

Is Seawater Chemistry Missing an Invisible Ingredient?

How dissolved organic matter may be quietly skewing our understanding of ocean alkalinity

Can nanofiltration isolate dissolved organic matter (DOM) to directly measure how much it contributes to total alkalinity in Dunedin's marine and surface waters?



Total alkalinity is a cornerstone of ocean acidification science. But standard measurements routinely ignore organic alkalinity. This creates bias in carbon cycle models in water systems



Water samples from Dunedin's marine and surface water environments will be passed through multiple filtration membrane sizes to physically separate DOM from inorganic species. Comparing alkalinity through out each filtration and across water types, we can quantify what DOM adds to the equation



Existing approaches rely on modelling and back-titration. This is the first study comparing organic alkalinity across marine and freshwater systems using nanofiltration



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