



SEA-BIRD
SCIENTIFIC

13431 NE 20th St.
Bellevue, Washington 98005

Date: December 11, 2024
To: Users of Sea-Bird Scientific CDOM fluorometer sensors purchased or serviced prior to January 13, 2023
From: Sea-Bird Scientific
Subject: Incorrect CDOM values

Notice

This notification is to inform users of Sea-Bird Scientific (SBS) CDOM sensors that instruments purchased or serviced prior to January 13, 2023 have a systemic bias. We believe that historical data will be correctable; however, the absolute measurement and the change in CDOM over time versus the relative measurement that occurs over time may be erroneous.

Context

In a careful review of our CDOM metrology, SBS found two separate issues that require action:

- The primary standard used to establish CDOM fluorometers' scaling to standardization units of ppb QSDE (Quinine Sulfate Dihydrate Equivalent) had been improperly prepared. This error can be mathematically corrected.
- Additionally, it was discovered that the CDOM reference sensors used as transfer standards prior to January 13, 2023 also carry an additional bias and will require a separate correction factor.

Path forward

- **CDOM sensors purchased or serviced after January 13, 2023 provide accurate data and can be used for both absolute and relative measurements of CDOM.**
- We recommend that CDOM sensors with calibration dates prior to January 13, 2023 be returned for a free recalibration. Please indicate this is your intention in the notes section of our RMA form.
- To correct historical data:
 - For the incorrect CDOM standard, we have determined a Reference Adjustment Factor (RAF) of 5.62 to apply to data: $\text{CDOM adjusted} = 5.62 * \text{CDOM}$
 - SBS updated its primary CDOM standard as of January 13, 2023. All SBS CDOM fluorometers with a calibration date of January 13, 2023 or later have the correct scale factor.
 - For the additional reference sensor bias, we are working diligently to determine the appropriate correction factor based on serial number and calibration date and will provide the full correction table by the end of March 2025. If you have any instrument data that does not align after applying the RAF value of 5.62, please contact the SBS Tech Support team (techsupport@seabird.com).

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If you have any questions about your CDOM sensors or the validity of your historical data, please reach out to SBS Tech Support (techsupport@seabird.com). Please include the model(s) and serial numbers(s) of your CDOM fluorometers in the email.

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All the best,

Sea-Bird Scientific

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