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Auxiliary Material Submission for Paper 2012JG002271
A new model based insight into the couple of nitrogen and cryptic sulfur cycles in a coastal upwelling systems. doi:10.1029/2012JG002271.

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This supplemental material contains figures describing 1) cross-shore section of initial and boundary values of temperature, salinity, alongshore current, oxygen, nitrate, and phosphate used in the model and 2) cross-shore section of ammonium concentration produced by the model.

1. Figure S1. Cross-shore section of alongshore-averaged initial and boundary values for a) temperature, b) salinity, c) alongshore current, d) oxygen, e) nitrate, and f) phosphate. Please note thermocline tilts upward near the coast in the temperature profile, as well as the resulting poleward (southward) undercurrent in the alongshore-current profile.

2. Figure S2. Cross-shore section of ammonium concentration. The plot is averaged alongshore in the month of January at the last two years of the simulation. Importantly, maximum ammonium concentration is approximately located in 240 km offshore at the depth of 30 m. Lower than 100 m water depth, the ammonium concentrations are between 0.01 and 0.03 mmol N m⁻³.