



# BRIDGING HEMISPHERES: FROM OBSERVATION TO TRANSFORMATION IN OCEAN AND CLIMATE SCIENCE FOR SOCIETAL BENEFIT

2025

The Nansen-Tutu Centre is proud to celebrate 15 years of advancing ocean and climate science with a landmark symposium that brings together researchers, practitioners, and policymakers from across the globe. This symposium will spotlight transformative scientific contributions and foster dialogue on how observation-driven research can inform societal resilience in a changing climate.

19-20 November 2025 | Lord Charles Hotel, Cape Town, South Africa



Nansen  
Scientific  
Society



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# WELCOME

## MESSAGE FROM BABATUNDE ABIODUN

“

Welcome to the Nansen-Tutu Centre’s 15-Year Anniversary Symposium!

We are excited to celebrate 15 years of ocean and climate science with you in Cape Town. This milestone event brings together scientists, students, and decision-makers from around the world to share ideas and explore how ocean and climate research can help communities—especially in Africa—prepare for and respond to change. Our theme, “Bridging Hemispheres: From Observation to Transformation,” highlights the journey from collecting data to making a real difference in people’s lives. We will discuss everything from ocean currents and extreme weather to climate change and sustainable solutions. Whether you are a researcher, a student, or simply curious about our planet, we hope this symposium inspires new connections and fresh thinking for a better future. Let us celebrate, collaborate, and look ahead together!

”

# PRACTICAL INFORMATION FOR CAPE TOWN

Symposium  
Handbook

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## Essential Travel Tips

- **Payments:** The city is mostly cashless, with cards widely accepted throughout Cape Town, though carrying a little cash is handy for small markets and tips.
- **Dining Etiquette:** Tipping around 15% is standard in restaurants.
- **Safety Guidelines:** Safety varies by area, so stay alert, avoid displaying valuables. Uber is a safe and widely used mode of transport throughout Cape Town, offering reliable service to all major destinations. We recommend Uber Comfort or Uber Black

## Local Language and Culture

While English is widely spoken, South Africa actually has 12 official languages! You might enjoy learning a few common South African phrases:

- "Howzit" - A casual greeting meaning "How's it going?" or "How are you?" Used throughout the day as a friendly hello.
- "Mzansi" - Means "south" in IsiXhosa and is commonly used as a nickname for South Africa itself.
- "Shame" - Can mean "cute", "poor thing", or just an empathetic response, depending on tone.
- "Shap shap" - Means "okay" or "all good," often used to show agreement or that everything is fine.
- "Just now" - Don't be confused! This doesn't mean immediately, but rather "sometime soon" or "in a little while."
- "Braai" - The South African term for barbecue, and an important social tradition you might encounter.
- "Eish" - An exclamation expressing sympathy, frustration, or surprise, depending on context.

# PRACTICAL INFORMATION FOR CAPE TOWN

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## Local Attractions

- **Kirstenbosch Botanical Gardens** - One of the world's most beautiful botanical gardens, nestled against Table Mountain's slopes. Perfect for a peaceful stroll amongst indigenous South African flora.
- **District Six Museum** - A moving museum documenting the forced removals during apartheid. An important piece of South African history and a deeply meaningful cultural experience that occurred.
- **Iziko South African Museum** - The country's oldest museum, featuring natural history exhibits, planetarium shows, and extensive collections of African art and culture.
- **Signal Hill Walk** - A moderate hike offering spectacular 360-degree views of Cape Town, Table Mountain, and the Atlantic Ocean. Particularly stunning at sunset.
- **Penguins at Boulders Beach, Simons Town** - Visit the famous African penguin colony at Boulders Beach. The drive to Simons Town also offers beautiful coastal scenery along False Bay.
- **V&A Waterfront** - A bustling harbour area with shops, restaurants, and the Two Oceans Aquarium, showcasing marine life from both the Atlantic and Indian Oceans.
- **Table Mountain Cable Car** - Weather permitting, the cable car ride to the top of Table Mountain provides breathtaking views over the city and coastline.
- **Robben Island** - Take a ferry to this UNESCO World Heritage Site where Nelson Mandela was imprisoned, offering profound insights into South Africa's history.
- **Local Markets** - Oranjezicht City Farm & Market (Wed evenings, Sat & Sun mornings) offers organic produce, artisanal goods, and delicious food, all within walking distance of the V&A waterfront; Mojo Market in Sea Point (open daily) features craft food, drinks, and live music.
- **Local Dining** - Cape Town boasts hundreds of excellent restaurants - in addition to perusing the offerings at the V&A Waterfront, you could try Bree Street and surrounds, Kloof Street, and Seapoint
- **Wine Tasting in Constantia** - Just 30 minutes from Cape Town CBD, the Constantia wine valley offers world-class estates, lush scenery, and a relaxed atmosphere close to the city.
- **The Red Bus (City Sightseeing Cape Town)** - Stops at several Constantia wine farms, making it an easy and scenic way to explore the area in addition to other top attractions around Cape Town.

## VENUE

LORD CHARLES HOTEL, CAPE TOWN, SOUTH AFRICA

Nestled at the foot of the Helderberg Mountains in Somerset West, the Lord Charles Hotel blends classic elegance with contemporary design across 22 acres of gardens. Just 45 minutes from Cape Town, it offers easy access to wine estates, beaches, golf courses, and cultural landmarks.

Refurbished in 2022, the hotel's 198 rooms feature private outdoor areas and mountain views, while lounges, a library, and communal spaces provide places to relax and connect. Dining ranges from casual meals at St. Andrews Pub to gourmet South African cuisine at La Vigna Restaurant.

With 11 versatile meeting rooms for up to 500 guests, plus pools, a spa, tennis courts, and gardens, the Lord Charles Hotel combines work, leisure, and inspiration in one iconic setting.



NANSEN-TUTU SYMPOSIUM

PROGRAMME

19 - 20 NOVEMBER 2025

Time	Wednesday, 19 November 2025
08:00 - 09:00	Registration and Coffee
09:00 - 09:10	Welcome and Introduction (Babatunde Abiodun, Co-Director of NTC)
09:10 - 09:20	Welcome Address by Prof Zarina Patel, Deputy Dean (Research), Science Faculty, University of Cape Town
09:20 - 09:30	A brief look back at the start of the NTC by Prof. Johnny Johannessen (NERSC, Norway), Co-Chair of the NTC Advisory Board
09:30 - 09:50	<u>Keynote Presentation on Ocean Processes and Dynamics</u> (Dr Michael Hart-Davis, DGFI-TUM)
09:50 - 10:05	<i>The Influence of Seabed Morphology on the Flow-structure and Eddy Variability in the Agulhas Current System - A Modelling Perspective</i> (Issufo Halo)
10:05 - 10:20	<i>Eddy Variability in the Southeast Atlantic Ocean: A Comparative Study of the Northern and Southern Benguela Eddy Fields</i> (Thabiso Nokuthula Nkadimeng)
10:20 - 10:35	<i>The Potential of Wide-Swath Altimetry to Resolving Sub-mesoscale Eddies in the Agulhas and Benguela systems</i> (Antonio Bonaduce)
10:35 - 10:50	<i>Impacts of Consecutive Benguela Niño Events on the Angola Upwelling</i> (Folly Serge Tomety)

NANSEN-TUTU SYMPOSIUM

PROGRAMME

19 - 20 NOVEMBER 2025

Time	Wednesday, 19 November 2025
10:50 - 11:05	<i>Changing Decadal Environmental Variations at the Prince Edward Islands, Southern Ocean</i> (Chloë Levey)
11:05 - 11:20	<i>Detection of Agulhas Current and its Meander Events</i> (Sheveenah Sunnassee Taukoor)
11:20 - 11:35	Coffee Break
11:35 - 11:55	<u>Keynote Presentation on Operational Oceanography in Africa</u> (Dr Jennifer Veitch, SAEON)
11:55 - 12:10	<i>An Overview of Operational Services Provided through the National OCIMS</i> (Marjolaine Krug)
12:10 - 12:25	<i>Operational Rip Current Hazard Forecast for the South African Coastline</i> (Carla-Louise Ramjukadh)
12:25 - 13:25	Lunch Break
13:25 - 13:40	<i>Influence of the Agulhas Current on Crossing Swells along South African coasts</i> (Bafana Gweba)
13:40 - 13:55	<i>Showcasing Marine Operational Forecasting at the South African Weather Service: A Case Study within Operational Oceanography in South Africa</i> (Lauren Smith)



NANSEN-TUTU SYMPOSIUM

PROGRAMME

19 - 20 NOVEMBER 2025

Time	Wednesday, 19 November 2025
13:55 - 14:10	<i>Open-Source Processing of Teledyne ADCP Data and Research Applications in False Bay</i> (Ethan Smith)
14:10 - 14:30	<u>Keynote Presentation on Air-Sea Interactions and their Influence on Climate Variability</u> (Prof. Ebenezer Nyadjro, Mississippi State University)
14:30 - 14:45	<i>Simulating Tropical Cyclones in the South West Indian Ocean and the Associated Floods in Madagascar</i> (Athule James)
14:45 - 15:00	<i>Observations of Sea Salt Aerosols and Air-Sea Interactions in the Southern Ocean</i> (Faith February)
15:00 - 15:15	<i>A Neural Network Approach to Projecting Wave Climate Change along the South African Coastline</i> (Tania Daniels)
15:15 - 15:30	<i>Investigating the Role of the Indian Ocean Dipole in Southern African Drought Patterns</i> (Mthetho Sovara)
15:30 - 15:45	<i>Simulating the Influence of the Agulhas and Benguela Current Systems on Cut-Off Low Rainfall and Associated Flooding over the Western Cape, South Africa</i> (Chelsey Jasen)
15:45 - 16:00	Coffee Break
16:00 - 16:30	<u>Panel Discussion on Global Ocean Observing System in Africa (GOOS-Africa)</u> . Panelists: Justin Ahanhanzo (GOOS-Africa), Christo Whittle (CSIR) and Jennifer Veitch (SAEON)
16:30 - 18:00	Poster Presentations
18:00	Welcome Banquet

NANSEN-TUTU SYMPOSIUM

PROGRAMME

19 - 20 NOVEMBER 2025

Time	Thursday, 20 November 2025
08:00 - 09:00	Coffee and Networking
09:00 - 09:20	<u>Keynote Presentation on Atmospheric Processes and Dynamics</u> (Prof. Willem Landman, University of Pretoria)
09:20 - 09:35	<i>Novel Weather Feature Detection Framework Applied to Identify Cold and Warm Fronts over the South Atlantic from ERA5</i> (Stefaan Conradie)
09:35 - 09:50	<i>Effect of Biomass Burning Emissions on Air Quality in Africa: Local versus Remote Source</i> (Richard Damoah)
09:50 - 10:05	<i>How Well Does the MPAS Model Simulate Extreme Rainfall over Gauteng, South Africa?</i> (Nomkwezane Kobo)
10:05 - 10:20	<i>The Sensitivity of Mesoscale Convective Storms to Urban Forcing within a Regional Climate Model: A Case Study over Johannesburg</i> (Isla Wilson)
10:20 - 10:35	<i>Simulation of Urban Heat Stress in African Coastal Cities: Case Studies from Accra and Durban</i> (Julius Adekola Akinyoola)
10:35 - 10:55	<u>Keynote Presentation on Biogeochemistry and Marine Ecosystem Health</u> (Prof. Sarah Fawcett, UCT)
10:55 - 11:10	<i>The Agulhas Current Fertilizes the Southern Ocean with Iron-Enriched Water</i> (Pierrick Penven)

NANSEN-TUTU SYMPOSIUM

PROGRAMME

19 - 20 NOVEMBER 2025

Time	Thursday, 20 November 2025
11:10 - 11:25	<i>Spatio-Temporal Dynamics of Sessile Reef Biodiversity on Aliwal Shoal, KwaZulu-Natal</i> (Alwande Dube)
11:25 - 11:40	Coffee Break
11:40 - 11:55	<i>Riding the Current: Larval Behaviour Mediates Connectivity for South Africa's Small Pelagics</i> (Tshikana Rasehlomi)
11:55 - 12:10	<i>An Android-Based Integrated Ocean Observation System for Safety, Potential Fishing Zones, and IUU Regulation in the Kenyan EEZ</i> (Fredrick Ochieng Otieno)
12:10 - 12:25	<i>Assessing the Impact of Drought on Hippopotamus Habitats in Kruger National Park Under Future Climate Change Scenarios</i> (Tsholofelo Kohitlhetse)
12:25 - 13:20	Lunch Break
13:20 - 13:50	<u>Panel Discussion on Climate Intervention Research in Africa</u> . Panelists: Chris Lennard (CSAG, UCT), Naomi Kumi (UENR), Trisha Patel (ACDI, UCT) and Dr Romaric Odoulami (ACDI, UCT)
13:50 - 14:05	<i>Impact of Stratospheric Aerosol Injection on the Agulhas Current and Its Leakage</i> (Djoirka Minto Dimoune)
14:05 - 14:20	<i>Projected Shifts in Cut-Off Lows and Jets with Climate Change and SAI</i> (Sabina Abba Omar)

NANSEN-TUTU SYMPOSIUM

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19 - 20 NOVEMBER 2025

Time	Thursday, 20 November 2025
14:20 - 14:35	<i>Projected Impacts of Achieving 1.5°C Warming using Stratospheric Aerosol Geoengineering on Rainfall Onset, Cessation and Length of Rainy Season in West Africa</i> (Naomi Kumi)
14:35 - 14:50	<i>Impact of Stratospheric Aerosol Injection on Vegetation grassland productivity and Animal Production in Africa</i> (Ashleigh Frances Ho)
14:50 - 15:05	<i>Potential Impacts of Stratospheric Aerosol Geoengineering on Crop Yield in Africa</i> (Rhoda Fiyinfoluwa Ayedun)
15:05 - 15:25	<u>Keynote Presentation on Societal Impacts of Oceanic and Atmospheric Extreme Events in Africa</u> (Dr Stephen Kirkman, DFFE)
15:25 - 15:40	<i>2023-2024 El Niño Drives Record Sea Level Surges in African Marine Domains</i> (Franck Ghomsi)
15:40 - 15:55	<i>Spatial And Temporal Pattern of Heat Stress In Lagos, Nigeria</i> (Deborah Ifeoluwa Sobanke)
15:55 - 16:10	<i>Perceived Impacts of Heat Stress in the Dakota Beach Informal Settlement, Durban, South Africa</i> (Mabel Ndlovu)
16:10 - 16:25	<i>Assessing Rural Resilience: A Livelihood-Based Drought Vulnerability Index for Limpopo Province, South Africa</i> (Tsakani Germina Selomo)
16:25 - 16:40	<i>Links Between Heat Stress and Mortality Risk: Insights from Rural South Africa</i> (Molulaqhooa Linda Maoyi)
16:40 - 17:50	<u>Round table discussion on the way forward and the future of the Nansen Tutu Center</u> (Annette Samuelsen, Co-Director of NTC)
17:50 - 18:00	Closing and Vote of Thanks
18:00	Closing Banquet

POSTERS

19 - 20 NOVEMBER 2025

Poster No.	Title	Presenter
NTC01	A Multidimensional Analysis of Livelihood Vulnerability to Agricultural Drought In Kwara State, Nigeria	Adedoyin Bello
NTC02	Spatial Distribution of Drought Risk in Kwara State, Nigeria	Adedoyin Bello
NTC03	Drought Response in Africa to Stratospheric Aerosol Injection Materials	Minette Iris Moting Madefo
NTC04	Using Coastal Geology and Ocean Data to Protect Kenya's Shores	Brian Emurenya Emojong
NTC05	Bridging Science Policy Linkages For Climate Resilient Ocean Governance in The Gulf of Guinea	Chinenye Ogbonne Aja-Nwachuku
NTC06	Spatial and Temporal Pattern of Heat Stress in Lagos, Nigeria.	Deborah Ifeoluwa Sobanke
NTC07	Exploring the Influence of CMIP6 Bias Correction on Crop Yield Simulations Across Africa	Fiyinfoluwa Ayedun
NTC08	Using Stratospheric Aerosol Injection to Mitigate Climate Change Impacts on Heat Stress Risks In Africa	Olumuyiwa Ayotunde Oloniyo
NTC09	Challenges in Assessing the Ecological Implications of Climate Induced Changes in Temperature and Ocean Acidification Along the South African Coast	Phikolomzi Matikinca
NTC10	Assessing Livelihood Vulnerability to Flooding in the Limpopo River Basin	Serole Angela Chokoe
NTC11	Understanding Flood Risk in the Limpopo River Basin using SWAT+ And HEC-RAS	Serole Anngela Chokoe

POSTERS

19 - 20 NOVEMBER 2025

Poster No	Title	Presenter
NTC12	Assessing Drought Risk in the Limpopo River Basin, Southern Africa	Tsakani Germina Selomo
NTC13	Warm Spells in Africa under Temperature Overshoot and Stratospheric Aerosol Injection	Temitope Fafure
NTC14	Exploring Biophysical Drivers of Extreme Streamflow in KwaZulu-Natal, South Africa	Akintunde Israel Makinde
NTC15	Estimating Indoor Heat Stress in Vulnerable Communities In Accra from Weather Station Observations and ERA5 Reanalysis Data	Naomi Kumi
NTC16	Potential Impacts of Stratospheric Aerosol Injection on Dynamics of The West African Monsoon	Samuel Lawine
NTC17	Climate Change And Climate-Induced Extreme Heat Stress in Ghana: A Review of the Evidence, Impacts, and Implications for Women	Rachel Yeboah Nketiah
NTC18	Influence of Cyclonic Pressure Systems on the Benguela Upwelling System	Folly Serge Tomety
NTC19	Evaluating multi-satellite Global Chlorophyll-a datasets in the Southern Benguela Upwelling System	Craig Oehley
NTC20	Extreme Rainfall Analysis in the White Volta Basin using L-Moments and ETCCDI	Samuel Owusu Ansah
NTC21	Spatio-Temporal Dynamics and Agricultural Implications of Dry Spells in the White Volta Basin, Ghana (1990-2024)	Joshua Asamoah
NTC22	Agricultural flash droughts: Long-term Trends, Frequency Analysis and Assessment of Driving Mechanisms in Three Case Studies in Central Africa	Stella Songwe Tikeng

# SCIENTIFIC AND ORGANISING COMMITTEES

## Scientific Committee

- Dr. Issufo Halo, DFFE, NTC
- Dr. Jennifer Veitch, SAEON, NTC
- Dr. Marjolaine Krug, DFFE, NTC
- Dr. Michael Hart-Davis, TUM, NTC
- Dr. Sabina Abba Omar, CSAG, NTC
- Dr Tarron Lamont, DFFE, NTC, BCRE
- Dr Maoyi Linda, SAPRIN
- Dr. Mari Myksvoll, IMR, NTC
- Dr. Justin Ahanhanzo, GOOS-Africa
- Mr. Christo Whittle, CSIR, NTC
- Dr. Moagabo Ragoasha, UCT, NTC
- Dr. Phindile Sabela-Rikhotso, UCT, EGS
- Dr. Romaric C. Odoulami, UCT, ACIDI
- Dr. Mesmin Awo, UCT, NTC
- Dr. Annette Samuelsen, NERSC, NTC
- Prof. Babatunde Abiodun, UCT, NTC
- Prof. Johnny Johannessen, NERSC, NTC
- Prof. Isabelle Ansorge, UCT, NTC

## Organising Committee

- Johnny Johannessen, NERSC, NTC
- Isabelle Ansorge, UCT, NTC
- Annette Samuelsen, NERSC, NTC
- Babatunde Abiodun, UCT, NTC
- Issufo Halo, DFFE, NTC
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- Cashifa Karriem, UCT, NTC

# SYMPOSIUM SPONSORS

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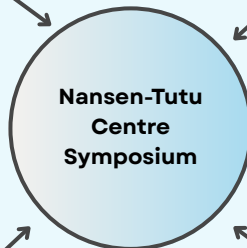
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PALM-TREES



MARINE ENVIRONMENTAL RESEARCH



We extend our heartfelt gratitude to our generous sponsors for making this symposium possible. Your support enables us to bring together leading minds and advance critical research that will shape our collective future. Thank you for your commitment to this important work.



# SIGNATORY PARTNERS IN 2023-2025

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# EMERGENCY CONTACT NUMBERS

Service/Contact	Phone Number
City of Cape Town Emergency	+27 (0)21 480 7700
Metro Police	+27 (0)21 596 1999
Somerset West Fire Station	+27 (0)21 444 2700
Mediclinic Vergelegen (Private Hospital)	+27 (0)86 133 5566
Babatunde Abiodun	+27 (0)78 939 6835
Cashifa Karriem	+27 (0)83 423 6363

Thank you for attending the Nansen-Tutu Centre  
15 Year anniversary symposium. Scan the QR  
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