

Coastal Ecosystem Monitoring in Cabo Verde (CEM-CV)

Co-Design and implementation Workshop

Venue: Ocean Science Centre Mindelo (OSCM), Mindelo, Cabo Verde

Date: November 18th and 19th 2020

PROJECT SUMMARY

The management of marine natural resources requires the precise knowledge of its extent, its dynamics and the notion of drivers of change to understand ways to improve their state, maintain and preserve vulnerable parts of the ecosystem and provide means for the local communities to improve their livelihoods. The Coastal Ecosystem Monitoring in Cabo Verde (CEM_CV) project will develop standards for a coastal monitoring program in a region where no systematic ecosystem observations exist so far in order to improve local knowledge about the marine coastal environment and the biodiversity around Cabo Verde. Thereby, the project aims to foster knowledge-based sustainable development of the coastal zone and the marine environment of Cabo Verde. **Through an intense co-design process local stakeholders and international experts will define requirements for such a monitoring program.** This will be validated through a dedicated pilot field survey that includes state-of-the-art technologies such as ship-, glider- and drone-based measurements and community-based observations including low-cost technologies (in combination with cellphones). The long-standing bilateral cooperation between German and Cabo Verdean partner institutions has already established substantial infrastructure in Cabo Verde such as the Ocean Science Centre Mindelo (OSCM) or the outfitting of a local research vessel with modern oceanographic equipment to conduct marine research in the region. The CEM_CV project leverages this partnership with its human resources and infrastructure to develop a concept for a coastal monitoring program that will directly benefit local stakeholders and decision-makers to improve their knowledge about the local ecosystem and its resources and manage them sustainably. Therefore, CEM_CV also puts emphasis on communicating obtained scientific results in an appropriate language back to the local stakeholders and up to the policymaker level, who were involved in the project co-design from the beginning on. Through this approach CEM_CV aims to set the cornerstone for a coastal ecosystem monitoring program that can be operated by local investigators and technicians on their own and can be expanded to other regions in Cabo Verde and beyond in a sustained way.

WORKSHOP GOAL:

Goal 1 (day 1): Define local stakeholder requirements and priorities, discuss opportunities for a participatory approach and collect ideas for the pilot survey phase.

Goal 2 (day 2): Synthesize information gathered during day 1, co-design pilot survey phase, agree on a timeline and develop a mid-term strategy to transform the project into a sustained monitoring program.

LANGUAGE

English, Portuguese (translation services will be made available during day 1)

AGENDA, day 1, Wednesday, Nov. 18th 2020

Day 1: Wednesday, Nov. 18th				
	Time (UTC-1)	Topic	Duration	Speaker
Morning	8:30	Reception	30 min	
	9:00	Welcome address	15 min	Dr. Paulo Veiga Minister of Maritime Economy
	9:15	Introduction to the workshop	15 min	Dr. Björn Fiedler (GEOMAR, Germany)
	9:30	Projeto Monitoramento dos Ecossistemas Costeiros em Cabo Verde	20 min	Vito Ramos (IMAR, Cabo Verde)
	09:50	<ul style="list-style-type: none"> • Benefits of Community-supported Observations • Collection of fisheries data in small communities by using apps on mobile phones 	30 min	Dr. Jörn Schmidt (ICES, Denmark) Dr. Heino Fock (vTI), Germany
	10:20	Coffee-break	30 min	
	10:50	Lesson learned from implementing a multi-institutional rocky shore monitoring programme in South Africa and Namibia	20 min	Dr. Maya Pfaff (DEA, South Africa)

	11:10	Microplastic ingestion by fish along the coast of Easter Island	20 min	Dr. Nicolas Ory (GEOMAR, Germany)
	11:30	Casos de caraterização e monitorização de ecossistemas costeiros nos Açores	20 min	Dr. Nuno Miguel Álvaro (Universidade dos Açores, Portugal)
	11:50	Low-cost air quality and meteorological and coastal ocean measurements in Cabo Verde	10 min	Prof. Gregory Jenkins (Penn State University, USA)
	12:00	Benefits of a Digital Twin-Ocean for Cabo Verde	10 min	Prof. Dr. Martin Visbeck (GEOMAR, Germany)
	12:10	Discussion <ul style="list-style-type: none"> • short movie about local fishing communities • Discussion 	50 min	Dra. Corrine Almeida (UTA, Cabo Verde)
	13:00	Lunch break	60 min	
Afternoon	14:00	<u>Break-out sessions</u> (inputs + expectations) for individual stakeholder groups (NGOs; fishermen; govern and tourism)	120 min	
	16:00	Coffee break	30 min	
	16:30	Short summary of break-outs	15 min each	
	17:30	Wrap-up day 1	15 min	

AGENDA, day 2, Thursday, Nov. 19th 2020

Day 2: Thursday, Nov. 19th				
	Time	Topic	Duration	Responsible
Morning	8:30	Synthesis of breakout sessions	30 min	
	9:00	<u>Break-out sessions</u>: drafting (i) pilot ship-based study, and (ii) community-based observations and (iii) drone-based aerial surveys.	90 min	
	10:30	Coffee-break	30 min	
	11:00	Presentation of ship-based survey	15 min	
	11:15	Presentation of community-based observations	15 min	
	11:30	Presentation of drone-based aerial observations	15 min	
	11:45	Discussion and Feedback	45 min	
	12:30	Workshop wrap-up	15 min	

ATTENDEES

Name	Institution	Country	E-mail	Role
Vito Ramos	IMar /OSCM	Cabo Verde		Project PI
Prof. Dr. Corrine Almeida	UTA	Cabo Verde		Project PI
Dr. Jörn Schmidt	CAU/KMS	Germany		Project PI
Dr. Heino Fock	Thünen Institute	Germany		Project PI
Dr. Björn Fiedler	GEOMAR	Germany		Project PI / coordinator
Dipl.-Ing. Carlos Santos	Shrimp farm	Cabo Verde		Project partner (stakeholder board)
Cordula Zenk	GEOMAR	Germany		Project partner
Dr. Hans Sloterdijk	CeOS/CAU	Germany		Project partner / Scientist
Dr. Felix Gross	CeOS/CAU	Germany		Project partner / Scientist
Paulo Veiga	MEM	Cabo Verde		Minister of Maritime Economy
Malik Lopes	IMar	Cabo Verde		President
Dra. Rafaela Gonzalino	UTA	Cabo Verde		Reitora

Antonio Fernandes	EMAR	Cabo Verde		President
Dr. Nicolas Ory	GEOMAR	Germany		Scientist (plastics)
Dr. Maya Pfaff	DEA/CSIR	South Africa		Scientist (coastal monitoring)
Nuno Miguel Alvaro	Universidade dos Açores	Portugal		Scientist Macaronesia
Luis Andrade	São Pedro fishermen's association	Cabo Verde		Association President
Helder dos Santos	Salamansa fishermen's association	Cabo Verde		Association President
Jorge Melo	Amigos do Calhau association	Cabo Verde		Association President
Joel Barbosa	Ministerio do Turismo	Cabo Verde		Ministry of Tourism Representation
Albertino Martins	MEM	Cabo Verde		General Director of Marine Resources
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Jaqueline Gomes	Marina Mindelo	Cabo Verde		Diretora
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