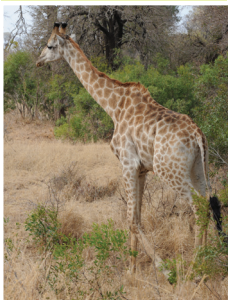


POCKET GUIDE TO SOUTH AFRICA



ENVIRONMENT

ENVIRONMENT

South Africa has a wide range of climatic conditions and many variations in topography, such as a narrow coastal plain, a steep escarpment and a large plateau.

The country is rich in diverse species. Though it has a land surface area of 1,2 million km² – representing just 2% of the Earth's total land surface – South Africa contains almost 10% of the world's total known bird, fish and plant species, and over 6% of the world's mammal and reptile species.

The vision of the Department of Environmental Affairs is to create a prosperous and equitable society living in harmony with the environment.

Government leads protection of the environment by example. At regional level, the provincial conservation agencies are major role players, and independent statutory organisations such as South African National Parks (SANParks) and the South African National Biodiversity Institute (Sanbi) are valuable partners in the country's total conservation effort.

South Africa has taken several concrete steps to implement the United Nations' (UN) Agenda 21 on Sustainable Development. These include reforming environmental policies, ratifying international agreements and participating in many global and regional sustainable-development initiatives.

Environmental heritage

South Africa became a signatory to the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation to the

Important dates:

- World Wetlands Day: 2 February
- National Water Week: 19 to 25 March
- Earth Day: 20 March
- World Water Day: 22 March
- World Meteorological Day: 23 March
- World Environment Day: 5 June
- World Oceans Day: 8 June
- World Desertification Day: 17 June
- National Arbour Week: 1 to 7 September
- International Day for the Protection of the Ozone Layer: 16 September
- World Tourism Day: 27 September
- World Habitat Day: 4 October
- National Marine Day: 20 October



South Africa, as a biodiversity-rich country, is committed to the conservation and sustainable management of biological resources, and is signatory to the following biodiversity-related multilateral agreements:



- Convention on Biological Diversity
- Cartagena Protocol on Biosafety
- Ramsar Convention
- Convention on International Trade in Endangered Species
- Convention to Combat Desertification
- Convention on Migratory Species
- Nagoya Protocol.

Convention on Biological Diversity on 11 May 2011. South Africa is the third-most biologically diverse country in the world, after Indonesia and Brazil. These countries harbour most of the Earth's species and collectively contain more than two thirds of global biodiversity. Therefore, South Africa attaches great importance to the Nagoya Protocol.

South Africa occupies only 2% of the world's surface area but is home to nearly 10% of the world's plants (approximately 24 000 species), around 7% of the world's vertebrate species and 5,5% of the world's known insect species (only about half of the latter have been described).

In terms of the number of endemic species of mammals, birds, reptiles and amphibians, South Africa ranks as the fifth-richest country in Africa and the 24th-richest in the world.

Marine biological diversity is also high. Over 11 000 species are found in South African waters, which is about 15% of global species, with more than 25% of these marine species (or 3 496 species) being endemic to South Africa. A high proportion are threatened, especially in river ecosystems (82%) and estuaries (77%).

Three internationally recognised biodiversity hotspots are found in South Africa: the Cape Floral Kingdom (equivalent to the Fynbos Biome), Succulent Karoo Biome (shared with Namibia) and the Maputaland-Pondoland-Albany Centre of Plant Endemism, which stretches from the Albany Centre in the Eastern Cape, through the Pondoland Centre of Plant Endemism and KwaZulu-Natal, the eastern side of Swaziland and into southern Mozambique and Mpumalanga. The Succulent Karoo Biome is one of only two arid biodiversity hotspots in the world, the other being the Horn of Africa.

In May 2011, South Africa's Chelsea Flower Show entry, *Botanical Landscapes*, which highlighted the indigenous plants of the Western and Northern Cape, scooped the country's 31st gold medal at the prestigious event in London.



The display showed off South Africa's fynbos, and in particular the Richtersveld sector featured some rare plants from the Karoo, unseen before at Chelsea.

Biodiversity is protected and promoted through institutions and initiatives such as the:

- South African Biodiversity Facility
- South African Biosystematic Initiative
- South African Environmental Observation Network
- Biobank South Africa
- Sanbi.

Biomes

There are eight major terrestrial biomes, or habitat types, in South Africa. These biomes can, in turn, be divided into 70 veld types.

The biomes are the Savanna, Nama-Karoo, Succulent Karoo, Grassland, Fynbos, Forest, Thicket and Desert. The Fynbos Biome is one of only six floral kingdoms worldwide.

Conservation areas

By mid-2011, South Africa had 528 protected areas, of which 20 were marine, totalling 7,5 million ha or 6,2% of the land area.

South Africa aims to expand the conservation areas under formal protection to the international standard of 10% of the total area of the country. The Department of Environmental Affairs has developed mechanisms for the establishment and expansion of protected areas.

South Africa's third Butterfly Census Week took place from 23 April to 1 May 2011, as part of the Southern African Butterfly Conservation Assessment Project. It is hoped that this will become a regular biannual event to collect important information, which can be used to monitor the country's butterflies. This will help to understand the impact of land use and climate change and monitor ecosystem health.



National Geographic has named South Africa's Kirstenbosch National Botanical Garden one of the world's best picnic spots.



Kirstenbosch, which was established in 1913 to conserve and showcase the diverse flora of southern Africa, is widely celebrated as one of the great botanical gardens of the world. Picnicking is a favourite local pastime, and the tranquillity and beauty of Kirstenbosch makes it one of the most scenic places to relax on the lawns and enjoy a truly South African spread.

Scientific reserves

These are sensitive, undisturbed areas managed for research, monitoring and maintenance of genetic sources. Access is limited. Examples are Marion Island and the Prince Edward Islands near Antarctica.

Wilderness areas

These areas are extensive in size, uninhabited, and underdeveloped, and access to them is strictly controlled. Examples are the Cederberg Wilderness Area and Dassen Island in the Western Cape.

National parks and equivalent reserves

SANParks manages a system of parks which represents the indigenous fauna, flora, landscapes and associated cultural heritage of the country. Of all the national parks, most have overnight tourist facilities, with an unrivalled variety of accommodation in arid, coastal, mountain and bushveld habitats.

National parks offer visitors an unparalleled diversity of adventure-tourism opportunities, including game viewing, bush walks, canoeing and exposure to cultural and historical experiences. Conferences can also be organised in many of the parks.

In October 2011, South Africa launched the National Climate Change Response Policy. The policy gives the country a clear roadmap for responding to the urgency of climate change as it pushes towards a "green" economy. The timing of the policy was set to give South Africa some influence during its hosting of the 17th United Nations Framework Convention on Climate Change Conference of the Parties change negotiations. South Africa's future sustainable development, economic growth and quality of life will, as with other countries, hinge largely on the impacts of climate change.



In an effort to fight the escalation in rhino poaching, particularly in the Kruger National Park, a joint operation, known as the National Wildlife Reaction Unit, has been established between South African National Parks, the Department of Environmental Affairs, the South African Police Service, the National Prosecuting Authority, provincial conservation authorities and provincial government structures.



South Africa has the following national parks:

- Addo Elephant National Park
- Agulhas National Park
- Augrabies Falls National Park
- Bontebok National Park
- Camdeboo National Park
- Garden Route (Tsitsikamma, Knysna and Wilderness) National Park
- Golden Gate Highlands National Park
- Karoo National Park
- Kgalagadi Transfrontier Park
- Kruger National Park
- Mapungubwe National Park
- Marakele National Park
- Mokala National Park
- Mountain Zebra National Park
- Namaqua National Park
- Table Mountain National Park (which incorporates the Cape of Good Hope, Table Mountain and Silvermine nature reserves)
- Tankwa Karoo National Park
- West Coast National Park.

Between 2007/08 and 2010/11, SANParks acquired 147 040 ha of land. Despite the global economic downturn, average occupancy grew by 7,5% (from 56,2% to 58%).

South Africa is in the process of establishing transfrontier conservation areas (TFCAs) in cooperation with its neighbouring countries.

The conservation status of the areas within these TFCAs varies from national parks, private game reserves and communal natural-resource management areas to hunting concession areas. Though fences, highways, railway lines or other barriers separate the constituent areas, they are managed jointly for long-term sustainable use of natural resources.

Cape Town's Table Mountain National Park is home to the world's only jumping cockroach, which was named one of the top 10 specie discoveries of the year by an international panel of experts in May 2011. *Saltoblattella montistabularis* is just 1 cm long with powerful hind legs and bulging eyes.



Table Mountain draws more than four million tourist visits every year, and the Silvermine area where the cockroach was found is a 10-minute drive from central Cape Town.

TFCAs aim to facilitate and promote regional peace, cooperation and socio-economic development. The success of TFCAs depends on community involvement. In turn, TFCAs are likely to provide local communities with opportunities to generate revenue.

TFCAs allow tourists easy movement across international boundaries into adjoining conservation areas.

The seven TFCAs are as follows:

- Ai-Ais/Richtersveld TFCA
- Great Limpopo Transfrontier Park
- Greater Mapungubwe (former Limpopo-Shashe) TFCA
- Kavango-Zambezi
- Kgalagadi Transfrontier Park
- Lubombo Transfrontier Conservation and Resource Area
- Maloti-Drakensberg Transfrontier Conservation and Development Area

The National Environmental Management: Protected Areas Amendment Act, 2004 protects South Africa's biosphere reserves, which are generally formed around existing core conservation areas.

Biosphere reserves include outstanding natural beauty and biological diversity, exist in partnership with a range of interested landowners and can incorporate development, as long as it is sustainable, while still protecting terrestrial or coastal ecosystems.

South Africa added a sixth biosphere reserve to its register when the Vhembe region of Limpopo became one of 22 newly proclaimed reserves by the UN Educational, Scientific and Cultural Organisation (Unesco). The new biospheres, located in 17 countries, were added to Unesco's World Network of Biosphere Reserves during the 21st session of the International Coordinating Council of the Man and the Biosphere Programme. By June 2012, the total stood at 580 sites in 114 countries.

ENVIRONMENT

The other biosphere reserves in South Africa are:

- Cape West Coast Biosphere Reserve
- Cape Winelands Biosphere Reserve
- Kogelberg Reserve
- Kruger-to-Canyons Biosphere Reserve
- Waterberg Biosphere Reserve.

The Gouritz Cluster has been nominated for incorporation into the World Network of Biosphere Reserves as South Africa's seventh biosphere reserve.

National and cultural monuments

These are natural or cultural features, or both, and may include botanical gardens, zoological gardens, natural heritage sites and sites of conservation significance.

World heritage sites

By June 2012, the World Heritage List included 936 properties forming part of the cultural and natural heritage. These included 725 cultural, 183 natural and 28 mixed properties in 153 state parties. By March 2012, 189 state parties had ratified the World Heritage Convention.

South Africa has eight world heritage sites proclaimed by Unesco, namely:

- Robben Island
- iSimangaliso Wetland Park
- the hominid sites at Swartkrans, Sterkfontein and Kromdraai (known as the Cradle of Humankind)
- Ukhahlamba-Drakensberg Park (a mixed natural and cultural site)
- Mapungubwe Heritage Site
- Cape Floral Kingdom
- Vredefort Dome
- Richtersveld Cultural and Botanical Landscape.

Red data books (RDBs) are lists of threatened plants and animals specific to a certain region. They are a vital source of information in guiding conservation decisions. South Africa has produced five RDBs dealing with each of the following: birds, land mammals, fish (freshwater and estuarine only), reptiles and amphibians, and butterflies.



In July 2011, the Addo Elephant National Park celebrated 80 years of conservation and tourism.



First proclaimed in July 1931 to save the last remaining elephants in the area, the park has, in the last decade, grown to 180 000 ha, making it the third-largest national park in the country.

The top conservation landmarks in the park are the:

- introduction of lions in 2003
- proclamation of a marine protected area around Bird Island in 2005
- amalgamation of the main game area and Colchester areas of the park in 2010.

The establishment of the Mayibuye Ndlovu Development Trust in 2005 and a profit-sharing agreement ensure that communities receive tangible benefits from the park.

Habitat and wildlife management areas

These areas include conservancies; provincial, regional or private reserves created for the conservation of species, habitats or biotic communities; marshes; lakes; and nesting and feeding areas.

Sustainable-use areas

These areas emphasise the sustainable use of products in protected areas such as the Kosi Bay Lake System in KwaZulu-Natal.

Wetlands

Wetlands include a wide range of inland and coastal habitats – from mountain bogs, fens and midland marshes to swamp forests and estuaries, linked by green corridors of streambank wetlands.

By 2011, about 115 000 wetlands, covering over four million ha and comprising close to 4% of the country's total surface area, had been mapped in South Africa.

The Working for Wetlands Programme focuses on wetland restoration, while maximising employment creation, support for small, medium and micro-enterprises and skills transfer.

Many wetland plants have medicinal value. In South Africa, traditional medicine is the preferred primary healthcare choice for about 70% of the people. Wetlands provide some of the 19 500 tons of medicinal plant material, which are used by some 28 million South Africans every year.

Sanbi manages the Working for Wetlands Programme, with its offices based at the Pretoria National Botanical Garden.

In September 2011, the R11,5-million Working for the Coast: Umthamvuna to Umkomaas Project was launched, creating 112 jobs. The project was part of International Coastal Clean-Up Day (ICCD). It aims to create awareness about the importance of conserving oceans for sustainable development that contributes to economic growth and development, and for recreational purposes.



The theme for the 2011 ICCD was *Trash-Free Seas* and it was one of the country's build-up activities towards the 17th Conference of the Parties to the United Nations Framework Convention on Climate Change and the 7th Session of the Conference of the Parties serving as the meeting of the parties to the Kyoto Protocol, held in Durban towards the end of 2011.

In 2011/12, the Working for Wetlands Programme rehabilitated 427 wetlands and created some 10 000 short-term work opportunities for people from vulnerable and marginalised communities.

Botanical gardens

Sanbi manages nine national botanical gardens (NBGs) in six of South Africa's nine provinces. The gardens collectively attract over 1,25 million visitors a year, are signatories to the International Agenda for Botanic Gardens in Conservation and founding members of the African Botanic Gardens Network.

The largest garden is Kirstenbosch, situated on the eastern slopes of Table Mountain in Cape Town. There are more than 7 000 species in cultivation at Kistenbosch, including many rare and threatened species.

The other gardens in the national network are the Karoo Desert in Worcester, Harold Porter in Betty's Bay, Free State in Bloemfontein, KwaZulu-Natal in Pietermaritzburg, Lowveld in Mbombela, Walter Sisulu in Roodepoort/Mogale City, the Pretoria NBG and Hantam in the Northern Cape.

The Pretoria NBG houses the National Herbarium of South Africa, the largest in the southern hemisphere.

Zoos

There are a number of zoological gardens in South Africa. The 85-ha National Zoological Gardens (NZG) of South Africa in Pretoria is one of the world's 10 best. It attracts more than 600 000 visitors annually. The national zoo is responsible

for the biodiversity conservation centres in Lichtenburg and Mokopane, and the satellite zoo and animal park at the Emerald Animal World complex in Vanderbijlpark.

The NZG is a national research facility, which presents an opportunity for the zoo to reposition itself as one of the world leaders in breeding and researching endangered species.

The NZG in Pretoria houses 3 117 specimens of 209 mammal species, 1 358 specimens of 202 bird species, 3 871 specimens of 190 fish species, 388 specimens of four invertebrate species, 309 specimens of 93 reptile species and 44 specimens of seven amphibian species.

The total length of walkways in the zoo is about 6 km.

Marine protected areas (MPAs)

MPAs conserve natural environments and assist in the management of fisheries by protecting and rebuilding economically important stocks. They are also used to develop and regulate coastal ecotourism opportunities.

Government shares joint responsibility for South Africa's MPAs with SANParks and Ezemvelo KwaZulu-Natal Wildlife.

South Africa's MPAs include the:

- Aliwal Shoal MPA, KwaZulu-Natal
- Betty's Bay MPA, Western Cape
- Bird Island MPA, Eastern Cape
- De Hoop MPA, Western Cape
- Dwesa-Cwebe MPA, Eastern Cape
- Goukamma MPA, Western Cape
- False Bay MPA, Western Cape
- Hluleka MPA, Eastern Cape
- Robberg MPA, Western Cape
- Sardinia Bay MPA, Eastern Cape
- Stilbaai MPA, Western Cape
- Table Mountain MPA, Western Cape
- Trafalgar MPA, KwaZulu-Natal
- Tsitsikamma MPA, Western Cape
- iSimangaliso MPA, KwaZulu-Natal
- Langebaan Lagoon, Sixteen Mile Beach, Malgas Island, Marcus Island, Jutten Island MPA, Western Cape
- Pondoland MPA, Eastern Cape.

In September 2011, the Amathole MPA was announced. It is an important addition to South Africa's network of coastal MPAs. It comprises three separate marine areas, namely

Pocket Guide to South Africa 2011/12

ENVIRONMENT

the Gxulu, Gonubie and Kei areas. It will provide formal and long-term protection to the inshore marine habitat and biodiversity of the Eastern Cape.