DISSOLVED INORGANIC CARBON (DIC) I08S 2024 (Fremantle to Fremantle)

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Final Data Submission Parameters (JH 02/21/2025):

Including the analytical replicates, 1,956 samples were analyzed from 66 CTD casts for dissolved inorganic carbon (DIC) on the I08S 2024 GO-SHIP cruise. Excluding the Niskins that were dedicated for biological analysis, 74% of the remaining available Niskins were sampled. Due to difficulties with the backup DICE instruments from PMEL and AOML deployed on this cruise (see DIC section of the cruise report) the instrument gas loops were not used as the primary calibrations for this dataset. Instead, the accuracy (instrument calibration) of DIC data reported relied on using a multiplicative correction of the sample counts to the counts of the Certified Reference Material (CRMs) supplied by the laboratory of Dr. A. Dickson at Scripps Institution of Oceanography (SIO). The average multiplicative correction applied across all the samples was 0.99867 with a range of +/- 0.01023. The two CRM batches used were 213 and 208 with values of 2024.67 and 2059.66 µmol/kg respectively. We collected replicate samples from 12% of the Niskins and these analytical replicates were analyzed near the beginning, middle and end of each cell to serve as a measure of precision. The combined difference from the mean of these replicate measurements was 1.01 µmol/kg (1.45 and 0.61 for each individual DICE).