



Making a difference by  
partner  
engagement

Visualising ecological trends in the  
Gouritz Cluster Biosphere Reserve

## Gouritz Cluster Biosphere Reserve

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The GCBR is located in the southern part of South Africa and spans over 3,187,893 hectares. In it, three global biodiversity hotspots converge: the Fynbos, Succulent Karoo and Maputoland-Tongoland-Albany hotspots. Protecting and managing these unique landscapes is necessary since the reserve faces challenges like unsustainable and soil depleting agricultural practices, invasive alien vegetation infestation and erosion due to bad land management practices. Large parts of the biosphere reserve are also facing severe water scarcity and destructive fires. Furthermore climate change already results in less frequent and heavier rainfall in some areas, leading to more run-off and erosion. The organization of the GCBR does not own or manage most of the land directly, but aims to enable and inform the main stakeholders of the region by forming partnerships with and mobilizing innovative farmers and associations, local government organizations, other NGOs and youth groups.

## World Resource Institute & Resource Watch

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Resource Watch is a data platform that aims to improve access to sustainable development data, engages with users that need data most, and innovates new data and applications. The goal is to bring radical transparency to real-world challenges for conservation and human well being.

## The change of primary ecological indicators over the years

The Gouritz Cluster Biosphere Reserve (GCBR) and Resource Watch teams have worked together on building a customized Resource Watch dashboard of the ecological trends in the GCBR over the last 20 years. The dashboard shows the trends of ecological indicators in the biosphere, with a specific focus on visualizing the effective changes over time. Marlies Quirino is working on this partner engagement for DOB Ecology. On Zoom she spoke extensively with both partners about their joint project.

Luami Zondagh, responsible for GCBR's Learning and Evaluation System, explains: "One of our challenges is getting stakeholder buy-in for improved land management practices, especially across different institutions. Our objective was to present them with facts: neutral and objective historic information. By representing the trends of how the landscape has changed over time, the relevance of changing practice in mis-managed areas would become self-evident." Her co-worker and GIS-expert Trevor Wolf adds: Most people don't read extensive reports but actually just look at the maps. It's a very good way of 'selling' your product and getting your information across. Farmers prefer studying maps & graphs to reading through entire reports."

## Improving decision making

Having an ecological trend report of the whole biosphere reserve was also something GCBR felt was needed for their team to improve decision making. Up to now they made landscape level decisions without having a comprehensive spatial and temporal understanding of the historical trends of these landscapes and an understanding of where they were heading. Luami: "In order to really gain insight we needed to understand if the ecological integrity of these areas was in a downward trend, stable, or perhaps even improving. We can only fully understand the current state when we understand its history. Having ecological trends at hand, even at a course scale, supports us in prioritising our efforts across our domain, and helps other stakeholders in the domain to do the same - for instance in the prioritisation of government funding for agricultural support."

## Analysis of small ecological zones

Kristine Lister of Resource Watch created a customized dashboard, using global datasets and adding the local datasets provided by GCBR. The custom visualisation tool offers many different visualization options like pie charts, graphs and swipes for a before and after comparison. New features allow adding and filtering on point file datasets (for instance for camera trap locations or fires) and although uploading shapefiles directly is not yet possible, you can easily insert the tabular data from the shapefile into a csv file and upload that. "After having established a dashboard of the whole reserve and how the landscape had changed over the past twenty years, we broke it down into smaller ecological zones for analysis", Kristine explains. "We then zoomed in to even smaller 'management units' that represent the different projects or groups of stakeholders. For the 'Coastal Plain' management unit the GCBR had a specific project and group of farmers in mind who need to make decisions regarding their future land use."

## Using the dashboard as a communication tool

Myles Mander of the GCBR team notes: "In this particular region we're working with local farmers to support long term farmer incomes and local biodiversity. If we are able to understand surface water trends, temperature trends, fire intensity, frequency and vegetation cover trends – we and these landowners will be able to identify land uses or crops that are better suited to emerging conditions, and with the need for fewer artificial inputs to support production. Understanding the trends also enables us to identify farmers and localities at greater risk – whom we can then support appropriately." Luami highlights the importance of the dashboard as a communication tool: "Most of the people we have to get this information to are not experts on Geographic Information Systems (GIS). Most other open source platforms we know are always a little more GIS centred and people shy away from that."

"For this dashboard, you don't need any GIS experience or knowledge, just some knowledge about spatial data so that you understand what you are looking at", states Trevor. "It's not really a GIS tool to perform deep analysis, it's a tool for viewing existing datasets and it enables you to distribute it to anybody - which is something other platforms can't. This allows for continuity." My Resource Watch is always accessible for anyone it is shared with.

## Easy and attractive way of collecting information

The possibilities of the dashboard as a communication tool have already triggered a potential promising new collaboration between the GCBR and the University of Cape Town. "We approached them to present the dashboard because they are also working on spatial analyses and remote sensing in some of these areas. They were very excited about it as they deal with a lot of data but had not found a way to present it in an easy and attractive way. Thanks to the Resource Watch dashboard we are now developing a very good relationship with some key researchers working in our region and are looking to work on the dashboard together as a one stop place for collecting all our information." Luami notes further, "We did not have this relationship before and it was actually through sharing this dashboard that this exciting and promising new collaboration started".

## Hand over ownership and control

For Resource Watch the collaboration was fruitful too. "Our biggest challenge was to use a global tool in a local context, based on local data. It's very gratifying to see how it's being put to good use", Kristine says. "Working with the GCBR also allowed us to write a very practical user guide for all our WRI partners to create customized dashboards. This was the first time we were adding and using local data and until now we always created dashboards for our partners. However it gave us the insight that it is much better to hand over ownership and control to the partners that will use it. With this user guide our role has now changed, we no longer need to create the dashboards for the partners but can support them in other ways as they can now create their own and are in control."

Both parties will continue their collaboration as GCBR will create dashboards for the other 11 management units. In this the organization will continue to give feedback and touch base with the Resource Watch team.