

# **Seasonal variability in the budgets of iron and other trace metals at Station ALOHA**

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Understanding the seasonal variability of trace metals helps to constrain the mechanisms that control the cycling of these elements. However, temporally resolved observations of trace metals in the oceans are extremely rare. Through participation on the Hawaii Ocean Time-series cruises, we have collected trace metal samples in the North Pacific subtropical gyre throughout 2021 on a near-monthly basis. By combining trace metal clean particle interceptor (PIT) sediment traps with dissolved and particulate Fe inventories, we found an average total dissolvable iron residence time in the upper ocean on the order of 4 months. We also found an apparent solubility of dust-derived Fe on the order of ~20%, a potential fingerprint of a sizeable anthropogenic iron source. We will also present results from several other micronutrient metals, including manganese, nickel, copper, zinc, and cadmium, which show unique seasonal patterns at Station ALOHA.