Simulated Proxy Data for PACE OCI Ocean Color and Aerosol Retrieval Algorithm Development

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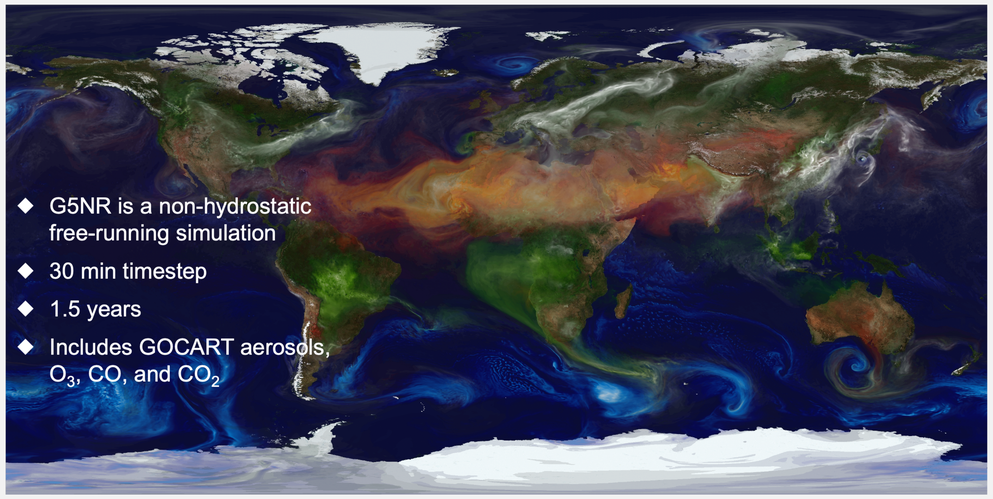
GMAO
Global Modeling & Assimilation Office

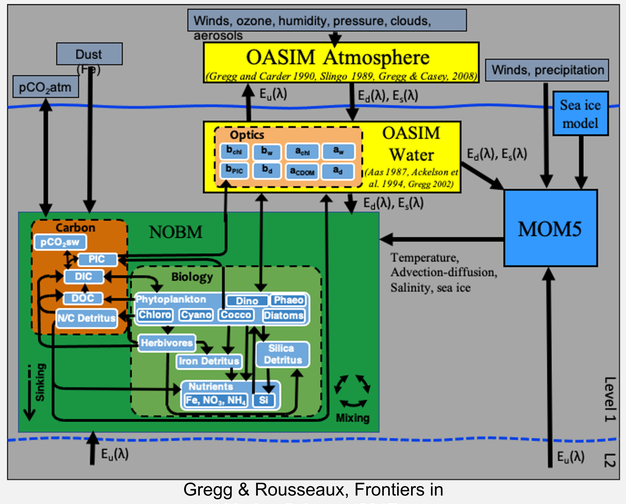
GMAO Developments to Support Observing System Simulations

GMAO has developed high resolution Nature Runs, ocean radiance simulations, and instrument simulators to support observing system simulation experiments.

GEOS Global 7 km Nature Run (G5NR)

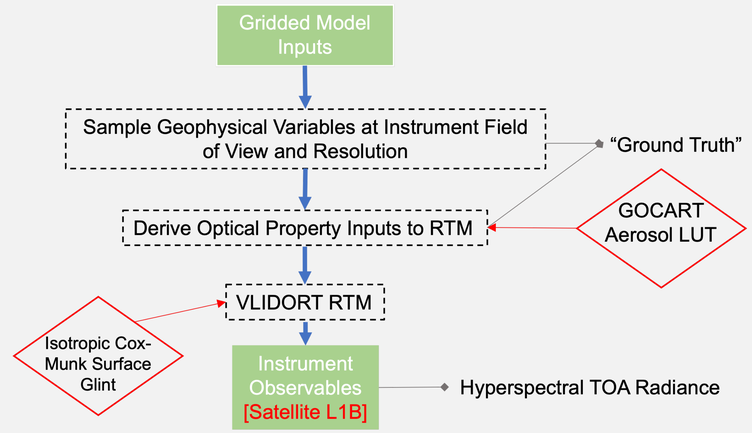


Global Ocean Radiance Simulation



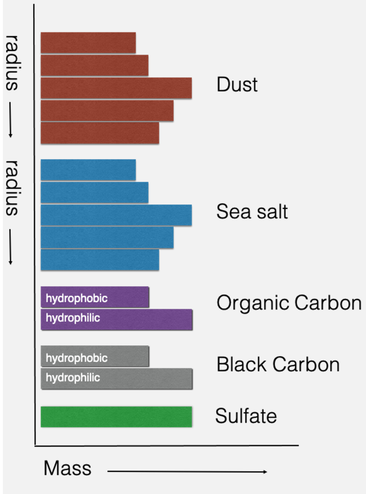
Gregg & Rousseaux, Frontiers in Marine Science (2017)

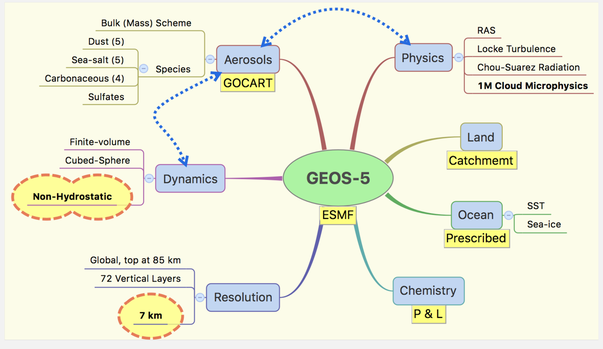
Level 1b Instrument Simulator



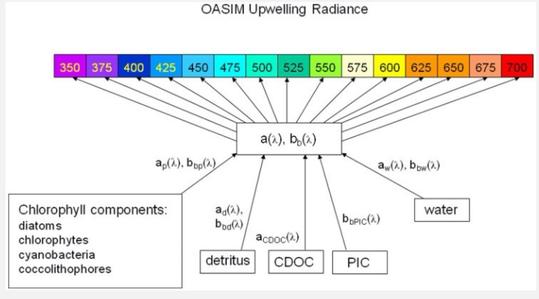
Detailed radiative transfer calculations are made in the presence of aerosols, clouds, and trace gases to create simulated observables (i.e. TOA radiance) at the PACE OCI instrument footprint.

G5NR Model Configuration

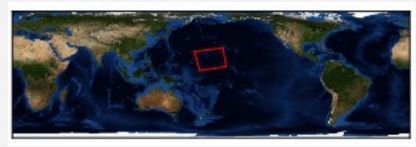


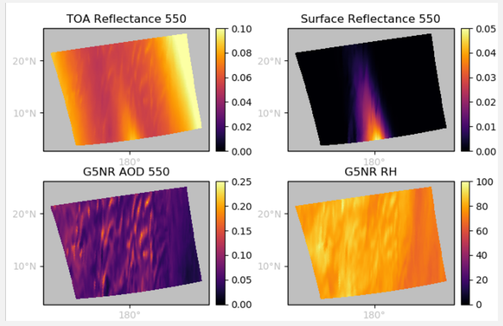


Biogeochemical constituents were coupled to a global ocean circulation model



Distributions of ocean optical constituents were coupled with a radiative transfer model OASIM to estimate water-leaving radiance at 1 nm spectral resolution





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Data Availability:
https://portal.nccs.nasa.gov/datashare/G5NR/c1440_NR/OBS/PACE

National Aeronautics and Space Administration