Double trouble: Tracing the effect of Ocean Acidification and Ocean Warming in the shells of Arctic Pteropods

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Abstract.
The past decade has seen the most rapid and drastic changes in the surface waters of the Arctic. We propose to analyze the geochemical signal of Ocean Acidification and Warming in the shells of Arctic pteropods during the last decade by using LA-ICP-MS (Laser-Ablation-Inductively-Coupled-Mass-Spectrometry). We will achieve this in a two-step approach: 1) Establishing unique proxy-relationships for pteropods with respect to Ocean Acidification and Ocean Warming based on cultured specimens and 2) Applying the established proxies to pteropod sediment trap samples from the Arctic Ocean, spanning the last 13 years.