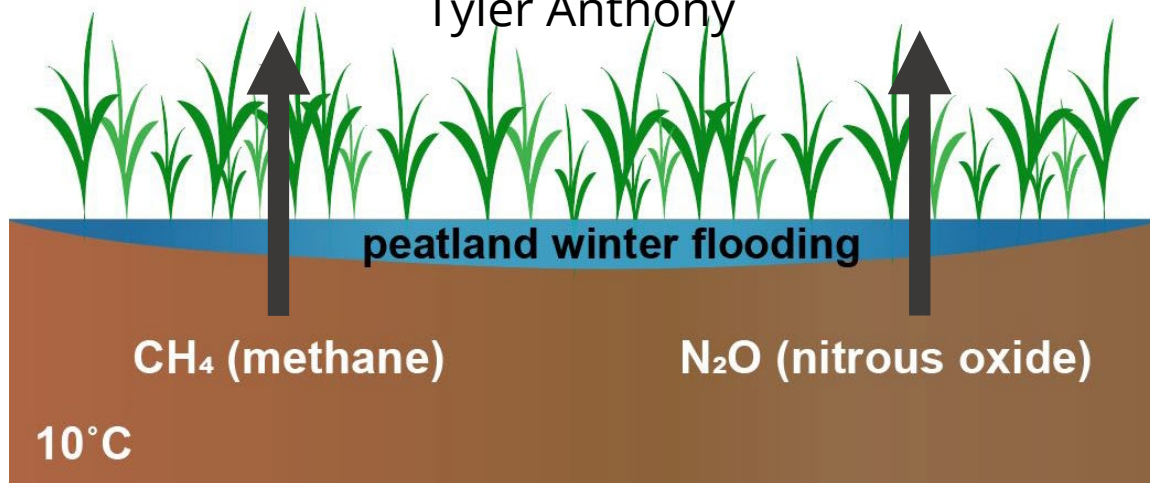


Delta Science Fellows Roundup #2: Greenhouse Gas Emissions and Carbon Budgets



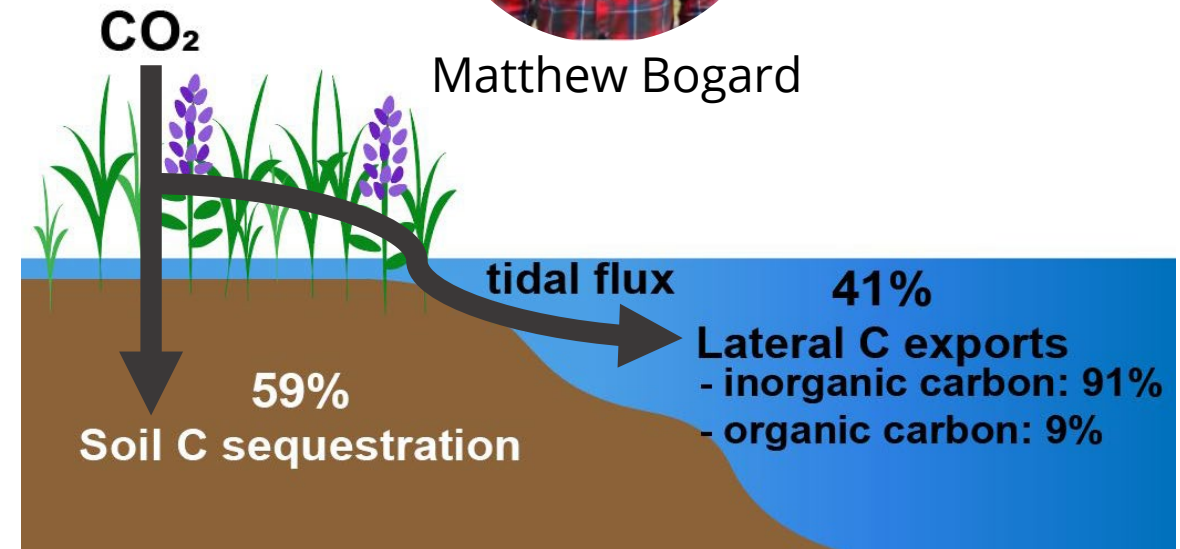
Tyler Anthony



Tyler Anthony and Whendee Silver used continuous measurements of two greenhouse gases over three years at a drained peatland in the Sacramento-San Joaquin Delta to better understand greenhouse gas fluxes of this system. They found that methane fluxes were high after several weeks of flooding and when soil temperatures were above 10°C and that the primary driver for nitrous oxide emissions was winter flooding and not fertilization as hypothesized.



Matthew Bogard



Matthew Bogard and team produced a comprehensive tidal marsh carbon budget based on existing and new data acquired over a year for a site in the Suisun Wetland complex. They found that the export of carbon by flow at Suisun Marsh is significant, with direct measurements showing that only 59% of the net carbon dioxide uptake by plants remains stored in soils. The rest is lost to lateral exports, with the majority unlikely to return to the atmosphere over human timescales.