

June 19<sup>th</sup> 2023 Castricum, The Netherlands Newsletter 2023-Q2

Dear readers,

With this newsletter we like to inform you about our day to day business, current projects, performance characteristics of our products and new product development. Enjoy reading!

## Day to day business



We are very pleased to announce that the first standard **SWAP instruments products** are now for sale in our **webshop** (<u>Shop – SWAP instruments</u>). The coming weeks, all our standard products will become available in our webshop.

For standard products that are not yet available in our webshop, please contact us at <u>sales@swapinstruments.com</u>. We are happy to inform you about **current prices** and **delivery times**.

Off course, **custom made probes** and standard probes with longer cables are still **available upon request**.

## SWAP webshop: starter set handheld Redox measurements



For webshop-related questions, please contact us at <u>sales@swapinstruments.com</u> In our webshop we offer a **starter set** for handheld Redox measurements. With this starter set you will have all the necessary products to perform **handheld Redox measurements** under **laboratory and field conditions**. It is also very handy for **educational purposes**. Start performing Redox measurements within seconds (**plug and play**).

This high precision instrumentation is specially designed for Redox measurements in **soils** and **sediments**. However, it is also very suitable for performing measurements in various water types, e.g. (chlorinated) **drinking water**, **surface water** and **pool water**.

For more information about the individual products of the starter set go to <u>Shop – SWAP instruments</u>. The individual products can also be ordered separately in our webshop.

## New: multiplexers and accessories for our digital (SDI-12) soil Redox probes



Contact us at info@swapinstruments.com for pricing and additional information about the multiplexers and accessories for our digital (SDI-12) soil Redox probes.

At the request of several customers, we have **developed** an **8-channel multiplexer** (MUX-8) for our digital (SDI-12) soil Redox probes. The **MUX-8** has the following **specifications**:

- $\sqrt{8}$  positions (8 x female M8 connectors)
- $\checkmark$  1-meter PUR cable with open wire ends  $\checkmark$  1P67
- $\checkmark$  Length 21 cm, width 3 cm, height 5 cm, weight 0.24 kg
- √ Optional: MUX protective connector caps (MUX-P)

Other available accessories include a **2-channel** multiplexer and various extension cables.

## Soil Redox probe applications: carbon cycling in estuaries



One of the research stations with the SWAP instruments soil Redox probes.

This study was funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) within the Research Training Group 2530: "Biota-mediated effects on Carbon cycling in Estuaries" (Universität Hamburg and Leibniz-Institut für Gewässerökologie und Binnenfischerei im Forschungsverbund Berlin e.V.). In the past, the **Earth's carbon cycle** maintained a **natural balance** of carbon in the atmosphere, land, and ocean. However, due to human activities (e.g., fossils fuel combustion) this natural balance has been **disturbed**, causing **climate change**.

Marsh soils can store a large amount of carbon and play an **important role** in regional and global **carbon cycling**. Friederike Neiske (researcher) and Volker Kleinschmidt (engineer) from the University of Hamburg, study the **effects** of **soil conditions** on **carbon cycling** in marsh soils of the **Elbe estuary**.

A **particular focus** in their research is set on the use of **soil Redox probes** - of SWAP instruments - to monitor temporal and spatial variations in the **soil Redox potential** of the Elbe estuarine marsh soils.

The **Redox potential** is a **major factor controlling carbon cycling** in this study area, which is characterized by large differences in flooding regime and salinity.

By **continuously monitoring** the Redox potentials with the SWAP instruments soil Redox probes, the **effect of estuarine conditons** (flooding and salinity gradient) on 1) organic matter decomposition, 2) soil organic carbon stabilisation and 3) dissolved organic carbon mobilisation, can be studied.

If you are interested in our products or would like to receive some additional information, please contact us at <u>info@swapinstruments.com</u> or visit our website <u>www.swapinstruments.com</u>.

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