Ocean Color Climate Data Records

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What have we learned from ocean color remote sensing?

- **Sampling**
  - Many issues remain, especially at mesoscales
- **Complex processes**
  - Require coincident (though not necessarily simultaneous) measurements
- **Algorithms**
  - Multiple observing systems can help identify inadequate correction models, etc.
  - Reprocessing and data analysis are critical
- **New capabilities**
  - Measure new processes
Climate Data Records

• Long-term time series with minimized (and quantified) errors
  - Including noise, spatial and temporal biases
  - Based on multiple observing streams
• NRC discussed Fundamental CDR (such as normalized water-leaving radiances) and Thematic CDR (such as chlorophyll)
• Used to detect climate change or understand climate processes
• High level of maturity and community consensus
Functions that need to be in place

- Pre-launch characterization of the sensor
- Post-launch calibration, sensor performance strategy
- In-water vicarious calibration
- Algorithm development, testing, and improvement
- Data reprocessing and archiving
- Competitively-selected science teams for analysis, algorithm development
Integrating Research and Operations

• Responsibilities and roles
• Adequacy of operational data for climate research
• Development of affordable instrumentation, but also evolvable
• Ensuring long-term records with NASA missions
• Prioritizing an observing strategy
• Open, enduring mechanisms for science input and oversight