

Coasts as complex systems – tools and services for climate change adaptation in coastal urban settlements

INNOVA Scaling Up Knowledge
9th-13th of March 2020, Zanzibar, United Republic of Tanzania

An initiative of the ERA4CS funded INNOVA project, co-funded by the European Commission, and the MASMA Programme of the Western Indian Ocean Marine Science Association

“Most causality in nature is not linear in the sense that effect follows cause in a linear way. Due to radical interconnectivity, systemic interactions and feedback loops, causality is more often than not circular rather than linear.” D.C. Wahl

GERICS (HZG), within the frame of the INNOVA project and in collaboration with the Western Indian Ocean Marine Science Association (WIOMSA), is planning a regional training event on the use of Systems Dynamics to understand and plan mainstreaming climate change adaptation and coastal management making use of innovative climate services in the Western Indian Ocean (WIO). The workshop should support the implementation of an OPEN NAP Process for the countries in the region (see <https://unfccc.int/sites/default/files/resource/opennapbrief.pdf>). The workshop is planned for the mutual benefit of the trainers and the participants. The trainers are challenged to test the robustness of the methods and tools they teach on the complexities of the WIO case studies presented by the participants. The participants are exposed to and gain experience with the use of new methods and tools to assess and understand complex coastal systems of the WIO and develop local adaptation policies. The National Adaptation Plan (NAP) Expo – dedicated to adaptation and funded by the UNFCCC will take place in Gaborone from the 30th of March to the 3rd of April and will offer a perfect space to present the results of this workshop and ways forward toward an OPEN NAP for coastal urban settlement facilitating this way the implementation of NAPs in other countries with similar challenges.

OBJECTIVE

The main objectives of this workshop are to:

1. Build capacity of workshop participants to analyse and understand complex coastal urban settlements (cities, urban coasts) subjected to a changing climate.
2. Test the robustness of methods and tools to analyse and understand the complex coastal system of the WIO.
3. Develop a greater understanding of the function and potential for climate services to reduce uncertainty in decision-making and promote long-term planning.
4. Create a WIO and North-South network of scientist and practitioners of systems thinking and participatory modelling for coastal management.
5. Provide means for NAP and local adaptation policies development and implementation

EXPECTED OUTCOMES

1. Create an awareness of coastal urban settlements of the WIO under a changing climate and test the availability and usefulness of methods and tools to assess and understand these systems.
2. Contribute to the skill and capability of regional/national managers and scientists with regards to the NAP process and in order that climate adaptation becomes imbedded in governance and management strategies of WIO resources.
3. Identify and establish a community of practice of the methods and tools used to measure and analyse the complexity of coastal urban settlements of the WIO.

KEY QUESTIONS

1. How can the complexity of coastal urban settlements of the WIO be measured, presented and analysed?
2. What tools and methods can be used to explain, reduce, elaborate and understand the complexity of the governance and management systems of the WIO under a changing climate.
3. What are roles and possibilities for science-based information services (e.g. climate services) to contribute to governance and management of climate uncertainty?
4. How can the WIO states learn from mutual and international experiences in developing science-based information services?
5. What is added value of systems thinking for climate change adaptation integrated in governance and sustainable management of resources of the WIO?

WORKPLAN

The following provisional sessions are included:

1. Session 1: An overview of the UNFCCC NAP process, Open NAPS and adaptation of WIO coastal settlements
2. Session 2: The use of participatory modelling to understand coastal urban systems.
3. Session 3: Representing complex systems for planning purposes, understanding ambiguities, working with stakeholders
4. Session 4: Tools and methods for forecasting development trajectories of coastal urban settlements.
5. Session 5: Climate change data and information and services to support adaptation in the WIO

It is expected that each session will have a number of group and individual exercises to put the theory into practice.

OUTPUTS

The workshop will produce a report on the proceedings, and based on the interest and commitment from individuals attending could also result in a scientific publication.

Key outputs also include:

- OPEN NAP demonstration for coastal urban settlements of the WIO region.
- Coastal urban OPEN NAP presented at the UNFCCC NAP Expo in Gaborone for inclusion as a demonstration sector.

TRAINERS

The workshop will be facilitated by a team from GERICS, Germany (<http://www.climate-service-center.de/>) and a number of international speakers on the topic of systems dynamics, participatory modelling and climate services.

The proposed lecturers on this course includes:

- María Máñez Costa (Germany) – [Online Profile](#)
- Raffaella Giordano (Italy) - [Online Profile](#)
- Marcella Brugnach (Spain) - [Online Profile](#)
- Nicola Tollin (Denmark) - [Online Profile](#)
- Lars Buntemeyer – (Germany) - [Online Profile](#)
- Louis Celliers (Coordinator - Germany) - [Online Profile](#)

PROFILE OF APPLICANTS

The course will not accommodate more than five participants per trainer. The call for applications to participate will be competitive

The workshop will invite individuals that has a professional focus on: i) climate change adaptation or sectorial adaptation of *coastal urban settlements*; ii) coastal management; iii) and coastal adaptation management from all relevant levels of government, but also NGOs, climate data and service providers, WIO ministries responsible for climate change adaptation with a particular emphasis on the coast. The workshop would also like to attract a limited number of PhD students.

APPLICATION PROCESS

If you are interested to attend the workshop please prepare and send the following information to Dr Louis Celliers (louis.celliers@hzg.de) and cc. Dr Julius Francis (secretary@wiomsa.org) by 14 February 2020:

- One (1) page CV with your most relevant biographical information (current employer, your designation) your educational background (degrees, diplomas, training courses completed), professional experience and current professional activities and geographical area of work or interest. Please only add your most relevant and recent publications (no more than three items).
- A short motivational letter (300-400 words maximum) outlining how you think the workshop can benefit you, your organisation, and contribute to your work activities and responsibilities.

LOGISTICS AND SUPPORT

Five-day training workshop, co-hosted by HZG (GERICS), WIOMSA and the ERA4CS INNOVA project to be convened in Zanzibar, United Republic of Tanzania 2019. The cost of participation will be covered by GERICS and WIOMSA. This includes airfare, accommodation and subsistence.

GENDER EQUITY AND STUDENT POLICY

The workshop will embrace the gender policies of both GERICS and WIOMSA and promote and actively seek a gender balance of both trainers and participants. The workshop also promotes the inclusion of emerging scientists and students.