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Oops we sampled under a few icebergs

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Abstract (Poster)

In general, best practice would be to avoid icebergs while piloting gliders, but best practice is not always achievable. During December 2018 through March 2019, we piloted two Slocum G3 gliders around the Antarctic Peninsula and South Shetland Islands, transiting more than 2,750 km while completing more than 2,250 yos. During this time we had four unintentional “close encounters” with icebergs. Two of these encounters were corroborated by RADARSAT imagery indicating icebergs overlaying or immediately proximal to straight line tracks between GPS fixes at the surface. In all cases rates of ascent from depth slowed noticeably when the gliders entered lenses of less dense water beneath the icebergs. The thickest such lens was at least 24 m thick. Ultimately, the slowed climbs within these lenses were terminated when the gliders exceeded stall or hover thresholds; then the gliders inflected into new descents. Further evidence suggests that less dense water surrounding some icebergs can be detected in wobbly descent and ascent profiles during yos immediately before and after such close encounters. Preliminary calculations suggest that the largest of these halos or plumes extended over 1 km beyond the point where a glider ended its encounter with the iceberg. We intend to compare the biological properties of the water column immediately prior to, during, and after our glider-iceberg encounters. Authors are listed alphabetically by last name.