



# media release

## World Oceans Day, 8 June 2024:

### Prof Andrew Green calls for more support to grow the field of marine geosciences in South Africa

**World Oceans Day, 8 June 2024:** The ocean covers over 70% of the planet. It is our life source, giving sustenance to every organism on earth, it provides 50% of the earth's oxygen and is a major source of food and medicine, and a critical part of the biosphere. But ocean environments are slowly becoming degraded, with 90% of big fish populations depleted, and 50% of coral reefs destroyed. We are taking more from the ocean than can be replenished. The United Nations (UN) proclaimed 8 June as World Oceans Day. The aim of this important day is to celebrate the role of the oceans in our everyday life and inspire action to protect the ocean and sustainably use marine resources. As the challenges to the oceans continue to grow, so does the need to understand them and to mobilise globally on a project for the sustainable management of the world's oceans. This year, the day has a multi-year action theme consolidating the premises of all past themes since the day's inception in 2008: *Catalysing Action for Our Ocean & Climate*. This will be done by growing the movement through transformative collaboration, to create not only a healthy blue planet, but also a more just, equitable and sustainable society.

Prof Andrew Green is a Professor of Marine Geology at the University of KwaZulu-Natal (UKZN) and a visiting Professor at the University of Ulster in Northern Ireland. He is the recipient of the 2023 NSTF Special Annual Theme Award: Ocean Science for Sustainable Development which was made in honour of this International Decade. He has been fascinated by oceans ever since he visited a beach for the first time at the age of five. Prof Green is dedicated to protecting our coastlines from the impacts of climate change. His work involves a holistic approach to examining coastal and shelf geomorphology and sedimentology in response to forcing induced by sea level change.

The South African deep sea is still greatly under-researched with insufficient information to underpin sound environmental management and grow the ocean economy. This inadequacy is mainly attributed to funding limitations, a decline in researchers' expertise due to lack of diverse training, lack of technology and infrastructure, challenges with integrating traditional knowledge systems (lack of strategic research partnerships) and changing governance arrangements and mandates in fisheries and ocean research and management. There is a great need for knowledge and capacity building and creating funding, in South Africa (SA), for deep-sea research, working together with government and international organisations to better understand the biodiversity, ecosystems and vulnerabilities, and improve offshore and deep-sea management, and conservation. Initiatives such as the Horizon 2020 Atlantic and Mission Atlantic Projects, and the Challenger 150 initiative, made significant impact in supporting local capacity development in line with the UN Decadal Plan: Ocean Science for Sustainable Development.

The National Science and Technology Forum (NSTF) hosted an online discussion forum on [Ocean Science for Sustainable Development](#) on 15-16 November 2023 at which Prof Green presented. Watch the presentations on our YouTube channel [here](#).

Economic growth has allowed for the spurring of the blue economy with opportunities for the diversification of SA's offshore activities, such as seabed mining, fisheries and deep-sea oil and gas sequestration. Under the incentive of boosting the country's economy, government is committed to promote marine research and conservation. The Marine Geoscience Programme of the Council for Geoscience (CGS) aims to create the "real map" of the ocean floor around SA, seamlessly spanning the onshore area to the outermost edge of SA's offshore territory. It is in accordance with [Operation Phakisa](#), a governmental initiative put in place to fast-track the objectives of the [National Development Plan \(NDP\)](#).

The programme will provide full coverage of the country's Exclusive Economic Zone (EEZ), using various vessels designed for a range of ocean depths and applying five marine geophysical methods. The research of this programme is enriched by relying on a strong global network, adhering to global standards in marine geophysics and hydrography, to ensure that living and mineral resources are utilised sustainably. This should ensure that SA is on the right track in terms of achieving the international objectives outlined in the [UN 2030 Sustainable Development Goals](#) and the [2063 agenda of the African Union](#).

**Special Annual Theme Award: Ocean Science for Sustainable Development Winner:** Prof Andrew Green was awarded the Award at the prestigious 2023 NSTF-South32 Awards. He received the award for excellence in marine geoscience research which forms the key to unlocking the blue economies of the world's oceans and protecting our coastlines from the effects of climate change. The NSTF is proud to have lauded him with the honour, especially because Prof Green's research involves collaboration with diverse groups of students, giving access to complex and expensive geophysical equipment and software, imparting knowledge, and researching a comparatively poorly studied field.



*His groundbreaking research changed understanding about how sea level rise affects sand dunes and barrier islands. "Those have gone on to form the underpinnings of global policy"*

The boom in seabed mining has allowed for the burgeoning of marine geology in SA, which is a typically small field here still. Our country is slowly playing catchup when it comes to coastal geological mapping and the management of marine natural resources and mineral wealth, and the necessary infrastructure is needed to move us forward.

After actively working to highlight the African continent's marine geology for many years, Prof Green now heads the only marine geology research unit at UKZN, working together with his former student Dr Nokuthula Dladla. He lamented that their research centre needs more staff and resources to help in training the students so that they may become brilliant and employable amidst the booming blue economy. Marine Geology first rose to prominence when Prof Green put out a paper about the correlation between storminess in the southwest Indian Ocean and increasing ocean surface temperatures, the findings of which were incorporated into cooperative governance planning at the local and provincial levels.

He stated: "That opened a whole dialogue with all sorts of local and national governmental agencies, agencies further afield in Mozambique and in Tanzania, and even beyond Africa". Prof Green is greatly pleased about having helped aid in the growth of this field on home soil. He contended: "It's been a fantastic peak in my career — the kindness of people who took me under their wings". His groundbreaking research changed understanding about how sea level rise affects sand dunes and barrier islands. "Those have gone on to form the underpinnings of global policy, in terms of establishing whether or not you withdraw from rising sea levels or whether you defend against them," concluded Prof Green.

**About the NSTF (National Science and Technology Forum):** NSTF is an independent non-profit stakeholder body and network – a civil-society forum of over 130 organisations involved in science, engineering, technology (SET) and innovation in SA.

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**References/Sources:**

- [International Days](#) (internationaldays.org) [World Oceans Day 8 June](#) (un.org)
- [Marine Mapping Project](#) (geoscience.org.za)
- [Challenges-and-Solutions-to-develop-capacity-for-Deep-sea-research-and-management-in-South-Africa.pdf](#) (oneoceanhub.org)

**About the NSTF**

The National Science and Technology Forum (NSTF), established in 1995:

- is a broadly-representative stakeholder body for all science, engineering and technology (SET) and innovation organisations in South Africa
- gathers stakeholders around burning issues of national and global interest, across the public and private sectors, including matters of public policy
- includes a network of professional societies in SET and STEM education (STEM = science, technology, engineering and mathematics) - the NSTF proSET membership sector.
- recognises, awards and profiles the outstanding contributions of individuals and groups to SET and innovation through the prestigious NSTF Awards
- runs and supports collaborative projects and youth outreach, including recognition of top performance in mathematics and science, role modelling, bursary and STEM career information
- runs and supports the STEMulator.org which attracts youth and educators to Explore>Discover>Learn the world of STEM including careers. (Established by NSTF proSET)

For more information  
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