

## Evaluation of aerosol iron model using high-resolution measurements of trace elements

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Atmospheric deposition of leachable iron (Fe) represents important external sources of micronutrients to the open ocean. However, significant uncertainties remain in the source fluxes, partly due to a lack of evaluation of atmospheric Fe concentrations with highly time-resolved measurements of Fe-laden aerosols over the remote regions. In this presentation, we evaluate our aerosol chemical transport model (IMPACT), using our four-hourly datasets of trace elements.

The model generally reproduces the observed data of Fe concentrations in fine particles at Fukue island in Japan during spring. The high-resolution data of source-specific tracers and these constrains on aerosol transport model offer improvements in the source apportionment of aerosol Fe. The global model is also evaluated with observed data of bioaccessible Fe concentrations over the Southern Ocean by previous studies. The framework developed here can be used to improve source attribution of trace elements over the Southern Ocean.

