

OCROC: Ocean Color Radiometry for the assessment of the particulate and dissolved Organic Carbon over both open and coastal waters



Consortium



Laboratoire d'Océanologie
et de Géosciences

UMR 8187 - CNRS - Univ. Lille - ULCO

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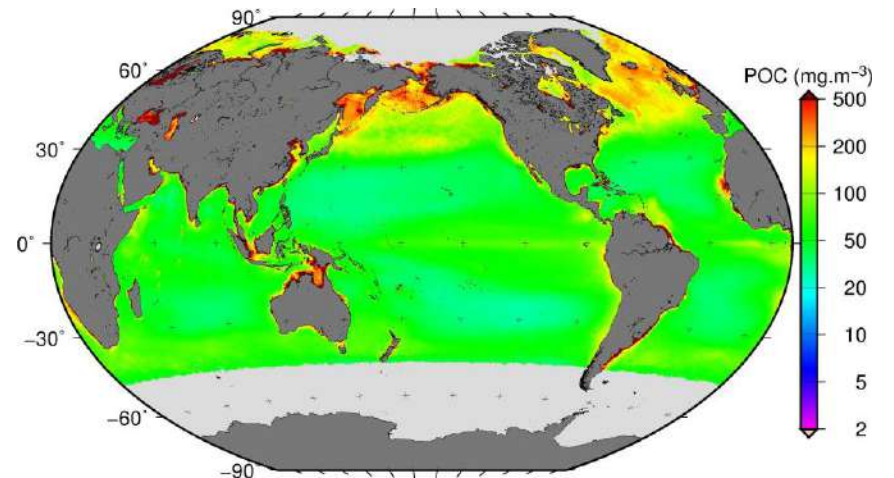
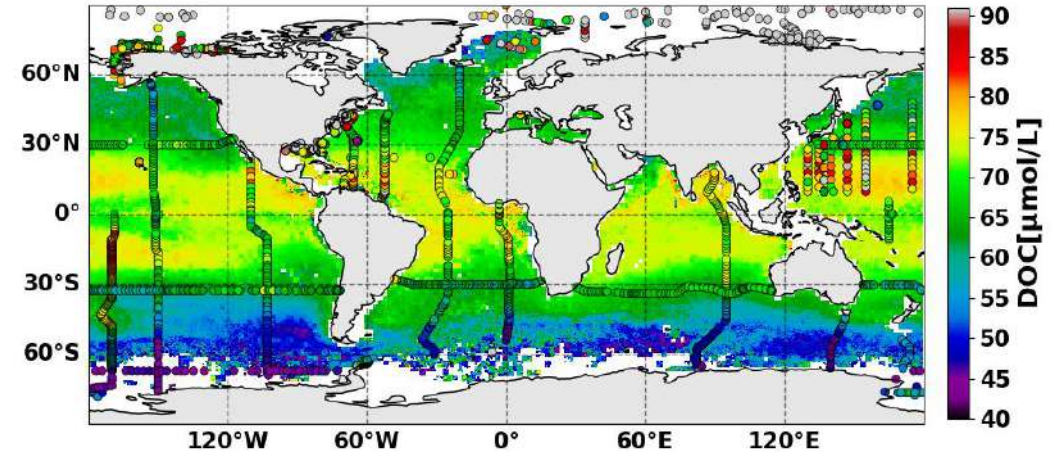
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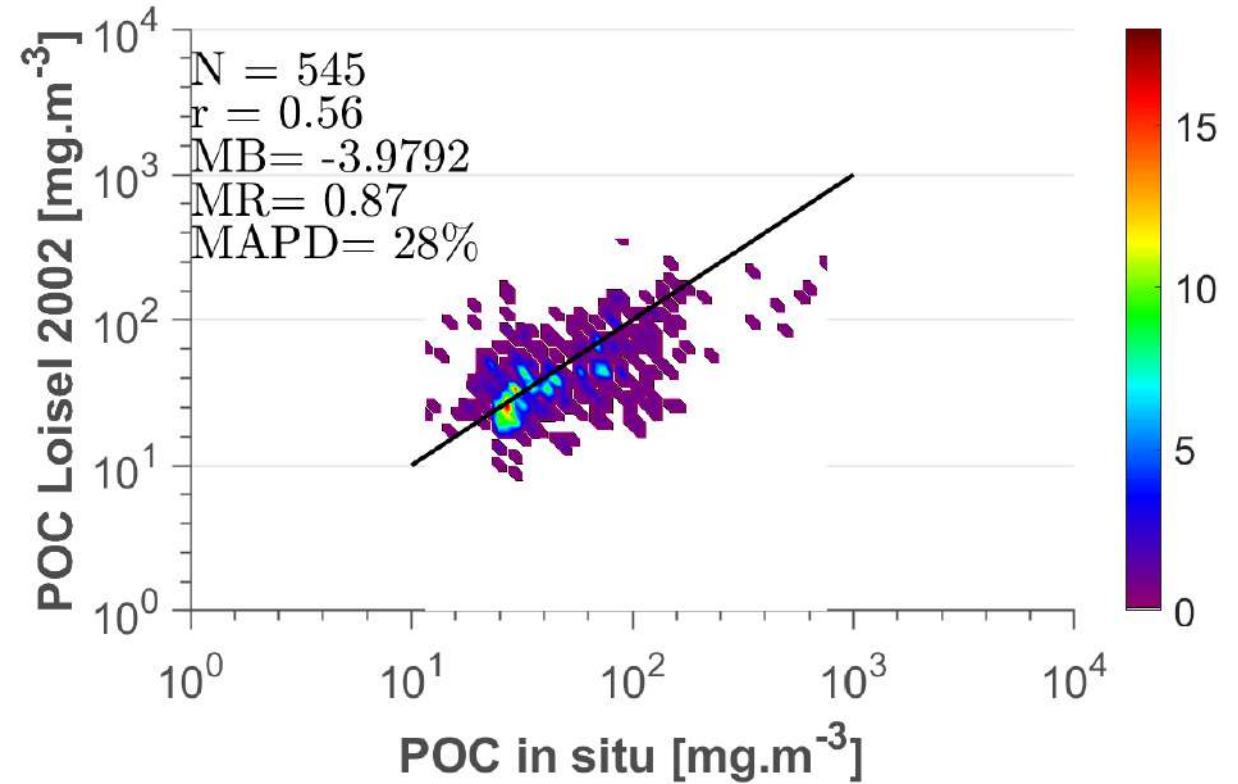
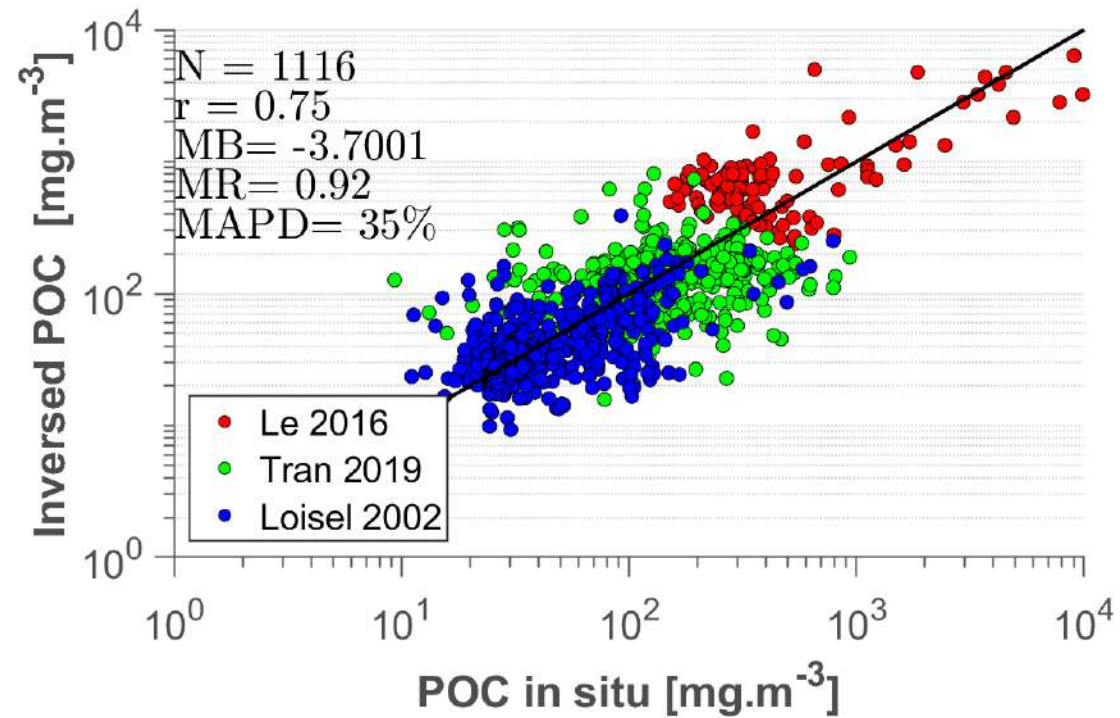
Antoine Mangin

Marine Bretagnon

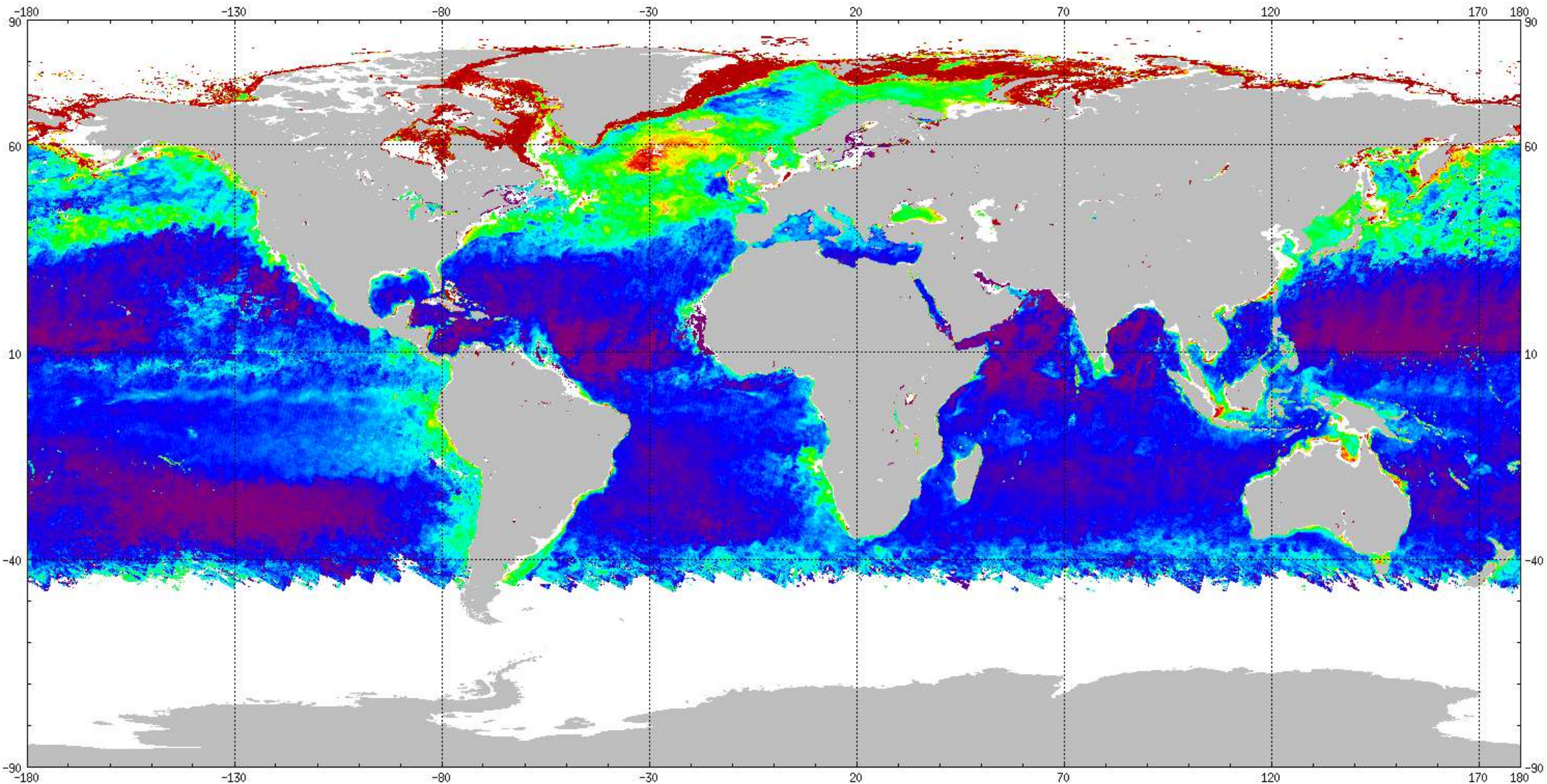
Julien Demaria



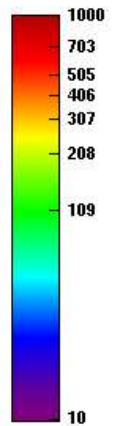
To better account for complex coastal waters (OWC 1-4) the final algorithm combines 3 models and is able to retrieve POC with a MAPD of 35% over the whole POC range of variability (10 to 10^4 $\text{mg}\cdot\text{m}^{-3}$).



OLCIA POC
Monthly Level-3 product
2022-05-01 to 2022-05-31



POC
(mg.m⁻³)



Analysis of the spatio-temporal variability of pCO₂ and air-sea flux of CO₂ over the global coastal ocean during the last two decades: a satellite approach



PI: H. Loisel

Partners: **LOG** (Wimereux) and **AD2M** (Roscoff)

Subcontractors: **ACRI-ST**



UMR7144

UMR Adaptation et Diversité en Milieu Marin



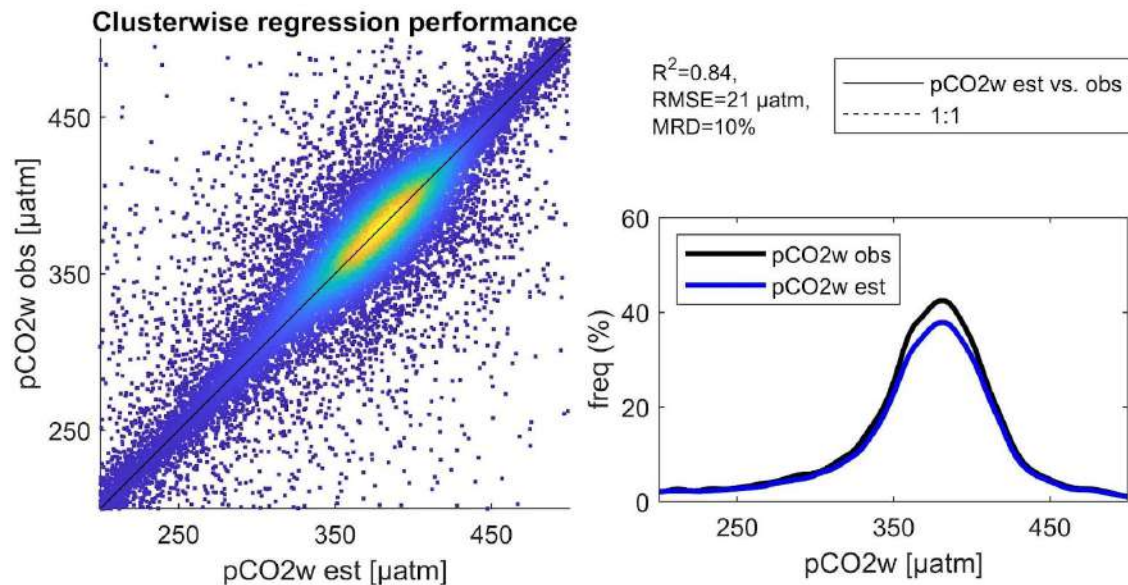
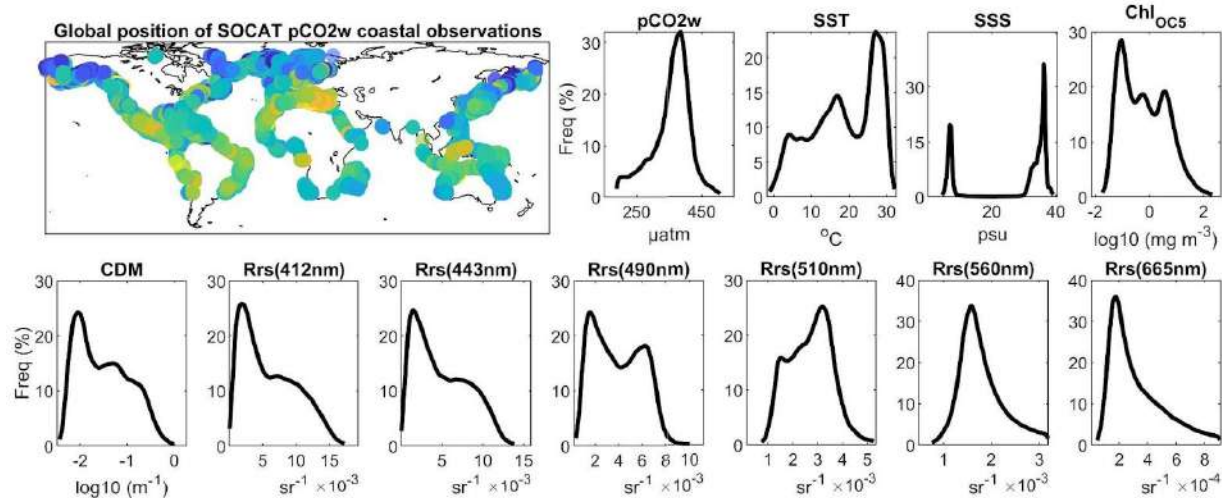
Products assessment from space observations: Estimate the surface-ocean CO₂ partial pressure, pCO₂^w, CO₂ flux, and associated uncertainties from satellite remote sensing over the global coastal waters at 1km² of spatial resolution (i.e. allowing to account for the large spatial heterogeneity of coastal waters).

Temporal variability schemes: Assessing and analyzing the seasonal, inter-annual, and last 25 years trend evolutions of pCO₂^w and CO₂ flux over global coastal waters.

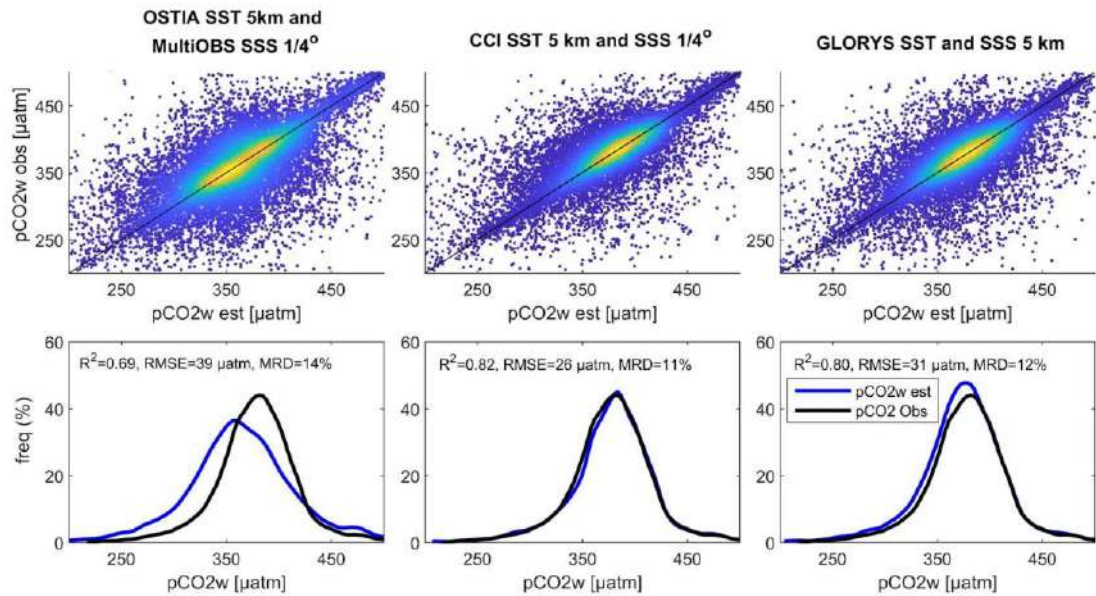
Respective contribution of the different coastal environments: Analyze the respective contribution of estuaries and coastal shelf waters, as well as the contribution of the different continental shelf types (i.e. enclosed seas, upwelling, polar open shelf, temperate open shelf, and tropical open shelf) or specific coastal environments (e.g. mangroves areas, and large deltas).

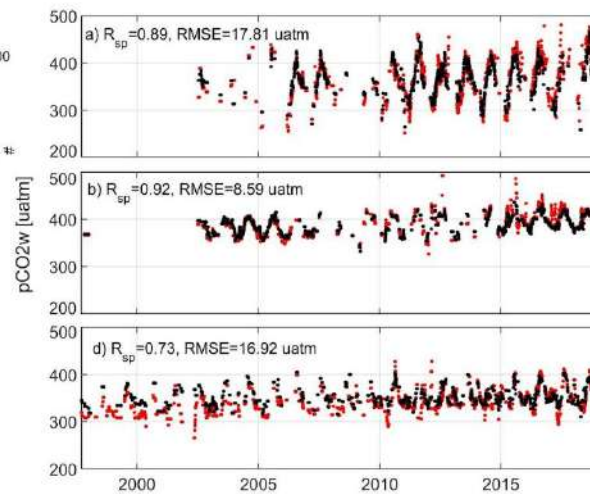
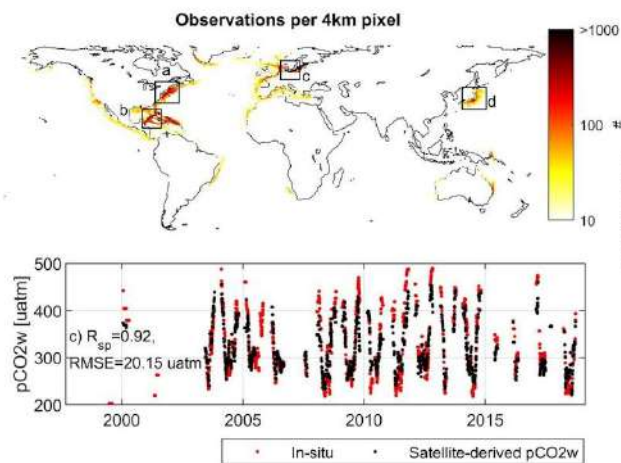
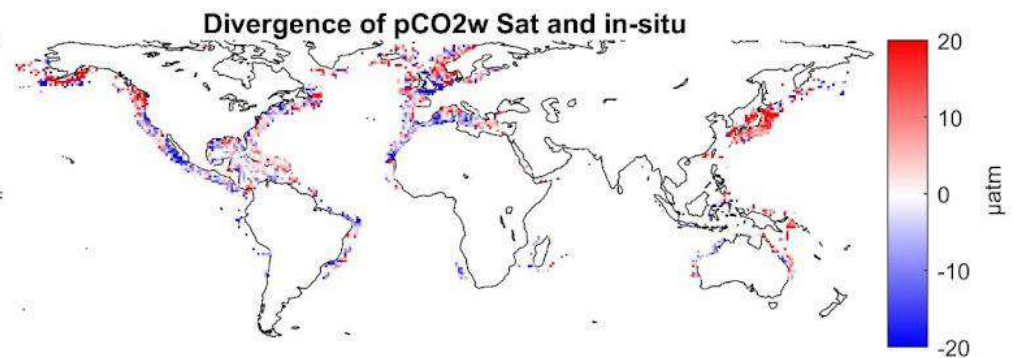
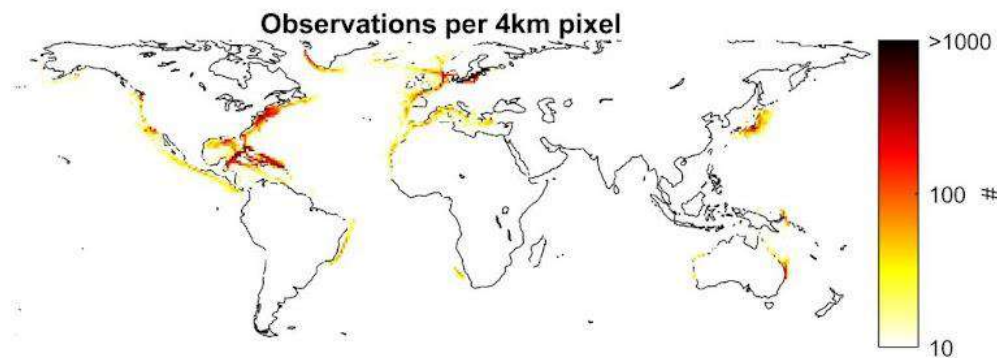
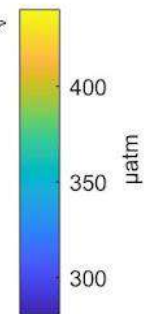
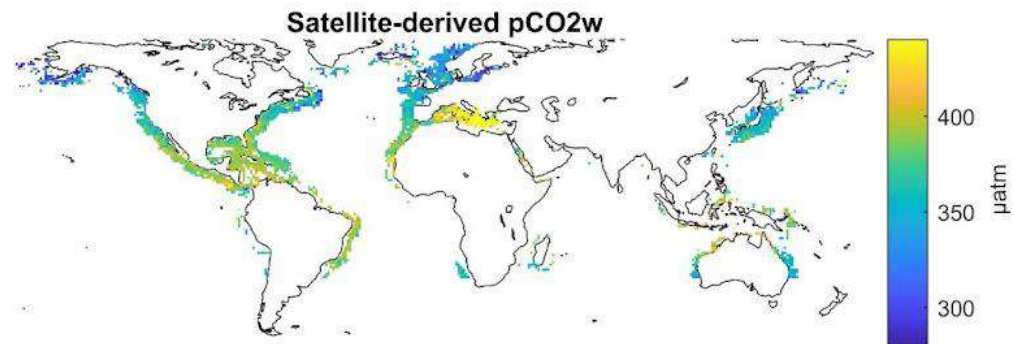
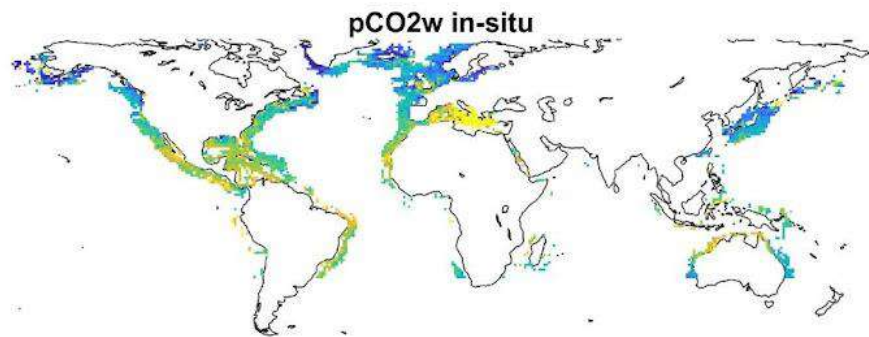


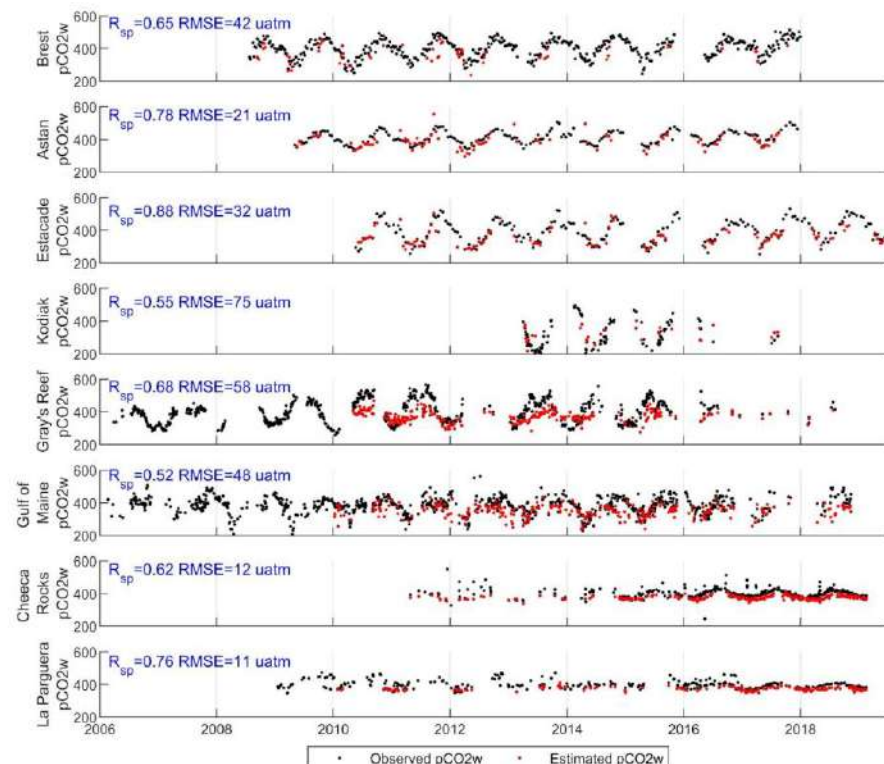
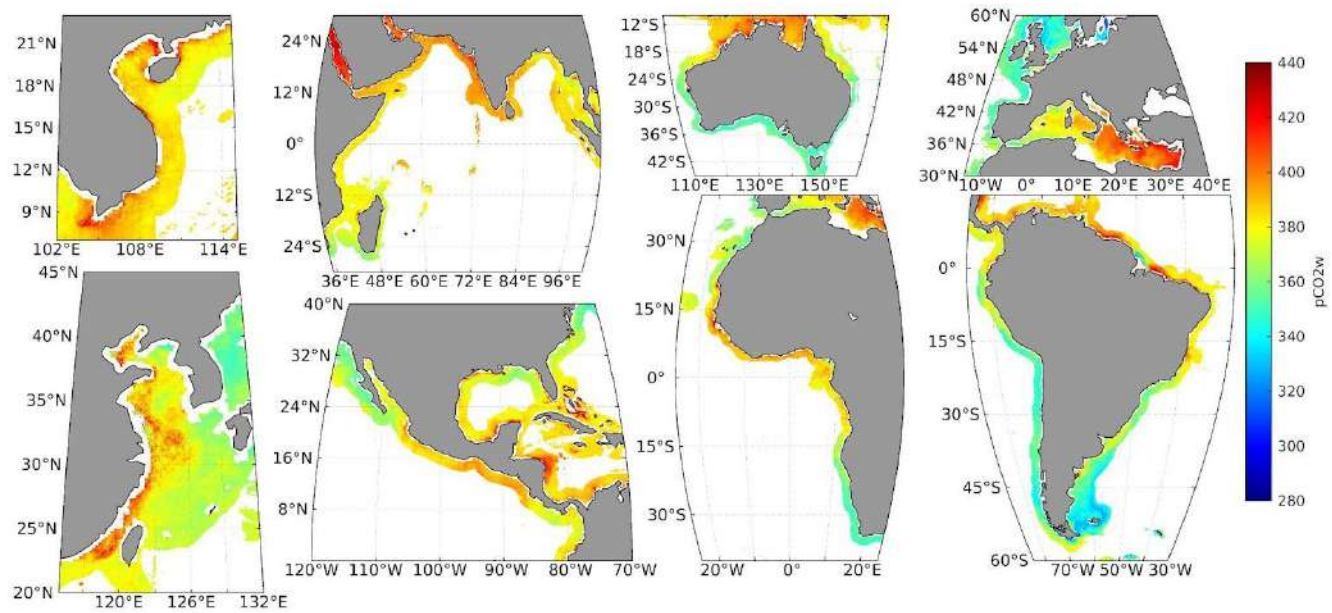
500.000 match-up (Machine learning based on Self Organizing Maps algorithm)

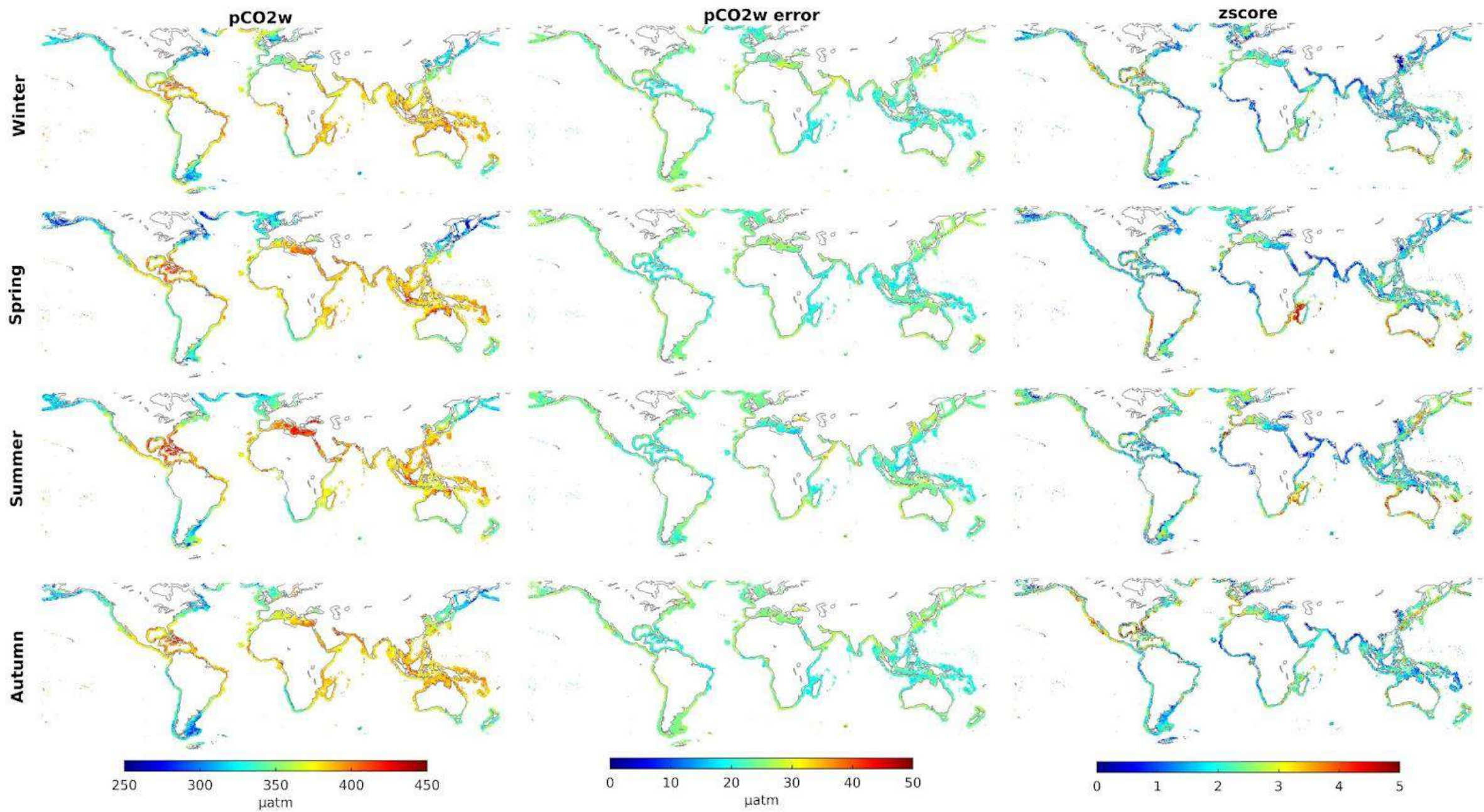


Impact de différents produits SST et SSS sur l'estimation de pCO₂

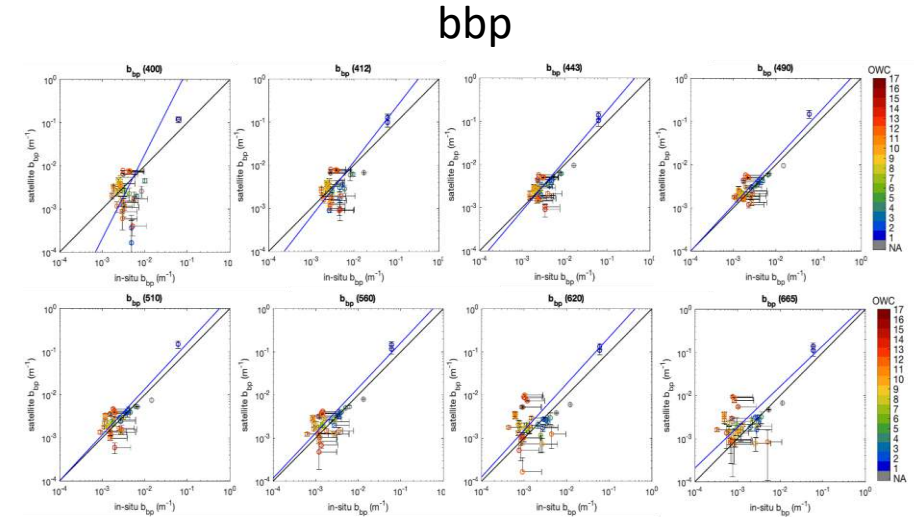
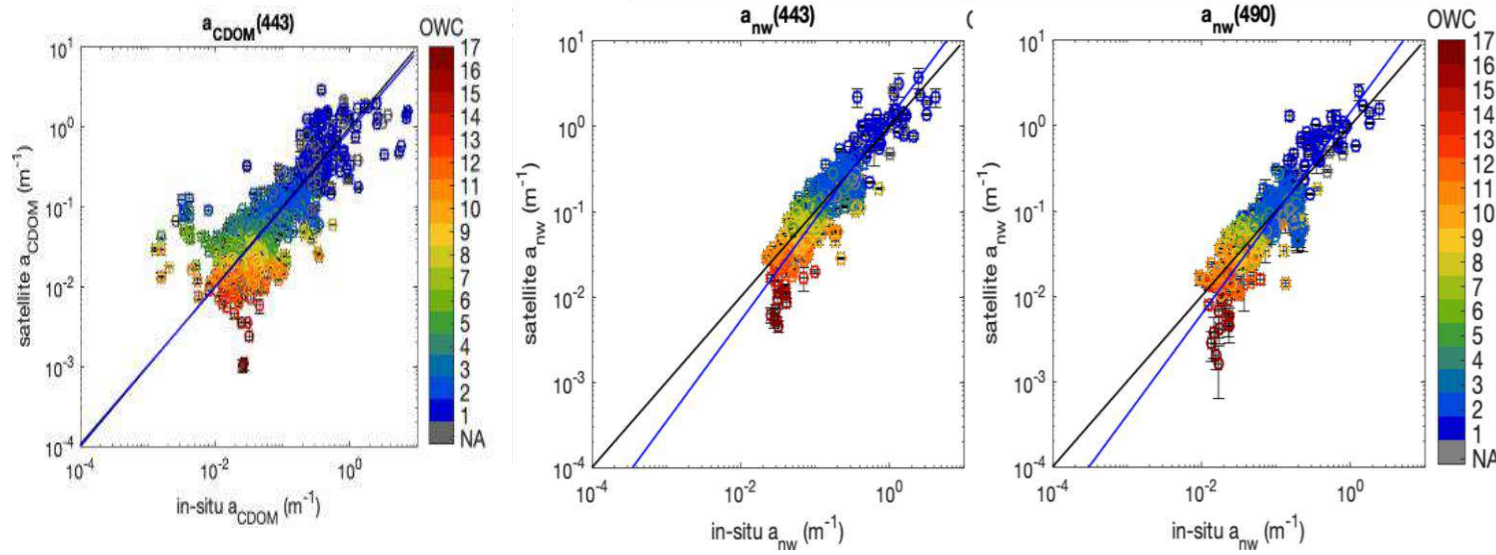




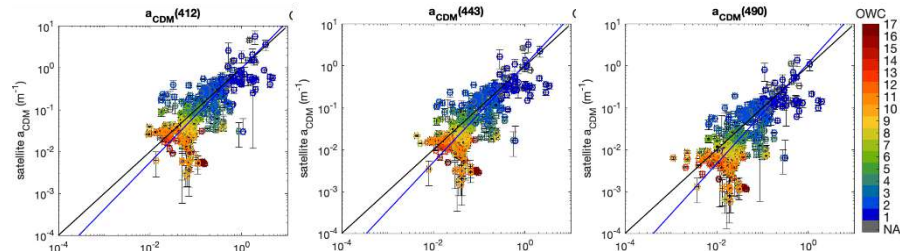




Les IOPs estimés par 3SAA (2018, 2021) sont depuis lundi derniers disponibles pour OLCI via EUMETSAT



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