

Field and Lab Requirements for TIC/DIC and $\delta^{13}\text{C}$ Measurements of Water Samples

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In the biogeochemical carbon cycle, where carbon is exchanged among the bio/pedo/geo/hydro/atmospheres of the Earth, the stable $\delta^{13}\text{C}$ isotope of total/dissolved inorganic carbon (TIC/DIC) is an important tool in tracing the origin, microbial activity and cycling of inorganic carbon. Despite considerable improvement in stable isotope technology and instrumental accuracy in the last decades, with $\delta^{13}\text{C}$ having become a powerful tool in geological / biological / environmental / medical studies, there still remain discrepancies which can originate during the sampling, preparation, or analytical processing of the water samples. Here, the methodology for proper field sampling and laboratory measurement of water samples is presented and discussed.

