ESA Ocean Colour Climate Change Initiative Latest Developments: version 5

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Results: Uncertainty characteristics of v5

- Uncertainties computed per water class
- V5 generally has lower chl-a rmsd
- V5 generally has lower chl-a bias

Results: global uncertainty characteristics of v5

- 15 June 2020

<table>
<thead>
<tr>
<th>Version</th>
<th>Metric</th>
<th>N pixels</th>
<th>mean</th>
<th>median</th>
<th>Std Dev</th>
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<td>2,409,323</td>
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</table>

Some Applications

Ocean Colour Climate Change Initiative

Inter-sensor bias maps: A-MODIS

Uncertainty characteristics of v5

- Plot of V5 and V4.2 chl-a vs in situ chl-a - Stats better in V5

Conclusions

- OC CCI v5 data are a major change from v4
  - Common atmospheric correction (except for SeaWIFS)
  - MERIS as a reference sensor presaging OLCI as the main sensor in the future
  - Contains Sentinel 3A OLCI
- Preliminary results suggest an improvement in uncertainty characteristics
- Expected increase in coverage due to Polymer AC and OLCI

Future

- OC record is now 23 years contiguous
  - Maybe possible to differentiate climate change signals within 5-10 years?
- OC CCI data are researched in ESA CCI but produced in the Copernicus Climate Change Service
- How will this be affected by a “no-deal” outcome of Brexit?