

Climate services to support coastal municipalities in South Africa

GERICS supports the development and use of climate change information and climate services to support coastal municipalities in South Africa

According to estimates by the United Nations, around 2.8 billion people presently live within 100km of a coast. Of the 20 megacities in the world with populations of more than ten million, 13 are situated near the coast. Coastal cities are also subject to some of the highest climate-compounded risks while also being a key source of innovations in climate-resilient development. [Coastal cities in the Western Indian Ocean](#) and climate services are topics of research interest for GERICS.

In a project called CICALICO (funded by the Western Indian Ocean Science Association), GERICS, with regional partners, examined the use of climate information in the coastal municipalities of South Africa. In this project, we were interested in the challenges of the uptake and use of climate information and climate services in policy and planning in the coastal municipalities.

To achieve this goal, we convened a participatory co-production workshop that brought together representatives from three coastal municipalities in South Africa, namely the eThekweni Municipality, Nelson Mandela Bay Municipality, and the City of Cape Town, as well as scientists involved in [the development of climate services](#) or working closely with municipalities on issues relating to climate change adaptation.

Key findings from the workshop

Climate change information is relevant to municipal urban planning and policy processes, including coastal management, land-use planning, development applications, coastal adaptation strategies and coastal management plans.

The consistent and extensive use of climate change information and climate services are not yet as widespread as expected given the challenges of realised and projected climate change impacts.

Weather forecasts are also important, for example, for disaster management and planning of major sporting events.

Municipalities produce very little climate change information, and most of the information used for operational and strategic purposes (e.g., establishing coastal setback lines, flood lines, developing adaptation strategies, water master plans) is provided by consultants.

Key challenges for the use of climate services by municipalities

Climate change information is often not sufficiently user-friendly and the spatial resolution makes it difficult to use in local planning.

There is often also a lack of political appetite or will for pre-emptive or pro-active actions in the context of competing development pressures.

There is generally limited expertise to access and use data, particularly in smaller municipalities. Municipalities vary widely in the capacities needed to engage with different types of data and data providers.

Municipalities also have to prioritise immediate service delivery concerns. Therefore, storm or flooding damage become immediate priorities for local government, and attention or funding is diverted away from long-term climate planning and/or risk preparation.

How can GERICS support improving the uptake of climate change information and climate services in municipalities?

GERICS supports municipalities by making climate services context-specific. Problem-framing of climate change and adaptation is an important issue and often the narrative from science limits the agency of the user through the strong scientific message of climate change. It, therefore, becomes important that tailoring climate change information for society becomes tailoring with society. Building trust and iteration of exchanges between climate scientists and municipalities are key for co-creation of information.

Transdisciplinarity is an important element of connecting climate information to its use by municipalities. Including young people in the debate on climate change adaptation is a key activity for achieving sustainability. Climate information becomes usable for and used by municipal officials when it facilitates their work; is aligned with existing practices; complies with the working culture and can be connected to the demands of endorsing audiences. GERICS also supports the production of climate change information that are integrated and institutionalised into long-term development and planning.

GERICS co-produces climate services with municipalities and service providers. Local actors should be considered as local experts and inform the development of context-specific CSs. Stronger partnerships and networks between municipalities and universities/practitioners are needed to improve services to the local context and to exchange best practices.

The Climate Service Center Germany (GERICS) was initiated by the German Federal Government in 2009 as a fundamental part of the German high-tech strategy for climate protection. Since June 2014, GERICS has been an independent scientific organisational entity of the Helmholtz-Zentrum Hereon.

The interdisciplinary team at GERICS develops scientifically based prototype products and services to support decision-makers in politics, business, and public administration in adapting to climate change. GERICS is located in the historic “Chilehaus” in Hamburg. The Director of GERICS is meteorologist and climate scientist Prof. Dr. Daniela Jacob.

CICLICO project team @ GERICS

This piece is a summary of a co-produced report (GERICS, Nelson Mandela University, South Africa, and the Nelson Mandela Bay Municipality, City of Gqeberha, South Africa, University of Strathclyde, United Kingdom, and the Nova University of Lisbon, Portugal). For a copy of the full article please contact Louis Celliers at GERICS (louis.celliers@hereon.de)

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