

Soil • Plant • Water

BIOGEOCHEMISTRY

The **BIOGRIP Node for Soil and Water Analysis** as well as the **ICP-MS & XRF Unit** at Stellenbosch University are equipped with **state-of-the-art instruments** to measure the elemental components important in **soil and water** quality research, as well as the nutrients and toxic elements transferred to **crops and livestock** after suitable sample preparation. The units are managed by staff scientists to advise on the best analytical approach, and form part of the Central Analytical Facilities (CAF).

Soil Quality & Plant Analysis

Macro- & micronutrients

- K, Ca, Mg, P, Fe, Mn, Cu, Zn, Al, B by ICP-AES
- C, H, N, S, TOC, TIC, Non-purgeable organic C (NPOC) & total bound N (TNb)
- by **TOC- & Elemental Analyser**

Trace & toxic elements

- V, Cr, Co, Ni, As, Se, Sn, Sb, Mo, Cd, Pb, Hg and more by **ICP-MS**

Anions in extracts

- Cl, F, NO₂, NO₃, PO₄, SO₄, Br
- by **Ion Chromatography or Discrete Analyzer**

Water Analysis

Major, Trace & toxic elements

- K, Ca, Mg, P, Fe, Mn, Cu, Zn, Al, B, V, Cr, Co, Ni, As, Se, Sn, Sb, Mo, Cd, Pb, Hg and more
- by **ICP-AES & ICP-MS**

Stable elements & isotopes

- TC, TOC, TIC, N, S by **TOC- & Elemental Analyser**
- $\delta^{18}\text{O}$, $\delta^{17}\text{O}$ and $\delta^2\text{H}$ stable isotopes
- by **Isotope Analyzer**

Anions

- Cl, F, NO₂, NO₃, PO₄, SO₄, Br by **Ion Chromatography or Discrete Analyzer**

ICP-MS & XRF Laboratory

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