

## **Chromium, tungsten and vanadium diagenesis in lake sediments**

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Chromium (Cr), tungsten (W) and vanadium (V) are redox sensitive trace elements. When buried in sediments, they might be remobilized, released into the water column and may induce toxic effects—depending on their speciation. Their unique redox properties make them also promising proxies for studying past anoxic events in aquatic systems. Recent studies have demonstrated strong potential that remains to be fully explored. To better assess the conditions that could trigger their remobilization and improve their use as paleo-redox tracers, a comprehensive understanding of the early diagenetic processes controlling their distribution at the sediment-water interface is required. However, porewater data for these three trace metals are scarce and, as a consequence, our knowledge of the reactions involved is limited. To fill this gap, porewater samples from a Californian lake were collected using peepers at two sites (oxic and anoxic). Chromium, W and V concentrations were measured using ICP-MS. A one dimensional mass conservation equation was applied to model the porewater profiles. Preliminary results indicate the intensity and depth of diagenetic processes identified vary significantly with redox conditions occurring at the sediment-water interface.