New biodiversity research project launched

A new biodiversity research project called BioSCape has been launched. The project will use data from satellites, airplanes, and field observations to better understand the biodiversity of the Greater Cape Floristic Region and how nature benefits people.

"BioSCape is a unique and exciting project that will help reveal new insights about the biodiversity of one of the most diverse regions on Earth and provide new tools for mapping and monitoring it," said Dr Jasper Slingsby, the South African lead scientist and lecturer at the University of Cape Town (UCT). "This information will be essential for supporting effective biodiversity conservation and management strategies for the region."

Source: Rialfver at nl.wikipedia via Wikimedia Commons

BioSCape is a collaborative project that brings together scientists from around the world to study the biodiversity of the Greater Cape Floristic Region. The project is committed to capacity building and education in South Africa, and it is expected to benefit the world by improving an understanding of biodiversity and developing new technologies for monitoring and managing nature's contributions to people.

Slingsby said that BioSCape will also benefit the world by improving an understanding of biodiversity and developing new technologies for monitoring and managing nature's contributions to people. “BioSCape will also help us to better understand the impacts of climate change on biodiversity.”

Biodiversity research in SA

Dr Mary-Jane Bopape, the South African Environmental Observation Network (SAEON) managing director, says: "The National Research Foundation, through its business unit, the South African Environmental Observation Network (SAEON), is proud to be a leading partner in BioSCape.

"This cutting-edge project is a testament to the world-class biodiversity research being conducted in South Africa. We are committed to contributing to data collection and using the information generated by BioSCape to inform environmental management decisions in the region.

"An added benefit for us during the main collection period is that the SAEON Graduate Student Indibano will host some of the BioScape scientists as keynote speakers and workshop presenters, which will serve as a valuable platform for networking, knowledge exchange, and insights into cutting-edge research and tools."

After two years of intense planning, the majority of data collection will occur from mid-October to mid-December 2023 to coincide with aerial surveys conducted by NASA aircraft and instrument teams. The aerial surveys will collect UV/visible to short wavelength infrared (UVSWIR) and thermal imaging spectroscopy and laser altimetry LiDAR data over terrestrial and aquatic targets using four airborne instruments: AVIRIS-NG, PRISM, LVIS, and HyTES.

Biodiversity-related field observations

The instruments will be operated from two NASA Gulfstream aircraft. The anticipated airborne data set is unique in its size and scope and unprecedented in its instrument combination and level of detail.

The airborne data will be accompanied by a vast range of biodiversity-related field observations from vegetation surveys, measures of plant and water spectral reflectance, phytoplankton samples, recordings of bird and frog calls and environmental DNA.

BioSCape is a collaboration between the US and South Africa, funded by the United States government (NASA) and the South African government through the National Research Foundation (NRF) via the South African Environmental Observation Network (SAEON) and the joint NEOFrontiers funding instrument with the South African National Space Agency (SANSA). The project is led by scientists at UCT, the University at Buffalo (New York, USA) and the University of California Merced (California, USA).