VOLUME 1



# Map Book

Conserve Nature. Empower Communities



the European Union

Funded by RCMRD



DR World Agroforestry







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#### About RCoE -ESA

The Regional Centre of Excellence (RCoE) is a pioneering initiative dedicated to advancing biodiversity, forests, and seascapes ecosystem management across Eastern and Southern Africa. Established within the framework of the Regional Centre for Mapping of Resources for Development (RCMRD), RCoE aims to drive sustainable environmental practices, enhance data sharing, and foster collaboration among key stakeholders.

#### **Primary Objective**

- To become a reference point for updated information and influence policy decisions: By collecting, harmonizing, and disseminating comprehensive data on biodiversity and ecosystems, we aim to influence policy decisions at both regional and global levels. Through scientific and policy analysis, we provide decision makers with the knowledge they need to enact effective measures for sustainable management.
- To improve cross-sectoral coordination and strategic steering: We facilitate collaboration among diverse stakeholders, including governments, research institutions, NGOs, and local communities, to address the challenges of the green transition. By enhancing capacities, building institutional frameworks, and fostering global engagement, we strive to drive positive change and promote sustainable development

#### **Countries Coverage**

The RCoE covers 24 countries in Eastern and Southern Africa, which are divided into regional economic blocks. These countries include Angola, Botswana, Comoros, Djibouti, Eritrea, Eswatini, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Seychelles, Somalia, South Africa, South Sudan, Sudan, Tanzania, Uganda, Zambia and Zimbabwe. These countries form part of regional economic blocs such as the Intergovernmental Authority of Development (IGAD), East Africa Community (EAC), Southern Africa Development Community (SADC), and the Indian Ocean Commission (IOC).

#### **Implementing Partners**

- CIFOR -ICRAF They harness the power of trees, forests and agroforestry landscapes to address the most pressing global challenges of our time – biodiversity loss, climate change, food security, livelihoods and inequity. CIFOR and ICRAF are CGIAR Research Centers.
- RCMRD They strengthen member states and stakeholders' capacity through generation, application and dissemination of geo-information and allied technologies for sustainable development.

**Funding Agency** 

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https://rcoe-mapbook.rcmrd.org/



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#### Foreword

Eastern and Southern Africa is home to some of the world's most ecologically significant landscapes, from vast forests and rich marine ecosystems to biodiversity hotspots that sustain unique and endangered species. These natural assets are not only essential for ecological balance but also for the livelihoods and well-being of millions of people who depend on them. As pressures such as climate change, habitat degradation, and unsustainable land use intensify, the need for data-driven conservation and policy interventions has never been greater.

The Regional Centre of Excellence (RCoE) for Biodiversity, Forests, and Seascape Ecosystems Management in Eastern and Southern Africa, hosted by the Regional Centre for Mapping of Resources for Development (RCMRD), is committed to strengthening conservation efforts through geospatial data, policy engagement, and capacity development. In pursuit of this goal, we are proud to introduce this Map Book, a resource designed to support informed decision-making and enhance regional collaboration in biodiversity conservation. This publication provides a comprehensive spatial analysis of protected and conserved areas across 24 countries in Eastern and Southern Africa.

Through high-quality maps, it highlights the extent and distribution of protected areas, biodiversity hotspots, and transboundary conservation networks. It also identifies critical gaps in protection coverage, offering insights that can guide conservation priorities, policy formulation, and sustainable land and sea use planning. The information presented here is not just for reference. It is a call to action for policymakers, conservation practitioners, researchers, and development partners. At RCMRD, we believe that geospatial science is a powerful tool for conservation agencies, and research institutions, we remain committed to providing cutting-edge data solutions that support regional conservation priorities.

It is my hope that this Map Book will serve as a key tool for strategic planning, policy formulation, and conservation action. I encourage all stakeholders to make use of this resource to drive meaningful change in protecting the natural heritage of Eastern and Southern Africa.

Lastly, this map book is being released at a time when RCMRD is marking its 50th year golden jubilee anniversary. Indeed, it has been a journey that marks 50 years of advancing geospatial excellence for sustainable development and this map book is testament to this. Enjoy and reflect on the contents of this invaluable resource.

> Dr. Emmanuel Nkurunziza DIRECTOR GENERAL Regional Centre for Mapping of Resources for Development (RCMRD)

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## Africa Biodiversity Hotspots

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#### Africa Biodiversity Hotspots

#### Map description

The map indicates the Biodiversity hotspots in Africa.

Biodiversity hotspots are the Earth's most biologically rich—yet heavily threatened—terrestrial regions. To qualify as a biodiversity hotspot, an area must contain at least 1,500 species of vascular plants endemic species, and it must have lost at least 70% of its primary native vegetation. 36 regions are identified as hotspots by Conservation International and partners, 9 of which lay (partially or fully) in Africa.

#### Data Source: Africa Knowledge Platform

**Software:** Arcgis Pro

Production Year: 2025



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## Key Landscapes for Conservation

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https://rcoe-mapbook.rcmrd.org/ **11** 

## Key Landscapes for Conservation in Africa

#### Map description

The map indicates the Key Landscapes for Conservation in Africa. Some areas in Africa represent spectacular, still viable examples of Africa's wildlife and wild places. They are of such outstanding importance and value that they should be conserved at all costs and in principle forever. Those areas are referred to as Key Landscapes for Conservation or KLCs.

Data Source: Africa Knowledge Platform

Software: Arcgis Pro

Production Year: 2025



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# 03

# **Seascape Ecosystems**

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## Coastlines Erosion Hotspots in Africa

#### Map description

This map presents erosion hot spots along the African continent, basically, loss of land along the continental coastline due to natural and human-induced processes.

Data Source: Digital Earth Africa

**Software:** Arcgis Pro

Production Year: 2025

Credit: RCoE-ESA, Digital Earth Africa



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#### Sea Grass sites in the Western Indian Ocean

#### Map description

This map presents the areas where sea grass is found along the western Indian Ocean Countries. These ecosystem supports a wide range of biodiversity.

Data Source: ArcGIS Online 2025

**Software:** Arcgis Pro

Production Year: 2025



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### Status of Mangroves Ecosystems in Africa

#### Map description

This map presents the importance of Mangrove Ecosystems and their threat status of in Africa.

Data Source: IUCN

Software: Arcgis Pro

Production Year: 2025

Credit: RCoE-ESA, IUCN



## Indicenties Peoples and Local Communities (IPLCs)

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#### Indigenous Peoples and Local Communities in Eastern and Southern Africa Region

#### Map description

Indigenous Peoples and Local Communities (IPLCs) play a vital role in conservation and are acknowledged as custodians of biodiversity in the Kunming-Montreal Global Biodiversity Framework (KMGBF). Their traditional knowledge and practices are crucial for maintaining ecological balance and conserving biodiversity, and the KMGBF recognizes their contributions and emphasizes their meaningful participation in conservation efforts. The map highlights some of the indigenous communities in Eastern and Southern Africa region and their roles in conservation.

**Data Source:** International Work Group for Indigenous Affairs

Software: Arcgis Pro

Production Year: 2025



# 05 IUCN Management Categories

https://rcoe-mapbook.rcmrd.org/ **19** 

### IUCN Protected Areas Management Categories in the Eastern and Southern Region

#### Map description

The map indicates the IUCN management categorization of protected and conserved areas in the Eastern and Southern Region. This helps classify protected areas based on their primary management objectives.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



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# 06 **Protected Areas** Management Effectiveness

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### Number of Protected Area Managment Effectivness (PAME) assesments done in the Eastern and Southern Africa Region

#### Map description

The map indicates the number of PAME assesments done in each country within Eastern and Southern Africa Region. The maximum number of assessments done in a country is 269 while some countries have not yet carried out any assessments yet.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



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### Protected Area Management Effectiveness (PAME) Assessments in the Eastern and Southern Africa Region

#### Map description

The Map indicates the different tools used to carry out Protected Area Management Effectiveness Assessments within the countries in the Eastern and Southern Africa Region

#### Data Source: Protected Planet

Software: Arcgis Pro

**Production Year: 2025** 





## GOE-ESA Map Book

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# Species Protection Index (SPI)

State Bart

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#### Distribution of Key Species in Eastern and Southern Africa Countries.



#### Distribution of Amphibians Species within Eastern and Southern Africa.

#### Map description

Amphibians are cold-blooded vertebrates that typically inhabit both aquatic and terrestrial environments during different life stages. The term "amphibian," derived from the Greek "amphibios" meaning "double life," reflects this dual lifestyle. They include frogs, toads, salamanders, newts, and caecilians. Caecilians, legless, worm-like and are the least known due to their secretive habits.

The map illustrates amphibian species distribution in the Eastern and Southern Africa (ESA) region, categorized as:

- High diversity: 174–356 species
- · Medium diversity: 81–173 species
- · Low diversity: <80 species

Madagascar has the highest species count, followed by Tanzania, Angola, and South Africa. Mauritius has the least number (3 species), with Somalia, Sudan, Lesotho, Eritrea, Djibouti, and Seychelles each hosting fewer than 50 species

#### Data Source: Map Of Life

Software: Arcgis Pro

Production Year: 2025



### Distribution of Bird Species in Eastern and Southern Africa Region

#### Map description

Eastern and Southern Africa host an extraordinary diversity of bird species, making the region one of the richest avian habitats in the world. Spanning varied ecosystems—from savannas and wetlands to forests and coastal zones—this area supports over 2,000 bird species, including endemics like the Ethiopian Bush-crow and the South African Blue Crane. Iconic birds such as ostriches, secretary birds, lilac-breasted rollers, and numerous species of raptors, hornbills, and sunbirds thrive here. Migratory species also flock to the region seasonally, taking advantage of its rich feeding and breeding grounds. This map shows the number of bird species in Eastern and Southern Africa region per country.

Data Source: Map of Life

Software: Arcgis Pro

Production Year: 2025

Credit: Map of Life



### Distribution of Reptiles Species within Eastern and Southern Africa.

#### Map description

Tanzania boasts ESA region's richest reptile diversity with 530 species, followed by Madagascar (484), South Africa (448), and Kenya (448). Most other Eastern and Southern Africa (ESA) countries host fewer than 400 species, with Mauritius having the lowest count (34). Small island nations like Comoros (40), Seychelles (36) and Mauritius (34) also have little diversity.

Reptiles are cold-blooded vertebrate animals that have dry, scaly skin and lay shelled eggs on land. They include snakes, lizards, turtles, crocodiles, and alligators. Sea turtles can migrate thousands of miles between feeding and nesting grounds.

Data Source: Map of Life

Software: Arcgis Pro

Production Year: 2025



### Distribution of Mammals Species within Eastern and Southern Africa

#### Map description

Mammals are a class of warm-blooded vertebrates distinguished by the presence of hair or fur, mammary glands that produce milk to nourish their young. Most mammals give birth to live young and have a four-chambered heart, and a diaphragm that aids in breathing. They are endothermic, meaning they can regulate their body temperature internally. Mammals are highly diverse, ranging from tiny shrews to massive whales, and they inhabit nearly every environment on Earth, including land, air, and water.

Tanzania boasts ESA region's richest mammals' diversity with 617 species, followed by Kenya (613), Uganda (532), Angola (455) and South Africa (425). Most other ESA countries host fewer than 400 species, with Seychelles having the lowest count (41). Small island nations like Comoros (48), Mauritius (47) and Seychelles (41) also have little diversity.

Data Source: Map of Life

Software: Arcgis Pro

**Production Year:** 2025



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# OB Targets and NBSAP Trac

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### Status of KMGBF National Targets for Eastern and Southern Africa

#### Map description

This map presents the status of National Targets Submissions under the Kunming-Montreal Global Biodiversity Framework across Eastern and Southern Africa. 22 countries, highlighted in purple, have successfully submitted their national targets to the Convention on Biological Diversity (CBD), demonstrating commitment to aligning their national strategies with the global biodiversity agenda. 2 countries, shown in red, are yet to submit their targets, indicating areas where enhanced support or accelerated action may be needed.

The map aims to highlight regional progress while emphasizing the importance of full participation to ensure a cohesive and effective global response to biodiversity loss.

**Data Source:** Convention on Biological Diversity (CBD), April, 2025

Software: Arcgis Pro

Production Year: 2025



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#### Status of National Biodiversity Strategic Action Plans (NBSAPs) for Eastern and Southern Africa

#### Map description

This map illustrates the current status of NBSAP submissions across Eastern and Southern Africa in alignment with the Kunming-Montreal Global Biodiversity Framework. Countries are visually categorized based on their submission status to the Convention on Biological Diversity (CBD). Only two countries, highlighted in green, have submitted updated NBSAPs, and those marked in yellow, representing the 22 nations that are still in the process of preparing or have not yet submitted their reports.

This map serves as a call to action for countries yet to meet their obligations, emphasizing the urgency of timely submissions ahead of the February 2026 deadline. Timely and inclusive NBSAP submissions are critical to ensuring regional and global progress toward halting biodiversity loss.

**Data Source:** Convention on Biological Diversity (CBD), April 2025

Software: Arcgis Pro

Production Year: 2025



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## Ecoregions of Eastern and Southern Africa

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## Ecoregions within the East African Community (EAC) countries

#### Map description

The map shows ecoregions in the East African Community (EAC) countries: Burundi, DR Congo, Kenya, Rwanda, Somalia, South Sudan, Tanzania, and Uganda. Ecoregions are distinct areas with unique natural communities and species, shaped by climate, soil, geology, and topography. About 41 ecoregions exist in the EAC, the largest ecoregions include the Sahelian Acacia savanna, Dry Miombo woodlands, Somali Acacia-Commiphora bushlands and Southern Congolian forest-savanna, Smaller ecoregions include Red Sea mangroves, Rwenzori-Virunga montane moorlands, and Serengeti volcanic grasslands. The Northern Swahili coastal forests dominate the Indian Ocean shoreline.

#### Data Source: Africa Knowledge Platform

Software: Arcgis Pro

Production Year: 2025



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#### Ecoregions within the Intergovernmental Authority on Development (IGAD) countries

#### Map description

The map highlights ecoregions across the Intergovernmental Authority on Development (IGAD) countries: Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda. Ecoregions are distinct areas defined by unique natural communities and species, influenced by climate, soil, geology, and topography. The region hosts approximately 32 ecoregions, with major ones including the Sahelian Acacia Savanna, Somali Acacia-Commiphora Bushlands and Thickets, East Sudanian Savanna, South Sahara Desert, Northern Acacia-Commiphora Bushlands and Thickets, and Djibouti Xeric Shrublands. Smaller ecoregions include the Rwenzori-Virunga Montane Moorlands, Eastern Arc Forests, East African Halophytics, and Zambezian Flooded Grasslands. The Northern Swahili Coastal Forests are prominent along the Indian Ocean coast.

Data Source: Africa Knowledge Platform

Software: Arcgis Pro

Production Year: 2025



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### Ecoregions within the Indian Ocean Commission (IOC) countries

#### Map description

The map showcases ecoregions across the Indian Ocean Commission (IOC) countries, listed alphabetically: Comoros, Madagascar, Mauritius and Seychelles. Ecoregions are distinct areas characterized by unique natural communities and species, shaped by climate, soil, geology, and topography. The region encompasses approximately 11 ecoregions, ordered from largest to smallest: Madagascar Subhumid Forests, Madagascar Dry Deciduous Forests, Madagascar Humid Forests, Madagascar Succulent Woodlands, Madagascar Spiny Thickets, Madagascar Mangroves, Mascarene Forests, Comoros Forests, Madagascar Ericoid Thickets, Granitic Seychelles Forests, and Aldabra Island Xeric Scrub.

Data Source: Africa Knowledge Platform

Software: Arcgis Pro

Production Year: 2025


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## Ecoregions within the Southern African Development Community (SADC) countries

#### Map description

The map showcases ecoregions across the Southern African Development Community (SADC) countries: Angola, Botswana, Comoros, Democratic Republic of the Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, and Zimbabwe. The region encompasses around 75 ecoregions, including major ones like the Dry Miombo Woodlands, Central Zambezian Wet Miombo Woodlands, Kalahari Xeric Savanna, Southern Congolian Forest-Savanna, Angolan Wet Miombo Woodlands, Northeast Congolian Lowland Forests, and Central Congolian Lowland Forests. Smaller ecoregions in the region include the Southern Indian Ocean Islands Tundra, Granitic Seychelles Forests, Rwenzori-Virunga Montane Moorlands, Serengeti Volcanic Grasslands, and Aldabra Island Xeric Scrub

#### Data Source: Africa Knowledge Platform

Software: Arcgis Pro

Production Year: 2025



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# Regional Economic Communities (RECs) Statistics

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## Protected and Conserved Areas Country Statistics for East African Community countries

#### **Country Statistics for EAC countries**

#### Map description

The map presents data on protected and conserved areas in EAC states: Burundi, DR Congo, Kenya, Rwanda, Somalia, South Sudan, Tanzania, & Uganda. It shows protected areas, terrestrial/marine coverage, & PAME assessments.

Tanzania leads marine protection (2.31%), while Kenya and DR Congo trail below 1%. Somalia, despite the longest coastline, has 0% marine protection. Rwanda, South Sudan, Uganda, and Burundi are landlocked and thus have no marine areas.

Tanzania exceeds the KMGBF 30% target with 39.95% terrestrial coverage; Uganda (16.06%), South Sudan (15.42%), and Kenya (13.97%) follow. while Rwanda (9.09%) and Burundi (7.64%) lag further behind. Somalia reports 0% terrestrial protection, as most sites remain in "proposed" stage. Formalizing these could help it progress towards KMGBF Target 3.

Tanzania has conducted the most PAME assessments (171), followed by Kenya (41) and Uganda (37). In contrast, Rwanda and Burundi have completed only four each, while Somalia has undertaken none.

Data Source: Protected Planet

Software: Arcgis Pro

**Production Year:** 2025



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## East African Community (EAC) region

#### Map description

The map displays regional statistics for the East African Community (EAC) region. member states include: Burundi, DR Congo, Kenya, Rwanda, Somalia, South Sudan, Tanzania, and Uganda including:

- The number of protected and conserved areas
- Terrestrial and marine coverage (in km<sup>2</sup>)
- The number of Protected Area Management Effectiveness Assessments conducted
- Progress toward meeting KMGBF Target 3 (30% protection of land and sea by 2030)

The EAC region currently has 2,174 protected and conserved areas, covering approximately 952,555 km<sup>2</sup> in total. However, marine protection remains low at 0.55%, far below the 30% target. Combined terrestrial and marine coverage stands at 14.47%, leaving a 15.53% gap to achieve KMGBF Target 3.

Data Source: Protected Planet

Software: Arcgis Pro

**Production Year: 2025** 



## Protected and Conserved Areas Country Statistics for Intergovernmental Authority on Development countries

#### **IGAD** countries

#### Map description

The map highlights statistics on protected and conserved areas for IGAD members (Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda) ie number of protected areas, terrestrial & marine coverage %, and PAME assessments done. Sudan leads in marine protection with 17.01% coverage, while Kenya and Djibouti trail at 0.59% and 0.17%, respectively; Eritrea, Ethiopia, Somalia (with largest coastline), South Sudan, and Uganda currently have 0% marine protected areas. Ethiopia has the highest terrestrial coverage, followed by Uganda (16.06%), South Sudan (15.42%), and Kenya (13.97%). Sudan (2.27%) and Djibouti (1.57%) have more limited terrestrial protection, while Eritrea and Somalia report 0% as most of their protected areas remain in the "Proposed" category. Formal designation of these areas could help these nations advance toward meeting KMGBF Target 3. In terms of management effectiveness, Kenya has conducted the most PAME assessments, with Uganda following closely.

#### Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



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## Protected and Conserved Areas Regional Statistics in the Intergovernmental Authority on Development (IGAD) countries

Intergovernmental Authority on Development (IGAD) countries

#### Map description

The map displays regional statistics for the Intergovernmental Authority on Development (IGAD) countries (Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Sudan, Uganda) including: number of protected and conserved areas (PAs), Terrestrial & marine coverage (km<sup>2</sup>), number of PAME Assessments conducted, Progress toward meeting KMGBF Target 3 (30% protection of land and sea by 2030)

The region currently maintains 1,396 PAs spanning approximately 464,173 km<sup>2</sup>, but progress toward KMGBF Target 3 lags significantly. Marine protection remains critically low at just 1.08%, while combined terrestrial and marine coverage stands at 7.38%, leaving a 22.62% deficit. Reducing this gap requires action to improve data accuracy, by mapping the precise boundaries of protected areas in Sudan and Somalia (where most sites exist as point data) and incorporating Eritrea's designated protected areas, which currently remain in "proposed" category and are excluded from regional statistics.

#### Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



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## Protected and Conserved Areas Regional Statistics in the Indian Ocean Commission Countries

#### Map description

The map shows the regional statistics in the Indian Ocean Commission (IOC) Countries i.e. (Comoros, Madagascar, Mauritus and Seychelles) indicating the number of protected areas, the total terrestrial coverage, the total marine coverage, the protected areas coverage in square kilometers, the number of Protected Area Management Effectiveness Assessments done, the total coverage and the percentage remaining to achieve target 3 of the KMGBF in the region.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



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## Protected and Conserved Areas Regional Statistics in the Indian Ocean Commission Countries

#### Map description

The map shows the regional statistics in the Indian Ocean Commission (IOC) Countries i.e. (Comoros, Madagascar, Mauritus and Seychelles) indicating the number of protected areas, the total terrestrial coverage, the total marine coverage, the protected areas coverage in square kilometers, the number of Protected Area Management Effectiveness Assessments done, the total coverage and the percentage remaining to achieve target 3 of the KMGBF in the region.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



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## RCoE-ESA Map Book

## Protected and Conserved Areas Data Status for the Southern Africa Development Community (SADC) Region

#### Map description

The map shows data on Protected and Conserved areas in the SADC region. Tanzania leads with 39.95% terrestrial coverage and 172 PAME assessments. South Africa has the most protected areas (1,691) and PAME assessments (273). Zambia (39.93%) and Zimbabwe (26.26%) also show strong terrestrial coverage. Marine coverage remains low across the region; Seychelles leads with 32.61%, while Angola, Eswatini, and Mauritius report 0%. Comoros also has 0% marine protection with no PAME assessments done. Namibia (37.92%) and Mozambique (29.49%) follow closely in terrestrial coverage. Lesotho and Eswatini report the fewest PAME assessments (2 and 3 respectively). Overall, progress toward KMGBF Target 3 varies, with some countries showing strong commitment while others lag behind in both coverage and PAME reporting

#### Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



## Protected and Conserved Areas Regional Statistics in the Southern African Development Community (SADC) Region

#### Map description

The map shows the regional statistics of the Southern African Development Community (SADC) Region Countries i.e. (Angola, Botswana, the Comoros, the Democratic Republic of Congo, Eswatini (formerly Swaziland), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, and Zimbabwe) indicating the number of protected areas, the total terrestrial coverage, the total marine coverage, the protected areas coverage in square kilometers, the number of Protected Area Management Effectiveness Assessments done, the total coverage and the percentage remaining to achieve target 3 of the KMGBF in the region.

#### Data Source: Protected Planet

**Software:** Arcgis Pro

Production Year: 2025

Credit: RCoE-ESA



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# Protected and Conserved Areas Country Statistics (Country Murals)

## Angola Protected and Conserved Areas Country Statistics

#### Map description

Angola boasts rich biodiversity, thanks to its varied ecosystems that range from dense tropical forests and savannas to wetlands and coastal marine environments. The country's forests, particularly in the north and along the Congo Basin, are home to numerous plant and animal species, including rare primates, forest elephants, and diverse birdlife. Angola's seascape along the Atlantic Ocean features important marine habitats like coral reefs, mangroves, and seagrass beds, which support fish, turtles, and migratory birds. The country's unique position at the crossroads of tropical and subtropical zones makes it a biodiversity hotspot with high levels of endemism, though much of its wildlife remains understudied due to years of conflict. Conservation efforts are growing, aiming to protect these vital ecosystems.

Data Source: Protected Planet

Software: Arcgis Pro

**Production Year: 2025** 

Credit: RCoE-ESA



#### Conserve Nature. Empower Communities

## Botswana Protected and Conserved Areas Country Statistics

#### Map description

Botswana is renowned for its exceptional biodiversity, vast wilderness areas, and well-preserved natural habitats. Its most iconic ecosystem is the Okavango Delta, a UNESCO World Heritage Site and one of the largest inland deltas in the world, supporting a rich variety of wildlife including elephants, lions, hippos, and over 500 bird species. Botswana's savannas and dry forests, such as those in the Chobe and Moremi reserves, are also crucial habitats for large mammals like buffalo, leopards, and endangered African wild dogs.

Though landlocked, Botswana's seasonal wetlands and salt pans, like the Makgadikgadi, contribute to its ecological diversity and serve as vital breeding grounds for flamingos and other migratory birds. The country's strong conservation policies and low population density have helped maintain its ecosystems, making it a leader in sustainable wildlife tourism and environmental stewardship in Africa.

#### Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025





## Comoros Protected and Conserved Areas Country Statistics

#### Map description

Comoros, an island nation in the Indian Ocean between Madagascar and Mozambique, has remarkable biodiversity, shaped by its volcanic origin and isolation. Its lush forests and mountainous terrain host many endemic species, including rare birds like the Comoros blue pigeon and the Livingstone's fruit bat. The islands' marine biodiversity is equally rich, with coral reefs, seagrass beds, and mangroves supporting a wide variety of fish, sea turtles, dolphins, and humpback whales.Comoros' seascape is vital for both ecological balance and local livelihoods, offering critical habitats for marine life and resources for fishing communities. Despite its small size, the country is a biodiversity hotspot, though it faces environmental threats such as deforestation, coral bleaching, and habitat loss. Conservation efforts are growing to protect its unique terrestrial and marine ecosystems while promoting sustainable development.

#### Data Source: Protected Planet

Software: Arcgis Pro

**Production Year:** 2025

Credit: RCoE-ESA

#### Conserve Nature. Empower Communities



## Djibouti Protected and Conserved Areas Country Statistics

#### Map description

Djibouti, located in the Horn of Africa at the junction of the Red Sea and the Gulf of Aden, features unique and varied ecosystems despite its arid climate. Its biodiversity includes desert-adapted wildlife, such as gazelles, reptiles, and rare bird species like the Djibouti francolin. The country's rugged terrain-marked by salt lakes, volcanic plateaus, and coastal plains-supports pockets of dry forests and shrublands that are home to endemic and migratory species.

Djibouti's seascape is especially rich, with coral reefs, seagrass beds, and mangroves that provide important habitats for marine life including whale sharks, dolphins, sea turtles, and a variety of reef fish.

#### Data Source: Protected Planet

**Software:** Arcgis Pro

**Production Year: 2025** 





#### Conserve Nature. Empower Communities

## Eritrea Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Eritrea. It highlights 11 Protected and Conserved Areas, covering 0 square kilometers, equivalent to 0% of the country's terrestrial area and 0.0% marine coverage. Out of these, 0 Protected Areas have undergone Management Effectiveness Assessments. A total of 0% of Eritrea's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Eritrea still needs to cover an additional 30% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



## Eswatini Protected and Conserved Areas Country Statistics

#### Map description

While Eswatini is landlocked, its rivers and wetlands, such as those in the Mbuluzi and Usuthu basins, provide important freshwater habitats that support amphibians, aquatic plants, and birdlife. Protected areas like Hlane Royal National Park and Mlilwane Wildlife Sanctuary play a key role in conserving the country's biodiversity, including populations of elephants, rhinos, and big cats. Eswatini's commitment to conservation and eco-tourism has helped preserve many of its natural ecosystems, although challenges like habitat loss, invasive species, and climate change remain ongoing concerns.

#### Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025

Credit: RCoE-ESA



#### Conserve Nature. Empower Communities

## Ethiopia Protected and Conserved Areas Country Statistics

#### Map description

Ethiopia's protected areas showcase the country's remarkable ecological and geographical diversity, ranging from highland plateaus and alpine moorlands to lowland savannas and rift valley lakes. These areas-comprising national parks, wildlife reserves, and community conservation zones-are home to unique flora and fauna, including iconic species like the Ethiopian wolf, Gelada baboon, and Walia ibex, many of which are found nowhere else on Earth. Protected areas such as Bale Mountains, Simien Mountains, and Omo National Parks play a crucial role in conserving biodiversity, supporting ecosystem services, and offering opportunities for sustainable tourism. Despite facing pressures from habitat degradation and human-wildlife conflict, Ethiopia continues to invest in the expansion and effective management of its protected area network to ensure the long-term preservation of its natural heritage.

#### Data Source: Protected Planet

Software: Arcgis Pro

**Production Year:** 2025



#### Conserve Nature. Empower Communities

## Kenya Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Kenya. It highlights 41 Protected and Conserved Areas, covering 82,185 square kilometers, equivalent to 13.97% of the country's terrestrial area and 0.59% marine coverage. Out of these, 41 Protected Areas have undergone Management Effectiveness Assessments. A total of 11.63% of Kenya's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Kenya still needs to cover an additional 18.37% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



## Lesotho Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Lesotho. It highlights 9 Protected and Conserved Areas, covering 7,164 square kilometers, equivalent to 23.43% of the country's terrestrial area and 0.0% marine coverage. Out of these, 2 Protected Areas have undergone Management Effectiveness Assessments. A total of 23.43% of Lesotho's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Lesotho still needs to cover an additional 6.57% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



#### Conserve Nature. Empower Communities

## Madagascar Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Madagascar. It highlights 167 Protected and Conserved Areas, covering 91,035 square kilometers, equivalent to 12.74% of the country's terrestrial area and 1.32% marine coverage. Out of these, 72 Protected Areas have undergone Management Effectiveness Assessments. A total of 5.10% of Madagascar's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Madagascar still needs to cover an additional 24.90% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



## **Mozambique Protected and Conserved Areas Country Statistics**

#### Map description

The map displays statistics on Protected and Conserved Areas in Mozambique. It highlights 58 Protected and Conserved Areas, covering 244,201 square kilometers, equivalent to 29.49% of the country's terrestrial area and 2.16% marine coverage. Out of these, 25 Protected Areas have undergone Management Effectiveness Assessments. A total of 18.05% of Mozambigue's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Mozambique still needs to cover an additional 11.95% of its territory.

#### Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025

Credit: RCoE-ESA



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RCMRD

# **Selebrating 50 years Anniversary**



Regional Centre for Mapping of Resources for Development

## From Regional Service Centre to Geospatial Powerhouse



Scan the QR Code to access the RCMRD @50 timeline



50 Years of Advancing Geospatial Excellence

1975 - 2025

#### **BOTSWANA**

















**KENYA** 



Mission

through generation, application and

allied Information Communication

dissemination of Geo-Information and

Technology (ICT) services and products





MALAWI







NAMIBIA

## **About RCMRD**

he Regional Centre for Mapping of Resources for Development (RCM-RD) was established in Nairobi – Kenya in 1975 under the auspices of the United Nations Economic Commission for Africa (UNECA) and the then Organization of African Unity (OAU), today African Union (AU). RCMRD is an inter-governmental organization and currently has 20 Contracting Member States in the Eastern and Southern Africa Regions; Botswana, Burundi, Comoros, Eswatini, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Somalia, South Africa, South Sudan, Sudan, Tanzania, Uganda, Zambia and Zimbabwe.







SOUTH AFRICA



SOUTH SUDAN



**SUDAN** 



**TANZANIA** 



**UGANDA** 







ZIMBABWE





## Vision

To promote sustainable development To be a Premier Centre of Excellence in the provision of geo-information and allied technologies for Sustainable Development in the Member States and other Stakehold-

## **Our Core Values**

- Teamwork
- Customer Focus
- Accountability & Transparency
- Stakeholder Engagement
- Innovation & Creativity
- Equity & Inclusivity















## **RCMRD Management**



Dr Emmanuel Nkurunziza Director General



Paul Idude Director Corporate Services



**Abednico Maphuru** Director Geospatial Services



Julius Gichohi Director Capacity Building & Training



**Esther Muigai** *Finance Manager* 

## **Current Chairpersons - Governing Council, Conference of Ministers,**



Mr. Patrick Mucheleka Chairperson RCMRD Governing Council and Permanent Secretary of the Ministry of Lands and Natural Resources, Zambia



Hon. Sylvia Masebo Chairperson RCMRD Conference of Ministers and Minister of Lands and Natural Resources, Zambia



Engineer Charles Pole Chairperson RCMRD Technical Commitee and the Surveyor General, Zambia



#### **From Regional Service Centre to Geospatial Powerhouse**

#### Foundations and Establishment

he story of the Regional Centre for Mapping of Resources for Development (RCMRD) begins in September 1963, at the first United Nations Regional Cartographic Conference for Africa, where African countries first voiced the urgent need for specialized institutions to support African countries in surveying and mapping was first articulated. At the time, it was recognized that the inadequacy of these services posed a significant barrier to the inventory and development of natural resources across the continent. The idea gained traction, and in 1974, a key meeting convened in Nairobi by the United Nations Economic Commission for Africa (UNECA) and the Government of Kenya led to the agreement to establish a regional institution. The Centre was created under the joint auspices of UNECA and the Organization

of African Unity (OAU), now the African Union, and named the Regional Centre for Services in Surveying and Mapping (RCSSM).

On 18 April 1975, the Centre officially commenced operations, following an agreement signed by Kenya, Malawi, Somalia, Tanzania and Uganda. The five countries became the founding Members States.

#### Early years

RCSSM began modestly in a single room provided by the Survey of Kenya and staffed by just three people: the Director General, a Secretary and a Driver. The Centre's first Director General, Mr. Peter P. Anyumba of Kenya, assumed office on 1 October 1975. With the donation of 15 acres of land by the Government of Kenya, the Centre laid the groundwork for what would become a regional hub for training,

technical support, and geospatial advisory services.

Since then, the institution has experienced significant growth in both scope and impact, guided by the leadership of eight Director Generals. Today, Dr. Emmanuel Nkurunziza proudly serves as the current Director General.

In 1982, the Centre was renamed the Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS) to reflect its expanded mandate, which now included the emerging field of remote sensing.

On 19 June 1985, Kenya's second President, the late H.E. Daniel Toroitich Arap Moi, officially inaugurated the Centre's newly constructed premises in Kasarani, Nairobi, Kenya. To mark the

occasion, he planted a commemorative tree on the grounds, a living symbol of growth, resilience, and enduring legacy that still stands today, nearly 40 years later.

On 19 June 1985, Kenya's second President, the late Daniel Toroitich Arap Moi, planted a tree during the official opening of RCMRD's premises. Four decades on, that tree still stands tall.



#### 50 Years of Advancing Geospatial Excellence for Sustainable Development

#### **Technological Evolution**

From its inception, technology has been at the centre of RCMRD's mission. In the 1970s, the Centre relied on analog mapping methods, using aerial photography and early Landsat imagery to manually analyze land cover. From 1986 to 1995, the Centre transitioned to digital systems, adopting GIS software like ARC/INFO and ERDAS Imagine and integrating higher-resolution satellite data such as Landsat 5. Between 1996 and 2005. RCMRD advanced further with the use of high-resolution imagery (SPOT, IKONOS, QuickBird), Digital Elevation Models, and GPS, supporting applications in urban planning, agriculture, and disaster management mapping methods using aerial photography and early Landsat imagery.

#### Growth, Autonomy, and a New Identity

A new era dawned in 1995 when the Centre attained full intergovernmental legal status and was renamed Regional Centre for Mapping of Resources for Development (RCMRD). With increased autonomy came a renewed vision to become a premier geoinformation hub supporting sustainable development.

From 1996 to 2010, RCMRD expanded its focus from technical services to solving real-world problems related to



natural resource management, environmental monitoring, and policy support. This period also saw the development of a sustainable business model combining member state support with revenue-generating consultancy.

The 2008 launch of SERVIR Eastern and Southern Africa, in partnership with NASA and USAID, marked a pivotal moment in real-time environmental monitoring. In the decade that followed, drone mapping and open-source platforms elevated RCMRD's capacity for high-resolution data collection and dissemination. Today, the Centre operates at the cutting edge of technology, leveraging artificial intelligence, big data, cloud computing, and platforms like Google Earth Engine to provide real-time insights for agriculture, climate resilience, and disaster management.

#### **Global Recognition and Modernization**

The years 2011 to 2018 saw further consolidation of RCMRD's mandate in the fields of GIS, GPS, surveying, and remote sensing. In this era, the Centre gained international recognition through key milestones such as the ISO 9001:2008 certification, the establishment of a MODIS direct satellite receiving station, and the launch of the inaugural Regional Centre International Conference (RIC), themed "Space Science Touches Lives."

#### Strategic Vision 2050 and Beyond

In 2019, RCMRD entered a new strategic phase aligned with Vision 2050, a long-term outlook developed to respond to evolving regional priorities and technological advancements. The 2019-2022 Strategic Plan redefined the Centre's mission as promoting sustainable development through the generation, application, and dissemination of geo-information and allied ICT services. The same year, the Centre was honoured with a visit from Kenya's Deputy President, His Excellency Dr. William Samoei Ruto, during RIC2019, further underscoring its growing influence.

RCMRD has continued to deepen its regional impact. Its current mandate emphasizes capacity building, advisory services, implementation of programs, and research and development of innovative geoinformation solutions. The operational structure has been transformed to support this ambition.

A major organizational realignment has introduced three new directorates: Geospatial Services, Corporate Services, and Capacity Building and Training. These have consolidated and enhanced RCMRD's functions in service delivery, communications, public relations, quality assurance, procurement, training, research, and monitoring and evaluation.

Infrastructure growth has kept pace with institutional expansion. In recent years, RCMRD has launched new facilities including the RCMRD Complex, the Regional Centre Training Institute (RCTI) hostel, and executive suites to support its growing program portfolio and international clientele.

#### **Future Outlook**

From a modest technical institution to a continental leader in geoinformation and innovation, RCMRD's journey reflects the dynamic interplay between regional development priorities, technological change, and institutional vision. With Vision 2050 as its guiding framework, RCMRD is well-positioned to continue shaping Africa's sustainable development agenda through data-driven insights and transformative geospatial solutions.



Old RCMRD Building



Laying the Foundation- Staff and management survey the early construction works of the Centre's permanent headquarters at Kasarani, Nairobi. (Remove the highlighted section.







## SECOND DECADE (1986–1995) Institutional Growth, Infrastructure Expansion & GIS Integration



## 1986

- Sudan (The Gift of the Nile) joined RCMRD as the 10th Member State on 9 April 1986.
- Acquired a computer-based GIS system through USAID support - marking the beginning of GIS integration at the Centre.
- Held the 1st Conference of Ministers (CoM) in Mbabane, Swaziland (now Eswatini).
- Launched the Second Five-Year Development Plan.
- Established that the CoM would meet every four years to guide strategic direction.

## **P**1987

• Ethiopia (The Land of the Origin) became the 11th Member State on 12 June 1987, represented by the Ethiopia Mapping Agency

#### 1988

- BADEA approved a USD 300,000 grant for the construction of Block C, funding structural materials and roofing infrastructure.
- Mr. Samuel L. Olec (Uganda) appointed Acting Director General, recalled from retirement to serve until 1991.



## 1989

- Botswana (The Peaceful Nation) became the 12th Member State on 13 April 1989.
- Held the first regional GIS training course (12 weeks, 31 July – 27 October), with support from UNEP and UNITAR.
- Trained participants from Lesotho, Ghana, and Uganda to support national GIS applications.

## 1990

- Upgraded the Cartography Laboratory with modern equipment to streamline map production processes.
- Recruited expert staff for endto-end map development and distribution services.

### 1995

 Hosted the 3rd Conference of Ministers in Gaborone, Botswana, to review strategic progress and planning. **1994**Mauritius (The Continental Island) joined as the 14th Member State on 30 June 1994, represented by the Ministry of Agriculture and Natural Resources.

## 1993

 Albert Mukabi, RCMRD's long-serving staff member, joined on 3 September 1993 as a driver; now serves as Protocol Officer.

## 1992

 European Space Agency installed the DIANA satellite system for agricultural and disaster early warning. Commissioned by Kenya's Minister for Planning, Hon. Zachary Onyoka.

- Started construction of new laboratories and workshops (Phase I), funded by BADEA.
- Seychelles (The Land of Perpetual Summer) became the 13th Member State.

- Mr. Asfaw Fanta (Ethiopia) appointed as 4th Director General.
- Held the 2nd Conference of Ministers in Nairobi, opened by Kenya's Vice President, Hon. Prof. George Saitoti.
- Launched the Third Development Plan (1992–1996).





## **THIRD DECADE (1996–2005):** Modernization and **Technological Advancement**

#### 1997

- Governing Council adopted Vision 2020, reviewing statutes, organizational functions, and resource sustainability.
- Nancy Mbandi Ngungi joined as casual staff; now Executive Assistant to the DG—serving diligently for 28 years.
- Namibia (The Land of the Brave) ioined RCMRD as the 15th Mem
  - ber State on 10 April 1997.

#### 1998

• RCMRD supported Tanzania Petroleum Pipeline Project with aerial photography and feasibility studies for the 1,000km route—benefiting Tanzania, Uganda, Rwanda, Burundi, and DRC.

## 1999

 Established the Computer Aided Maintenance Unit (CAMU) in partnership with Leica to diagnose, repair, and calibrate surveying equipment.

#### 2000

- Dr. Wilber K. Ottichilo appointed as the 6th Director General (2000-2008) with a mandate to restructure and renew the Centre.
- Amendment of Article V: Chairing of the Governing Council transitioned to a rotational system among Member States. Republic of Kenya became the first Member State Chair (2001-2002).



1996

ments.

Prof. Simon Ndvetabula (Tanza-

nia) appointed as the 5th Direc-

tor General, serving until 1999.

· Focus on institutional strength-

ening, including information

technology and facility improve-

## 2001

- Completed organizational restructuring and commercialized Centre services for financial sustainability.
- Centre's name changed to **Regional Centre for Mapping** of Resources for Development (RCMRD) on 3 July 2001.
- Launched Information Technology Training Centre (ITTC) to offer IT courses and generate income.
- Held the first IT graduation ceremony.

## 2002

- 4th Conference of Ministers held in Windhoek, Namibia.
- AFREF initiative launched via the Windhoek Declaration to establish a continent-wide geodetic reference system.
- Centre's first website designed, and a Cybercafé opened for students and neighbouring community, including Catholic Sisters of Kasarani.

## 2003

 Began creating metadata for key datasets: Landsat imagery (1970s-2000s), SRTM data, digital topographic maps, and project datasets, collaborating with USGS.

## 2004

 Received Landsat Data Archive (1980s-2000s) for Africa from USGS and NASA shared with Member States.

## 2005

- · Completed long-pending recreational building and canteen for staff and students.
- Library automated using Integrated Library Management System, enhancing RCMRD's knowledge management capacity.



## FOURTH DECADE OF (2006–2015): Consolidation, Expansion, Regional Influence and Technological Advancement

#### 2006

- Held the 5th Conference of Ministers (CoM) in Mangochi, Malawi; CoM meetings to be held biennially.
- Launched the Digital Photogrammetry Lab with Leica software; Mr. Josphat Makanga appointed as Officer in Charge.
- ICT upgrades: internet bandwidth increased from 512 Kbps to 1 Mbps; new CISCO router, servers, software installations, and computer equipment procured.
- Renovated GIS block with 25 new network points, 27 PCs, air conditioning, printers, and photocopier.
- Established a Computer Workshop to support growing training needs.

## 2007

- South Africa (The Rainbow Nation) joined as the 16th Member State on 14 November. Installed Permanent GPS
- Reference Station under AFREF initiative, donated by Leica Geosystems.
- RCMRD received an innovation award at AfricaGIS in Ouagadougou, Burkina Faso.

#### 2008

- Dr. Hussein Farah appointed as the
- 7th Director General on 27 August. • Participated in Mount Kilimanja
  - ro Expedition to determine the mountain's exact height.
- 6th CoM held in Entebbe, Uganda.
   Co-developed Africa Atlas of Our Changing Environment, launched
- at AMCEN in Johannesburg.

## 2009

 Implemented Water Information Clearing House project in South Sudan, funded by UNICEF and UNECA.

#### 2010

- 7th CoM held in Cape Town, South Africa.
- Internet bandwidth upgraded to 3 Mbps; launched enhanced website with data download section.





## 2011

- Burundi joined as the 17th Member State on 26 April.
- Rwanda (The Land of a Thousand Hills) joined as the 18th Member State on 26 May (focal institution: Ministry of Natural Resources).

## 2012

- 8th CoM held in Living-
- stone, Zambia.
  Joined social media: launched Twitter and Facebook pages in June to boost outreach and

communication.

## 2013

- South Sudan (The land of great abundance) became the 19th Member State on 18 June (focal institution: National Bureau of Statistics).
- Internet bandwidth upgraded to 5 Mbps; ITTC connected to internet.

## 2014

- Achieved ISO 9001:2008 Quality Management System certification from KEBS.
- Launched MODIS satellite data receiving station on 10 July with funding from Google Foundation.
- Zimbabwe joined as the 20th Member State on 23 June (focal institution: Ministry of Lands & Rural Resettlement).
- 9th CoM held in Ethiopia.

- Hosted first Regional Forum on National Spatial Data Infrastructure (NSDI) in Kigali, Rwanda with participation from 16 Member States.
- Received TVETA approval to offer diploma and certificate programs in Land Surveying, Photogrammetry & Remote Sensing, Cartography, and IT under KNEC.



## FIFTH DECADE (2016–2025): A Decade of Infrastructure Growth, Innovation, and Regional Leadership





## FIFTH DECADE (2016–2025): A Decade of Infrastructure Growth, Innovation, and Regional Leadership

- First RCTI graduation ceremony with 416 graduates. Chief Guest: Hon. Zachary Njeru, Cabinet Secretary, Ministry of Lands. Completed major infrastructure upgrades, including: New RCMRD Complex; Borehole, modern gate, solar street lights; Expanded parking Hosted the first forum of the Africa and perimeter wall; Power backup Network of Centres of Excellence systems and video conferencing fa- Commenced construction of RCTI for Disaster Risk Reduction (NoE) cilities; 190-meter survey equipment in collaboration with UNDRR and calibration baseline Created Geospatial Data and Government of Italy. Hosted 12th Conference of Ministers . Appointed as Technical Support in Kampala, Uganda. Procured multirotor and hybrid Centre for the UN Convention on Unveiled Vision 2050, a strategic drones for training and mapping • Celebrates 50 years of Advanc-Biological Diversity covering 11 services. roadmap for long-term sustainability ing Geospatial Excellence for countries in Eastern and Southern Official launch of RCTI Hostels and and growth of the geospatial indus-Sustainable Development across Africa. Executive Suites. try in Africa. Member States and beyond. 2024 2022 2023 2025 2021 ORCTINOSTEL & EXECUTIVE SUITES
- Governing Council approved RCTI Master Plan.
- Hostels and Executive Suites.

Technologies (GDT) section under the Technical Services Directorate, focusing on: Data management, Proposal writing and project implementation, ICT and cloud infrastructure and Capacity building





## **Director Generals from 1975**



**Mr. Peter P. Anyumba - Kenya** 1975 – 1979



Mr. Bernard Sikilo -Tanzania 1979 to 1988



**Mr. Samuel L. Olec - Uganda** 1988 – 1991



Mr. Asfaw Fanta - Ethiopia 1991 – 1995



Prof. Simon Ndyetabula - Tanzania 1996 to 1999



Dr. Wilber K. Ottichilo - Kenya 2000 to 2008



Dr. Hussein Farah - Kenya 2008 to 2017



Dr. Emmanuel Nkurunziza - Rwanda 2017 to date


## Satellite imagery of the centre – in 1975 and 2025



### Celebrating Our Member States: With Gratitude for Every Step Taken Together



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**Menulum** 

#### Conserve Nature. Empower Communities

### Mauritius Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Mauritius. It highlights 43 Protected and Conserved Areas, covering 146 square kilometers, equivalent to 4.96% of the country's terrestrial area and 0.0% marine coverage. Out of these, 13 Protected Areas have undergone Management Effectiveness Assessments. A total of 0.01% of Mauritius's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Mauritius still needs to cover an additional 29.99% of its territory.

#### Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



#### Conserve Nature. Empower Communities

### Malawi Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Malawi. It highlights 116 Protected and Conserved Areas, covering 27,374 square kilometers, equivalent to 23.11% of the country's terrestrial area and 0.0% marine coverage. Out of these, 20 Protected Areas have undergone Management Effectiveness Assessments. A total of 23.11% of Malawi's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Malawi still needs to cover an additional 6.89% of its territory.

#### Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



### Namibia Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Namibia. It highlights 177 Protected and Conserved Areas, covering 338,431 square kilometers, equivalent to 39.92% of the country's terrestrial area and 0.0% marine coverage. Out of these, 18 Protected Areas have undergone Management Effectiveness Assessments. A total of 24.42% of Namibia's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Namibia still needs to cover an additional 5.58% of its territory.

#### Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



#### Conserve Nature. Empower Communities

### Rwanda Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Rwanda. It highlights 10 Protected and Conserved Areas, covering 2,308 square kilometers, equivalent to 9.09% of the country's terrestrial area and 0.0% marine coverage. Out of these, 4 Protected Areas have undergone Management Effectiveness Assessments. A total of 9.09% of Rwanda's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Rwanda still needs to cover an additional 20.91% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



#### Conserve Nature. Empower Communities

### Sudan Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Sudan. It highlights 23 Protected and Conserved Areas, covering 53,048 square kilometers, equivalent to 2.27% of the country's terrestrial area and 17.01% marine coverage. Out of these, 3 Protected Areas have undergone Management Effectiveness Assessments. A total of 2.76% of Sudan's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Sudan still needs to cover an additional 27.24% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



#### Conserve Nature. Empower Communities

### Somalia Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Somalia. It highlights 0 Protected and Conserved Areas, covering 637,992 square kilometers, equivalent to 0.0% of the country's terrestrial area and 0.0% marine coverage. Out of these, 0 Protected Areas have undergone Management Effectiveness Assessments. A total of 0.0% of Somalia's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Somalia still needs to cover an additional 0.0% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

**Production Year:** 2025



#### Conserve Nature. Empower Communities

### South Sudan Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in South Sudan. It highlights 27 Protected and Conserved Areas, covering 97,578 square kilometers, equivalent to 15.42% of the country's terrestrial area and 0.0% marine coverage. Out of these, 4 Protected Areas have undergone Management Effectiveness Assessments. A total of 15.42% of South Sudan's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, South Sudan still needs to cover an additional 14.58% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



#### Conserve Nature. Empower Communities

### Seychelles Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Seychelles. It highlights 51 Protected and Conserved Areas, covering 437,799 square kilometers, equivalent to 68.12% of the country's terrestrial area and 32.61% marine coverage. Out of these, 6 Protected Areas have undergone Management Effectiveness Assessments. A total of 32.62% of Seychelles's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Seychelles still needs to cover an additional 0.0% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



#### Conserve Nature. Empower Communities

### Tanzania Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Tanzania . It highlights 867 Protected and Conserved Areas, covering 381,425 square kilometers, equivalent to 39.95% of the country's terrestrial area and 2.31% marine coverage. Out of these, 172 Protected Areas have undergone Management Effectiveness Assessments. A total of 32.27% of Tanzania's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Tanzania still needs to cover an additional 0.0% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

**Production Year: 2025** 



#### Conserve Nature. Empower Communities

### Uganda Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Uganda. It highlights 711 Protected and Conserved Areas, covering 38,793 square kilometers, equivalent to 15.95% of the country's terrestrial area and 0.0% marine coverage. Out of these, 37 Protected Areas have undergone Management Effectiveness Assessments. A total of 16.06% of Uganda's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Angola still needs to cover an additional 13.94% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



#### Conserve Nature. Empower Communities

### South Africa Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in South Africa. It highlights 1,690 Protected and Conserved Areas, covering 355,043 square kilometers, equivalent to 9.53% of the country's terrestrial area and 15.43% marine coverage. Out of these, 269 Protected Areas have undergone Management Effectiveness Assessments. A total of 12.83% of South Africa's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, South Africa still needs to cover an additional 17.17% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025



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### Zambia Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Zambia. It highlights 640 Protected and Conserved Areas, covering 309,920 square kilometers, equivalent to 41.27% of the country's terrestrial area and 0.0% marine coverage. Out of these, 23 Protected Areas have undergone Management Effectiveness Assessments. A total of 41.27% of Zambia's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Zambia still needs to cover an additional 0.0% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

**Production Year:** 2025



#### Conserve Nature. Empower Communities

### Zimbabwe Protected and Conserved Areas Country Statistics

#### Map description

The map displays statistics on Protected and Conserved Areas in Zimbabwe. It highlights 233 Protected and Conserved Areas, covering 110,530 square kilometers, equivalent to 28.26% of the country's terrestrial area and 0.0% marine coverage. Out of these, 9 Protected Areas have undergone Management Effectiveness Assessments. A total of 28.26% of Zimbabwe's land area has been conserved and to meet Target 3 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for 30% protection, Zimbabwe still needs to cover an additional 1.74% of its territory.

Data Source: Protected Planet

Software: Arcgis Pro

Production Year: 2025





Conserve Nature. Empower Communities

# Transboundary Transfrontier Conservation Areas

https://rcoe-mapbook.rcmrd.org/

### Transboundary Conservation Areas in Eastern and Southern Africa Region

#### Map description

Transboundary conservation areas (TBCAs) are regions that span international borders and are managed cooperatively by bordering countries to protect biodiversity and natural resources. These areas often include formal protected areas like national parks, but may also encompass other types of land and water management, like wildlife management areas and multiple-use zones. This map shows Transboundary Conservation Areas in Eastern and Southern Africa Region

Data Source: SOPACA

Software: Arcgis Pro

Production Year: 2025



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### Kenya Tanzania Transboundary Conservation Area

#### Map description

This map shows the Kenya Tanzania Transboundary Conservation Area. This is a marine transboundary conservation area between Kenya and Tanzania. The 2 countries are in the process of developing a framework of collaboration on management and governance of the TBCA.

**Data Source:** Western Indian Ocean Marine Science Association - WIOMSA

Software: Arcgis Pro

**Production Year: 2025** 

Credit: RCoE-ESA, WIOMSA, Nairobi Convention



### Transboundary Conservation Areas in Southern African Development Community Region

#### Map description

This map shows Transboundary Conservation Areas in Southern African Development Community Region

Data Source: SADC TFCA Portal

**Software:** Arcgis Pro

Production Year: 2025

Credit: RCoE-ESA





4

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ILLA TO

# Key Biodiyersity Areas

4 / https://rcoé-mapbook.rcmrd.org/ /

### Key Biodiversity Areas in Eastern and Southern Africa Region

#### Map description

Key Biodiversity Areas (KBAs) are areas of international importance for biodiversity conservation. They are identified using globally agreed-upon criteria and are crucial for safeguarding species and their habitats. This map shows the KBAs in Eastern and Southern Africa region.

Data Source: Birdlife International

Software: Arcgis Pro

Production Year: 2025



### Key Biodiversity Areas in Southern African Development Community Region

#### Map description

This map shows the Key Biodiversity Areas in the Southern African Development Community Region.

Data Source: Birdlife International

Software: Arcgis Pro

Production Year: 2025

Credit: RCoE-ESA



### Key Biodiversity Areas in East Africa Community Region

#### Map description

This map shows the Key Biodiversity Areas in the East Africa Community Region

Data Source: Birdlife International

Software: Arcgis Pro

Production Year: 2025

Credit: RCoE-ESA



### Key Biodiversity Areas in Indian Ocean Commission Region

#### Map description

This map shows the Key Biodiversity Areas in the Indian Ocean Commission Region

Data Source: Birdlife International

**Software:** Arcgis Pro

Production Year: 2025

Credit: RCoE-ESA



#### Conserve Nature. Empower Communities

### Key Biodiversity Areas in Intergovernmental Authority on Development Region

#### Map description

This map shows the Key Biodiversity Areas in the Intergovernmental Authority on Development Region

**Data Source:** World Database of Key Biodiversity Areas

Software: Arcgis Pro

Production Year: 2025





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**100** https://rcoe-mapbook.rcmrd.org/

RCoE-ESA Map Book

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## **RCMRD Arts and Maps Competition 2025 Edition**



**Conserve Nature. Empower Communities** 

Total Prize Tag

Euros 16,000

22 May 2025 to 14 November 2025

**RCoE-ESA** 

### 2024 Winners



Amina Chengula (Tanzania) - Overoll winner



High School Category Winner - Anse Royale Secondary School (Seychelles)



Professional category - Biodiversity winner



Professional category - Seascape winner



High School Category Winner - Anse Royale Secondary School (Seychelles)



Primary School Category Winner - Arise Primary School (Tanzania)



Professional category - Forest winner



Primary school winner group photo (Tanzania)



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### **Notable Past Winners**



High School Winner Group Photo



High School Winner- Shree Swaminarayan Academy (Kenya)



Primary School Winner - Valley Bridge Primary School (Kenya)



Primary School Winner

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# FUN FACTS/ DID YOU KNOW

Unlike many land animals, Sea Otters can adjust their vision between two worlds—on land, their eyes function much like ours, but underwater, they shift their focus to see clearly in the dim, blue-green depths.

> Did you know that some fish, like clownfish (Nemo!), can change from male to female if needed?



#water in a year. On average, 40% of rainfall over land originates from evapotranspiration from plants.

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Lulu's Ocean Journey: A Tale of

On a moonlit night along the gold-

en shores of Zanzibar, a tiny crack appeared in the warm, sandy nest. With great effort, Lulu, a baby sea turtle, pushed her way out, joining dozens of her siblings in a frantic race toward the glistening ocean. But danger lurked in the shadows, crabs, seabirds, and ghostly figures of larger predators waited for an easy meal. With instinct as her guide, Lulu scurried across the sand, dodging snapping beaks and scuttling claws, until a cool wave finally swept

Survival and Hope

# Lulu the Little Turtle's Big Journey

#### Her journey had just begun.

her into the vast, endless sea.

The ocean was an unpredictable world, at times, it cradled her in gentle currents, but at others, it turned fierce, tossing her in the raging waves. Along the way, she met wise marine creatures who shared the secrets of survival. Kofi the Coral, a centuries-old reef guardian, warned her of the warming seas that were turning once-vibrant coral homes into lifeless rubble. Mira the Manta Ray, gliding gracefully through the depths, showed Lulu how plastic pollution choked their

**108** https://rcoe-mapbook.rcmrd.org/
beautiful home, trapping fish and harming creatures like her.

As Lulu grew, so did her wisdom. She learned to avoid the deadly drift of plastic bags, which looked hauntingly like jellyfish, her favourite food. She discovered safe feeding grounds, the importance of sea grass meadows, and the hidden dangers caused by human activity. Yet, despite these struggles, she also witnessed acts of kindness, fishermen releasing trapped turtles, children cleaning beaches, and conservationists rescuing injured marine life.

Years passed, and Lulu became a strong, majestic sea turtle. One day, something inside her called her back home. Guided by the ancient pull of the earth's magnetic fields, she embarked on the most important journey of her life. Through changing tides and moonlit waters, she found her way back to the very beach where her story began. As she crawled ashore, her flippers carving gentle trails in the sand, she prepared to lay her own eggs, ensuring that the cycle of life continued.

Lulu's story is one of resilience, survival, and hope. Through her adventures, she teaches us that the ocean's future depends on our choices, reducing plastic waste, protecting marine habitats, and standing

up for conservation. Because every little action, no matter how small, helps creatures like Lulu return home.

In the heart of a small village, nestled between rolling hills and a once-thriving forest, lived a group of adventurous young explorers, Amina, Juma, and their friends. The forest had always been their playground, a place where they could climb trees, chase butterflies, and listen to the songs of birds. But lately, something strange was happening.

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## The Mystery of the Vanishing Trees

#### The trees were disappearing

At first, they noticed just a few stumps where grand old trees once stood. Then, as days passed, the once-dense canopy became patchy, sunlight pouring through empty spaces. The songs of birds grew fainter, and the rustling of leaves in the wind seemed lonelier than before.

Determined to solve the mystery, Amina, the most observant of the group, began taking notes in her journal. Juma, always eager for adventure, suggested they explore deeper into the forest to find clues. With their friends, they set off on a mission.

As they wandered through the woods, they found evidence of

freshly cut stumps, scattered sawdust, and footprints leading towards the village outskirts. It didn't take long before they stumbled upon something alarming, a group of men loading logs onto a truck in the dead of night. Illegal loggers!

The young explorers knew they had to act, but they needed more proof. They decided to document their findings carefully. They borrowed a camera from their school and took pictures. With the help of their teacher, they learned how to use GPS mapping tools to track where trees were being cut down. Over time, they compiled clear evidence that showed a pattern of deforestation spreading through their beloved forest.

Armed with their findings, the children presented their case to the village council. At first, some elders were sceptical. "How can a group of children solve a problem even adults have failed to address?" one of them trees. They also educated farmers questioned.

But as Amina and Juma took turns explaining their evidence, the room fell silent. Their maps showed areas that had already been destroyed, and their photos revealed the illegal activities happening right under their noses. Even the village chief, a man known for his wisdom, nodded in concern.

Moved by the children's determination, the council took immediate action. They worked with local authorities to tighten conservation laws, crack down on illegal logging, and introduce stricter monitoring. But the young explorers didn't stop there.

Realizing that laws alone wouldn't be enough, they launched a tree-planting initiative. With the help of their teacher, they organized the village children and parents to plant new

on sustainable practices, teaching them how to grow crops without clearing more forest land.

Months passed, and the forest slowly began to heal. New saplings took root where once there had been barren land. The songs of birds returned, and small animals, once displaced, started coming back. The village, once divided on the issue, now stood together in protecting their environment.

Through their efforts, Amina, Juma, and their friends learned a powerful lesson, that even the smallest voices can spark great change. Their curiosity had led to action, and their action had helped restore a forest.

And so, the young explorers continued their mission, reminding everyone that the future of their land was in their hand.

## Zuri and the Talking River

One sunny afternoon, Zuri, an adventurous young girl, followed the winding path through the forest to her favourite spot by the river. She loved the way the water sparkled under the sunlight and the soothing sound of its gentle flow. But today, something felt different. The river was speaking!

"Zuri," a deep, flowing voice murmured. "I have been waiting for someone who cares about me." Zuri gasped and looked around. Was she imagining things? "I am the River Maji," the voice continued, "and I have stories to tell."

Intrigued, Zuri sat by the riverbank, listening carefully. The river told her about the past when its waters were crystal clear, and fish swam freely. Birds would sing from the trees, and animals would come to drink without fear. But over time, things changed.

"People began to throw trash into me," Maji sighed. "Factories sent dirty waste into my waters, and oil from boats spread across my surface. My fish friends grew sick, and many disappeared. Even the trees along my banks started to wither." Zuri felt a pang of sadness. She had noticed the plastic bottles and bags floating in the water. She had seen fewer fish and birds. "How can I help?" she asked.

Maji's voice brightened. "You and your friends can do many things! Pick up trash before it reaches my waters, plant trees to protect my banks, and tell others to use less plastic. Even small changes can bring me back to life."

Determined, Zuri gathered her friends from school. They organized a clean-up day, collected waste, and planted new trees. They spoke to the community about protecting the river, and little by little, the water became clearer. Fish returned, and birds sang once more.

One day, as Zuri sat by the river, Maji spoke again. "Thank you, Zuri. Because of you, I can flow freely and nurture life once more." Zuri smiled, knowing that one person's actions could make a world of difference.



## Jabu and the Lost Lion Cub



A young ranger helps reunite a lost lion cub with its pride while learning about wildlife conservation.

Jabu, a curious and determined young ranger, embarks on an unforgettable journey when he stumbles upon a lost lion cub deep in the African savanna.

Separated from its pride, the frightened cub is vulnerable to the dangers of the wild. With guidance from his mentor and the wisdom of the elders, Jabu learns how to track animals, read nature's signs, and understand the delicate balance of the ecosystem.

As he navigates through vast grasslands, encounters other wildlife, and overcomes unexpected challenges, Jabu realizes that conservation is not just about protecting animals but also about respecting their natural habitats. Along the way, he educates his village about human-wildlife coexistence, inspiring them to support conservation efforts.

With patience and determination, Jabu finally reunites the cub with its pride, witnessing the heart-warming moment when the mother lion welcomes her lost baby. This experience cements Jabu's dream of becoming a lifelong protector of wildlife, proving that even the smallest actions can make a big difference in preserving nature for future generations.

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- 1. Nature Scavenger Hunt Find different leaves, birds, and insects in your backyard or park. Identify how they help the environment.
- 3. Wildlife Watching Journal Observe birds, butterflies, or small creatures and note their colours, behaviours, and habitat.

## **REDUCE. REUSE.** RECYCLE CHALLENGE

Create ark using only recycled materials.



 Reduce, Reuse, Recycle Challenge

 Track and reduce waste at home for a week. Make an artwork using only recycled materials.





THE BIODIVERSITY PLAN



Conserve Nature. Empower Communities

### **Conservation Word Search**

С	0	Ν	S	Ε	R	V	Α	Т	Ι	0	Ν	Ε	R	L
$\mathbf{L}$	R	Ε	С	Y	С	$\mathbf{L}$	Ι	N	G	М	U	K	С	Y
Ι	Ε	Ν	D	Α	Ν	G	Ε	R	Ε	D	Ε	S	F	A
М	Ρ	0	$\mathbf{L}$	$\mathbf{L}$	U	т	Ι	0	N	Х	т	т	Ε	R
A	Ι	В	U	K	R	Ε	N	Ε	W	A	В	$\mathbf{L}$	Ε	$\mathbf{L}$
т	V	Ε	А	G	Y	Т	S	Ι	F	D	Ε	М	V	Ε
Ε	Ι	Ν	В	Ι	0	D	Ι	V	Ε	R	S	Ι	Т	Y
F	R	D	Ε	F	0	R	Ε	S	Т	Α	Т	Ι	0	Ν
Ν	Ε	С	0	S	Y	S	Т	Ε	М	0	С	В	Q	R
D	Ι	С	L	Ι	М	А	Т	Ε	Т	N	A	J	A	В
S	U	S	Т	Α	Ι	Ν	A	В	Ι	$\mathbf{L}$	Ι	Т	Y	L
Y	Н	Α	В	I	т	Α	Т	М	Ρ	Y	$\mathbf{Z}$	Α	В	С

Find these words:

biodiversity, habitat, climate, pollution, sustainability, ecosystem, conservation, renewable, endangered, deforestation, recycling



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Guide an elephant through obstacles to reach a waterhole safely.



## ECO-HERO QUIZ

What type of conservationist are you?



Are you a Wildlife Warrior, Ocean Defender, or Forest Guardian? Take this quick quiz to find out which eco-hero identity best matches your personality and passion for the planet!

## **NATURE YOGA** & **MOVEMENT**

LEARN FUN POSES INSPIRED BY ANIMALS LIKE THE BUTTERFLY, TREE, AND TURTLE.



119

## Match the Animal to its Habitat





## GAMES FOR KIDS – BIODIVERSITY, FORESTRY & SEASCAPES

## Young Environmentalists

#### Map Adventure Quest How to Play:

Provide kids with a simplified map showing an animal's migration route or a river's flow. They follow the path, answering simple questions at checkpoints. Completing the journey teaches them about environmental interconnections.

The Migration in Kenya August: Herds cross the Mara River September-November: Mara plains fill with large herds and predators November-December: Rains begin in south; herds move back towards Tanzania to give birth

tripsavvv

The Migration in Tanzania December-March: Herds in northern Tanzania; best time for newborn babies April-May: Herds move west and north; roads are rough due

## **Eco-Detective**

#### How to Play:

Present kids with small environmental mysteries, such as why a river is drying up or why an animal is missing. E.g. Trees are being cut, river is drying, poaching Give clues and let them solve the mystery through discussion and simple research.

## **Eco-Trivia Challenge**

#### How to Play:

Each player answers all 10 questions.

Question types: multiple choice, true/false, and open-ended.

1 point per correct answer.

Open-ended questions can be scored based on key points.

#### **Quiz Questions**

- What is the primary cause of biodiversity loss today?
   A) Natural disasters
  - B) Habitat destruction due to
  - human activity
  - C) Too many predators
- 2. Biodiversity includes genetic differences within species, not just different species. True or False
- 3. Which biome has the highest biodiversity?
  - A) Desert
  - B) Tundra
  - C) Tropical rainforest
- **4. What is an invasive species?** A) A species that helps balance the ecosystem
  - B) A non-native species that disrupts local ecosystems
  - C) A predator that hunts at night
- 5. Name a critically endangered species and explain one reason it's endangered.Open-ended
- 6. Which international agreement aims to conserve global biodiversity?
  A) Kyoto Protocol
  B) Paris Agreement
  - C) Convention on Biological Diver-
  - sity (CBD)

- 7. True or False: **Coral reefs are considered the "rainforests of the sea" because of their rich biodiversity.**
- 8. Which of these actions best helps biodiversity in urban areas?
  - A) Paving over green spaces
  - B) Planting native gardens
  - C) Feeding wild animals daily
- 9. How does climate change threaten biodiversity? Open-ended
- 10. Which of these species is a keystone species?

A) Honeybee B) Earthworm C) Sea offer

B , 2. True, 3. C, 4. B, 5. Amur leopard

 habitat loss and poaching. 6. C, 7. True,
 8.B, 9. Alters habitats, affects food chains,
 causes species migration/extinction., 10. C

#### Scoring Sheet

Player Name Score (out of 10)

#### June: Wildebeest and zebra start moving north; mating season July: Herds reach the Grumeti River; great time for camping

#### Conserve Nature. Empower Communities



### Wood is the Universe's Hidden Treasure

While diamonds, gold, silver, and even water are found in abundance in space, wood is unique to Earth at least as far as we know. Wood is the result of biological life trees growing, photosynthesizing, and forming complex organic material. It's not something formed through physics alone like metals or rocks, but

through life itself, making it incredibly rare in a cosmic context.

So yes next time you see a tree, you're looking at one of the rarest elements in the known universe!

## Sunlight Is a Glimpse into the Past

It takes 5 minutes and 20 seconds for sunlight to reach Earth!

So when you see the Sun, you'ru're looking at it as it was 9 minutes ago.

Light from distant stars can be millions of years old—you're seeing ancient history! **Fun fact:** The Sun is a star.

and it's the closest one to us-about 150 ilion km (93 million miles) away.

## Your Heartbeat Is Uniquely Yours

Just like fingerprints, no two heartbeats are the same, even for identical twins!

Your "heartbeat signature' is shaped by your heart's structure, nerves, and emotions.

A beautiful mystery of human biology!

## You Only Breathe Through One Nostril at a Time

Sounds strange, but it's true! Your body switches nostrils evey few hours in a cycle called the nasal cycle.

It keeps your nose healthy and your sensef smell sharp. You might noticeit most when you have a cold!

## A Year Isn't Exactly 365 Days

Earth's orbit takes 365 days, 5 hours, 48 minutes, and 45 seconds.

That's why we have leap years—adding February 29th every four years.

It keeps our calendars synced with the real orbit of Earth around the Sun.

FEBRUARY







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BUT BEWARE... we are not alone



Scan this QR Code to view this trailer



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## RCoE-ESA Map Book



### **Glossary of Terms**

#### Α

- ☐ Africa Biodiversity Hotspots Regions in Africa characterized by exceptionally high species diversity, a large number of endemic species found nowhere else in the world, and a significant concentration of threatened or endangered species.
- Arts and Maps An initiative designed to engage youth and communities in raising awareness, promoting creativity, and fostering knowledge sharing around key environmental and conservation issues—particularly in the areas of biodiversity, forests, and seascape ecosystem management.

#### В

- Biodiversity The variety of plant and animal life in a particular habitat, ecosystem, or on Earth as a whole.
- Buffer Zone A designated area around a protected site that minimizes external impacts on biodiversity.
- Baseline Data Initial environmental and spatial data used as a reference for monitoring changes over time.

#### С

- Climate Change Long-term alterations in temperature, precipitation, and other atmospheric conditions caused by natural and human-induced factors.
- Conservation Area A designated region protected for biodiversity, ecosystem services, and sustainable use.
- Carbon Sequestration The process by which forests, oceans, and other ecosystems absorb and store carbon dioxide from the atmosphere.

Π

**Deforestation** – The large-scale clearing

of forests, leading to habitat loss and environmental degradation.

- Digital Elevation Model (DEM) A 3D representation of a terrain's surface, commonly used in geospatial analysis.
- Disaster Risk Reduction (DRR) Strategies and measures aimed at minimizing damage caused by natural hazards and climate-related disasters.
  - **Ecoregion** Areas in Eastern and Southern Africa in which ecosystems (in nature, quality, and quantity of environmental resourc-

es) are generally similar.

- Ecosystem A community of living organisms interacting with their physical environment.
- Ecosystem Services The benefits that humans derive from natural ecosystems, including clean air, water filtration, and climate regulation.
- Endangered Species A species at risk of extinction due to habitat loss, poaching, or climate change.
- Forest Degradation The reduction in a forest's ability to provide ecosystem services due to human activity or natural disturbances.
- Fragmentation The breaking up of large habitats into smaller, isolated sections, often due to urban development or deforestation.
- G

F

Е

Π

Geoportal – An online platform for accessing and visualizing geospatial data and maps.

- Geospatial Analysis The process of gathering, displaying, and interpreting data related to specific locations on Earth's surface.
- Global Biodiversity Framework (GBF)

   A strategic plan established to protect biodiversity and promote sustainable development.
- Great Blue Wall (GBW): A regional initiative restoring marine ecosystems, enhancing biodiversity, and supporting sustainable blue economies.
- Habitat Loss The destruction or alteration of natural environments, reducing the ability of species to survive.
- Hotspot (Biodiversity Hotspot) A region that is rich in biodiversity but is threatened by human activities.
- Indigenous Knowledge Traditional ecological knowledge held by local and indigenous communities regarding their natural environment.
- Integrated Conservation Planning The strategic management of ecosystems to balance conservation and sustainable development.

Land Use Planning – The process of organizing land resources for urban development, agriculture, and conservation.

Landscape Connectivity – The degree to which different habitats are connected, allowing species to move freely and sustain populations.

Μ

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I.

- Mangrove Ecosystem Coastal wetlands that serve as vital carbon sinks and protect against coastal erosion.
- Marine Protected Area (MPA) A designated ocean or coastal region managed for biodiversity conservation and sustainable use.

#### Ν

- Nature-Based Solutions (NbS) Conservation approaches that use natural processes to address environmental and social challenges.
- Non-Governmental Organization (NGO) – An independent organization focused on environmental conservation, human rights, or social issues.
- Ρ
- Protected Area (PA) A legally designated region aimed at preserving biodiversity and natural resources.
- Protected Area Management Effectiveness - Assessments of how effectively protected areas are managed, with a focus on the extent to which management efforts are safeguarding conservation values and achieving established goals and objectives methodologies of which are based on the framework developed by the IUCN World Commission on Protected Areas (WCPA), providing a structured approach to evaluating management performance.

R

**RAMSAR Site** – A wetland of international importance designated under the RAMSAR Convention.

Regional Economic Communities - These are regional groupings of states/ countries, especially in Africa, established to facilitate greater economic integration and cooperation.

- Remote Sensing The use of satellite or aerial imagery to collect data about Earth's surface.
- Restoration Ecology The scientific study of renewing degraded ecosystems to restore biodiversity and ecosystem functions.
- S
- Seascape Conservation The integrated management of marine and coastal ecosystems for biodiversity protection and usustainable use.
- Species Protection Index This measure assesses how much suitable habitat for a specific species is currently within protected areas, helping to determine whether conservation efforts are effectively safeguarding the ecosystems that species rely on for survival. It also estimates the biodiversity representativeness of terrestrial protected areas at regional or global levels; evaluating how well these areas capture the full range of ecosystems, species, and genetic diversity across different landscapes.
- Sustainable Development Development that meets present needs without compromising the ability of future generations to meet theirs.

Т

#### **Transboundary Conservation Area**

- Collaborative efforts by neighbouring countries to manage shared natural resources across borders, promoting joint planning, sustainable use, and protection of ecosystems that span multiple nations. This cooperation not only benefits biodiversity but also strengthens regional ties and supports the livelihoods of communities living near these shared resources.

- Transfrontier Conservation Area (TFCA) - As defined by the 1999 SADC Protocol, is a cross-border ecological region that includes protected and resource use areas in two or more countries. TFCAs aim to promote joint management of shared natural and cultural resources to enhance biodiversity conservation and socio-economic development.
- Traditional Ecological Knowledge (TEK)

   Indigenous understanding of ecological systems passed down through generations.
- UNESCO Biosphere Reserve A globally recognized area that promotes biodiversity conservation, research, and sustainable development.

W

- Watershed Management The strategic planning and conservation of water resources in a specific drainage basin.
- Wildlife Corridor A natural pathway that connects habitats, allowing species to migrate and maintain genetic diversity.

#### List of Acronyms

Α

- AFR100 African Forest Landscape Restoration Initiative
- AU African Union
- AUDA-NEPAD African Union Development Agency New Partnership for Africa's Development

#### Conserve Nature. Empower Communities

#### В

- BES Biodiversity and Ecosystem Services
- **BR** Biosphere Reserve

#### С

- **CBD** Convention on Biological Diversity
- CIFOR-ICRAF Center for International Forestry Research – World Agroforestry Centre
- COP Conference of the Parties (UN Climate & Biodiversity Conventions)
- CWR Crop Wild Relatives

#### D

- DEM Digital Elevation Model
- DRR Disaster Risk Reduction

#### Ε

- EAC East African Community
- ECOWAS Economic Community of West African States
- EIA Environmental Impact Assessment
- **EO** Earth Observation
- ESRI Environmental Systems Research Institute
- **EU** European Union

#### F

G

- FAO Food and Agriculture Organization of the United Nations
- **FREL** Forest Reference Emission Level
- **GBF** Global Biodiversity Framework

- □ **GEE** Google Earth Engine
- **GFW** Global Forest Watch
- **GIS** Geographic Information System
- GIZ Deutsche Gesellschaft f
  ür Internationale Zusammenarbeit (German Development Agency)
- **GPS** Global Positioning System
- IUCN International Union for Conservation of Nature
- IMET Integrated Management Effectiveness Tool
- IPBES Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
- IPCC Intergovernmental Panel on Climate Change
- IPLC- Indigenous People and Local Communities

#### Κ

Т

- **KM** Knowledge Management
- KMGBF Kunming-Montreal Global Biodiversity Framework
- □ **LIDAR** Light Detection and Ranging
- LULC Land Use and Land Cover

#### Μ

L

- MAB Man and the Biosphere Programme (UNESCO)
- MEA Multilateral Environmental Agreement

MPA – Marine Protected Area

#### N

- **NBS** Nature-Based Solutions
- **NGO** Non-Governmental Organization
- NBSAPs National Biodiversity Strategy and Action Plans
- NDC Nationally Determined Contribution (under the Paris Agreement)
- PA Protected Area
- PAME Protected Area Management Effectiveness
- PES Payment for Ecosystem Services

#### R

Ρ

- RCMRD Regional Centre for Mapping of Resources for Development
- REDD+ Reducing Emissions from Deforestation and Forest Degradation Plus
- REC Regional Economic Community
- RCoE Regional Center of Excellence
- **RS** Remote Sensing

#### S

- SADC Southern African Development Community
- SAGE Spatial Analysis for Geospatial Evaluation
- **SDG** Sustainable Development Goal
- SFM Sustainable Forest Management
- **SUA** Sustainable Use Areas

#### Т

- TEEB The Economics of Ecosystems and Biodiversity
- **TEK** Traditional Ecological Knowledge
- **TFCA** TransFrontier Conservation Area

#### U

- **UN** United Nations
- UNCCD United Nations Convention to Combat Desertification
- UNDP United Nations Development Programme
- UNEP United Nations Environment Programme
- UNESCO United Nations Educational, Scientific and Cultural Organization

#### W

- WCMC World Conservation Monitoring Centre
- **WHC** World Heritage Convention
- WRI World Resources Institute
- WWF World Wide Fund for Nature

Conserve Nature. Empower Communities

# Nature is not a place to visit. It is home Gary Snyder







Regional Centre for Mapping of Resources for Development

RCMRD

https://rcoe-mapbook.rcmrd.org/

LEGAR SHE

