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## Atmospheric Pb in the alpine ice core from Mt. Ortles parallels closely an Arctic record pointing to hemispheric contamination from past mining and metallurgy in Central Europe during the last two millennia

### Content

Historical silver mining and metallurgic activities were accompanied by atmospheric emissions of by-products such as lead (Pb) and other toxic metals. The variable deposition of anthropogenic Pb to glaciers can thus be used to track historically and economically impacting events such as empire expansions, wars and plagues. We present a novel millennial-scale high resolution atmospheric Pb depositional record from a mid-latitude/high altitude Alpine ice core obtained in 2011 from the glacier Alto dell'Ortles (3859 m, Eastern Alps, Italy) that parallels an accurately-dated ( $\pm 5$  years) Pb record from an array of Arctic ice cores during the ~200 BCE to ~1900 CE time period. This allows to precisely constraint the history of atmospheric Pb contamination from Central Europe since the Roman civilization, through the times of the Carolingian dynasty, the Renaissance and the modernity.

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