

Masumbuko Semba

DATA SCIENTIST | PhD

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Education

Ph.D. in Physical Oceanography

University of Dar es Salaam

Dar es Salaam,
Tanzania

2017 - 2023

Data Analyst

National Oceanic and Atmospheric Administration | Rosenstiel School of Marine,
Atmospheric, and Earth Science

Miami, Florida

2015 - 2016

Pre-Doctoral

KU Lueven

Leuven, Belgium

2014 - 2016

Master of Marine Sciences

University of Dar es Salaam

Dar es Salaam,
Tanzania

2009 - 2011

Bachelor of Fisheries and Aquacutl of Marine Sciences

University of Dar es Salaam

Dar es Salaam,
Tanzania

2009 - 2011

Work Experience

Lecturer

The Nelson Mandela African Institution of Science and Technology

Arusha, Tanzania

2014 - todote

Lecturer

University of Dodoma

Dodoma, Tanzania

2014

Environmental Officer

National Environmental Management Council

Dar es Salaam,
Tanzania

2012 - 2013

GIS Specialist

Samaki Consultants

Dar es Salaam,
Tanzania

2010 - 2013

Research Associate

Western Indian Ocean Marine Science Association | Tanzania Coastal Management
parternership

Zanzibar, Tanzania

2007 - 2012

Consultancy

Community Livelihood

USAID/Heshimu Bahari Project

- Identify areas for establishing Non-Replenishing Zones
- Train on climate change impact
- Establish alternative income generating activitiee
- Empower compliance with protection and conservation of coastal resources

Dar es Salaam
(Kinondoni &
Kigamboni) - Mtwara
(Mnazi Bay)

Apr 2024 - Sept 2025

Benthic Ecological Survey of the Southern Corridor

USAID/Heshimu Bahari Project

- Benthic habitats (Seagrass, coral reef and benthic substrates)
- Mapping hotspots areas of coral reefs, seagrass, other substrates

*Kinondoni, Dar es
Salaam - Lindi, Lindi*

Nov - Feb 2023

Benthic Ecological Survey of the Northern Corridor

USAID/Heshimu Bahari Project

- Benthic habitats (Seagrass, coral reef and benthic substrates)
- Mapping hotspots areas of coral reefs, seagrass, other substrates

*Bagamoyo, Pwani to
Mkinga, Tanga*

Jul - Dec 2023

Mapping Potential Areas for Cage Fish Farming

Ministry of Livestock and Fisheries

- Benthic habitats (Seagrass, coral reef and benthic substrates)
- Mapping hotspots areas of coral reefs, seagrass, other substrates

*Mara, Simiyu,
Mwanza, Geita,
Kagera*

May 2023 - Feb 2024

Skills

Spoken Languages

Swahili (Native), English (Fluent)

Programming Languages

R, Python, MATLAB, Java

Markup Languages

Typst, Quarto, LaTeX, CSS, HTML

Statistic Software

R, Python, MATLAB, Excel, SPSS, OriginPro, SigmaPlot

GIS Software

ESRI, QGIS, R, Python, MATLAB, Java

Graphic Design Software

Adobe Photoshop, Adobe Illustrator, Adobe After Effect

Typset and Layout Software

Adobe Indesign, Typst, Quarto, LaTeX, CSS, HTML

Publications

Job, S., Semba, M., Monga, E., Lugendo, B., Tuda, A., Kimirei, I., & Rushingisha, G. High-frequency dynamics of pH, dissolved oxygen, and temperature in the coastal ecosystems of the Tanga-Pemba Seascape: implications for upwelling-enhanced ocean acidification and deoxygenation

Frontiers

2024

Silas, M. O., Kishe, M. A., Semba, M. R., Kuboja, B. N., Ngatunga, B., Mgeleka, S. S., ... & Gullström, M. Seascape configuration influences big blue octopus (*Octopus cyanea*) catches: Implications for a sustainable fishery

Fisheries Research

2023

- Silas, M. O., Semba, M. R., Mgeleka, S. S., Van Well, L., Linderholm, H. W., & Gullström, M.. Using fishers' local ecological knowledge for management of small-scale fisheries in data-poor regions: Comparing seasonal interview and field observation records in East Africa. *Fisheries Research* 2023
- Lugendo, B. R., Igulu, M. M., Semba, M. L., & Kimirei, I. A. Caudal fin as a proxy for dorsal muscle for nutrient enrichment monitoring using stable isotope analysis: the case of *Gerres filamentosus* and *G. oyena* from mangrove creeks of Tanzania. *Western Indian Ocean Journal of Marine Science* 2022
- Peter, N., Semba, M., Lugomela, C., & Kyewalyanga, M. Seasonal variability of vertical patterns in chlorophyll-a fluorescence in the coastal waters off Kimbiji, Tanzania. *Western Indian Ocean Journal of Marine Science* 2021
- Kyewalyanga, M. S., Peter, N., Semba, M., & Mahongo, S. B. Coastal upwelling and seasonal variation in phytoplankton biomass in the Pemba Channel. *Western Indian Ocean Journal of Marine Science* 2020
- Semba, M., Lumpkin, R., Kimirei, I., Shaghude, Y., & Nyandwi, N. Seasonal and spatial variation of surface current in the Pemba Channel, Tanzania. *PloS one* 2019
- Peter, N., Semba, M., Lugomela, C., & Kyewalyanga, M. S. The influence of physical-chemical variables on the spatial and seasonal variation of Chlorophyll-a in coastal waters of Unguja, Zanzibar, Tanzania *Western Indian Ocean Journal of Marine Science* 2018
- Semba, M., Kimirei, I., Kyewalyanga, M., Peter, N., Brendonck, L., & Somers, B. The decline in phytoplankton biomass and prawn catches in the Rufiji-Mafia Channel, Tanzania. *Western Indian Ocean Journal of Marine Science* 2016
- Crawford, B., Herrera, M. D., Hernandez, N., Leclair, C. R., Jiddawi, N., Masumbuko, S., & Haws, M. Small scale fisheries management: lessons from cockle harvesters in Nicaragua and Tanzania. *Coastal Management* 2010