International Ocean Colour Science Meeting 2017

Advancing Global Ocean Colour Observations

Breakout Workshop #4

Remote Sensing of Inland and Coastal Waters: Current Status, Challenges, Research Priorities, and End-User Engagement

COMMUNITY DISCUSSION - 1

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Co-Chairs:

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Q1. Atmospheric Correction

Q1A. What are some feasible ways of improving the validation of aerosol retrievals over inland waters?

- Extend AERONET-like stations to inland waters?
- Encourage data-sharing?

Q1. Atmospheric Correction

Q1B. What changes are needed to deal with complex atmospheres around inland and coastal waters?

- Include more complex aerosol models (e.g., absorbing aerosols) in retrieval algorithms?
- Add channels in the UV/blue to retrieve absorbing aerosols and/or trace gases?
- Adopt land-based aerosol retrieval methods?

Q1. Atmospheric Correction

Q1C. What is the best approach to correct for adjacency effects?

- An analytical approach, taking into account the illumination/viewing geometries, surrounding topography, and land cover?
- A spectral approach, relying on knowledge/assumptions about the spectral properties of water? Can hyperspectral data improve detection and quantification of adjacency effects?

Q1. Atmospheric Correction

Q1D. What are some feasible options for mitigating the effects of sun glint?

- Require tilting capability in future sensors to avoid/minimize glint?
- Use polarized channels to characterize surface interactions?

Q1. Atmospheric Correction

Q1E. How accurate does atmospheric correction need to be for operational applications in inland and coastal waters?

- A reasonable level of qualitative accuracy that preserves the spectral shape of reflectance is enough, or
- A high level of absolute accuracy in magnitude and shape of the reflectance spectra is required
- It depends on the desired end-products
- A dynamically adjusting approach, depending on the gradient of constituent concentrations