

# 4TH QUARTER PROGRESS REPORT

2023



KELP FOREST  
FOUNDATION

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# Q4 HIGHLIGHTS

## October



UNAM Dr. Sam Mafwila visits the KFF MSc students at the Kelp Blue site

Ocean's Day in Luderitz - painting a ocean-themed mural in the Luderitz tennis court with the Strand Cubs (children's ocean club)



2024 MSc cohort selected for Blue House Fellowship Programme

## November



MSc's Arisha September and Michael Mateus attend Namibia National Science week

Dr. Lieschen Smith joins the KFF team as Director Namibia

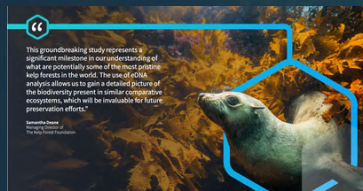


Protasius Mutjida, our first MSc scholar, successfully defended his thesis

Lieschen visits UNAM Henties Bay Campus



## December



KFF's eDNA projects highlighted in NatureMetrics' Coastal Ecosystems Guide

The KFF team attends UN COP28, Dubai, UAE



Organised a sediment collection expedition in Namibia (unfortunately, no cores collected due to bad weather)





**RESEARCH  
PROGRESS**



# CARBON SEQUESTRATION SEDIMENT COLLECTION TRIP

One question our research programme is addressing is how much carbon is sequestered by (cultivated) giant kelp forest ecosystems - and more specifically, how much organic carbon originating from kelp is stored in ocean sediments.

For the last week of December, KFF organised a sediment collection expedition along the Namibian coast, as part of a collaborative research project between the King Abdullah University of Science and Technology (KAUST), University of Namibia (UNAM) and the International Atomic Energy Agency (IAEA), Kelp Blue and KFF. The project aims to establish a baseline measurement of organic carbon present in ocean sediments along Namibian continental shelf.

This foundational baseline serves as a reference point, enabling us to assess additional organic carbon that is added to the sediment by the kelp ecosystem. By comparing future measurements to this established baseline, we will be able to effectively quantify the carbon sequestration potential.

The team boarded the South African vessel MV Good Wind, chartered by KFF, that was equipped with a multi-corer (see image below) able to dig into the seafloor and extract a tube filled with the sediment, keeping the layers intact. The expedition planned to collect sediment samples from the Namibian coast and analyse them for organic carbon content and environmental DNA and was led by Diego Elihú Rivera of KAUST, Gadaffi Liswaniso PhD student at University of Namibia, and Protasius Mutjida, senior chemist at Kelp Blue.

Unfortunately, the plans were hindered by challenging weather conditions, specifically strong winds and waves, which prevented successful operation of the equipment. It shows again that conducting research at sea presents challenges, especially when confronted with unpredictable weather. The team is now organising an alternative expedition to ensure the cores will be collected.



# BLUE HOUSE PROGRAMME



## PROTASIUS GRADUATED

Huge congratulations to Protasius Mutjida, who has successfully defended his thesis in November. Protasius is KFF's first scholar to complete his MSc under our scholarship programme. His thesis titled "A geochemical baseline study of giant kelp (*Macrocystis pyrifera*) at the Kelp Blue farm to assess carbon sequestration potential" established a baseline assessment of the biogeochemical conditions of the waters where Kelp Blue's farm is situated.

Protasius is continuing his career in geochemical science Kelp Blue. He is now part of the marine monitoring team as Senior Chemist and will focus on the ongoing monitoring of biogeochemical parameters of Kelp Blue's Namibian cultivated kelp forests, as well as support other monitoring efforts at sea.

## SELECTED 2024 MSC COHORT

As part of the Blue House Fellowship Programme, we have selected a cohort of three new MSc students to start their Master's degree in aquaculture marine science in January 2024. Their two-year MSc projects will bring valuable knowledge and broaden our understanding of the ecosystem services of cultivated giant kelp, using Kelp Blue's farm as a case study for monitoring and measurements.



**SAKARIAS MALYENGE**

Sakarias, also known as Sacky, will study the fish spawning and nursery processes in the cultivated giant kelp, with a focus on commercial species. This will help us understand whether the kelp is supporting the nursing and spawning activities of fish, and thus whether the cultivated kelp helps increase local fish stocks.



**DORTEIA HAMUKOTO**

Dorteia will study the sessile species that are attracted to the kelp farm structure and kelp itself. Sessile species are species that are generally attached to a substrate and do not move around - for example barnacles, mussels, bryozoans. This will support our understanding of the cultivated kelp forest ecosystem on local species.



**PAULA SACHEUS**

Paula will start her MSc studying the interactions between kelp and the carbon and pH levels of its surrounding waters. Ocean acidification is a problem caused by excess levels of carbon in the ocean. As kelp grows and stores carbon in its tissue, it could help reduce this effect.



# BLUE HOUSE PROGRAMME

## RESEARCH PROGRESS

### BEATA TOOLENI - BENTHIC BIODIVERSITY

In the past quarter, Beata presented her MSc proposal to the department of Fisheries and Aquatic Sciences. The presentation was approved by the department and the Higher board committee, after which she received green light to apply for ethical clearance, a certificate she needs to obtain sediment samples from the ocean floor near the Kelp Blue farm. Beata will continue to collect sediments for species identification and grain analysis until next year.

At one of the sediment collections, *Pterygosquilla capensis* (Cape Mantis Shrimp) was found in one of the samples.



Beata collecting sediment samples



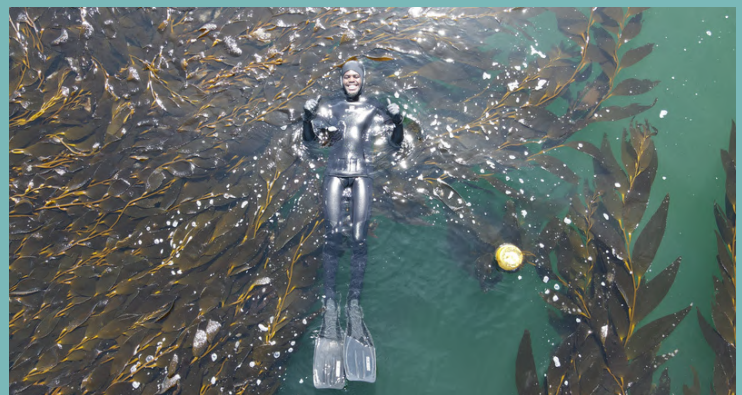
*Pterygosquilla capensis* (Cape Mantis Shrimp) found in Beata's sediment samples. The Cape Mantis Shrimp is the only type of mantis shrimp found along the Namibian coastline.

### MICHAEL MATEUS, NET PRIMARY PRODUCTION OF KELP

Michael's research proposal was approved by the high degree board. Michael is continuing his in-situ data collection for his Net Primary Production (NPP, a quantification of biomass) model for at least another season, concluding in March 2024. This is a slight delay from his initial plan, however, the winter season caused a slow growth in kelp. In the last quarter, Michael has also collected samples to measure Dissolved Organic Carbon (DOC) for the months October to December. These samples will be sent to the University of Ottawa Jan Veizer Stable Isotope Laboratory for analysis. Michael has also focused efforts in improving his coding skills to apply to the development of the NPP model. This includes codes to quantify canopy biomass of the farm using drone and satellite images.



Michael collecting kelp samples for the sources of carbon and kelp content analysis.



Michael floating in the kelp while collecting the DOC samples.

# BLUE HOUSE PROGRAMME

## RESEARCH PROGRESS

### ARISHA SEPTEMBER, FAUNA BASELINE STUDY

Along with Beata, Arisha presented her thesis proposal to the department of Fisheries and Ocean Sciences and other stakeholders in attendance. Her thesis proposal is now accepted, and Arisha has completed her ethical clearance application to obtain approval for takings samples in and near the Kelp Blue farm site.

Arisha attended the National Science Week hosted by the National Research Commission of Science and Technology together with Michael with the aim to present their research abstracts and connect with fellow scientists.

She closed the year with assessing the jellyfish racks deployed at the cultivated kelp forests. The racks allow her to monitor which species tend to attach to the kelp farm structure. In collaboration with Beata, she observed which type of farm material, e.g. steel, ropes, etc., attract which type of sessile species.



Sample of jelly fish racks with an anemone attached to a piece of concrete - a material used in Kelp Blue's farm.

### ANGELIQUE DODDS - ALGAL BASELINE STUDY



This quarter marked the concluding phase of Angelique's Master's programme. Angelique studied the algal biodiversity in and around Kelp Blue's cultivated kelp forests to help establish an understanding and reference point of what is found in the local ecosystem. In the future, this will help us with monitoring the impact of the cultivated kelp on the local ecosystem.

After a two-year journey, Angelique finished her thesis in November and successfully submitted it. She will defend her thesis early 2024, and in the meantime, she is going to explore how to best apply her talents in the kelp industry.

“ ——— ”

*Along the way, I found a family, a Kelp Blue family. And as much as I resisted it in the beginning, they clawed themselves in and cemented their holdfasts right on my heart. I think that will be the most difficult part of this journey to say goodbye to.”*



# BLUE HOUSE PROGRAMME

## SUPERVISOR VISITS

### PROF. DANIEL D LIKIUS, PROF. RAHMAN ATEEQ, MR PATRICK

These University of Namibia supervisors of our graduated fellow Protasius, visited the Kelp Blue site to familiarise themselves with the project. It was an honour to have them at our office.



### DR SAM MAFWILA

Dr Sam Mafwila of University of Namibia paid a visit to the Kelp Blue site. He is the supervisor of our fellow Beata Tooleni. His visit allowed him to gain a better understanding of Beata's work on monitoring the benthic biodiversity in and near the Kelp Blue cultivated kelp site. It was a great way for Beata to showcase her hard work on this study.



# BIODIVERSITY

## VISITORS TO THE KELP BLUE FARM

All Kelp Forest Foundation members monitor the biodiversity in and around the cultivated giant kelp forests using monthly eDNA sampling and visual observations. When team members go out at sea for these monitoring efforts, they track and document non-human visitors to the kelp farm. In the past few months, the team has encountered beautiful species, which we have explored in-depth. Meet them here:

### AFRICAN OYSTERCATCHER (HAEMATOPUS MOQUINI)

- This bird species is considered one of the rarest oystercatchers in the world, with an estimated population of only around 4,450 mature African black oystercatchers. Despite this relatively small number, the IUCN Red List categorised this bird species as “Least concern”.
- To boost their population, it is crucial for each pair to successfully raise a single chick every three years. However, human presence in their breeding areas poses a significant challenge, as disturbances during this critical period can lead to nest abandonment. This, in turn, exposes the vulnerable chicks to harsh environmental conditions and aggressive predators like kelp gulls, putting their survival at risk.
- African black oystercatchers are master foragers, specialising in molluscs such as oysters, mussels, and other shellfish which they can open with their specially adapted bill.



### CAPE SHELDUCK (TADORNA CANA)

- These birds belong to a diverse family of seven shelduck species, each with unique characteristics. It is easy to distinguish between males and females. Females have a white face and a brown/black crown and neck, whilst males have a grey head, upper neck, and chestnut-brown body, with colourful wings displaying black, white, and green.
- Cape shelducks are resourceful nesters, often repurposing abandoned nests. These nests can be found in sand dunes, aardvark burrows, or rough ground. However, there's a potential threat to their population, as they sometimes use burrows of declining black-backed jackals.
- Within days of hatching, young shelducks are led from the nest to their “nursery waters” by both parents or sometimes other adults. These creches can vary in size and age, typically hosting 20 to 40 individuals, but occasionally larger groups of up to 100 baby ducks have been recorded.
- Shelducks generally do not dive, but they do possess impressive swimming skills. The young ducklings dive freely, while adults reserve diving for moments of distress or fear. This adaptability adds to the resilience of these birds.



# BIODIVERSITY

## VISITORS OF THE KELP BLUE FARM (NZ)

### Big-bellied seahorse (*Hippocampus abdominalis*)



In 2023, Kelp Blue has started farming giant kelp in the Akaroa Harbour, located on the East Coast of the South Island of Aotearoa New Zealand. The team discovered a seahorse holding onto the farm lines.

- This seahorse is most likely the *Hippocampus abdominalis*, also known as the big-bellied or pot-bellied seahorse. This species is the largest species of seahorse and lives in the waters off Southern Australia and New Zealand. Identifying seahorses is no easy feat thanks to their ability to change their color and shape to blend in with their environment. This helps protect them from predators and gives them an approach to ambush their prey.
- Seahorse primarily prey on small crustaceans such as tiny shrimps and copepods. Their jaw structure allows for suction-feeding, such that they can catch drifting or swimming organisms. Anchored to something sturdy, like the kelp line in the picture, they feast on small invertebrates that drift near their habitats.
- Monogamy is their secret to reproductive success, as finding mates can be challenging due to their low population density and successful camouflage. Once they are paired, they greet each other each morning with a unique dance, ensuring their partner's well-being and synchronizing their reproductive cycles.
- Males take on the role of pregnancy. Males develop a pouch on the belly - the brood pouch - much like kangaroos. They carry the fertilised eggs in this pouch for 30 days after which they can bring up to a thousand babies into the world by spitting out tiny, fully formed seahorses out of the pouch.



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# CAPACITY BUILDING



# CAPACITY BUILDING

## NAMIBIA NATIONAL SCIENCE WEEK

Arisha and Michael attended the first-ever National Science Week hosted by the National Commission on Research, Science and Technology (NCRST). This collaborative event brought together universities such as University of Namibia and National University of Sciences and Technology (NUST), as well as key industry players, to promote research and development.

The National Science Week highlighted research projects and advancements across scientific domains, including biology, chemistry, physics, and technology, with a focus on sustainable and ecological development.

For our students, Arisha September and Michael Mateus, this platform provided an excellent opportunity to present their work with us and Kelp Blue. Whilst Arisha is studying the fauna biodiversity of the cultivated giant kelp forests off the coast of Luderitz, Michael is studying effective methodologies to quantify the biomass and net primary production of the kelp in the farm location. Their participation not only contributed to the exchange of ideas but also underscored our commitment to building capacity for talent within the topic of environmental sustainability and ocean health.



Arisha and Michael at the National Science Week Conference.

“

The conference provided us with an essential platform to present our work related to the cultivation of giant kelp by Kelp Blue in Luderitz Namibia. It was really full of a lot of learning and interesting activities and we have really enjoyed it



Arisha, prof. Dr. Anicia Peters (CEO of NCRST) and Michael at the conference.

Science Lab

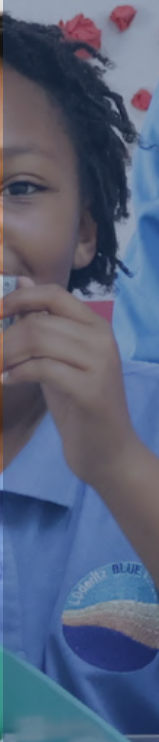


Caution!  
Dangerous  
chemicals!

# OCEAN EDUCATION

Learning

Here





# OCEAN EDUCATION

## KFF-SPONSORED ACTIVITIES



### SUMMARY

Kelp Forest Foundation sponsors the afterschool activities of the Lüderitz Blue School - including the Oceans' Day programme and the Benguela Robotics Lab. The last quarter included: visits from the global Kelp Blue team, a secondary school science teacher helping set the Key Stage 3 science curriculum, a film crew, a scientist from the European Space Agency, a mobile planetarium, and the Speed Challenge windsurfers. The Blue School also went out and about visiting Oranjemund Private School and representing Namibia at the UNESCO Ocean Literacy Dialogues in Tanzania.

### OCEANS' DAY



October began with an amazing afternoon painting a mural of a kelp forest and associated marine species on the wall of the tennis court. Counting all the kids and adults together there were around 100 artists to transform a previously grey wall into a beautiful mural to brighten up sports Saturdays and our school sports sessions. Some of the Kelp Blue team were working on the outside wall painting boats which then was helped finish off the following week - including a Kelp Forest Foundation and a Lüderitz Blue School Boat

### FACTORY VISIT

Another highlight was visiting the Kelp Blue processing factory for the first time, where the kids learnt about how the kelp is processed into biostimulant as well as some of the new products being developed and made alginate beads. The Kelp Blue Team also gave some beans treated with the kelp-based bio stimulant.



### LÜDERITZ SPEED CHALLENGE

The Windsurfers of the Lüderitz Speed Challenge did not have as many windy days as they had hoped for this year. But we were lucky enough to visit on a very windy day where racers were going over 48 knots - that is 24.7 m per second! We met 26 times world champion Antoine Albeau and the new German female record holder Melek Toraman





# OCEAN EDUCATION

## KFF-SPONSORED ACTIVITIES



### VISIT FROM THE MOBILE PLANETARIUM

A team from UNAM and Radboud University in the Netherlands brought their mobile planetarium to Lüderitz. The Blue School coordinated the day that involved every one of the 9 schools in Lüderitz and allowed 367 people the chance to fly into space without leaving town.



### SPACE TALK

ESA Satellite expert Anna Burzykowska came to Lüderitz to film the kelp farm as part of a series she is making for Polish television about what you can monitor in space. As part of her visit she came to tell the Ocean's Day kids about satellite monitoring, prisms and gave some amazing posters with beautiful satellite imagery.





# PUBLIC AWARENESS

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# PUBLIC AWARENESS



## INTERVIEW NL IN BUSINESS

Our MD Samantha was interviewed as part of the “Solving Global Challenges Together” campaign of the NL Business Hub Network. She speaks about her proudest initiatives, her leadership at the Kelp Forest Foundation, and her journey into changemaking.

Read the interview [here](#)

## THINK GLOBAL HEALTH MAGAZINE

A great [article](#) by Think Global Health discusses the many benefits of seaweed and how the industry is changing the tide on climate, health and agriculture. The article mentions Kelp Blue and KFF: “Offshore, the business Kelp Blue is expanding its operations to cultivate and maintain giant kelp forests for production of a range of products including sustainable biostimulants, a substitute for synthetic fertilizers that allow farmers to increase productivity, soil health, and crop nutrition while minimizing the use of pesticides. The industry is also exploring red algae as an additive to livestock feed, said Samantha Deane, managing director of the Kelp Forest Foundation. Adding it to cow feed could reduce their emissions of methane, a potent greenhouse gas, more than 90 percent. “



## NATUREMETRICS COASTAL ECOSYSTEM GUIDE

Our eDNA biodiversity monitoring projects, including the Kelp Blue farm in Namibia and the wild kelp forests of the Falkland Islands, are featured in NatureMetrics Guide to coastal ecosystems. The guide showcases real-world case studies demonstrating how eDNA generates insights to guide restoration or blue economy activities. Download the guide [here](#).



**Case study**  
**Understanding biodiversity impacts of offshore Giant Kelp farming**

We are working with Kelp Blue and the Kelp Forest Foundation to evaluate biodiversity impacts of an offshore giant kelp farming pilot project off the coast of Namibia. Our data is providing a detailed biodiversity baseline and assessment of changes over time as the pilot farm develops.

**Context:** Large-scale offshore kelp farming holds exciting promise for boosting biodiversity, creating sustainable jobs and products, and sequestering carbon. However, before scaling up, three potential benefits need to be demonstrated – and potential negative impacts need to be investigated. For instance, it was unknown how wild and farmed kelp would interact, and critics were concerned about the threat of unintentionally introducing alien species.

**The data:** Herbarium data included 35 fish species, including threatened species such as the Sun Fin (Muraena helena) and the Cape Elephantfish (Mastiglanicepis barbata). Endangered African pangolins and commensals were also detected, along with several octocorals including trumpetback whale and Howells's Doliolus and the Cape Fur Seal. Invertebrate data includes species as diverse as rock lobsters,urchins and sea stars, with fish and molluscs.

**Our role:** NatureMetrics provided training to the Kelp Blue team and eDNA kits were provided for monthly sampling by Kelp Blue staff and Namibian ecoguide students in and around the pilot site and control sites over two years as the farm developed. Samples were analysed to provide data on taxonomic groups ranging from viruses to macro-organisms, establishing a robust biodiversity baseline against which community changes can be monitored over time as the site develops.

**This work will go a long way to solving some of the biggest challenges seaweed cultivators are facing in the development of a verified Biodiversity Credit\***

**Caroline Stoenweg**  
Co-founder & CEO

**Case study**  
**A Blueprint for Healthy Kelp Forests: Robust eDNA Baseline in the Falklands**

**eDNA sampling was conducted across the Falkland Islands' pristine giant kelp forests as part of a wider effort to establish biodiversity benchmarks for global kelp forest restoration efforts. eDNA generated ecosystem-scale insights in this remote region, illuminating hidden diversity and providing a blueprint for pristine kelp forest health to use in the development of universal kelp ecosystem health metrics.**

**Context:** The Falkland Islands host some of the most pristine giant kelp forests in the world, but these are relatively understudied due to their remoteness. Kelp Forest Foundation is aiming to survey these unique habitats while they remain intact, establishing benchmarks for restoration worldwide. The remote location of the kelp forests posed immense logistical barriers, making expert-led traditional monitoring methods infeasible within the required short timescale. The Foundation required a practical solution to quickly conduct a survey that could generate biodiversity insights across the tree of life, without needing to mobilise a full suite of taxonomic experts to undertake fieldwork.

**eDNA analysis:** NatureMetrics aquatic eDNA sampling kits were sent to the Falklands where local collaborators were trained in collection of samples, which were analysed at our UK lab. No taxonomic expertise was required during field sampling. Our DNA analysis revealed over 389 species across the whole tree of life, ranging from pangolins and southern elephant seal to fish, sponges, shellfish, jellyfish, sea stars and many lesser known tiny organisms that almost certainly play a multitude of functions in maintaining the overall ecosystem.

**The impact:** eDNA sampling enables whole-ecosystem data to be obtained quickly and efficiently in remote locations with the participation of local stakeholders. The data generated in this project will be used to feed into modelling approaches combining data from other kelp forests around the world to see can learn how biological communities in giant kelp habitats respond to stressors like climate change. The data will anchor the modelling of complex, accurate metrics of ecosystem health that can be used to quantitatively measure the performance of conservation, restoration, or sustainable use of giant kelp forests, guiding ecosystem management worldwide.



# CONFERENCES

## UNITED NATIONS CONFERENCE OF THE PARTIES 28 (COP28)

The KFF team visited the 28th United Nations Conferences of the Parties in Dubai, UAE last December. This year, the conference centered around the first Global Stocktake - the first assessment of where the world stands eight years after signing the Paris Agreement, and how countries plan to fix their shortcomings. This COP also focused on the negotiations around phasing out fossil fuels and was also set out to be the most inclusive COP so far.

The two-week negotiation period was closed with an agreement that signals the “beginning of the end” of the fossil fuel era by laying the ground for a swift, just and equitable transition, underpinned by deep emissions cuts and scaled-up finance.

For the team, the conference provided many opportunities to connect with organisations and individuals focusing on climate change and ocean/nature-related solutions. Many events such as panels and presentations were organised throughout the two weeks, discussing new developments in the natural or marine capital space, ocean conservation, biodiversity, and more.



The Kelp Blue and KFF team (Samantha, Caroline, Viviane, Xu and Cayne)



Samantha with Emily Pidgeon, VP of Ocean Science and Innovation at Conservation International



Xu with the ChangemakersXChange (CXC) delegate. CXC sponsored her visit to COP



John Kerry's speech at dinner



# CONFERENCES

For the team, some highlights of the week included:

- [The Ocean Innovators Platform](#) hosted by the Prince Albert II Foundation, with talks on topics such as: how to protect and restore marine ecosystems at scale, emerging solutions in marine carbon dioxide removal, and blue capital investing for impact on ocean innovation
- A panel discussion on a [documentary on Blue Carbon](#), where DJ and marine toxicologist Jayda Guy explore why listening to nature, and to each other, is key for averting climate catastrophe
- The [Island of Hope](#) hosted at the Climate Action Innovation Zone brought together many changemakers in the field of ocean conservation and resilience in coastal ecosystems
- A great talk by Allison Agsten, Director Center for Climate and Journalism and Communication, on how to communicate about nature, land use and oceans to help improve our public awareness efforts
- Kelp Blue winning the [Sheikh Zayed Sustainability Prize](#) in the Climate Action category. This [video](#) is a great showcase of Kelp Blue's work
- The announcement of the first ever [blue bond](#) to be released out of the African continent by Kelp Blue.
- The official launch of the Kelp Forest Challenge, a global movement to protect and restore 4 million hectares of kelp forests by 2040. It was collaboratively created by the Kelp Forest Alliance and is a shared vision of what we need to do to save our underwater forests. KFF endorses this challenge and the many great initiatives as part of this challenge, with the aim to protect these important ecosystems that are now impacted by human activities.



Stella McCartney (top) and Samantha with the Keel Labs team exhibiting garments made of seaweed fiber



Allison Agsten on nature communications



Samantha and Xu with Prof. Carlos Duarte



Xu with Dr. Sylvia Earle







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**OTHER NEWS**

# NEW DONORS AND GRANTS



**BLUE MARINE  
FOUNDATION**

**Amount: GBP 10.000**

**Project: Kelp Isotopic DOC analysis**

**Blue Marine Foundation** is a charity dedicated to restoring the ocean to health by addressing overfishing, one of the world's biggest environmental problems.

This grant supports the sampling and analysis of dissolved organic carbon (DOC) exuded by the giant kelp forests. This analysis is an important step towards quantifying the carbon sequestration potential of cultivated giant kelp forests as the kelp DOC is the largest portion of the sequestered carbon by kelp.

## DE BEERS GROUP

**Amount: USD 40.000**

**Project: Blue House Fellowship Programme**

**De Beers Group** is a South African-British corporation that specialises in diamond mining, exploitation, retail, trading and industrial diamond manufacturing sectors.

This grant will go to support the Blue House Fellowship Programme, and more specifically to cover a Namibian female graduate student to undertake a two-year MSc degree at a Namibian university with Kelp Forest Foundation.



**Amount: EUR 15.000**

**Project: Extra-curricular activities for the Luderitz community**

**The Wilde Ganzen Foundation** is a Dutch NGO, founded in 1957 with a mission to reduce poverty and inequality through community-led activities.

This grant is dedicated to the extra-curricular activities organised by the **Luderitz Blue School** - a private, international primary school, offering an after-school programme with a focus on ocean education and robotics (the Strandcubs and Benguela Robotics Lab). These programmes are open to all children in the Luderitz community.

### Partners





# OTHER NEWS

## LIESCHEN SMITH JOINS KELP FOREST FOUNDATION



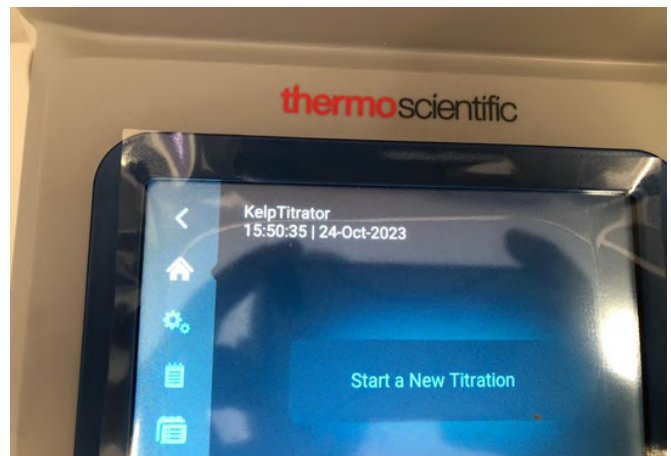
This quarter, Dr. Lieschen Smith joined the Kelp Forest Foundation team as Director Namibia. Born in Southern Africa, Lieschen obtained a Ph.D. in molecular biology & genetic engineering (University of Cape Town), followed by a postdoc in TB vaccines. She left her scientific pursuits and became a live safari camera person Sabi Sands. Moved back to Namibia, started a family, and became an owner of a marine & desert tourism business in Walvis Bay.

Lieschen will be leading our scientific, capacity building and public awareness efforts in and near Luderitz, Namibia, at the Kelp Blue farm site.

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## TITRATION MACHINE

A grant from Sustainable Ocean Alliance has allowed the purchase of an automatic titrator, which greatly improves our water quality and water geochemistry analyses. The titrator will aid in measuring Total Alkalinity (TA) and carbonate chemistry. Total alkalinity is an important indicator to assess alkalinity of seawater, which plays a major role in ocean chemistry and helps us understand ocean carbon dioxide uptake. The titrator will facilitate Paula's study on the ability of cultivated kelp to buffer the effects of ocean acidification, which is caused by excess carbon being absorbed by our ocean.



# OTHER NEWS

## VISITING UNAM HENTIES BAY CAMPUS



Lieschen visited the Henties Bay Campus of the University of Namibia. Here she met with Mr Lineekela Kandjengo and Mr Johannes Iitembu - two supervisors of our current and previous MSc students.

Mr Lineekela and Mr Johannes are important partners in our work towards capacity building and supporting university-level education in marine science related to giant kelp forest ecosystems.

## PERIVOLI FOUNDATION VISITS KELP BLUE/KFF

The [Perivoli Foundation](#) is a UK charity on a mission to contribute to solutions in education, agriculture, wealth creation, policy implementation and climate adaptation. The foundation focuses on a multitude of climate-related projects in Africa, including a project on invasive bush in Namibia. The team, including James Alexandroff and Tom Goddard, visited the Kelp Blue site in Luderitz.



## WORKSHOP AND MURAL

The KFF team visited Lüderitz Namibia, for the annual Kelp Blue all-team workshop. Part of the week was painting the mural of the local tennis court to celebrate the oceans and all the marine life in it. It was a joint collaboration between Kelp Blue, KFF, and the Lüderitz Strand Cubs (the extracurricular afterschool ocean programme organised by the Lüderitz Blue School for primary school children)







# KELP FOREST FOUNDATION

STICHTING KELP FOREST FOUNDATION

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