WIO GLOBAL CORAL REEF MONITORING NETWORK DATA TRAINING COURSE | *By James Mbugua*

The Global Coral Reef Monitoring Network (GCRMN) and the Nairobi Convention's Coral Reef Task Force have been monitoring coral reefs in the western Indian Ocean (WIO) since the late 1990s.

| 14 June - 2 August 2021 | 25 live ZOOM sessions |

Since 2015, lots of effort has gone into data assimilation and analysis for publication of the WIO and other GCRMN regional reports, as well as the *GCRMN global Status of Coral Reefs of the World* report 2020.

Under the project *Building the WIO GCRMN to make coral reef data secure and accessible,* CORDIO organized an eight-week data training course which ran from 14 June to 2 August 2021. The course aimed to provide skills to regional participants to manage, analyse and report their coral reef monitoring data and information.

It was funded through a WIOMSA MASMA grant and focused on training coral reef data managers on the use of open-source platforms, such as R programming language and Github, for use in their day-to-day work. The training was led by Franzhino Smith who has successfully conducted a similar course in the eastern Tropical Pacific.

The training targeted participants from across the WIO countries who had contributed data to the GCRMN process.

A total of 102 interested participants applied for the course but only **40 participants were shortlisted** due to limited places. All applicants had equal opportunities for being shortlisted, with 60 percent of the interested applicants being males. The highest number of interested participants were from Kenya and Tanzania. However, only 48 percent of the registered males and 27 percent of the registered females completed the course. In total, **40 percent of the total shortlisted candidates completed the course.**

Course training was conducted across 25 live sessions using a combination of lectures,

worked examples, homework exercises, review sessions, assessments, all presented over the Zoom platform. WhatsApp groups and Slack platforms were created to enhance communication and online experiences between participants and the organizers. The lessons were divided into six-hour sessions spread across three days per week. All course contents were developed and posted on a GitHub wiki page.

Participants were first taught how to clone a GitHub repository, and thereafter the installation of R and RStudio packages. Other topics covered on the course were: data standard and reproducible research; data formatting and standardization; visualization of status and trends; mapping, and spatial representation; linking covariate and external data; and project documentation and reporting.

In general, the training covered seven presentations, six working examples, five homework tasks and review sessions, a final assessment, mid- and end-of-course evaluations.

Feedback on the course was mainly positive, with several participants stating that they started the course as beginners in R but that the course had enhanced their skills to the intermediate level. Most of the participants also showed commitment to continue using R in their work practices after completing the training. Suggestions were also made for in-person training when COVID-19 precautions permit.

Following the training, Coastal Oceans Research Development East Africa will continue to discuss how to extend this type of training with GCRMN, WIOMSA and others, including particularly how to adapt the course materials so that they can be shared with other coral reef data handlers for self-training, as well as translation into other languages. We will also continue to engage the network of participants through guest talks, as well as to provide the regional coral reef research network with updated guidance on data processing and reporting systems to facilitate data contributions to the WIO GCRMN coral reef datasets.

After overcoming the challenges presented by COVID-19, we are very pleased with the successful completion of this fully virtual training course. We have learned a lot and feel there is great demand and potential to continue building the data processing and analysis standards throughout the region's marine science community. We certainly hope that this is just the start.

Photo: Jennifer O'leary