

# All aboard the SA Agulhas

By Paul Sigutya



The SA Agulhas II is a huge, nine-deck ship, dwarfing every other boat in sight as it sits majestically in harbour. The gigantic ship is owned by the South African government's Department of Forestry, Fisheries and the Environment, and is of a class referred to as "icebreakers". It is capable of sailing up to and around the South Pole, navigating treacherous Antarctic waters with relative ease. Over 134m long, the ship has been at sea since its maiden voyage in 2012. As you go aboard the ship, mounting a steep-rising steel staircase that delivers you to deck number five, you have four decks of the ship now below you, and another four above. Our tour guide on the day, Mr Floyd Chauke, tells us about the core functions of the Agulhas.

Floyd is a Deputy Director for Health and Safety in the Department of Forestry, Fisheries and the Environment, based in Cape Town. He explains that the ship is an offshore supply vessel that is also capable of driving and conducting scientific research. Professionalism and efficiency characterise the crew of the ship, from the most senior to the most junior officers, and this has earned them the respect of their peers in international waters.

The Agulhas features advanced technology which enables ease of navigation and safety of passage out at sea, with both automatic and manual steering being necessary to complete its various expeditions. It is specially designed to supply South African research stations in the Antarctic, as well as to carry out scientific research. A single trip aboard the ship can take up to 35 days, and the presence of fully-equipped facilities such as an onboard hospital and canteen are necessary to keep the crew healthy and well-nourished.

Being a huge, mobile research facility as well, there are several scientific laboratories on-board where this work is conducted. On any given trip undertaken by the Agulhas, the crew would also consist of oceanographic, marine and offshore scientists engaged in conducting this research and using the on-board labs in the course of doing so. The ship is capable of carrying up to three helicopters at a time, and in addition to these helipads the Agulhas also has cargo space for caterpillars, all of which are needed in the course of conducting research and delivering supplies.

An interesting fact about the Agulhas II is that the ship is dedicated to the memory of the iconic jazz and traditional blues singer Miriam Makeba. On board, on the seventh deck, the ship houses the luxurious, spacious Miriam Makeba Lounge, adorned with stunning colour and black-and-white images of Mama Afrika, as the legendary singer and anti-apartheid activist was fondly called worldwide. This is where the crew and passengers can occasionally relax, as evidenced by the bar and exquisite entertainment areas that form part of the lounge.

As a national asset, the SA Agulhas II has made provisions for the general public to come on board and see the ship's extensive facilities firsthand, and become better informed about the important work the ship makes possible. There are two open days per annum set aside for these public viewings, with one day being reserved for schoolchildren and the other open to the general population.

# Ocean conservation key to growth

By Paul Sigutya



“It is our duty to safeguard the oceans due to their crucial importance for the well-being of our planet” said the Minister of Forestry, Fisheries, and the Environment, Ms Barbara Creecy.

The Department led World Oceans Day (WOD) and SA Agulhas II Open Day under the theme: “Planet Ocean: Tides are Changing,” from 8 to 11 June 2023. The programmes were aimed at raising awareness about the importance of ocean conservation and inspire young learners to pursue careers in marine science.

Minister Creecy said that it was our obligation as a nation to safeguard our oceans and that we should continue our dedication to collaborating with local and international partners to guarantee the enduring preservation of our oceans and marine life.

The WOD campaign serves as a platform for governments, private sector entities, non-governmental organisations, and individuals to collaborate and drive positive change for shared ocean resources.

The campaign’s primary objective is to unite people worldwide around sustainable ocean management practices, emphasising the need for ocean conservation and encouraging actionable steps towards this cause. The SA Agulhas II, a state-of-the-art Polar Research and Supply vessel, played a central role in the WOD programme. As South Africa’s premier research vessel, it has been instrumental in supporting the country’s involvement in Antarctica and the sub-Antarctic Islands, conducting vital research related to the Southern Ocean and national interests.

As part of the WOD celebrations, the DFFE hosted a Career Day for learners on 8th and 9th June, providing learners with an opportunity to learn about careers in marine science, the oceans’ importance, and their role in daily life.

Addressing the learners, the Minister stated, “The DFFE offers 1500 bursaries annually to learners that pass Matric with excellence and provides learnerships via the Groen Sebenza project.” The Career Day programme was in collaboration with 20 organisations that exhibited their marine science research work and bursary opportunities. Minister Creecy expressed excitement about hosting public open days on board the SA Agulhas II research vessel once again, noting the vessel’s previous visits to Gqeberha, East London, Durban, and Dar-es-Salaam in Tanzania. These visits offered members of the public a first-hand experience of the crucial research conducted to enhance our understanding of the ocean environment.

Over 2300 members of the public had the chance to tour the SA Agulhas II, further enhancing their understanding of South Africa’s efforts to monitor, research, and protect the oceans and marine life.

Through initiatives like World Oceans Day and the SA Agulhas II Open Day, the DFFE aims to inspire more South Africans to actively engage in protecting our oceans and contribute to a more sustainable future.



# Exploring careers in marine science

By Paul Sigutya



**Above:** Kanyisile Vena - Scientific Technician in Analytical Chemistry

Choosing a career in marine science offers both personal and professional rewards. With a variety of career paths, you can have a global impact, shaping the future of our oceans and combating climate change”, says Zoleka Filander, a scientist specialising in Offshore Benthic Ecology at the Department of Forestry, Fisheries and the Environment (DFFE).

Marine science is a multidisciplinary field encompassing various aspects of oceanography, marine biology, ecology and conservation. It offers a wide range of career opportunities, from conducting research on marine organisms to working in marine conservation, environmental management, or even policy-making.

Responding to the question of how a career in marine science benefits humans and the planet, Kanyisile Vena, a Scientific Technician in Analytical Chemistry at DFFE says, “The information from exploring the Ocean can help us understand how we are affecting and are affected by the changes in the Earth’s environment, including changes in weather and climate.”

Choosing the right subjects in high school is essential to embark on a career in marine science. While specific requirements may vary among tertiary institutions, some subjects will give you a strong foundation for further studies in marine science.

Mathematics is a crucial subject for marine science, as it helps develop analytical and problem-solving skills needed for data analysis and research. Physical Sciences introduces you to the fundamental principles of physics and chemistry, which are important in understanding oceanography, marine chemistry, and marine geology. Life Sciences form the cornerstone of marine science by providing an understanding of ecosystems, organisms, and their interactions, which are vital in marine biology and ecology. Geography offers insights into the physical and human aspects of the Environment, and it helps

understand coastal processes, climate patterns, and the relationship between human activities and marine ecosystems.

Achieving good academic performance in Grade 12 is generally recommended for admission to universities offering marine science programmes. While specific grade requirements may differ, aiming for high grades in the 70% or above range in Mathematics, Physical Sciences, Life Sciences, and Geography will increase your chances of being accepted into these programmes. South Africa has various universities offering marine science programmes, like the University of Cape Town, Rhodes University and Nelson Mandela University, which provide marine biology, oceanography, and related fields. Their courses cover subjects like marine ecology, marine conservation, marine pollution, and fisheries science. The institutions provide hands-on fieldwork and research experiences; students can access nearby coastal ecosystems.

In addition to academic performance, universities also consider extracurricular activities, such as volunteering at marine conservation organisations or participating in environmental initiatives, as they demonstrate your passion and commitment to the field.

The more researchers we have, the more the people can study and cover the area required to be studied, monitored and reported to authorities. Policymakers can then develop policies and interventions that will help to keep the integrity of the Environment and keep it sustainable, says Mthuthuzeli Gulekana, a Science Manager at the DFFE.

Embarking on a career in marine science opens doors to a world of discovery, adventure, and conservation. Whether you envision yourself researching marine biodiversity, studying coral reefs, or working on sustainable fishing practices, the field of marine science offers a wealth of opportunities.

To facilitate the pursuit of marine science studies, the Department of Forestry, Fisheries, and the Environment provides bursaries to learners. For detailed information on the application process, please visit <https://www.dffe.gov.za/careers/bursaries>.



**Above:** Zoleka Filander