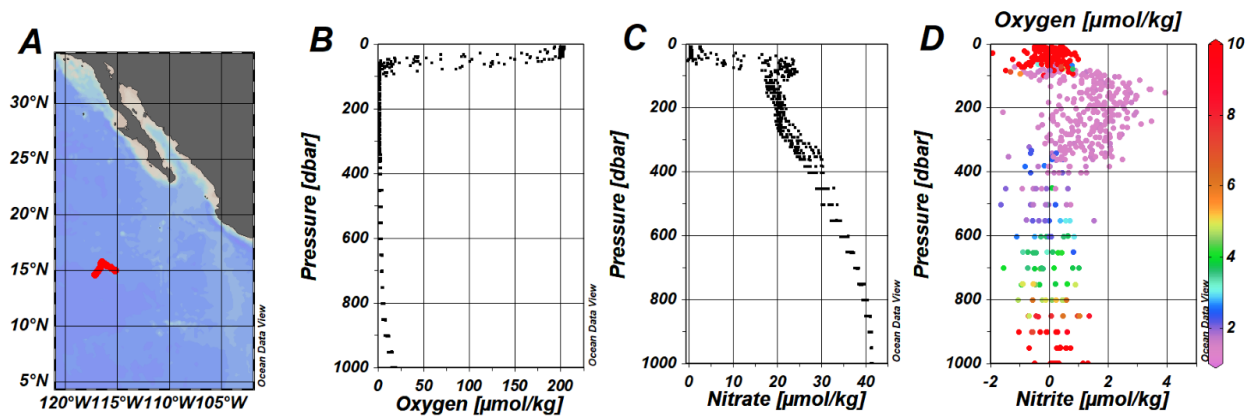


### GO-BGC Data Example #3: Detecting Nitrite in the Oxygen Deficient Zone



The GO-BGC array is enabling research across the entire span of open ocean environments. The broad suite of sensors and improved technology on the floats will extend the types of analyses that are possible. For example, float 5906449 is part of an array deployed in the Oxygen Deficient Zone (ODZ) of the Eastern Tropical North Pacific (Panel A). The float has now executed 10 profiles over 90 days and should operate for years. Oxygen sensors show concentrations  $< 2 \mu\text{mol/kg}$  from 100 to 500 m depth (Panel B). A well defined decrease in nitrate concentration occurs in this zone (Panel C) due to microbial denitrification and anammox reactions. Continuous refinements of the nitrate sensor optics and calibration are now allowing GO-BGC analysts to explore the detection of nitrite (Panel D), where each observation is colored by the oxygen concentration at levels  $< 10 \mu\text{mol/kg}$ . Robust determination of nitrite would greatly expand the capability of the science community to understand the processes that regulate nitrate loss in ODZs, which is a global control on ocean productivity.

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