

Dissolved Fe, Zn, Al, Mn and Cd; colloids and speciation

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We will propose a collaborative proposal that will focus on the determination of several of the GEOTRACES key parameters, namely dissolved Fe, Zn, Al and Mn. Shipboard determinations of these parameters which will be conducted by the UH group (probably requiring two berths) will use Flow Injection Analysis (FIA) methods that will require approximately 125ml of sample volume. In addition to normal filtered samples, at a subset of the proposed stations the contribution of colloidal Fe to the dissolved load will be estimated by subjecting a replicate set of samples to 0.02  $\mu\text{m}$  filtration to exclude colloids. It is expected that this will require a further 100 ml of sample. Shore based ICP MS determinations will be conducted by University of Alaska for Fe, Zn, Mn and Cd. In addition the shore-based work will examine the vertical distribution of natural Fe-binding organic ligands at a few stations using cathodic stripping voltammetry. These studies will use frozen samples that are returned from the cruise. We anticipate requiring a volume of 1000 ml. Both PIs will share responsibility for interpreting and publishing the resulting data set.