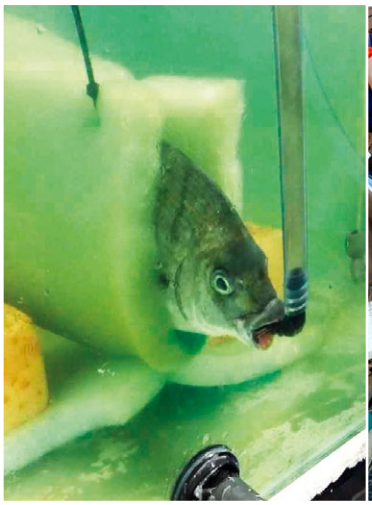
- MSc in Marine Science
- MSc in Aquatic Ecology
- MSc in Environmental Physiology
- MSc in Fisheries and Aquaculture
- MSc in Zoology

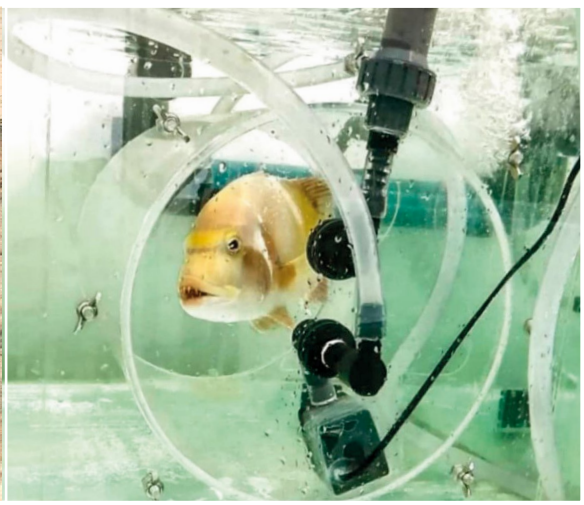
Doctoral Programs (PhD):

- PhD in Ecophysiology, with research in areas like climate resilience, toxicology, or metabolic adaptation in aquatic organisms
- PhD in Ichthyology/Zoology, with research area like physiology

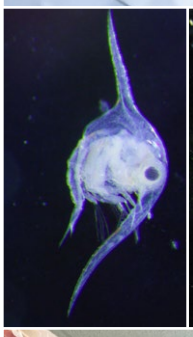
CAREER OPPORTUNITIES

- University research and teaching
- Government and regulatory work
- Environmental consulting
- Fisheries and aquaculture management
- Conservation organizations and NGOs
- Industry and pharmaceutical research





Aquatic Genomics Research Platform



WHAT IT IS AND WHY IT IS IMPORTANT

The Aquatic Genomics Research Platform is an open-access facility that supports DNA and genomics research related to aquatic life. Researchers use this platform for various projects, including:

- Identifying new aquatic species through DNA barcoding
- Studying the microbiomes of aquatic organisms
- Exploring population genetics
- Sequencing whole genomes

The data generated from this research supports many areas, such as ecosystem and fisheries management, aquaculture, and the search for new antimicrobial and antiviral compounds.

The laboratory is fully equipped for a range of DNA work—from extraction to Sanger and Next-Generation Sequencing. Platform staff provide hands-on technical support and training to those who use the equipment. The platform manager enables users with little to no laboratory experience to learn essential skills for their studies or future careers in molecular work. The platform has 18 workstations available for users.

QUALIFICATIONS

At school level, the following are recommended:

- English
- Mathematics
- Natural Science

Once at university, at undergraduate level, enrol for a:

Bachelor of Science (BSc), majoring in:

- Microbiology, genetics or Genomics (ideal)
- OR any major which has a genetics component built into it

Postgraduate studies:

- BSc Honours (one year), (any biological sciences degree with a genomics/genetics component)
- Master of Science (MSc) (two years), (any biological sciences degree with a genomics/genetics component)
- Optional: Doctor of Philosophy (PhD) (three years)

CAREER PATHS

Depending on your skills and education, you could become a:

Primary Roles

- Researcher
- Technician
- Sceintist in an industry setting (e.g. Biotechnologist)

Other Career Options

The fundamental concepts in genomics and genetics are very similar regarless of the field of research. These fundamentals can rapidly be build upon to diverge in to any genomics industry ranging from medical through to environmental. Many students who have used genomics/genetics during their studies have gone on to work as:

- Environmental scientists
- University lecturers
- Clinical researchers
- Instrument technicians or scientists in commercial laboratories (in the food industry, forensics, pathology, medical industries, academic laboratories, etc.)
- Environmental consultants
- Postdoctoral fellows (researchers)

Centre for Biological Control – Aquatic Weeds Program




WHAT IT IS AND WHY IT MATTERS

The **Aquatic Weeds Program**, led by Prof. Julie Coetzee (Deputy Director and NRF-SAIAB SARCHI Chair), focuses on managing invasive freshwater plants like Water Hyacinth, Giant Salvinia, Water Lettuce, and Brazilian Waterweed, using biological control rather than herbicides.

These plants are foreign to South Africa and become a significant problem because they have no natural enemies—such as insects or diseases—to keep them under control. Using a process called biological control, scientists at the Centre for Biological Control (CBC) work to reintroduce these natural enemies to restore the balance in the ecosystem.

One of the scientists' research in this program aims to strengthen freshwater ecosystems against the effects of climate change and invasive species by building strong food webs and using nature-based solutions like biological control. By studying how invasive plants grow and interact with other organisms, researchers can find safe, effective ways to manage them without harming the environment.

This work is important because healthy freshwater systems support fish, plants, and people who rely on them every day.

QUALIFICATIONS

If you're interested in aquatic ecology and biological control, here's how to get started:

In High School:

- Focus on Life Sciences, Geography, and Physical Sciences.

At University:

Study for a BSc degree in one of the following:

- Plant Science (Botany)
- Environmental Science
- Zoology (Animal Sciences)
- Entomology (Insects)
- Ecology

To specialize further, consider doing Honours and Master's degrees.

Useful Skills:

- Data analysis (e.g., R programming)
- Geographic Information Systems (GIS)
- Field research and sampling techniques

CAREER OPPORTUNITIES

- Research scientist (studying freshwater ecosystems)
- Conservation biologist (protecting rivers and lakes)
- Aquatic ecologist (understanding how water species interact)
- Biological control specialist (using natural enemies to manage invasive species)
- Environmental consultant (advising on conservation and water use)

Many students from this program go on to work at universities, in conservation organisations, and government agencies focused on protecting South Africa's unique aquatic biodiversity.

If you enjoy nature, solving problems, and working outdoors, a career in aquatic science could be the perfect fit for you!


Coastal and Ocean Sciences Research

WHAT IT IS AND WHY IT MATTERS

Do you care about nature and love the ocean? Are you curious about how animals live and survive along our coast? Then a career in coastal and ocean science might be for you! Coastal ecosystems like rocky shores, mangroves, and beaches are home to a rich variety of marine plants and animals. Our research team studies how environmental and biological factors affect coastal animals, how they function, and how their ecosystems work. We help understand how coastal life is impacted by climate change, pollution, and human activities. To protect these ecosystems, we use exciting tools like coastal ecological engineering to find real-world solutions. This means combining ideas from engineering and ecology to design and build natural solutions that fix damaged coastlines and make them better for people and nature.

We also work closely with scientists, practitioners, and communities to ensure our work makes a difference and we are always training new young scientists to be future leaders in ocean conservation.

SUBJECTS TO TAKE IN HIGH SCHOOL

- Life Sciences
- Physical Sciences
- Mathematics
- Geography

WHAT TO STUDY AT UNIVERSITY

- Bachelor of Science (BSc), majoring in:
  - Zoology (best option)
  - Ichthyology
  - Marine Science
  - Botany

Coastal and Ocean Sciences Research



– Environmental Science

If interested in continuing to study enrol for postgraduate studies:

- BSc Honours (1 year): Zoology, Marine Science, Ichthyology, Environmental Sciences
- Master of Science (MSc) (2 years): Zoology, Marine Science
- PhD (3+ years): for those wanting to continue working in research (academia)

CAREER PATHS

- Researcher: studies marine animals, plants, and ecosystems; solves problems like pollution, habitat loss, and climate change, using science to inform decisions and policies.
- Conservation scientist: designs and restores natural habitats (like wetlands or shorelines); works with governments and communities to protect the coast and sustainable use of marine resources.
- Environmental consultant: advises companies and organisations on how to reduce their impact on the environment, especially in coastal developments and use of resources.
- Science communicator/teacher (marine science subject as part of curriculum): teaches others about marine science through schools, museums, aquariums, social media, or public programs.

People working on coastal ecology have continued with careers as:

- Researchers at universities and government research institutes
- Post-doctoral researchers
- National parks and conservation agencies
- Environmental consulting firms
- International organisations (e.g., UNEP, UNESCO, IUCN)

Coastal Craft Platform

WHAT IT IS AND WHY IT MATTERS

NRF-SAIAB's Coastal Craft Platform includes three 15-meter research boats custom-designed for oceanographic research. These boats can travel up to 40 nautical miles from the shore, allowing scientists to reach parts of the ocean that are usually difficult to reach. Each vessel can take up to 10 researchers on day trips to collect critical marine data.

VESSEL FEATURES AND USE

Each research craft is equipped with specialised tools and technology to support marine research. This includes a winch and A-frame that are used to launch and retrieve equipment such as:

- Nets
- Benthic grabs (for collecting seabed samples)
- Landers
- Remotely Operated Vehicles (ROVs)
- Other ocean monitoring tools

These vessels support a wide range of scientific work, including marine biology, oceanography, and environmental studies.

MARINE TECHNICIANS: KEY TO OPERATIONS

Every vessel is operated by skilled Marine Technicians who ensure its smooth operation. They are responsible for:

- Running the boat safely
- Helping researchers use equipment safely and efficiently
- Ensuring the vessel is maintained
- Assisting with collecting and managing data

QUALIFICATIONS

HOW TO BECOME A SKIPPER

To become a skipper (boat captain), you need both hands-on training and theoretical knowledge. Training includes:

- Time at sea under the guidance of an experienced skipper
- Theoretical learning in areas such as:
  - Safety at sea – understanding emergency procedures and equipment
  - Navigation and reading nautical charts
  - International boating rules and how to avoid collisions
  - Understanding how weather and sea conditions affect the vessel and research
  - Handling and manoeuvring boats in various conditions
  - Environmental laws and marine ecosystems aimed at protecting the environment
  - Complying with maritime law

You also need certifications in:

- First aid
- Firefighting
- Survival at sea

Skippers must be prepared to work in tough conditions, including bad weather and rough seas, which can make operating a boat or equipment more difficult.

SPECIALIZED MARINE TECHNICIANS

Some Marine Technicians go further by specializing in specific equipment, like ROVs or data collection tools. A background in science or electronics is helpful for this path, as the job combines technology and research.

WHY THESE ROLES MATTER

Skippers and Marine Technicians are essential to the success of SAIAB's Coastal Craft Platform. Together, these professionals ensure marine research is done safely, effectively and successfully. Whether navigating the vessel or handling complex equipment, they provide vital support to the scientific work that helps understand the ocean.

Collections Facility Research Platform

WHAT IT IS AND WHY IT MATTERS

The SAIAB Collections Facility is a cornerstone of fish and aquatic biodiversity research in Africa. It plays a crucial role in species conservation, taxonomy (scientific classification}, digital archiving, and education. Researchers around the world use it to study and help protect Africa's rich aquatic life for future generations.

WHAT THE SAIAB COLLECTIONS FACILITY DOES

1. Preserves and Organises Specimens

- Maintains a large collection of preserved freshwater and marine fish from Africa and beyond.
- Uses methods like fluid preservation (ethanol and formalin), skeletal preparation, and tissue freezing for long-term storage.
- Organises specimens systematically making them easy to access for research.

2. Supports Research and Scientific Study

- Provides specimens for taxonomy (identifying and classifying species) and studying how they evolved.
- Assists with DNA studies and molecular research for species evolutionary history, identification and genetic research.
- Documents the distribution of species over time to support ecological and conservation research.

3. Biodiversity and Conservation

- Maintains an extensive biorepository (a bank of genetic material) for studying and protecting fish species.
- Helps assess species for the IUCN (International Union for Conservation of Nature) Red List and conservation planning.
- Monitors invasive species and climate change effects on fish populations.

4. Digital Archiving and Data Sharing

- Digitizes specimen data and shares it with global biodiversity platforms like FishBase, GBIF (Global Biodiversity Information Facility), and GenBank.
- Uses photographic imaging, microscopy and CT scanning techniques to create detailed digital records.

5. Fieldwork and Specimen Collection

- Conducts field surveys to explore African freshwater and marine environments.
- Collects and documents new species and ecological data to extend scientific knowledge.
- Works with international partners on biodiversity projects.

6. Training and Skills Development

- Provides training programs for students, researchers and conservationists in fish collection, species identification, and biodiversity management.
- Supports postgraduate research in ichthyology, marine biology and aquatic sciences.
- Mentors students and researchers across Africa.

7. Public Education

- Runs outreach programs to raise awareness about fish and aquatic life.
- Works with museums to create educational exhibits.
- Involves the public in citizen science projects about fish conservation.

8. Policy and Advice

- Provides scientific information to help governments, NGOs and fisheries management.
- Contributes to environmental policies that protect aquatic biodiversity.
- Promotes sustainable fishing and marine conservation practices.

CAREERS IN AQUATIC BIODIVERSITY

1. Ichthyologist

Responsibilities: Studies fish species, behaviour, and habitats; conducts field research and specimen analysis.

Knowledge and Skills: Fish taxonomy, ecology, field sampling techniques, data analysis (R, Python, GIS), DNA techniques, scientific

writing and publishing.

Education: Bachelor's (minimum) in Marine Biology, Fisheries Science or related fields; Master's or PhD in Ichthyology, Zoology, Fisheries Science preferred.

Experience: Field and laboratory work; research publications are a plus.

2. Collection Manager

Responsibilities: Manages the fish specimen collections. May do some personal research.

Knowledge and Skills: Specimen preservation and care, database use, regulations, pest control, storage maintenance.

Education: Bachelor's (minimum) in Museum Studies, Biology, Zoology or Fisheries Science ; Master's in Ichthyology, Biodiversity Management preferred.

Experience: Previous work in museum or collection handling and cataloguing.

3. Curator (Ichthyology/Natural History)

Responsibilities: Oversees ichthyology collections and conducts related research.

Skills: Fish systematics, evolution and conservation; writing grants and fundraising; public outreach; science writing.

Education: Master's (minimum) in Ichthyology, Zoology, Museum Studies; PhD in Ichthyology, Evolutionary Biology or Natural History preferred.

Experience: Research, managing collections and exhibits, scientific publishing.

4. Research Scientist (Fish Biodiversity & Taxonomy)

Responsibilities: Studies fish species, their classification and conservation.

Skills: Species classification, genetics, mapping (GIS) and ecological modelling; population genetics, data analysis; grant writing, developing proposals.

Education: Master's (minimum) in Marine Biology, Zoology or Environmental Science; PhD in Fish Systematics, Evolutionary Biology or Ecology preferred.

Experience: Field/lab research with peer-reviewed, publications.

5. Conservation Biologist (Fisheries and Aquatic Ecosystems)

Responsibilities: Researches fish populations and develops conservation plans.

Skills: Fisheries science, monitoring ecology, habitat restoration, mapping (GIS), remote sensing, species distribution.

Education: Bachelor's (minimum) in environmental science, fisheries science, or biology; Master's or PhD. in conservation biology, aquatic ecology preferred.

Experience: Conservation policy, field studies, work with NGOs/government.

6. Educator (Aquatic Life and Conservation)

Responsibilities: Creates educational programs about fish and conservation for museum visitors.

Skills: Teaching, science communication, public speaking and interactive teaching, program development for different audiences, citizen science.

Education: Bachelor's (minimum) in Education, Biology or Science Communication; Master's in Museum Education or Science Communication preferred.

Experience: Public outreach, environmental education.

7. Collection Assistant (Ichthyology)

Responsibilities: Prepares and maintains fish specimens for research and display.

Skills: Various preparation and preservation methods, anatomy, dissection, photography and scientific imaging.

Education: Associate's or Bachelor's in Biology, Zoology or Museum Studies; training in specimen prep helpful.

Experience: Hands-on work with biological collections.

8. Database Manager (Biodiversity Informatics and Collections)

Responsibilities: Manages digital records and links them to global databases.

Skills: Database systems (SQL, Specify, Arctos), programming and scripting, metadata standards, bioinformatics.

Education: Bachelor's (minimum) in Computer Science, Bioinformatics, Library Science; Master's in Data Science, Biodiversity Informatics, or Natural Science collection studies preferred.

Experience: Working with biodiversity databases and digital archiving tools, GIS.

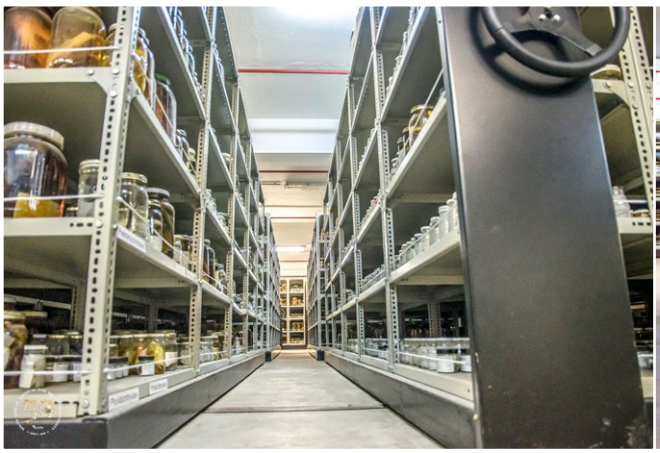
9. Field Technician (Aquatic Surveys and Collection)

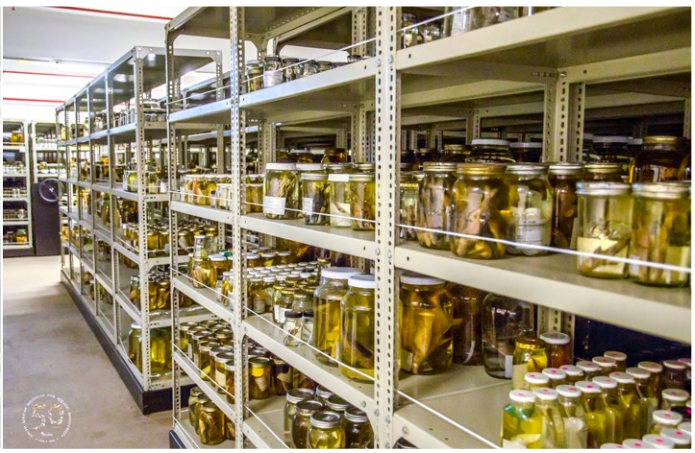
Responsibilities: Supports fieldwork, collects specimens, assesses habitats, and records data.

Skills: Various sampling techniques, water quality monitoring; GPS, GIS mapping; handling specimens, collecting field data.

Education: Bachelor's (minimum) in Fisheries Science, Marine Biology, Environmental Science; field certifications in aquatic survey methods helpful.

Experience: Fieldwork, species identification and specimen handling.





Freshwater Field Unit

WHAT IT IS AND WHY IT MATTERS

Our team focuses on studying freshwater fish in southern Africa, especially their classification and evolutionary relationships. We use two key scientific fields:

- **Systematics** – the study of how different organisms are related, both in the past and today.
- **Taxonomy** – the science of identifying and classifying organisms.

By combining these approaches, we investigate freshwater biodiversity and the factors that shape where and how it develops.

Our research includes:

- Fieldwork in rivers, lakes, and wetlands
- Genetic and genomic analysis (studying DNA)
- Physical (morphological) studies of fish features and measurements

This work helps conservation by:

- Measuring biodiversity
- Identifying species at risk of extinction
- Supporting the creation of Key Biodiversity Areas
- Informing environmental policies

Our efforts also support four United Nations Sustainable Development Goals (SDGs):

- No Poverty (SDG 1)
- Zero Hunger (SDG 2)
- Good Health and Well-being (SDG 3)
- Life Below Water (SDG 14)

We work with local communities to raise awareness and promote sustainable fishing. Our goal is to build skills and knowledge among all stakeholders to ensure healthy ecosystems and long-term benefits for both people and nature. We aim to inspire future generations to protect southern Africa's freshwater biodiversity.

UNIVERSITY QUALIFICATIONS FOR THIS FIELD

A BSc in Biological Sciences, Environmental Sciences, Zoology, Life and Environmental Sciences

CAREER PATHS FOR STUDENTS IN OUR PROGRAM

Students involved in our research can follow careers in both science and applied environmental work. Some of the roles include:

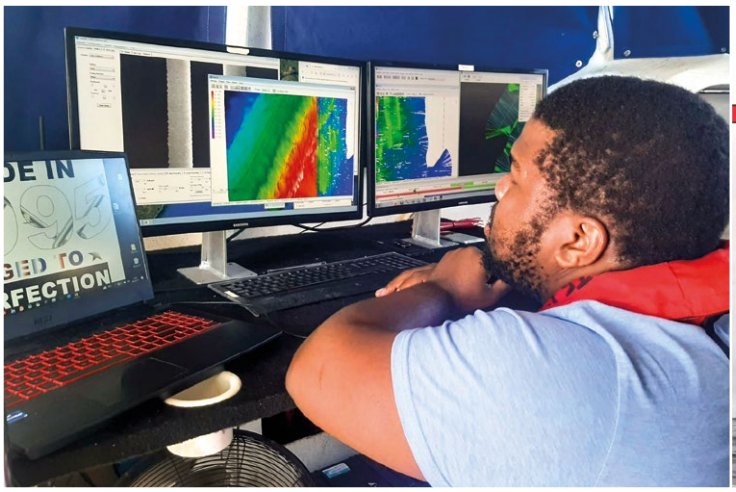
- Research Assistant
- Field Technician
- Data Analyst

These roles provide hands-on experience in taxonomy, molecular biology, and ecological research. Graduates have gone on to work in:

- Environmental consulting
- Conservation and biodiversity assessment
- Policy and planning (including government and NGOs)
- Academic research and university teaching

Their skills support sustainable management of freshwater ecosystems and make a positive impact on both nature and society.

Geophysics Mapping Platform



WHAT IT IS AND WHY IT MATTERS

Ocean Survey Work

Multibeam echosounders (MBES) are powerful acoustic tools used to map the seafloor, making them essential for marine research, exploration, and supporting sustainable marine and freshwater management.

The Geophysics Mapping Platform (GeMaP) uses two MBES systems:

- Teledyne Reson 7101 (on the *Phakisa* vessel in Durban)
- R2Sonic 2026 (on the *Observer* vessel in Gqeberha)

These systems can survey the seafloor at depths ranging from 10 to 700 meters below sea level.

What the surveys produce:

- Primary outputs: detailed seabed maps (bathymetry) and information on seabed texture (backscatter)
- Additional data: seafloor slope, roughness (rugosity), and sediment classification maps

GeMaP supports a range of marine science projects funded through the NRF's ACEP Open Call, with expert assistance provided by the platform team.

Inland Survey Work

Recently (2024/2025), GeMaP has expanded to include inland water surveys. Bathymetric maps were created for protected rivers, lakes, and estuaries in the Western Cape, working with CapeNature and SANParks. These surveys focus mainly on tracking sediment buildup.

For these inland studies, a Lowrance Elite 9Ti2 system is used. It features:

- A 3-in-1 transducer with built in real-time mapping (Genesis Live) and enhanced screen clarity and target separation

UNIVERSITY QUALIFICATIONS FOR THIS FIELD

- BSc in Geography (with GIS focus)
- BSc in Geology (specializing in Marine Geology)
- BSc in Geophysics

This field requires strong computer skills and a willingness to learn new software and adapt to evolving technologies.

CAREER PATHS

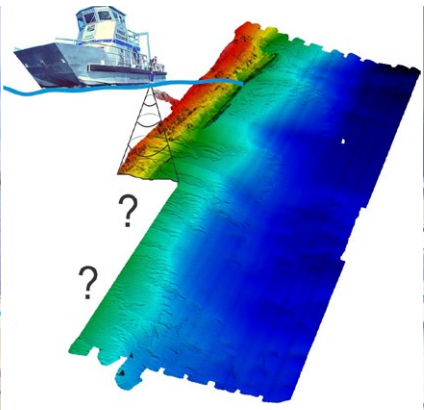
At NRF-SAIAB, students can work as:

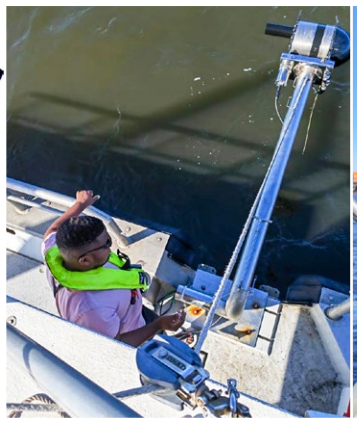
- Interns
- Multibeam Instrument Technicians
- Instrument Scientists or Platform Managers

In the private sector, related roles include:

- Hydrographic Surveyor
- Marine Mapping Specialist
- Geospatial Data Analyst

These careers involve fieldwork and data analysis.





Margaret Smith Library

WHAT WE DO AND WHY IT MATTERS

The Margaret Smith (MS) Library is a special academic library that focuses only on fish and aquatic biodiversity literature. It is part of the Biodiversity Heritage Library (BHL), an international project that digitizes and shares biodiversity books and journals online freely. To date, the Library has contributed 12 titles to the BHL platform.

The MS Library works closely with Rhodes University Library (RUL) and is considered its 'sister' library. Students and researchers from the Department of Ichthyology and Fisheries Science use our resources regularly. We also have access to all the academic databases that RUL subscribes to.

In addition, we are members of IAMSLIC—a global network of aquatic science libraries and through this network, we share information and resources with libraries around the world.

APPROPRIATE QUALIFICATIONS

- Bachelor of Library and Information Science
- Archives and Records Management

CAREER OPPORTUNITIES AT THE MARGARET SMITH LIBRARY

- Librarian: Manages the libary and its collection, helps users find information, and acquire obscure aquatic biodiversity literature.
- Archivist: Preserves rare books, historical documents, and other special materials related to fish and aquatic science.

Seascape Ecology Research

WHAT WE DO AND WHY IT MATTERS

Our research focuses on how climate change affects South Africa's coastal marine environment and fish populations. We also study how shallow coastal areas—like estuaries and tidal pools—act as nursery grounds where juvenile marine fish grow. Many fish rely on these habitats when they are young, so it is important to find and protect these areas to keep adult fish populations healthy for the people who depend on them.

Researchers and scientists in our group do a variety of work, including:

- Writing grant proposals and coming up with new research ideas
- Supervising university students (Honours, Master's, and PhDs)
- Serving on committees and working groups that help manage and protect marine life

When supervising students, we help them:

- Develop their research projects
- Write proposals for their projects and apply for funding
- Carry out fieldwork and laboratory work
- Analyse their data and write up their results as theses and research papers

UNIVERSITY QUALIFICATIONS TO ENTER THIS FIELD

- BSc in Marine Biology, Fisheries Science, or Environmental Science
- BSc (Honours) in any of the above fields
- Master's degree in Marine Biology, Fisheries Science, or Environmental Science
- PhD in Marine Biology, Fisheries Science, or Environmental Science

CAREER PATHS IN THIS FIELD

Students trained in our research group go on to become:

- Researchers or scientists
- Environmental consultants
- Field technicians
- Employees in government departments (like Fisheries, or Water and Sanitation)
- Workers in NGOs focused on marine conservation

Our students do both field and laboratory work, contributing to larger projects on climate change and coastal nursery habitats. They work on a variety of species, including fish, invertebrates, and plants.