Dissolved Fe, Mn, Zn, Cu and Cd along the zonal section from Tahiti to the East Pacific Rise

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Objectives:

1. Determine dissolved Fe, Mn, Zn, Cu and Cd to constrain key processes controlling oceanic distribution of these elements in oligotrophic Tropical South Pacific.
2. Determine the concentration of colloidal Fe, and the isotopic ratio of dissolved and colloidal Fe to help understand the far field dispersion of the hydrothermal Fe resulting from the EPR hydrothermal activity.

Anticipated Collaborations:

1. We will collaborate with PIs studying $^{3}He$, dissolved Fe-binding organic ligand, suspended particles, and dissolved Fe isotopes
2. We will collaborate and inter-calibrate with Ken Bruland who proposes to study dissolved Fe, Mn, Cu, Zn and Cd along the zonal section from the East Pacific Rise to Peru.

Sample requirement: We need 2.5 L of filtered seawater sample collected using GEOTRACES trace element clean sampler.

Required Berth: We need one berth to process colloidal Fe samples on board.