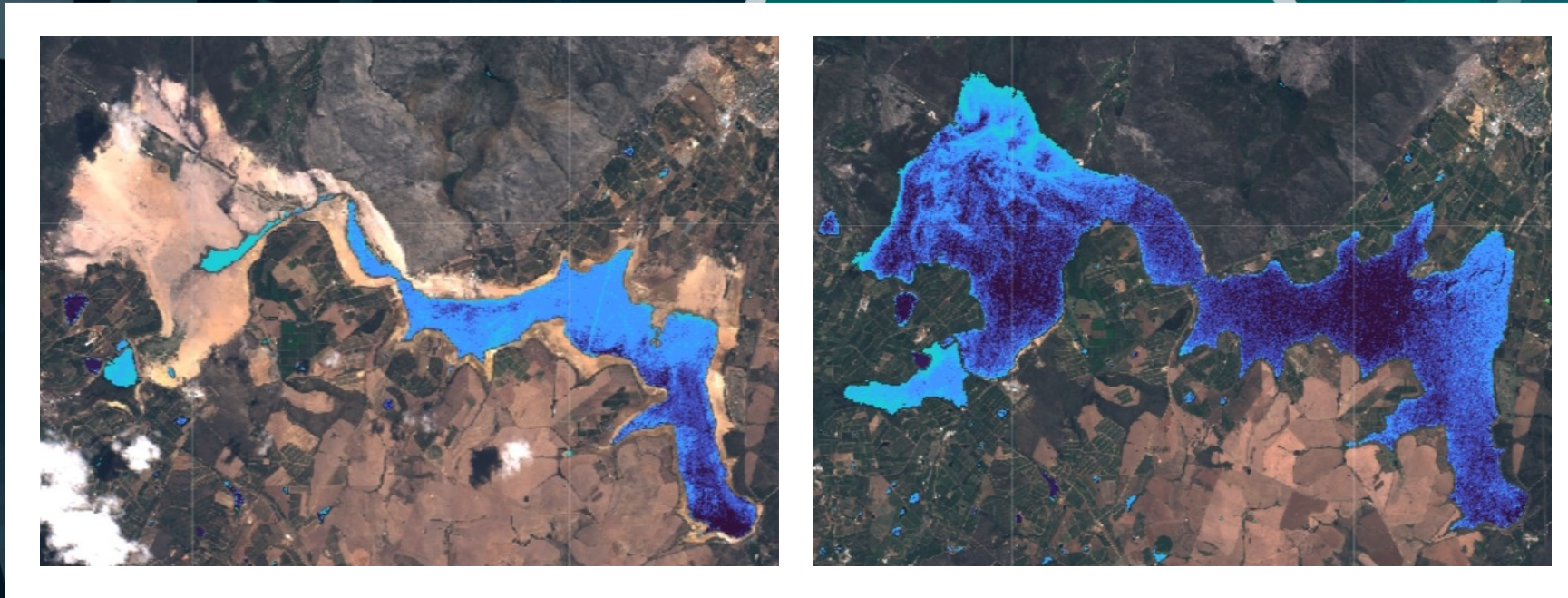


# Sentinel 2 user-relevant water quality monitoring in small southern African water bodies (SWAM\_ZA\_GB)



Marié E. Smith<sup>1,2</sup>, Dalin Jiang<sup>3</sup>, Evangelos Spyarakos<sup>3</sup>, Humeshni Pillay<sup>2</sup>

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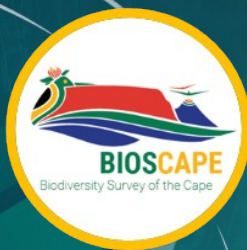
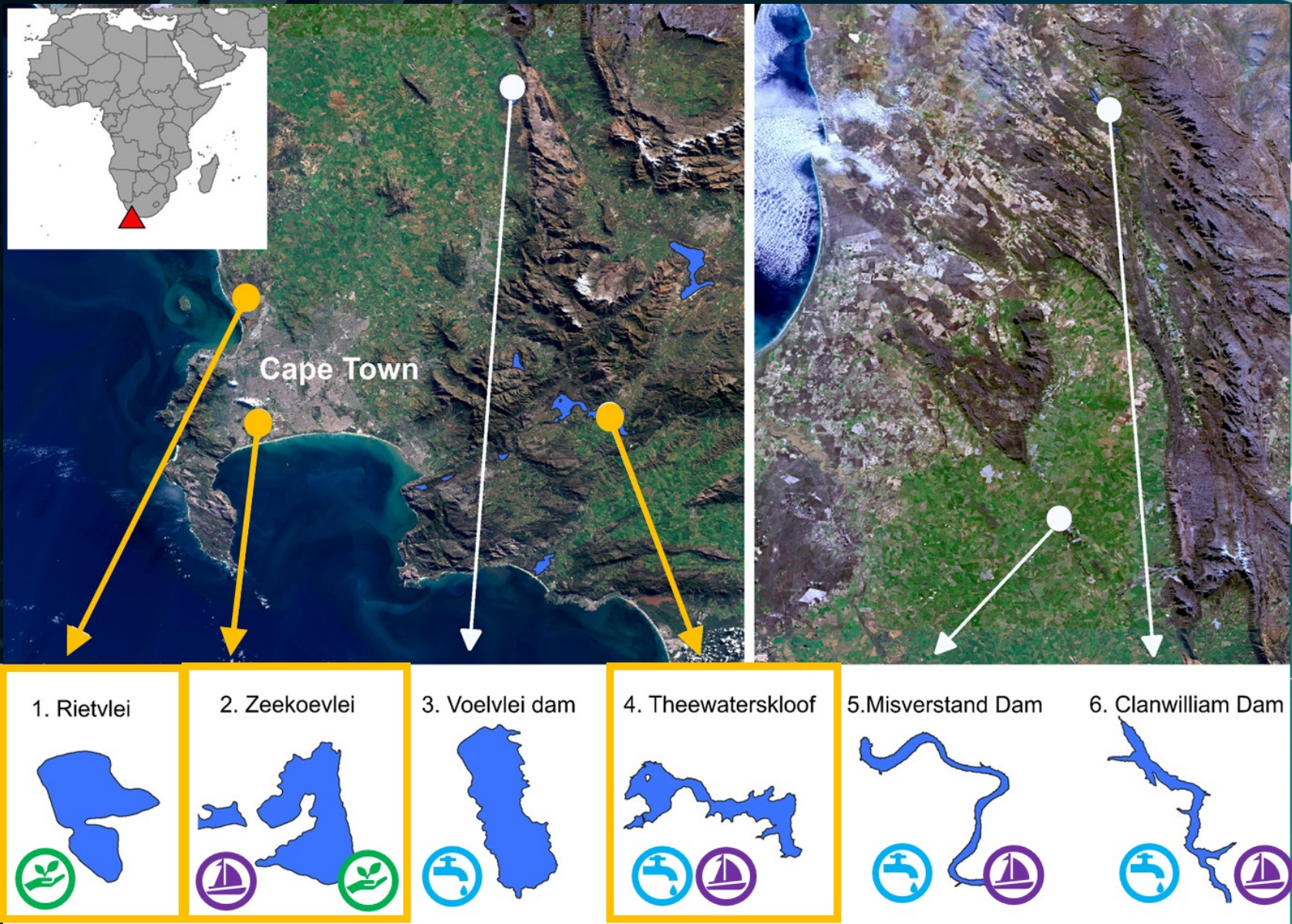


**UNIVERSITY of STIRLING**





# Study sites: Western Cape, South Africa



**BioSCAPE**  
sampling  
sites



Important  
reservoirs



Important  
recreational  
sites



Important  
biodiversity  
sites

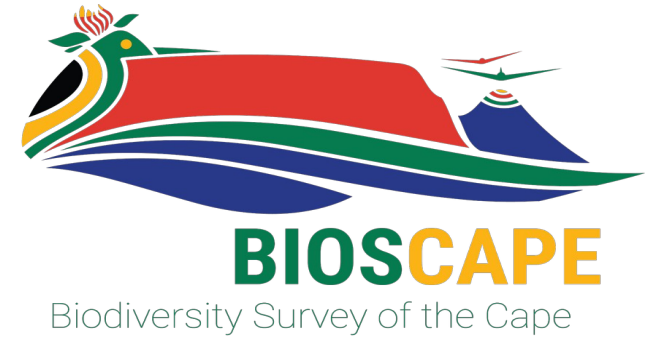
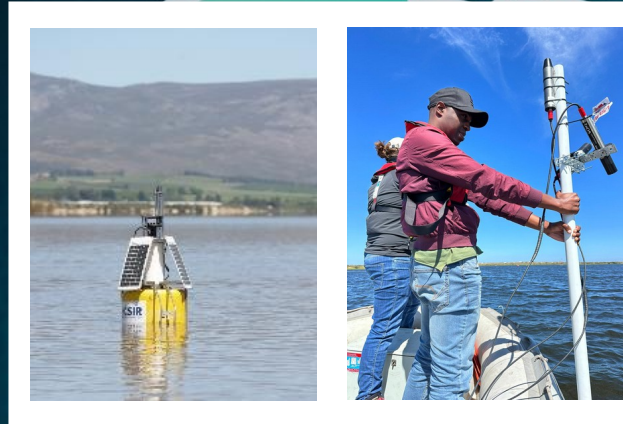


- nt, communication and
- 



# WP2. Evaluating atmospheric correction models and water quality retrieving algorithms

- High quality optical data were collected in **Theewaterskloof, Zeekoevlei** and **Rietvlei** during the BioSCape campaign in Oct & Nov 2023, which can be used to assess the most appropriate aquatic AC for the region



- AC algorithms assessed:

o Sen2Cor

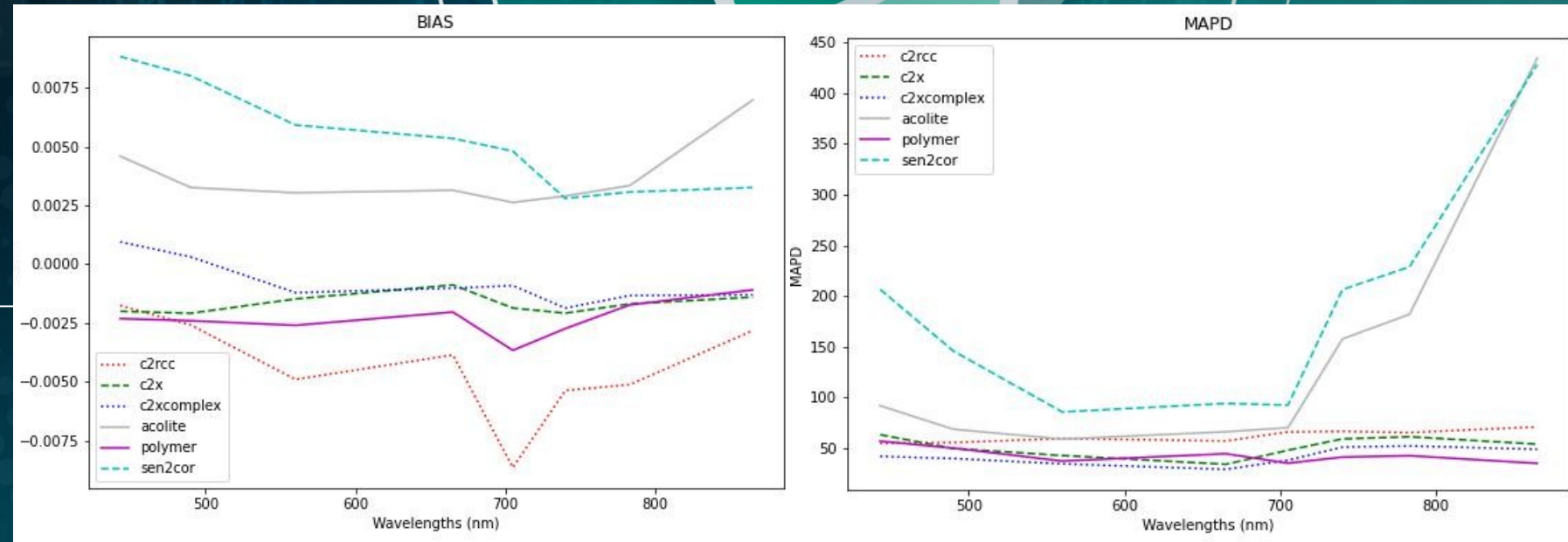
o C2RCC

o C2X

o C2Complex ✓

o Polymer

o Acolite

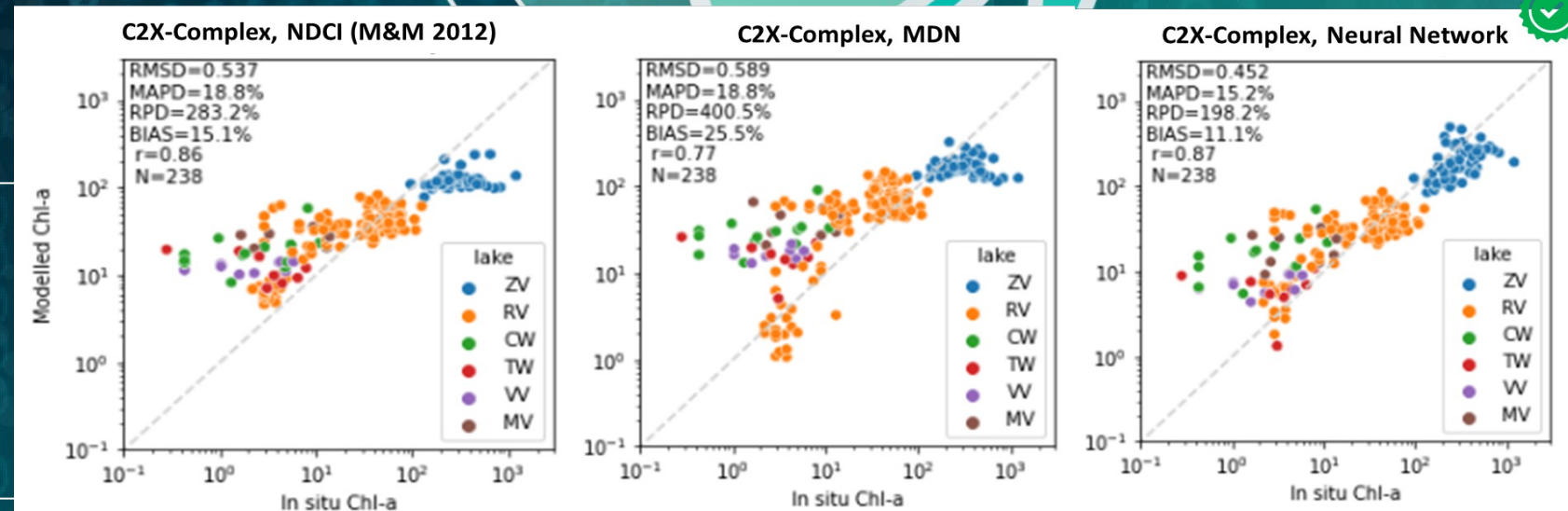
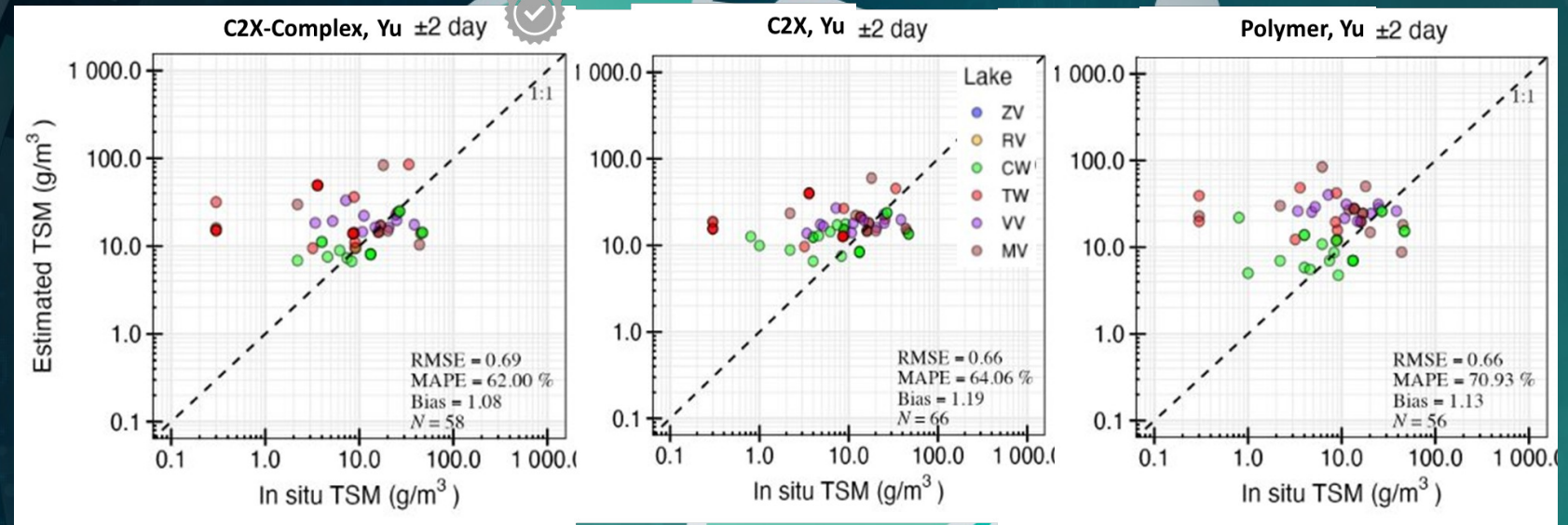






# WP2. Evaluating atmospheric correction models and water quality retrieving algorithms

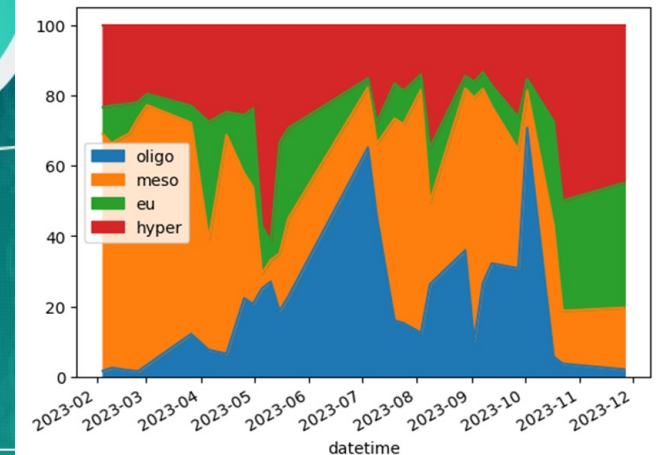
- We have assessed the performance of different published TSM and Chl-a algorithms on satellite-derived atmospheric correction and biogeochemical algorithm combinations





# WP3. Developing processing chain and producing time series water quality data

- Co-PI Marie attended the face to face training course in Abidjan in March 2025
- The Sentinel 2 processing chains have been set up to search for, read, resample, subset and process L1C files with atmospheric corrections from SNAP





# Still to come...

- Task 3.2: Create Chl-a and TSM data cubes for all study sites for 2015-2025
  - Task 4.1: Assess trends and variability of water quality and surface area
  - Task 4.2: Explore the potential impacts of extreme events (droughts and floods) on the water quality
  - Task 1.4: Journal article preparation and submission
- 
- Task 1.3: present final project results and datasets to stakeholders (Feb/Mar 2026)





# Thank you!

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