

South African Biodiversity & Conservation Expedition







#### Composed and guided by: Dr. Kamil E. Frankiewicz

**Based on the** 16 Days / 15 Recommended An exciting Cambridge A-Nights route across period: July-Level Biology September / South Africa Curriculum January-February +1 (770) 324-0068 info@southernskyadventures.com www.southernskyadventures.com 🚩 schools@ssa.email

# WHY SOUTH AFTZICA?



The biodiversity of South Africa is truly astounding, with over 22,000 species of plants it is one of the most botanically rich areas on our planet. Within this remarkable country lies the Cape Floristic Region, a treasure trove of unique fynbos vegetation, consisting of nearly 10,000 plant species, an astonishing 69% of which are found nowhere else on Earth. To the North, fynbos is replaced by the Karoo, a vast semi-desert hosting an array of plant life forms that have evolved to thrive in its arid environment, from resilient succulents to hardy shrubs. South African botanical wealth is matched only by the Neotropics!

However, South Africa's natural wonders do not end with its flora. It is also a sanctuary for iconic animal species, such as elephants, lions, giraffes, and rhinos, that can be

observed in unparalleled numbers. Its waters are teeming with marine life, including the mesmerizing giant kelp forests off the coast of Cape Town, where

various fish species come to feast and breed. Beyond its remarkable biodiversity, South Africa has a long and rich history of advocating for human rights. Cape Town, with its lively neighborhoods like Bo-Kaap

and historic sites like Robben Island where Nelson Mandela was once imprisoned, offers profound insights

into the struggles and triumphs of its diverse communities. A melting pot of cultures, with influences from Dutch, British, African, and Asian communities, Cape Town is a city with a captivating past and a rich Cape Malayan heritage.

Together, South Africa's Cape Floristic Region, Karoo, and Cape Town offer a unique blend of biodiversity, landscapes, endemic species, and cultural history that promises to be a truly enriching experience. Exploring this part of the world is guaranteed to deepen your appreciation for the wonders of nature and humanity's efforts to protect and preserve them.

### A LETTER FROM YOUTZ GUIDE

Welcome to the biodiversity bonanza of South Africa! Get ready to embark on a journey of exploration and discovery with myself, Kamil Frankiewicz, as your guide. I completed my PhD



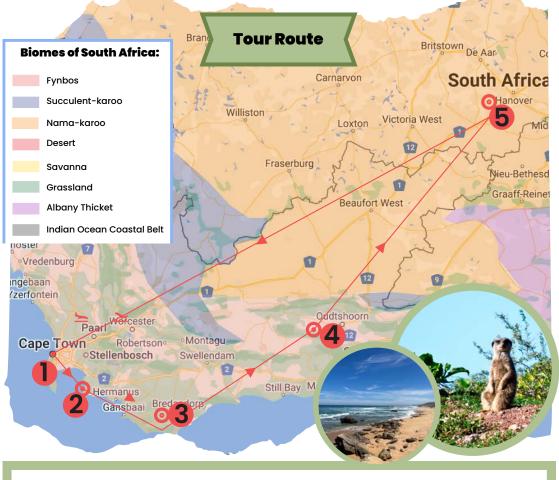
in biology at the University of Warsaw, and completed postdoctoral stints at the University of Cape Town, South African National Biodiversity Institute (SANBI), and São Paulo State University. I am also pleased to be a tutor at the SmartUP program managed by Akademeia. Many of my students have become Biology Olympiad Laureates, some of which have even won international competitions, and have gone on to study at renowned universities such as Harvard, University College London, Toronto University, and many others.

I am thrilled to be leading you on an incredible journey that will take us from the vibrant city of Cape Town, through the striking Cape Floristic Region, and into the enchanting Little Karoo! During your Southern African adventure, you will be conducting your own research project aimed at measuring biodiversity levels of three distinct vegetation types and using statistical analysis to identify drivers of their unparalleled biological wealth. Do not worry if you are new to statistics - I will be there to teach you all the necessary principles. You will be using the programing language R in combination with R-studios both of which are indispensable tools in modern science, so that you can contribute to real scientific findings.

This journey will take conservation to the next level with thrilling, hands-on activities that let you work alongside experienced conservationists and biologists. Get ready to roll up your sleeves and make a real impact! From land-based conservation efforts like tracking cheetahs in their natural habitat, studying the behavior of meerkats, and contributing to forest protection, to marine activities that involve exploring fascinating kelp forests and studying elusive shysharks. You will actively be participating in efforts to protect South Africa's unique biodiversity.

Our trip is based on the Cambridge A-level biology syllabus and will provide you with unique hands-on experiences that go beyond the classroom. You will have the opportunity to work with conservationists, conduct your own research, and gain skills that will enrich your CV and set you apart when applying for universities. Get ready for an unforgettable journey that will broaden your horizons and create lifelong memories. Embark on this incredible trip and unlock a world of learning and discovery!

Kamil E. Frankiewicz, PhD



Join us on a thrilling 16-day expedition to the awe-inspiring landscapes of South Africa, where the Cape Floristic Region awaits with its extraordinary biodiversity. Leave the textbooks behind and immerse yourself in hands-on field experiences, such as estimating biodiversity levels, germinating seeds in elephant dung, tracking cheetahs, tagging shysharks and swimming with sea lions! Guided by an experienced biologist, you'll gain insights into the delicate balance of ecosystems, the challenges of conservation, and the importance of sustainable practices. We'll also explore Cape Town, from the historic Robben Island to the iconic Table Mountain, and even meet the charming jackass penguins made famous by the Netflix series "Penguin Town"! Get ready for an incredible journey of discovery, conservation, and cultural immersion. Make a meaningful difference, forge lifelong friendships, and create cherished memories that will last a lifetime. Don't miss out on this captivating adventure in the heart of South Africa!



#### Arrival Day - Cape Town

Arriving in Cape Town, a city nestled between the iconic Table Mountain and the sparkling Table Bay, you'll be warmly welcomed to your accommodation. A delectable welcome dinner awaits, setting the stage for an exciting adventure ahead. Prepare for an unforgettable journey as we delve into the details of our itinerary for your stay. Get ready to immerse yourself in the wonders of nature and embark on a thrilling exploration of South Africa's breathtaking landscapes!







#### DAY 1 - KIRSTENBOSCH NATIONAL BOTANICAL GARDEN







Today, we begin a botanical adventure at Kirstenbosch National Botanical Garden, home to extraordinary plant collections that hold rare and endangered species so precious that they've been targeted for theft by helicopter! We'll immerse ourselves in the wonders of botany through an educational game that brings the collections to life. Our journey continues as we visit the esteemed Kirstenbosch Research Centre, where leading botanists and zoologists study the unique flora and fauna of South Africa's Western Cape. The day ends with a captivating lecture that introduces you to basic ecological concepts and methods, preparing you for your upcoming research project.



#### DAY 2 - HAROLD PORTER BOTANICAL GARDEN AND BETTY'S BAY

With the dawn of a new day, we'll traverse the amazing Clarence Drive, feasting our eyes on spectacular coastal vistas *en route* to Harold Porter Botanical Garden in the pristine Kogelberg area, a UNESCO World Heritage site. Your research project begins as we measure and analyze the biodiversity of distinct vegetation types. Our journey then continues to Betty's Bay, where we'll encounter a delightful penguin colony. It's a day of scientific exploration and discovery in the natural wonders of Western Cape.



#### DAY 3 - SOUTHERNMOST TIP OF AFRICA AND SWELLENDAM







The journey extends to Cape Agulhas, a remarkable location where the southernmost tip of Africa meets the mighty Indian and Atlantic Oceans. Here, amidst the unique fynbos growing on sand dunes, your research project continues. We then venture to Swellendam, renowned for its colonial architecture and delectable Cape Malay cuisine. Our day ends in Oudtshoorn, nestled in the scenic Karoo region, where we'll savor a traditional braai (a South African barbecue), soaking in the natural wonders and cultural delights of this captivating region.



#### DAYS 4 TO 5 - OUDTSHOORN & CONSERVATION ACTIVITIES

Our time at Buffelsdrift Game Lodge is a treasure trove of experiences. Activities range from crafting elephant dung balls aiding endangered plant species to germinate, to preparing food for African elephants and utilizing telemetrics to track cheetahs. We'll also observe meerkat colonies and unravel the mysteries of their intricate familial bonds. As stewards of the environment, we'll also contribute by planting Portulacaria afra, the elephant bush, to offset our carbon emissions from the journey. It's a journey of discovery, conservation, and unforgettable moments, leaving a positive mark on the local biodiversity.









#### DAY 6 TO 10 - KHOISAN KAROO CONSERVANCY & KLEIN KAROO









As we approach the pinnacle of our research project in the captivating Karoo, we'll be immersed in a world of scientific inquiry. Measuring plant biodiversity, honing our statistical skills, and delving into the intricacies of coding in R language for data analysis. Our afternoons will be filled with thrilling shy-five safaris, seeking out crepuscular creatures like aardvarks, aardwolves, black footed cats, bateared foxes, and porcupines, and with marveling at Khoisan art. After our academic pursuits, you can indulge in kayaking, horse riding, visiting the hippo pool, or simply basking in the warm Karoo sun. With minimal light pollution, stargazing in the celestial skies of the Karoo is a must!



#### DAYS 11 TO 12 - CAPE TOWN & SNORKELING IN THE ATLANTIC OCEAN

On our journey back to Cape Town, we will venture through the captivating Western Cape of South Africa, uncovering its unique treasures. There is much to explore, from the Victorian architecture and rich history of Matjiesfontein to the farm stalls in Worcester, claimed to be the birthplace of Worcester sauce. But the true highlight awaits as we meet marine conservation biologists who will reveal the marvels of South African waters. Prepare for an unforgettable snorkelling adventure in the kelp forest, encountering timid shysharks and swimming with wild sea lions.





#### DAYS 13 TO 14 - GETTING TO KNOW CAPE TOWN







In vibrant Cape Town, we'll delve into the historic Bo-Kaap and iconic Sea Point districts, taking in the majestic Table Mountain and basking in the sun on Muizenberg and Simon's Town beaches. With free time to explore the bustling Victoria & Alfred Waterfront, there's plenty of shopping and entertainment to be had. As our trip nears its end, we'll gather for a farewell dinner, sharing our incredible experiences of South Africa and reminiscing about the trip's highlights. Each of us will have their own story to tell, recounting the most thrilling moments of our unforgettable journey.



#### DEPARTURE DAY - CAPE TOWN INTERNATIONAL AIRPORT

With a final hearty breakfast and fond farewells to our knowledgeable guide and the Western Cape province, our two-week adventure in South Africa draws to a close. Our hearts will be filled with fond memories of stunning biodiversity, scientific discoveries, cultural immersion, and new friendships. Grateful for the profound impact of this journey, we head home, forever enriched by the experiences and lessons learned from the diverse landscapes and wildlife of this remarkable corner of the world.



### HOW DO WE ENSUIZE THAT WE STAY ALIGNED WITH THE CAMBIZIDGE A-LEVEL

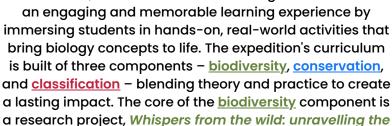


### BIOLOGY SYLLABUS?

Kamil crafted this program with the three essential concepts of the Cambridge A-level biology syllabus in mind: observation and experiment, organisms and their environment, and natural selection. His goal was to create







enigma of South African biodiversity. Students will



measure biodiversity levels in three different vegetation types and analyse their soil and climatic data to identify drivers of biodiversity. Kamil will not only oversee the field work but will also provide students with the necessary theoretical skills through three lectures.



























The first, Welcome to the biodiversity paradise! introduces ecological concepts that shape our world. In the second lecture, Stats in bloom: discovering the hidden insights in biological data, students will gain statistical analysis skills

using R-coding language and real-world data they collected during the expedition. The third lecture, Adapt or die: the everchanging world dives into the mechanisms behind selection and evolution. The project and lectures completely cover topics 17.1–17.3 (variation, natural and artificial selection, evolution) and 18.2 (biodiversity) of the

A-level syllabus, expanding on these subjects with a deeper introduction to statistics and R-coding language.

The <u>conservation</u> component of our expedition allows students to *interact with real scientists* in their respective fields of study. Kamil has arranged for the group to meet with scientists from Kirstenbosch Botanical Garden to *discuss the significance of maintaining biodiversity* and

the crucial role that organizations such as zoos and botanical gardens play in conserving endangered species.

Additionally, students will snorkel in the kelp forest with scientists from the University of Cape Town to *estimate the population size* of several species of shysharks. Some of the shyshark species are listed as *data deficient* which means that there is not enough information to determine their conservation status. Students will be able to help with data collection, making a real impact! On land, students will take part in *hands-on conservation activities* such as restoring an elephant bush forest, tracking free-roaming cheetahs, researching meerkat colonies, and *participating in game counting*. These activities align with all aspects of

topic 18.3 (conservation) of the syllabus. The <u>classification</u> component of our expedition will be a highlight for students. They will participate in an immersive game called *Botany blitz* at Kirstenbosch Botanical Garden, where they will delve into the biological,

morphological, and ecological concepts of species, as well as *hierarchical taxonomy*. With Kamil as their guide, students will meet 21st-century taxonomists and gain firsthand *experience in the principles of classification*.

These activities align with topic 18.1 (classification) of the syllabus. This expedition has immersive experiences, practical learning, and real-world examples. An adventure students will never forget!



















# A LETTER FROM SOUTHEREN SKY ADVENTURES



With roots dating back to 2001 in Raleigh, North Carolina, Southern Sky Adventures has been providing discerning travels with unforgettable adventures for over 20 years. Our extensive knowledge enables us to offer tailor-made and expertly guided trips that showcase the world's most impressive hidden gems. We take pride in delivering exceptional, once-in-alifetime travel experiences that cater to a diverse range of travelers, school and university groups, and adventure seekers to 11 countries in Africa, as well as Indonesia, Thailand, Norway, Georgia, Austria, Slovenia, Italy, Hungary, and Czech Republic.

I appreciate that parents want to ensure their children's safety and well-being when traveling abroad. That's why we prioritize safety and security in every aspect of our trips, by carefully selecting reputable local partners and experienced guides to providing support throughout your journey. My team of experts and guides are dedicated to ensuring that every aspect of out trips is not only enjoyable but also safe and comfortable. So, rest assured that your children will be in good hands with us, and that they will return home with unforgettable memories, knowledge and a greater appreciation for the world around them.

Although passionate about traveling, we care deeply for the preservation of these untouched wild areas, the inhabiting wildlife and the surrounding communities. Sit back, relax, and allow our team of destination specialists to design and deliver your dream adventure under the warm southern sky!

Richard Pace

Richard Pace Founder & Destinations Specialist Southern Sky Adventures

## TERMS

#### Included

- Accommodation
- Meals & Snacks
- Water
- Transportation
- Equipment
- Curriculum-based activities

#### Excluded

- Additional Safaris
- Personal, travel and health insurance
- Activities not based on the curriculum
- International flight tickets to and from South Africa

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\*All itineraries can be adjusted/customised to suit your specific needs



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#### **Southern Sky Adventures**

For almost two decades Southern Sky Adventures has introduced discerning travellers to the sheer magnificence of AFRICA. A land of warm welcomes, breathtaking sunsets, pristine wilderness areas and diversity as colourful as the local artwork.

Our tailormade- and expertly-guided safaris showcase Africa's finest hidden gems, the elusive BIG 5, wild remote locations and a natural space to unplug from the stress of modern-day living. We pride ourselves on the delivery of exceptional, once-in-a-lifetime and truly memorable travel experiences for not only families, honeymooners and friends but also business travellers, school-& university groups and adventure seekers. Although passionate about travel, we care deeply for the preservation of these untouched wild areas, the inhabiting wildlife and the surrounding communities. Sit back, relax and allow our team of destination

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