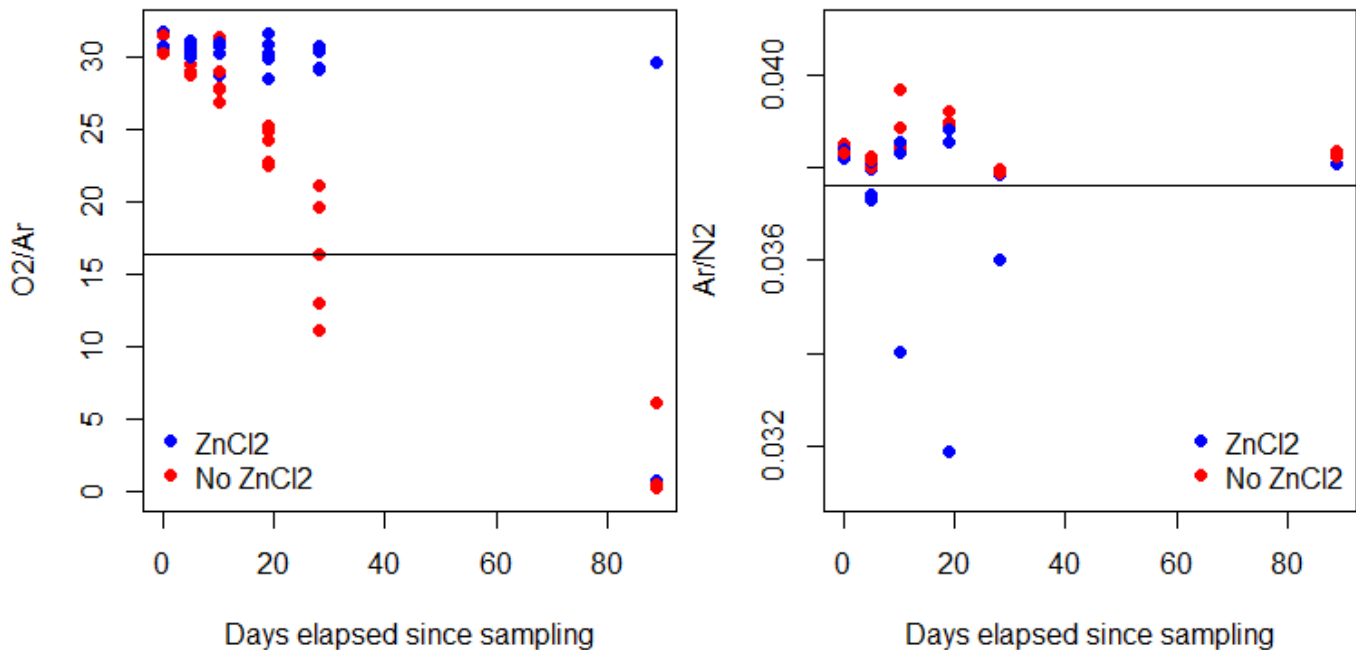


Sample Aging Experiment

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On June 18, 2016 I collected 50 water samples from LaBonte Pond, Laramie, WY. I collected a 15L bucket full of pond water, gently mixed it, and syphoned out samples into 12mL Exetainers as replicates not independent samples. I recorded temperature and barometric pressure for every 10th sample and gently mixed the water again. Half of the samples were preserved with 0.1 mL ZnCl₂ (blue) and half were not preserved (red). Samples were stored in a 4°C refrigerator, not underwater, until they were analyzed.

In the plots, the horizontal line is the predicted dissolved gas concentration at saturation. Each day I sampled 5 vials from each treatment. The samples on the far left for both plots were run on day 0.

Whether the effects of sample aging matter to you is likely dependent on your sampling scenario. For instance, an experiment or measurement in an ecosystem with extremely high rates of change for your dissolved gas of interest may have enough difference from your controls that you can detect differences even with more error associated with storing samples. On the other hand, with small experimental variation the changes to samples over time may make detecting differences from your controls more challenging.

Good luck and feel free to ask questions. Please reproduce only with permission.