**Interdisciplinary Coordinated Experiment of the Southern Ocean Carbon Cycle (ICESOCC) – A Field Campaign Scoping Project**

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Accurate estimates in time and space of organic carbon export to the ocean interior via plankton net community production (NCP) for the global oceans (the oceanic biological pump) is essential for understanding the feedback between NCP, atmospheric CO2 and climate. Since integrated, multi-sensor satellite observations of many ocean variables are required to estimate NCP from space, the problem is an interdisciplinary and complex challenge. Satellite ocean color sensors are a fundamental component in estimating spatial and temporal variations in NCP. Therefore, NASA’s PACE mission (NASA-PACE 2012), a mission included in NASA’s Climate Architecture Plan (NASA-CAP, 2010), specifies a need for field programs to improve satellite algorithms and models to reduce uncertainties in our estimates of NCP. In particular, models indicate that the Southern Ocean plays a large role in climate cycles. The “*Interdisciplinary Coordinated Experiment of the Southern Ocean Carbon Cycle (ICESOCC)*” project is a NASA-funded field campaign scoping effort. The ICESOCC team will integrate the input from scientific experts in ocean, atmosphere, ice physics, biogeochemistry, advanced observational tools (ship, autonomous, atmospheric gases and dust, cryosphere dynamics, winds), and models, to create a recommendation to NASA for field observations required to constrain uncertainty of the Southern Ocean carbon cycle. The most successful result will be highly interdisciplinary and will require diverse observational methods of the ocean, the atmosphere and the cryosphere. Input from the international scientific community is requested to ensure a robust global plan in the final recommendation to be submitted to NASA by early 2016.

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