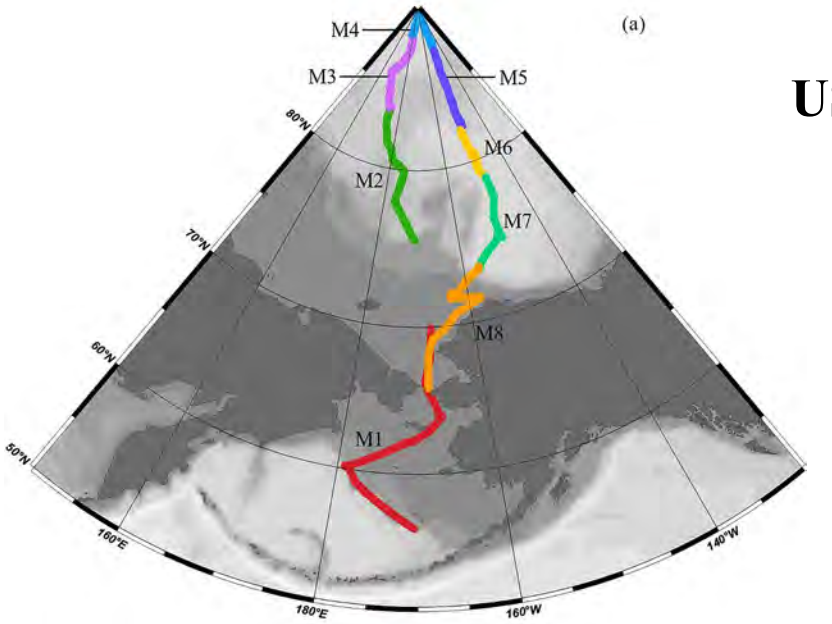
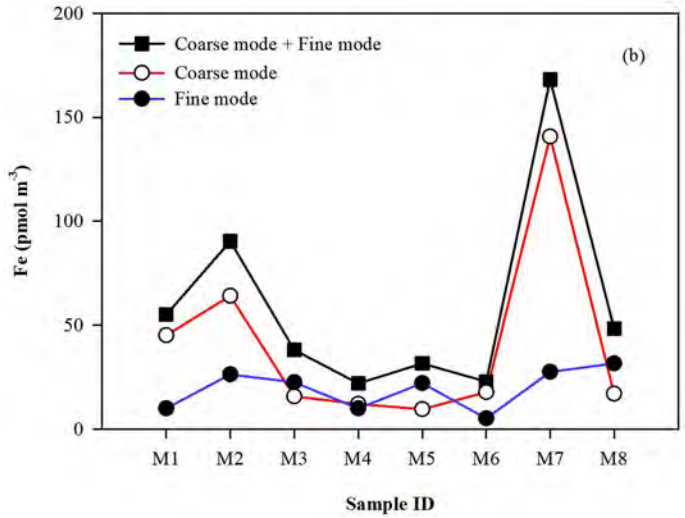




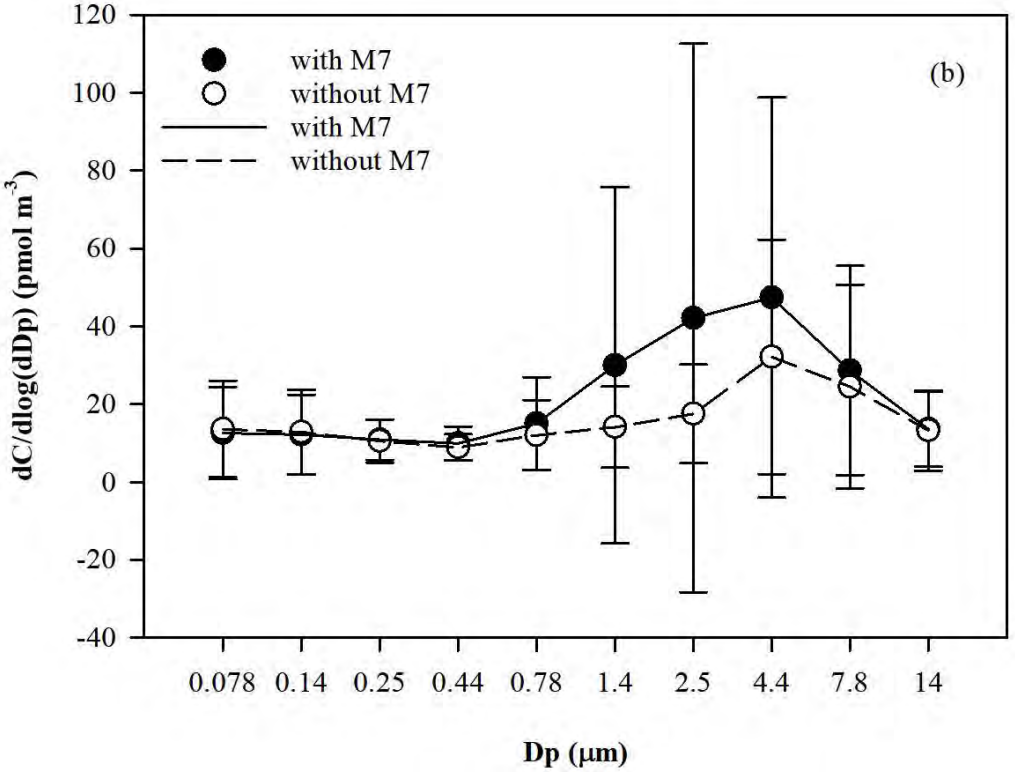
Results from US GEOTRACES Western Arctic GN01 Section

1. Concentration variation of aerosol Fe along GN01 transect:

Methods:
Sampler: MOUDI
Sample sets: 8, M1 – M8
Sample analyses: ICPMS

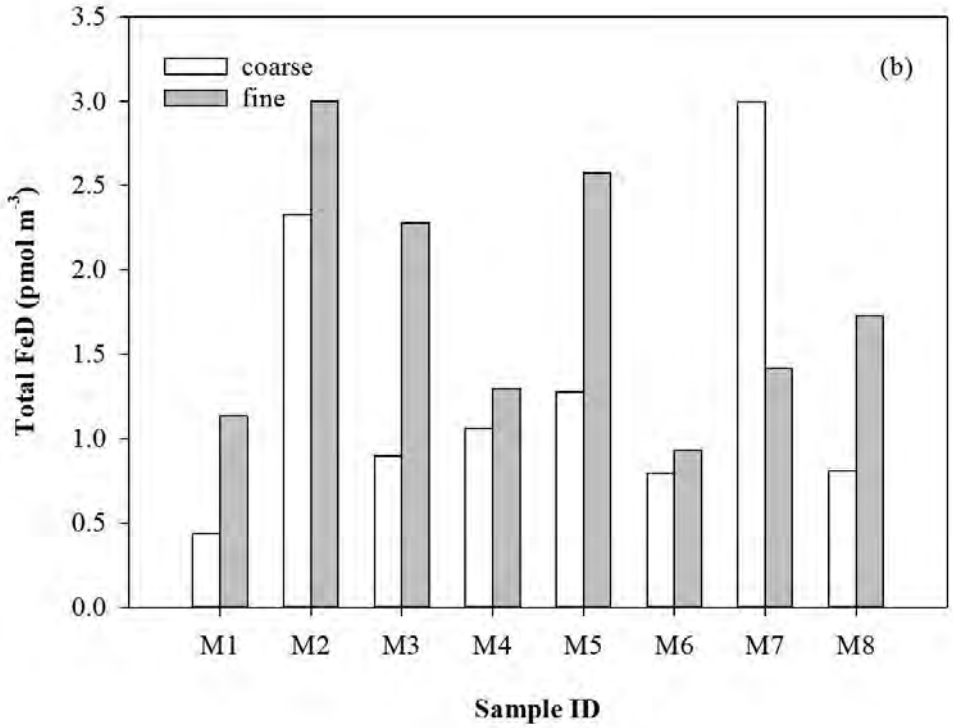
(Gao, Y., C.M. Marsay, S. Yu, S. Fan, P. Mukherjee, C.S. Buck, and B.M. Landing. Particle-size variability of aerosol iron and impact on iron solubility and dry deposition fluxes to the Arctic Ocean. *Scientific reports*, *9*(1), 1-11, 2019.)

2. Particle-size distributions of aerosol Fe:



(Gao, Y., C.M. Marsay, S. Yu, S. Fan, P. Mukherjee, C.S. Buck, and B.M. Landing. Particle-size variability of aerosol iron and impact on iron solubility and dry deposition fluxes to the Arctic Ocean. *Scientific reports*, *9*(1), 1-11, 2019.)

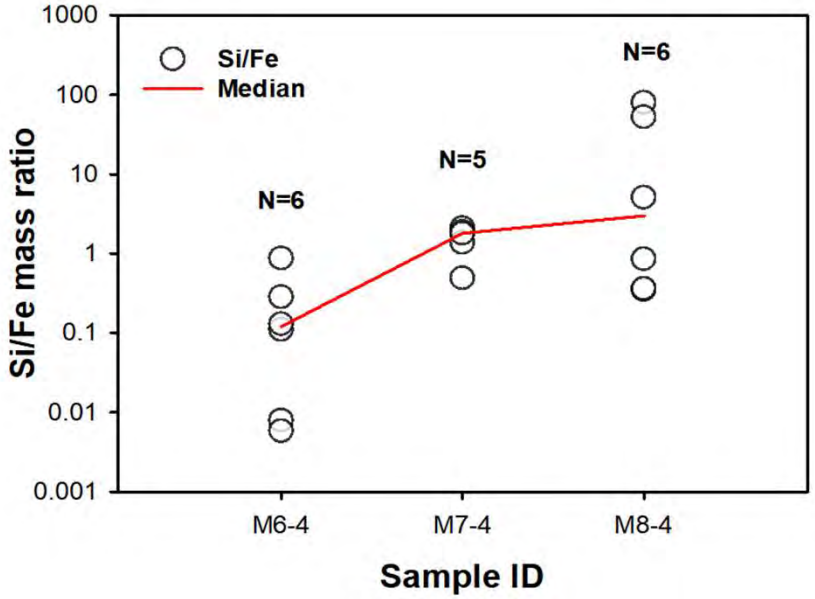
3. Partitioning of aerosol Fe in coarse- and fine-mode fractions:

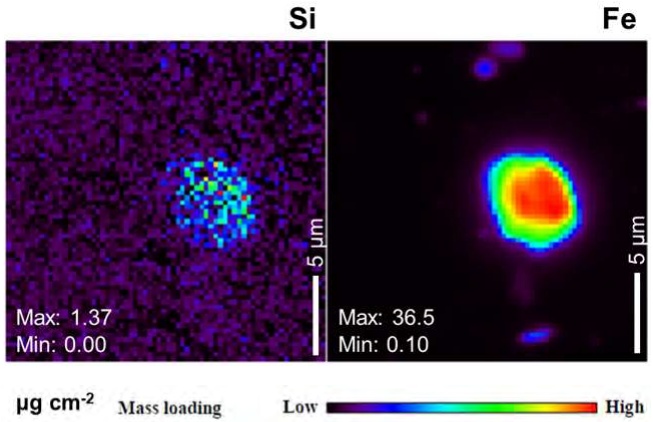


Method of sample analyses: UV/Visible spectroscopy

(Gao, Y., C.M. Marsay, S. Yu, S. Fan, P. Mukherjee, C.S. Buck, and B.M. Landing. Particle-size variability of aerosol iron and impact on iron solubility and dry deposition fluxes to the Arctic Ocean. *Scientific reports*, *9*(1), 1-11, 2019.)

4. Composition of Fe-containing aerosol particles:



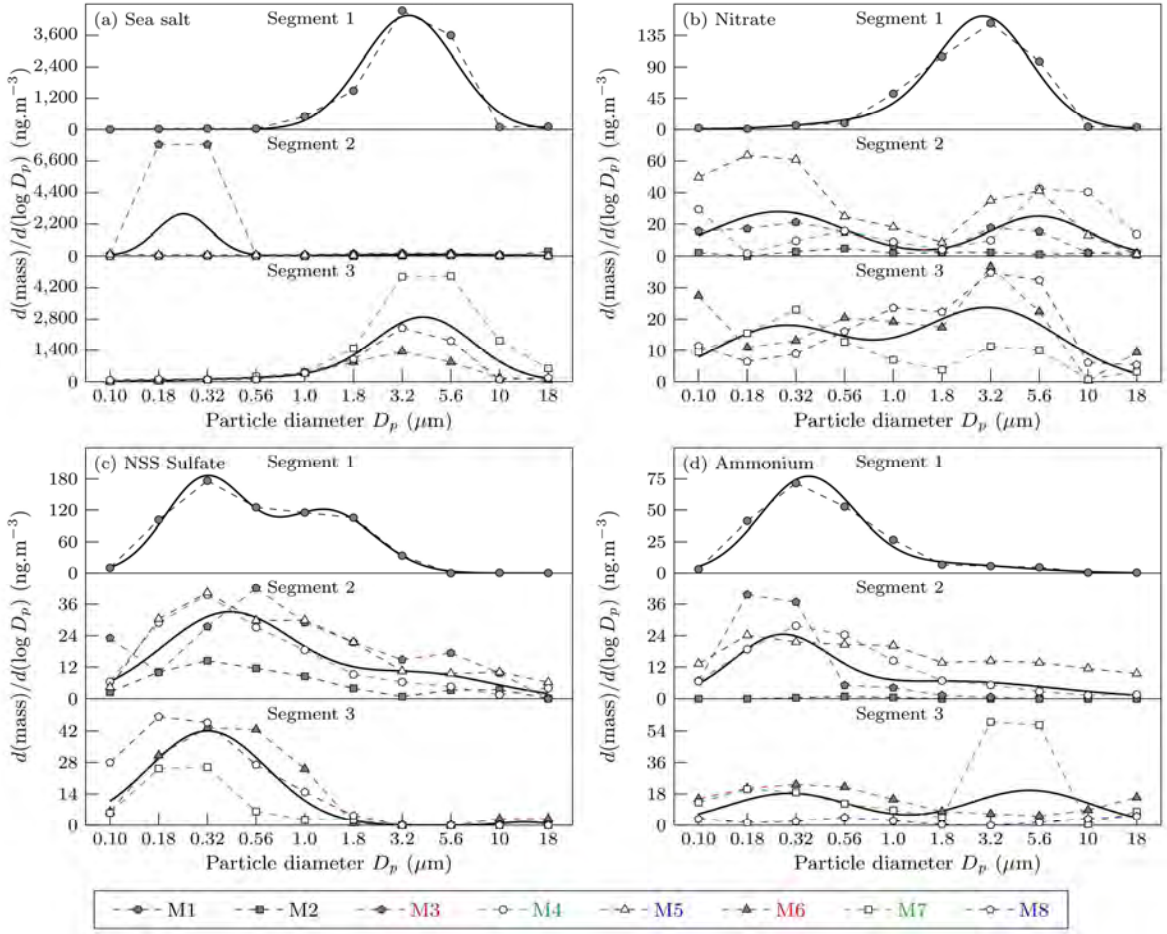


Methods of sample analyses:

Fe-containing particles collected by MOUDI were analyzed by synchrotron submicron X-ray fluorescence (XRF) and X-ray absorption near edge structure (XANES) spectroscopy at Advance Photon Source (APS) at Argonne National Laboratory (ANL).

(Fan, S., C.M. Marsay, B. Lai, W.M. Landing, E.D. Ingall, C.M. Buck, P.M. Morton, and Y. Gao. Chemical Composition and Oxidation State of Iron-Containing Aerosol Particles Observed during US GEOTRACES Western Arctic Cruise GN01, AGU Fall Meeting, 2019.)

5. Particle-size distributions of aerosol ionic species:



Method of sample analyses: IC

(Work in progress, by Mukherjee, P., C.M. Marsay, S. Yu, C.S. Buck, W.M. Landing, and Y. Gao)