

Author's Accepted Manuscript

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www.elsevier.com/locate/csr

PII: S0278-4343(17)30426-0
DOI: <https://doi.org/10.1016/j.csr.2018.03.008>
Reference: CSR3742

To appear in: *Continental Shelf Research*

Received date: 11 August 2017
Revised date: 16 March 2018
Accepted date: 18 March 2018

Cite this article as: Qianqian Liu, Fei Chai, Richard Dugdale, Yi Chao, Huijie Xue, Shivanesh Rao, Frances Wilkerson, John Farrara, Hongchun Zhang, Zhengui Wang and Yinglong Zhang, San Francisco Bay Nutrients and Plankton Dynamics as Simulated by a Coupled Hydrodynamic-Ecosystem Model, *Continental Shelf Research*, <https://doi.org/10.1016/j.csr.2018.03.008>

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Abstract

An open source coupled physical-biogeochemical model is developed for San Francisco Bay (SFB) to study nutrient cycling and plankton dynamics as well as to assist ecosystem based management and risk assessment. The biogeochemical model in this study is based on the Carbon, Silicate and Nitrogen Ecosystem (CoSiNE) model, and coupled to the unstructured grid, Semi-Implicit Cross-scale Hydroscience Integrated System Model (SCHISM). The SCHISM-CoSiNE model reproduces the spatial and temporal variability in nutrients and plankton biomass, and its physical and biogeochemical performance was successfully tested using comparisons

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