

Posting type	Historical – applies only to downloads before 11/23/09
Subject	Under-correction of chloride concentrations for filter blank levels
Module/Species	B/ Cl ⁻
Sites	All
Period	2007 – 2008
Recommendation	Postpone analysis pending redelivery of Use revised 2005 – 2008 data
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Supporting information

Blank corrections for reported chloride concentrations are based on observed field blank loadings. Before 2005 the median field blank value in each month or quarter was used for the correction. For 2005 and later samples, several months' worth of field blanks were used to determine a common correction for all samples from a given lot of filters. Historical analyses had indicated that blank levels changed when a new filter lot was introduced and then remained stable while that lot was in use, typically a period of about one year.

For reasons not yet understood, chloride field blank levels began to depart from their historical pattern in 2007, rising with time during the consumption of a single lot (Figure 1, top). This departure escaped detection until its effects on reported concentrations were noted by Jenny Hand at CIRA (Figure 1, bottom). It is thus necessary to reprocess 2007 – 2008 chloride data, returning to monthly blank corrections to account for the observed variations within lots. For consistency, all ion data back to 2005 will be reprocessed following the same procedure used before that year.

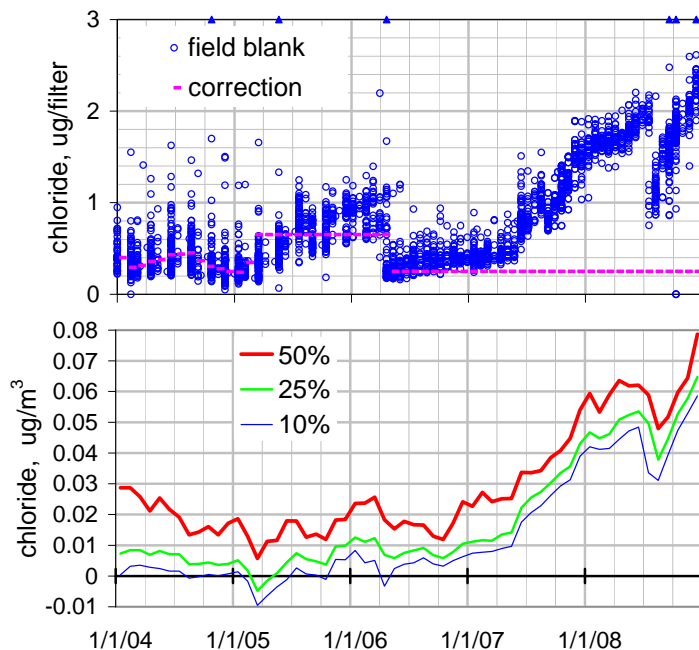


Figure 1. Monthly field blank loadings, filter-blank corrections, and sample-concentration statistics for chloride. The blank values and sample concentrations are plotted to have comparable ranges at the nominal sampling volume of $\sim 33 \text{ m}^3/\text{filter}$. The 10th, 25th, and 50th (median) percentiles of network concentrations track observed field blank trends, which are not captured by the values used for blank-correction.