Breakout Workshop:

Beyond Chlorophyll-*a*: New trophic state indicators for optically complex waters

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Description

New remote sensing sensors and platforms, as well as improved understanding of observables such as phytoplankton fluorescence, are enabling new indicators for assessing trophic status or carbon fixation in aquatic environments. This includes, for example, the determination of primary production, different phytoplankton functional types, harmful algal blooms, carbon particle fractions, aggregated trophic mass or indirect estimates of nutrient availability. The specific potential uses, required methods, and reference data bases require clarification. By discussing these requirements, we aim to identify research priorities that can range from consensus protocols for fiducial measurements to robust algorithms for global applications.

With a brief introduction and three to four presentations, we hope to stimulate broad discussion of novel ecosystem indicators for optically complex waters that could complement established chlorophyll-a products. We will highlight the state-of-the-art and potential uses for each, but also address challenges and research gaps. The subsequent discussion will serve to identify research priorities regarding indicators as well as specific knowledge and data gaps.

Objectives

1) To identify innovative trophic state indicators that could complement or challenge the dominance of chlorophyll-a in satellite remote sensing

2) To clarify their practical relevance and performance limitations

3) To assess the feasibility of global baseline products