

From the screaming sixties to a beach in South Africa

NEWSFLASH

SCOOT (Swedish Centre for Ocean Observing Technology is part of the [University of Gothenburg](#)) combine a variety of autonomous surface and underwater vehicles to make advanced environmental investigations in the oceans. **SB Kringla** (Swedish name of a pastry) is a wind-driven vehicle (**Sailbuoy**) that has completed two missions in the Antarctic region roaming some of the most dangerous waters on our planet.

In the first season in the frames of the [ROAM-MIZ](#) project, SB Kringla was deployed in pair with an [underwater glider](#). She measured ocean surface [temperature and salinity](#) together with [wind, air pressure and temperature](#). During the 78 days long mission she probably [collided with an iceberg](#) that damaged the wing sail and the met sensor. The unique information collected by the two platforms was presented in a [scientific paper](#) about mixing and energy transfer between the atmosphere and the ocean.

The second mission lasted for 132 days, sailing a distance of 5000 km and ended on a desolate beach north of Cape Town (South Africa). The reason that SB Kringla was deliberately sent there was that, due to a leakage, she gradually was losing satellite contact.

After repair she is back in South Africa and fitted with a compact 600 kHz [Doppler Current Profiling Sensor](#) (DCPS). The DCPS is well suited for a [dynamically challenging application](#) like this one. It can run on broad or narrowband and constantly [compensates for changes in tilt and heading](#). All calculations are done internally on-the-fly. No special software to post-process and compress data is needed. In the next Antarctic mission the new sensor should enhance the understanding of the role of vertical shear mixing in the Southern Ocean

[Aanderaa sensors](#) are used on a wide variety of autonomous platforms. On Sailbuoys, the DCPS is integrated into the hull and point sensors are placed in the [keel bulb](#) where water is flushing through and they can be protected mechanically and against [bio-fouling](#) with [UV-light](#). Additional sensors used on this type of platforms include [MOTUS](#) to obtain directional waves and dual [oxygen optodes](#), in water and air, to obtain an air-sea gas exchange.

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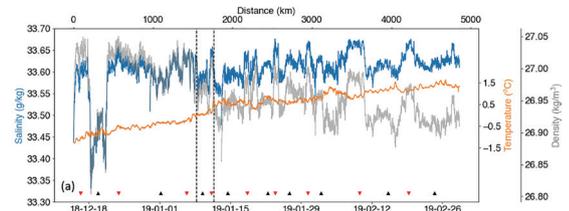
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SB Kringla being recovered after the first years mission.



SB Kringla on a South African beach after more than 4 months in stormy water.



Continuous surface temperature (T), salinity (S), and density measurements by the Sailbuoy over ~2.5 months. Red (black) triangle markers represent the start of Sailbuoy transects heading southward (northward). [Read more](#)



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