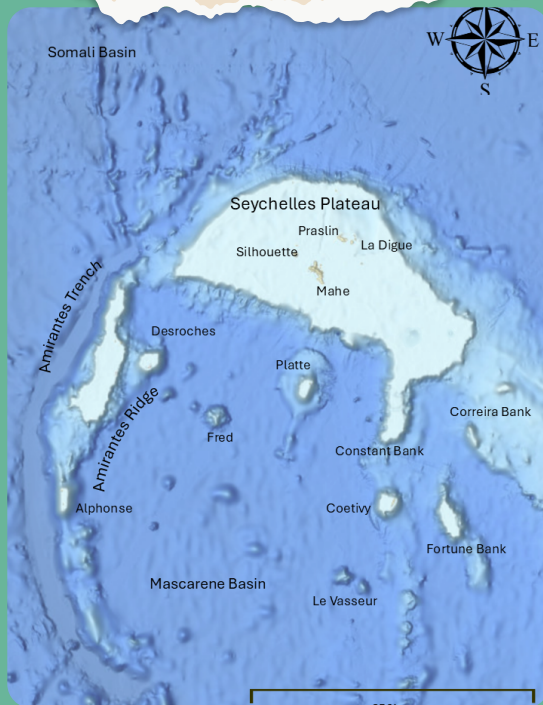


Importance of this book

- This publication is an invaluable resource for comprehending how Seychelles' unique geology has sculpted its ecosystems, economy, and cultural identity.
- This book has tangible resources which equips policymakers, researchers, and educators with the necessary tools to make informed decisions regarding sustainable resource management and disaster resilience.
- It bridges the past with the future, underscoring the importance of conserving the Seychelles' geological and marine heritage while fostering innovation within the Blue Economy.



The rich geological heritage of Seychelles is not only a source of pride but also a powerful driver of sustainable development.

Role of Geology in the Blue Economy

- The Seychelles Plateau, encompassing over 40,000 square kilometers, stands as one of the largest shallow-water platforms in the region. This extensive geological feature underpins thriving fisheries, marine tourism, and biodiversity hotspots.
- The unique underwater topography of the plateau facilitates nutrient upwelling, which fuels productive tuna fisheries. These fisheries are a cornerstone of the economy, contributing significantly to national revenue.
- Coral reefs adorning the plateau, often referred to as the "rainforests of the sea," provide habitats for over 1,000 species of fish. These reefs act as natural barriers against coastal erosion, playing a crucial role in climate resilience.



The Seychelles Micro-Continent

The Geology behind the Seychelles
Blue Economy



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SEYCHELLES IS THE ONLY GRANITIC ARCHIPELAGO IN THE WORLD THAT IS NOT CONNECTED TO A LARGER CONTINENT.

5 Facts about Seychelles Geology

★ Mystery of raised Coraline Islands

During periods of fluctuating sea levels, coral reefs formed underwater became exposed as the waters receded, creating these stunning raised features.

★ Oceanic Islands aren't built to last

Oceanic islands, like Seychelles' volcanic counterparts, begin as underwater volcanoes. Over time, these islands subside as their volcanic activity wanes and erosion takes over.

★ Hidden Ally in the fight against Climate Change

Over millions of years, Seychelles carbonate sediments, formed by coral reefs and marine organisms, have acted as a natural carbon sink, capturing and storing vast amounts of CO₂ from the atmosphere.

★ Fueling Scientific Discovery

The rocks beneath the plateau are more than relics of history. They are vital for understanding global processes. From studying climate patterns millions of years ago to tracing the evolution of oceanic currents, these formations are helping unlock the mysteries of Earth's dynamic systems.

★ Future of Energy Beneath the Sea

Preliminary studies suggest potential for harnessing renewable offshore energy, including wind and wave power, ensuring Seychelles' continued leadership in balancing progress with environmental stewardship.

Introduction

The Blue Economy emphasizes the delicate balance between leveraging oceanic opportunities and preserving the natural environment for future generations. Recognizing the profound connection between Seychelles' unique geology and the success of its Blue Economy, the Blue Economy Department with the support of Organisation de la Francophonie, received a 13,502 Euro grant for this endeavor culminated in the publication of "*The Seychelles Micro-Continent*". This groundbreaking book highlights our geological heritage, serving as an important resource for education, research, and sustainable development.

Seychelles' Geological Edge in the Blue Economy

The Seychelles Plateau, a submerged micro-continent, is a vast expanse of shallow seabed. Its unique structure acts like a nutrient pump, bringing minerals from the ocean depths to the surface. This creates an ideal environment for phytoplankton blooms, the base of the marine food chain. These nutrient-rich waters attract schools of tuna, a vital species in global seafood markets.

The plateau's bathymetric features, like ridges, trenches, and flat expanses, serve as critical habitats for fish to feed, reproduce, and thrive. Without these natural underwater "nurseries," marine biodiversity—and the thriving tuna industry—would not exist as we know it.



The Magic of Geographic Isolation

Situated between 1° and 12° East, and 46° to 56° South, Seychelles' isolation has created a haven for species found nowhere else on Earth. Over time, these species evolved to thrive in this unique environment:

- **Coco de Mer:** The world's largest seed, only on Praslin and Curieuse.
- **Seychelles Black Parrot:** A bird so elusive, it can only be found in the Vallée de Mai.
- **Aldabra Giant Tortoise:** Slow-moving icons of the Seychelles, adapting perfectly to their isolated atolls.

The boomerang of the Amirantes Ridge

The Amirantes Ridge is a 550-kilometer bathymetric wonder that looks like a boomerang beneath the sea. It was formed when Seychelles' continental crust moved over oceanic crust, creating the ridge and trench. This geological movement carved out a striking underwater feature that is now a biodiversity hotspot.

Seychelles isn't just a tropical paradise—it's a global leader in tuna fisheries, earning over \$500 million annually. But what makes Seychelles such a magnet for tuna and other marine life? The answer lies beneath the waves, in the shallow depths and remarkable topography of the Seychelles Plateau.