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Learning and researching on the high seas Students from West Africa set off for the first “Floating University”

25.02.2022/Kiel/Mindelo. What is everyday working life like on a research vessel? How do marine researchers obtain their valuable data? How do they collect water samples from depths of several thousand meters? Twelve students of the international master's programme “Climate Change and Marine Sciences” in West Africa will soon have answers to these and many other questions – and probably many new ones. The young scientists participate in an expedition with research vessel MARIA S. MERIAN. The cruise from Mindelo in Cabo Verde to Bremerhaven in Germany is led by GEOMAR Helmholtz Centre for Ocean Research Kiel. On their way, they will visit three long-term observation stations, investigate oceanic eddies, seamounts, zooplankton and microplastics. Thus, after several years of preparation, the first “Floating University” within the framework of the international WASCAL programme is finally starting.

After two years of pandemic, it's finally time to cast off: Several months of preparation and planning, of hopes and fears lie behind the participants of expedition MSM106 with the German research vessel MARIA S. MERIAN. Now twelve students from West Africa set sail from Mindelo in Cabo Verde for the first “Floating University”. On their way through the tropical northeast Atlantic and on to Bremerhaven in Germany, they are working on many scientific questions. On board, they are supported by nine scientists from GEOMAR Helmholtz Centre for Ocean Research Kiel and the Thünen Institute of Sea Fisheries in Germany as well as the Instituto do Mar (IMar) and the Universidade Técnica do Atlântico (UTA) in Cabo Verde. The primary goal is to provide academic training for West African master's students participating in the programme “Climate Change and Marine Sciences” during a research expedition. For this purpose, theoretical lectures will be combined with practical training on oceanographic methods. The expedition takes place within the framework of the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) funded by the German Federal Ministry of Education and Research (BMBF). A live stream onboard the “Floating University” in March also contributes to the Laboratory “A Healthy and Resilient Ocean” of the United Nations Decade of Ocean Science for Sustainable Development.

What is the temperature of the water from the surface to the depths? What instruments are used to measure it? How does zooplankton behave in the rhythm of day and night? And how do marine researchers collect microplastics from the ocean? Young and more experienced researchers will work together on these and many other questions related to the ocean and the atmosphere in the context of a rapidly changing climate in West Africa. Data obtained during the cruise will be used directly for teaching and training purposes as well as for further scientific analysis. For example, the pollution of the ocean by microplastics in the region will be investigated and long-term measurements on ocean acidification will be continued.

Another focus is on marine food webs from small plankton to fish: Healthy marine ecosystems provide an important livelihood for countries in West Africa. During the expedition, the students will therefore learn how to specifically study and better understand marine communities in order to manage them sustainably based on scientific findings. Some of the African participants will spend some time in Germany after their arrival to process the freshly obtained samples and write their theses.

"Through the WASCAL programme, the future generation of scientists and decision-makers will not only get an education but also the opportunity to network internationally," emphasizes Dr. Björn Fiedler, marine chemist at GEOMAR and head of the "Floating University". "The impact of climate change on the ocean is enormous, and it is felt globally. So we also need to strengthen international cooperation. Both WASCAL and the Decade of Ocean Research for Sustainable Development are important international programmes for this, and they are working together on this common goal during our expedition."

"In the concert of the 16 graduate schools funded by the BMBF in the eleven WASCAL member countries, the marine science programme in Cabo Verde occupies a special position with its exceptionally strong links to international research projects and the direct involvement of students," adds Professor Dr. Arne Körtzinger, principal investigator of WASCAL at GEOMAR. "By acquiring ship time on a large German research vessel, we have succeeded in adding the extremely valuable and practical component to the training."

GEOMAR Director Professor Dr. Katja Matthes wished the participants of the first "Floating University" a successful expedition. "I am pleased to see that the hands-on education programme continues to take shape and am proud of GEOMAR's leading role in this context. The region around Cabo Verde has received our special attention for years, and I hope that we can further expand our cooperation in the exploration of the tropical northeast Atlantic."

During the cruise, the researchers will report on their experiences in the expedition blog at <https://www.oceanblogs.org/capeverde>. In addition, they will share updates on the GEOMAR Twitter channels as well as Facebook and Instagram using the hashtags #FloatingUniversity and #MSM106.

Feldfunktion geändert

A livestream to the "Floating University" is planned for Thursday, March 10, 2022, 16:00-17:00 (CET) as a contribution to the Ocean Decade Laboratory "A Healthy and Resilient Ocean". More information: <https://www.geomar.de/en/discover/ocean-decade/floating-university>

Background GEOMAR research in Cabo Verde:

Since 2004, GEOMAR and the Cabo Verde Instituto do Mar (IMar) have been working closely together, jointly operating the Cape Verde Ocean Observatory (CVOO) time series station 100 kilometres northeast of the island of São Vicente. Coupled with the Cape Verde Atmospheric Observatory (CVAO) in Calhau on São Vicente, the observatories provide a unique opportunity to study ocean-atmosphere biogeochemical interactions. Since 2017, GEOMAR and the National Fisheries Research Institute Cabo Verde (INDP) have been operating the Ocean Science Centre Mindelo (OSCM). The tropical Atlantic Ocean around Cabo Verde has a far-reaching importance for the global processes that determine climate changes in both the ocean and the atmosphere. The marine ecosystem there is one of the most productive in the world, and its fish stocks provide the food base for a large number of countries in the region. However, the scientific importance of the tropics is currently opposed by a severe lack of scientific infrastructure and long-term observations.

Background WASCAL:

In an effort to advance sustainable development in West Africa, the member countries of the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) and the German Federal Ministry of Education and Research (BMBF) established the new Master of Science degree programme "Climate Change and Marine Sciences" (MRP-CCMS) at the Universidade Técnica do Atlântico (UTA) in close collaboration with the Ocean Science Centre Mindelo (OSCM). For this programme, the German partners, GEOMAR Helmholtz Centre for Ocean Research Kiel, Kiel University and the Thünen Institute, collaborate with the National Institute for Fisheries Development (INDP) in Cabo Verde. In the long term, the results of the programme will make a direct and sustainable contribution to the implementation of the United Nations Sustainable Development Goals 13 "Climate Action" and 14 "Life Below Water". Students acquire interdisciplinary knowledge and technical skills to better understand coastal and open ocean ecosystems and their interrelationships in the West African region. With the theoretical understanding and applied skills,

students will be able to develop solution-oriented projects in marine science and management in the context of climate change.

Project Funding:

The Master's programme "Climate Change and Marine Sciences" is funded by the German Federal Ministry of Education and Research (BMBF) (FKZ: 01LG1805A). The WASCAL Floating University Expedition MSM106 is supported by the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific, Cultural and Communication Organization (IOC-UNESCO) as a specific activity of the United Nations Decade of Ocean Research for Sustainable Development. The expedition MSM106 is also funded by the German Research Foundation.

Links:

<https://www.oceanblogs.org/capeverde> expedition blog
<https://wascal.org> WASCAL
<https://www.facebook.com/Wascal-Cabo-Verde-106400494253773/>
<https://www.oscm.cv> Ocean Science Centre Mindelo (OSCM)
<https://www.oceandecade.org/actions/early-career-ocean-professionals> Ocean Decade Early Career Ocean Professionals (ECOP)
www.geomar.de GEOMAR Helmholtz Centre for Ocean Research Kiel

Images:

Images are available for download at <http://www.geomar.de/n8332-e>

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