



**BioSCape Field Data**  
Anabelle Cardoso





**Phyto + Zoo Plankton:**  
In marine bays and  
natural+manmade reservoirs.

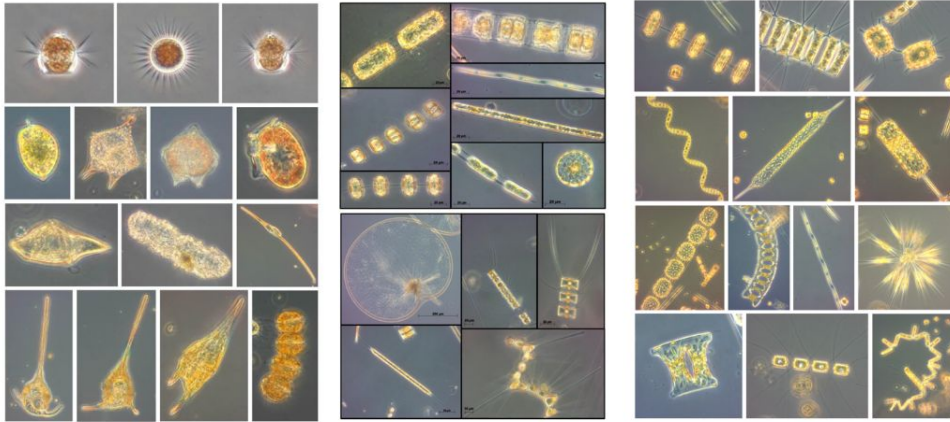
**Kelp forests:**  
Extent and ecological  
condition.



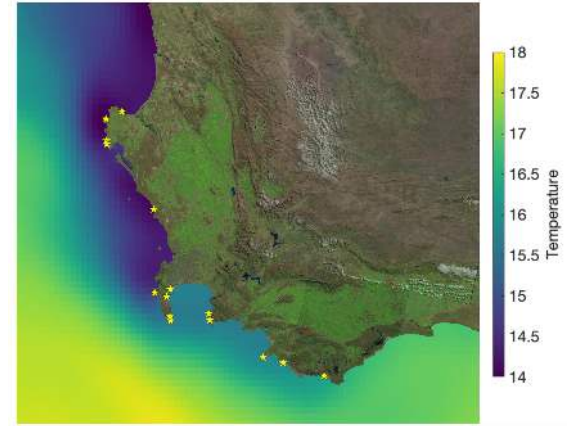
# BioScape Aquatic Data

## Plankton + CDOM

(Walker bay, Algoa bay, St Helena Bay, Zeekoevlei, Theewaterskloof, Klein River Lagoon, Rietvlei)



Images: Wu, et al.



Kelp



Images: Bell et al.

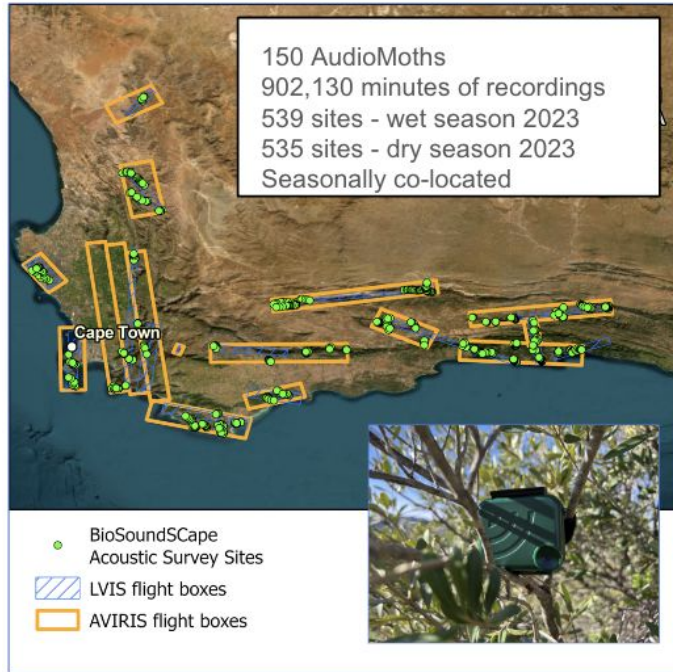


**Novel field techniques:**  
Autonomous sound recorders +  
bird point counts.  
Environmental DNA across  
watersheds.



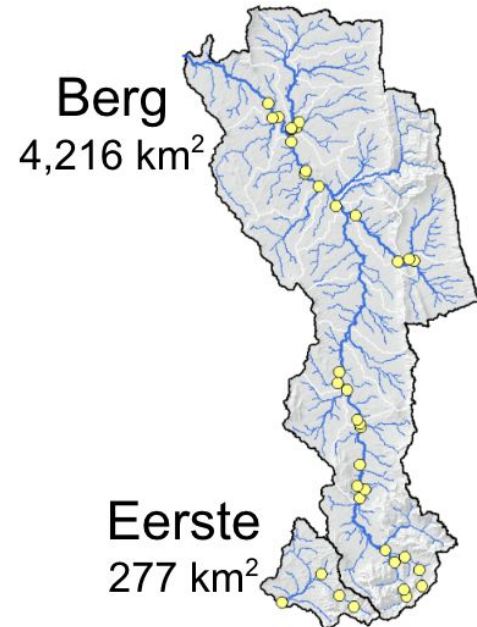
# BioScape eDNA & Audio data

## Sound recordings and bird counts



Figures: Clark et al.

## Environmental DNA sampling



Figures: Rossi, Meter, Stavros et al.



**>600 Vegetation plots:**  
Dominant species + functional  
traits across environmental  
and disturbance gradients.

**Incl: Sampling in estuaries  
and alien invasions.**



# BioScape Terrestrial Data

## Estuaries

(Swartvlei, Knysna, Keurbooms, and Langebaan)

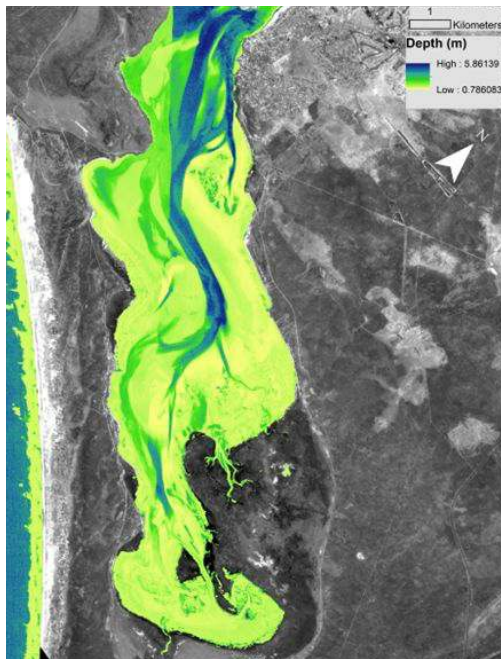


Figure: A. Stovall

Alien trees: Hakea, Pine, Eucalyptus, Acacia  
(Key sites: Agulhas plains, Hawequas+Theewaterskloof, Swartberg)



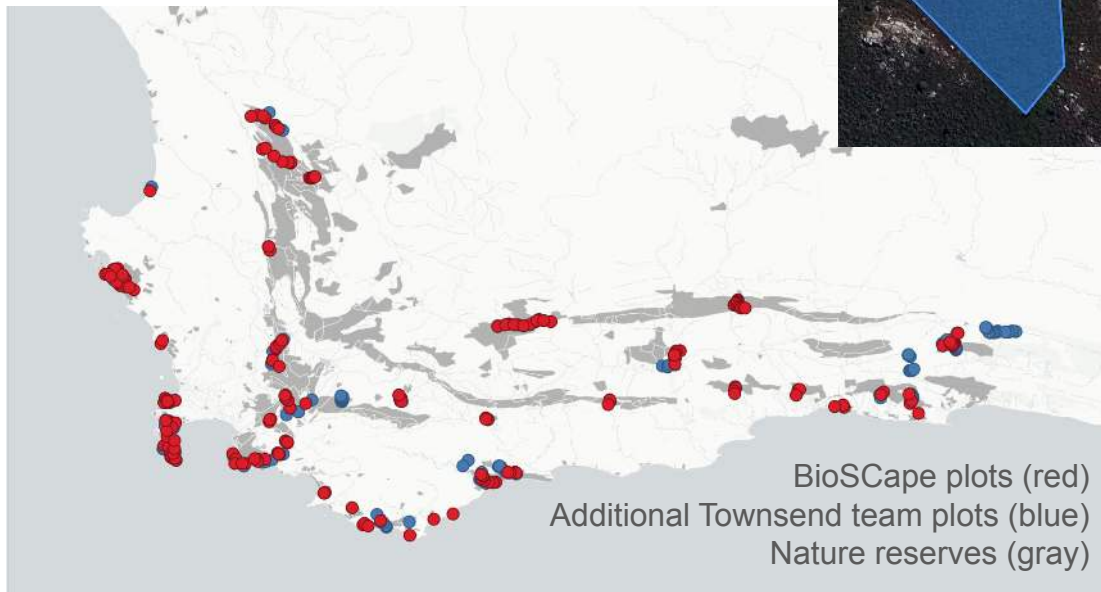
# BioScape Vegetation Plot Data

## Environmental clusters using k-means clustering:

- Distance from water
- Drought
- Soil Depth
- Annual Mean Temperature
- Annual Precipitation
- Precipitation Seasonality

## Sites limited to:

- occur in the domain
- occur within a protected area
- occur within natural vegetation
- occur within 1 km of a road
- have a mean NDVI over the last year of  $> 0.2$
- have a slope  $< 30$  degrees
- within an estimated hiking time of  $< 2$  hours from road



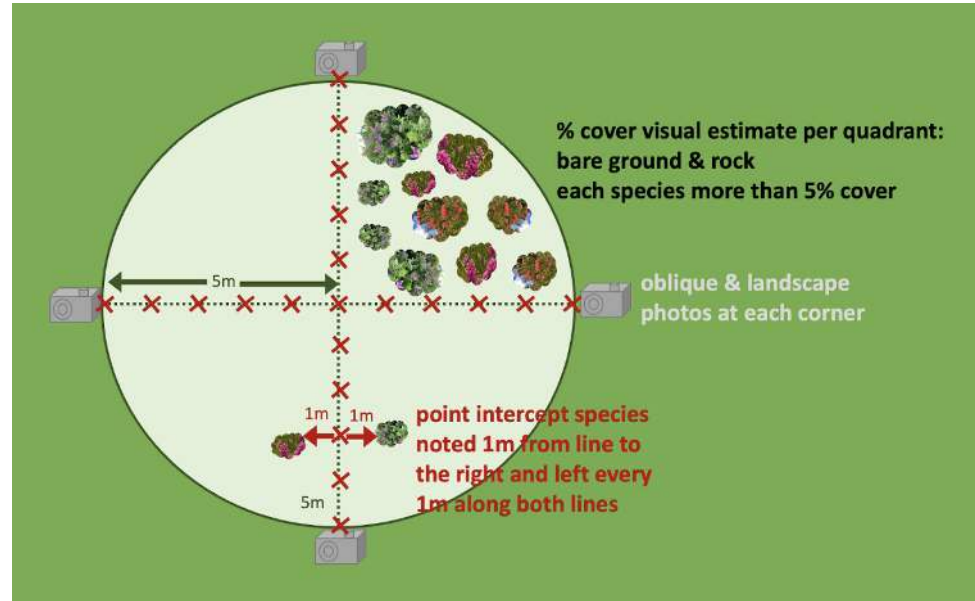
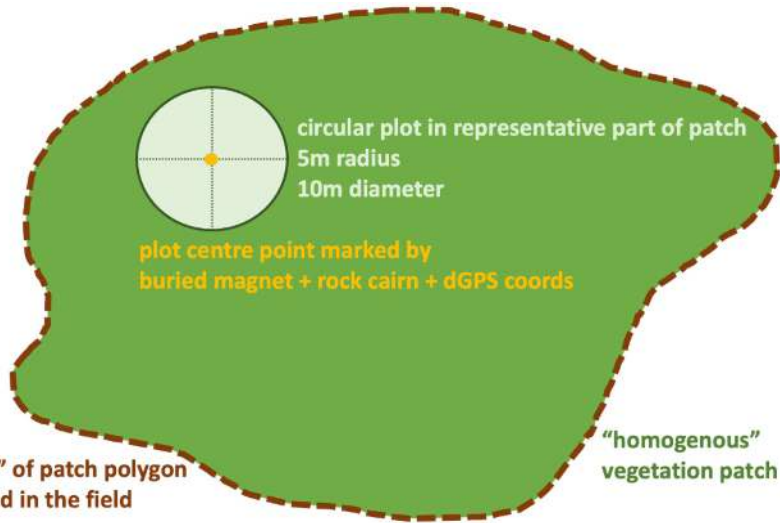


# Vegetation Plot Data

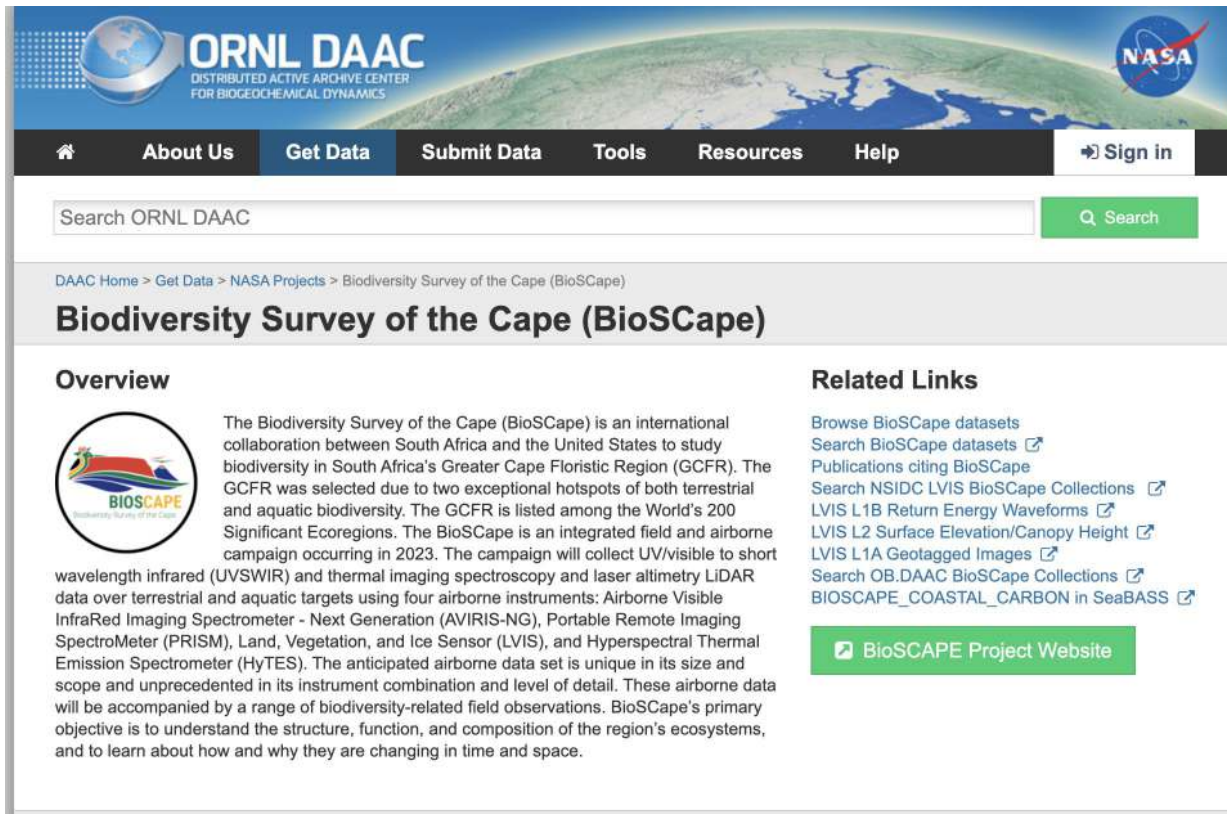
## Surveys



# BioScape Vegetation Plot Data



# Where to get the data?



The screenshot shows the ORNL DAAC website interface. At the top, there is a navigation bar with links for 'About Us', 'Get Data', 'Submit Data', 'Tools', 'Resources', 'Help', and 'Sign in'. Below the navigation bar is a search bar with the text 'Search ORNL DAAC' and a 'Search' button. The main content area features a breadcrumb trail: 'DAAC Home > Get Data > NASA Projects > Biodiversity Survey of the Cape (BioSCAPE)'. The title of the page is 'Biodiversity Survey of the Cape (BioSCAPE)'. Under the 'Overview' section, there is a circular logo for BioSCAPE and a paragraph of text describing the project. To the right, under 'Related Links', there are several links with external icons, including 'Browse BioSCAPE datasets', 'Search BioSCAPE datasets', 'Publications citing BioSCAPE', 'Search NSIDC LVIS BioSCAPE Collections', 'LVIS L1B Return Energy Waveforms', 'LVIS L2 Surface Elevation/Canopy Height', 'LVIS L1A Geotagged Images', 'Search OB.DAAC BioSCAPE Collections', and 'BIOSCAPE\_COASTAL\_CARBON in SeaBASS'. A green button labeled 'BioSCAPE Project Website' is also present.

**ORNL DAAC**  
DISTRIBUTED ACTIVE ARCHIVE CENTER  
FOR BIOGEOCHEMICAL DYNAMICS

**NASA**


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Search ORNL DAAC Search

DAAC Home > Get Data > NASA Projects > Biodiversity Survey of the Cape (BioSCAPE)

## Biodiversity Survey of the Cape (BioSCAPE)

### Overview



The Biodiversity Survey of the Cape (BioSCAPE) is an international collaboration between South Africa and the United States to study biodiversity in South Africa's Greater Cape Floristic Region (GCFR). The GCFR was selected due to two exceptional hotspots of both terrestrial and aquatic biodiversity. The GCFR is listed among the World's 200 Significant Ecoregions. The BioSCAPE is an integrated field and airborne campaign occurring in 2023. The campaign 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: Airborne Visible InfraRed Imaging Spectrometer - Next Generation (AVIRIS-NG), Portable Remote Imaging SpectroMeter (PRISM), Land, Vegetation, and Ice Sensor (LVIS), and Hyperspectral Thermal Emission Spectrometer (HyTES). The anticipated airborne data set is unique in its size and scope and unprecedented in its instrument combination and level of detail. These airborne data will be accompanied by a range of biodiversity-related field observations. BioSCAPE's primary objective is to understand the structure, function, and composition of the region's ecosystems, and to learn about how and why they are changing in time and space.

### Related Links

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[BioSCAPE Project Website](#)

**FIELD DATA  
COMING SOON!**

