

## Biogeochemical Characterization of Redox Species in Real time

**An *in-situ* instrument that simultaneously collects all relevant redox information from any environmental system**

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Data will be presented for the first time that illustrates the power of this new *in-situ* instrumentation. The ability to collect simultaneous data on the most pertinent biogeochemical species in real time is critical in understanding complex environmental systems. Data collected using the DLK MP-1 instrument at the East River Watershed Colorado location during the last snow melt in 2019 will be presented.

Deployment of this system enabled data collection of data for slightly over a month, with 321,000 data sets collected approximately every 10 seconds. The instrument collected data without interruption, and the electrode sensors have proven to be robust over this time period. The data collected show clear diurnal cycling of the major biogeochemicals and can be also correlated with evapotranspiration in forested areas. The system is also very versatile and can be used in any seawater or freshwater system. This is a true advancement in technology and will change how we collect *in-situ* data in the future.