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 (1)ACRI-ST, (2)ESRIN, (3)LOV, (4)JRC, (6)ARCTUS, (7)ARGANS

Context:

Sentinel-3A carrying the Ocean and Land Colour Instrument (OLCI) was successfully launched on February 16th by the European Space Agency. Sentinel-3 platform and OLCI are the first of a series planned by the European Commission (EC) in the frame of COPERNICUS program. This program will ensure a continuous flow of ocean colour data maintaining at least two Sentinel-3 platforms in orbit for the next decades. The OLCI series providing global coverage at 300m resolution will therefore represent a major breakthrough in the family of ocean colour sensors.

CalVal strategy:

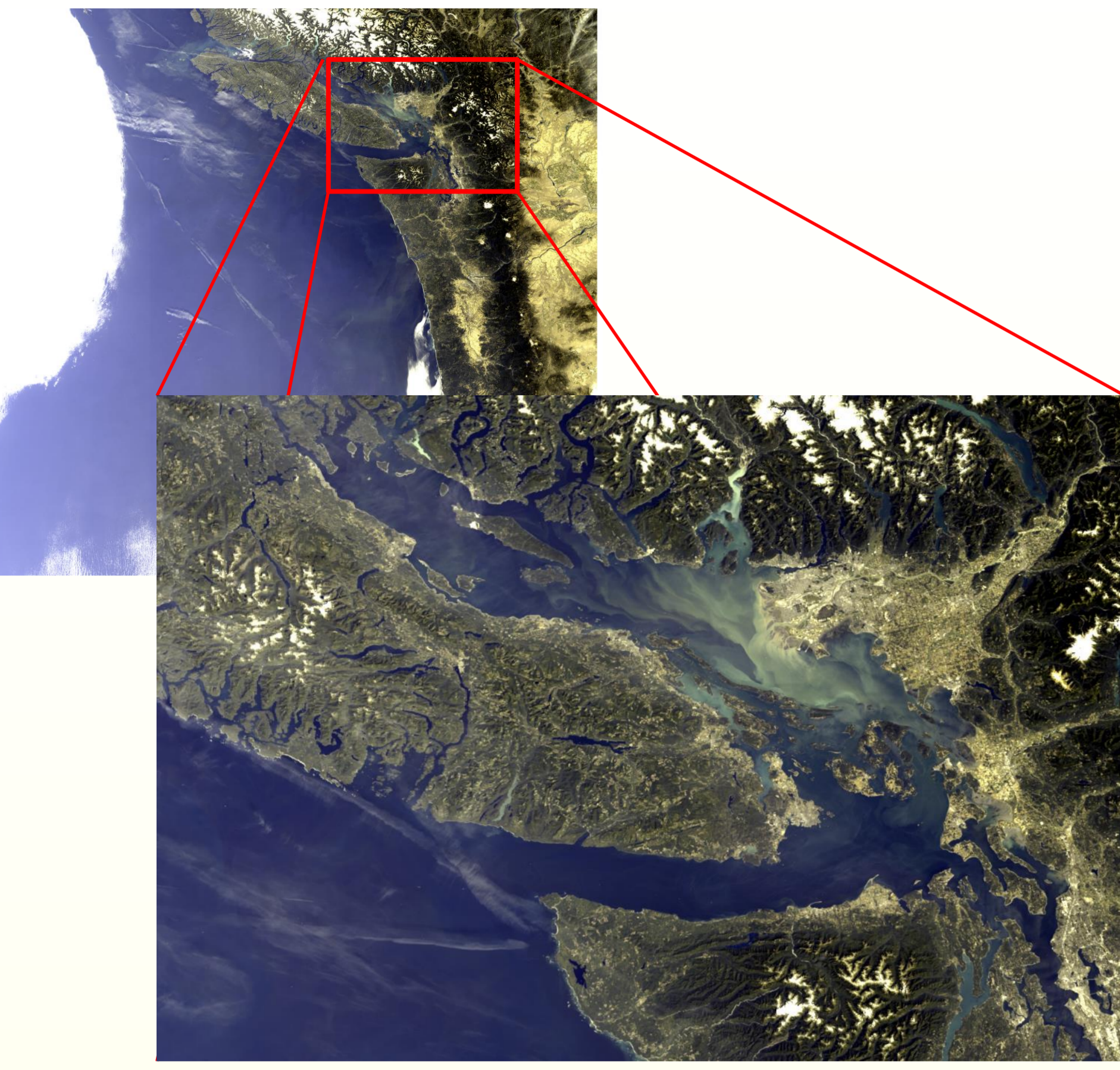
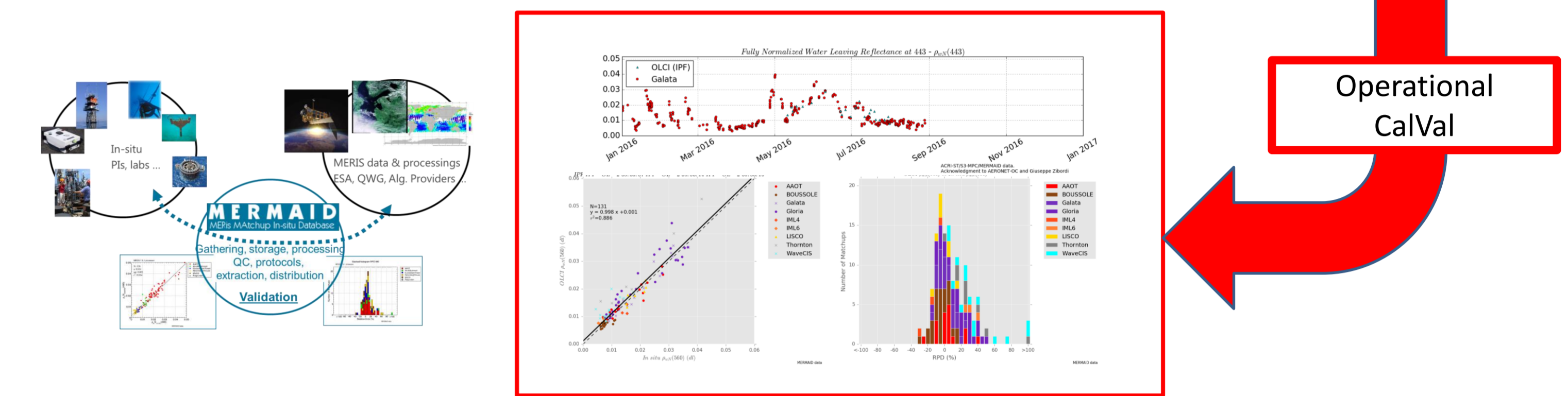
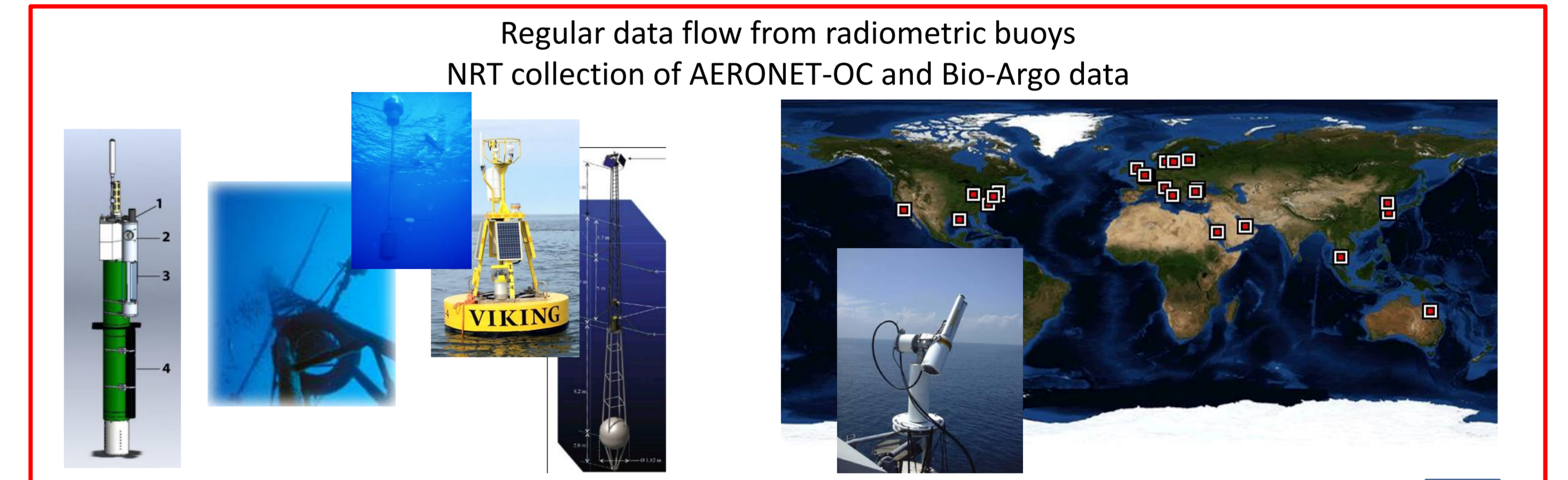
OLCI CalVal activities will benefit from the heritage of MERMAID tools developed on the frame of MERIS Quality Working Group. In the first few months of OLCI lifetime, level-2 product CalVal has mainly relied on the availability of daily radiometric measurements from permanent stations:

- BOUSSOLE : <http://www.obs-vlfr.fr/Boussole/html/home/home.php>
- AERONET-OC: http://aeronet.gsfc.nasa.gov/new_web/ocean_color.html
- AZMP: <https://ogsl.ca/en/obs/buoys/dfo/summary.html>
- MOBY: <https://moby.mlml.calstate.edu/>

A fundamental aspect of S3-MPC CalVal activities in support EU-COPERNICUS services is its operational character. The objective being to provide prompt feedback on product quality. To do so, in situ data are regularly updated and in the particular case of AERONET-OC network, the in-situ data are downloaded on a daily basis for routine CalVal.

A new operational technology, the automated profiling floats, also contribute the S-3MPC CalVal effort with the Bio-Argos (Chlorophyll, backscattering, CDOM and irradiance measurements), <http://seaside.rendevous.fr/>. A new type of autonomous floats (ProVal) will soon be available for OLCI CalVal (see poster from Vellucci et al. Number 183)

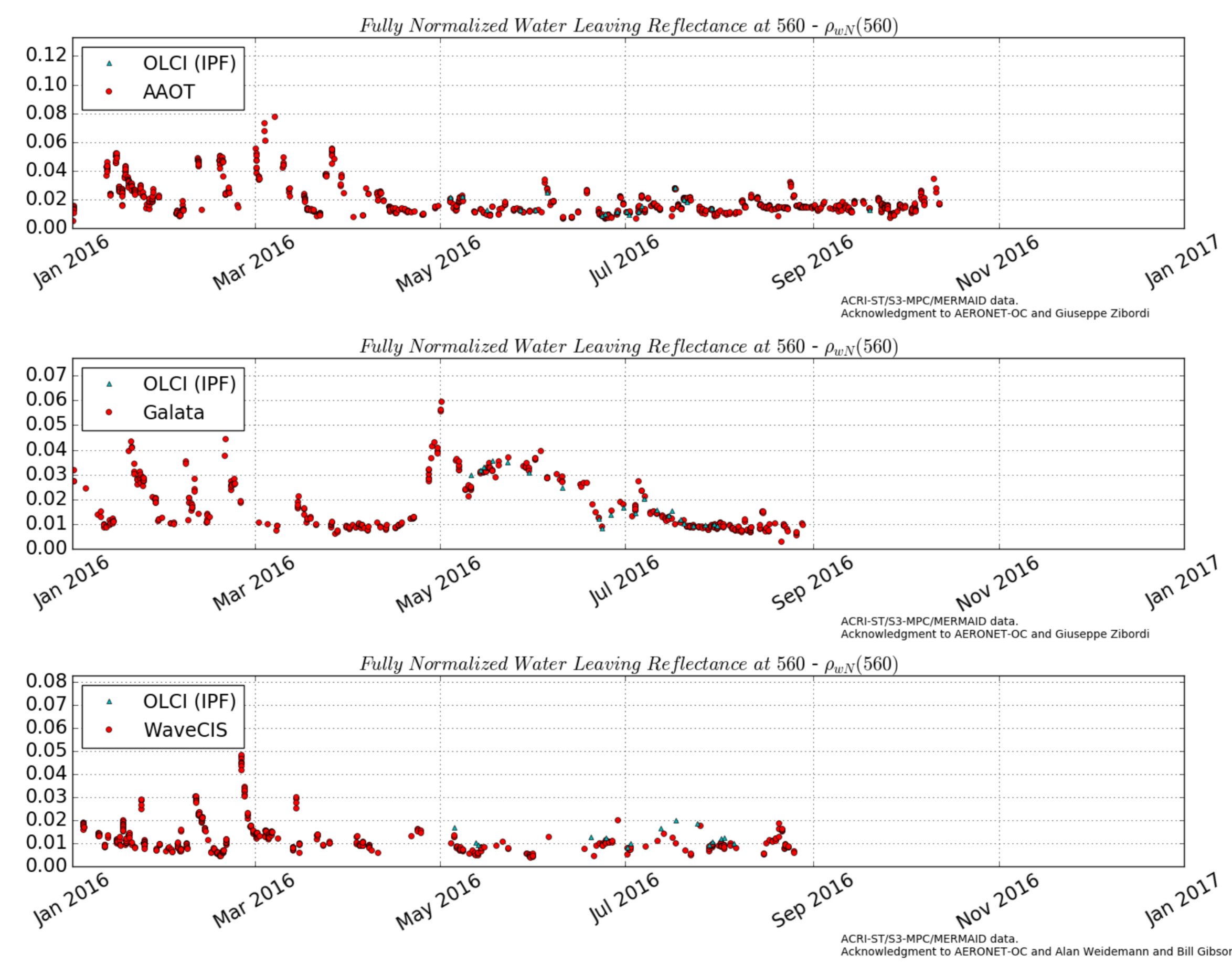
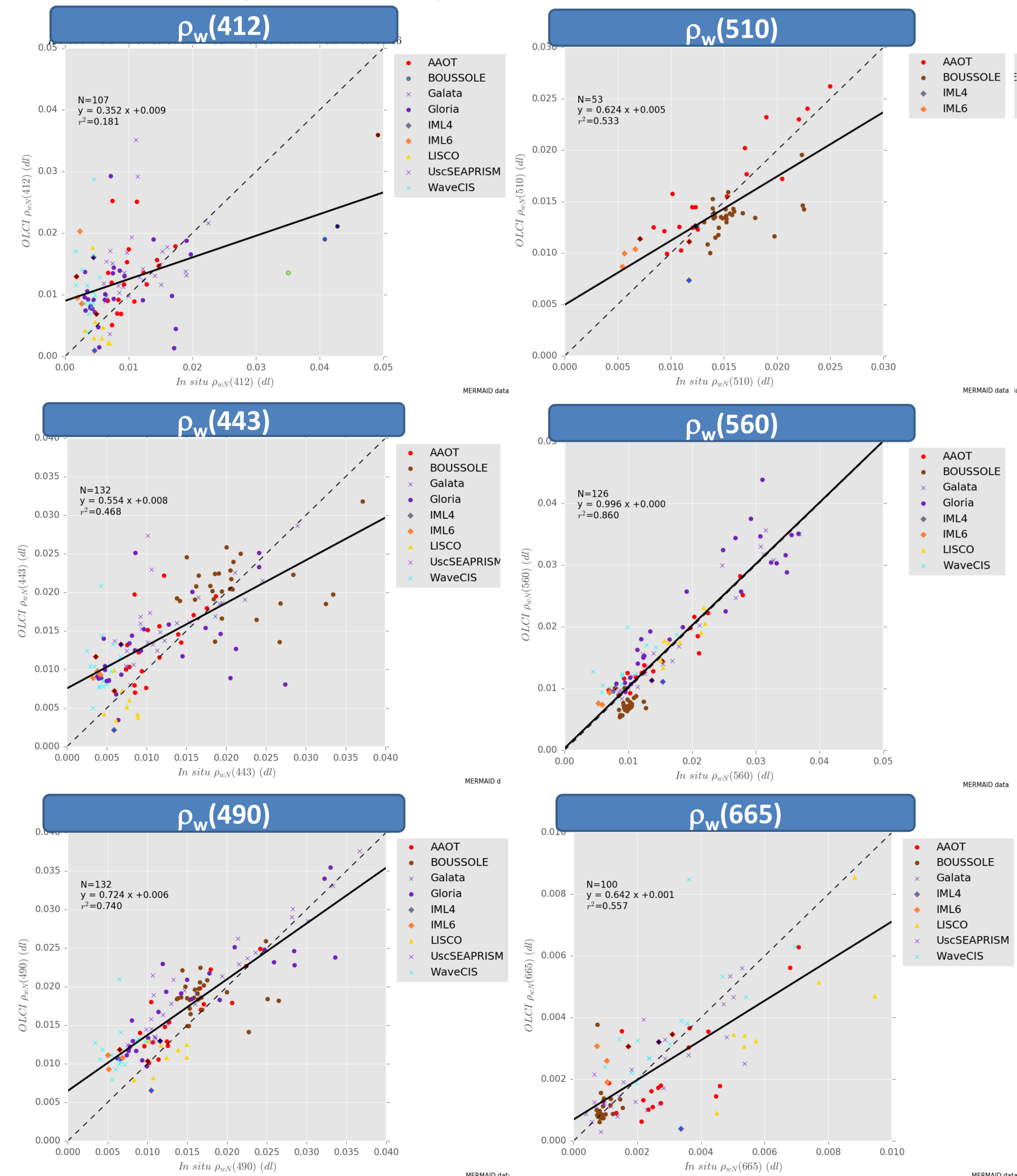
Throughout OLCI life time, in situ data collected from oceanographic cruises around the world will be collected to increase world wide representativity.



OLCI overpass over Western North America on August 18th 2016. Zoom on Vancouver Island. OLCI product: S3A_OL_1_EFR_20160818T184859_20160818T185159_20160818T204629_0179_007_341_2160_SVL_O_NR_002.SEN3

Disclaimer
 The work performed in the frame of this contract is carried out with funding by the European Union. The views expressed herein can in no way be taken to reflect the official opinion of either the European Union or the European Space Agency.

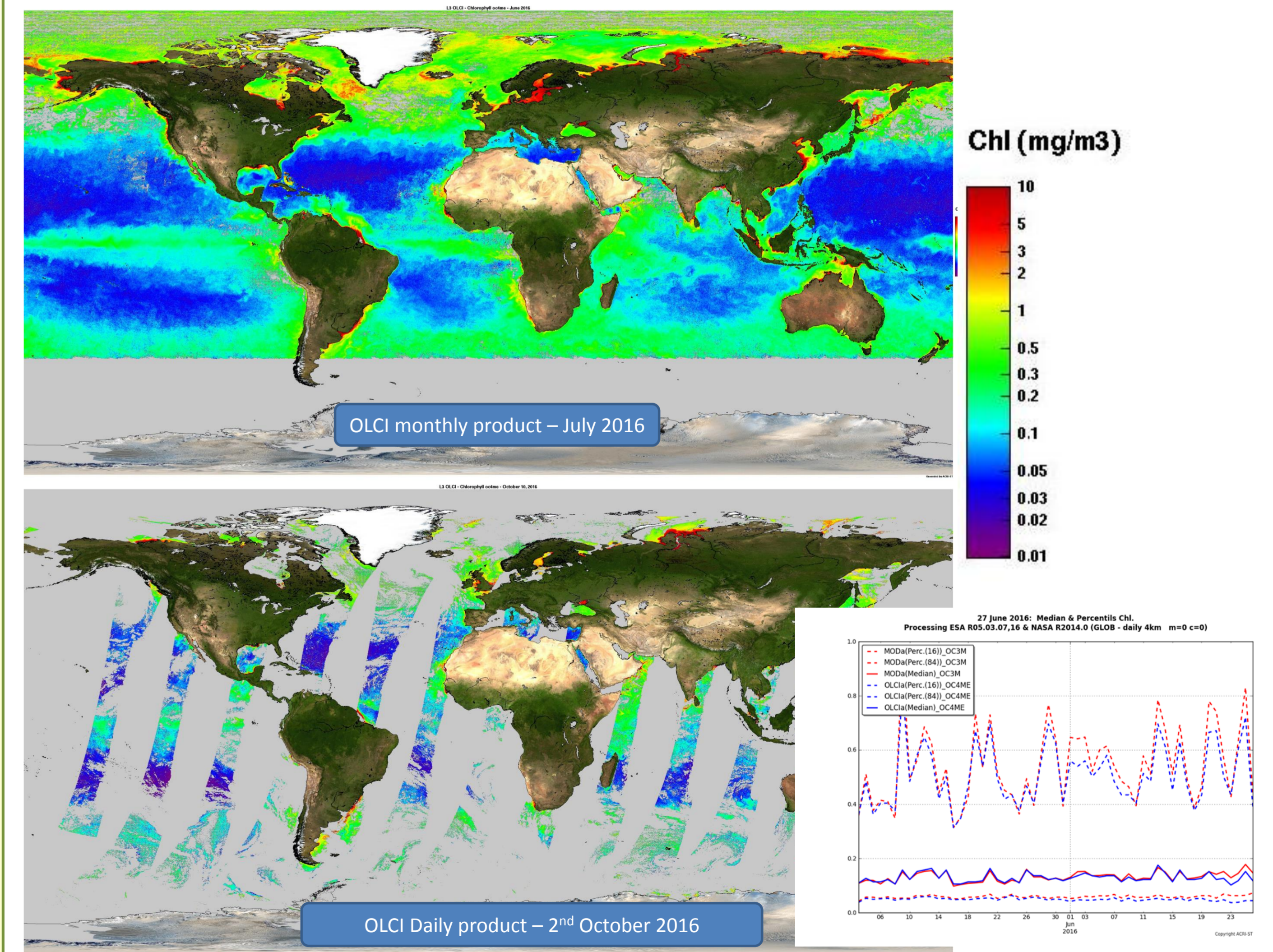
First level 2 products quantitative validation:



- First quantitative validation looks encouraging knowing that OLCI ground segment is still in commissioning phase, i.e. some processing correction are still to be made before full level-2 product release and that most of the available data are in complex waters.
- Validation other case 1 water will be more representative in a few months with the availability of more BOUSSOLE data.
- MOBY data will be included in this validation exercise in the next coming months and will further improve validation representativity for case 1 waters.
- Network of ground stations providing radiometric measurements is very efficient and useful in the first few months of OLCI operation as up to 132 usable matchups have been collected after only 5 month of effective level2 delivery.

OLCI validation through level 3 products:

- Monitoring of key oceanographic regions (oceanic gyres, upwelling regions)
- Inter-comparison with past and present Ocean Colour missions



- **Acknowledgments to :**
 - David Antoine and Vincenzo Vellucci for BOUSSOLE data, Simon Bélanger and Thomas Jaegler for IML data, Giuseppe Zibordi for AAOT, Galata and Gloria data, Sam Ahmed and Alex Gilerson for LISCO data, Alan Weidemann, Bill Gibson, Robert Arnone for WaveCIS data, Burton Jones and Curtiss Davis for UscSEAPRISM, Dimitry Van der Zande for Thornton data
 - EUMETSAT (COPERNICUS Marine Centre for the provision of OLCI Level-2 products)
- **AERONET-OC:** results are preliminary (level 1.5). Data were acquired from the Aerosol Robotic Network - Ocean Colour web site http://aeronet.gsfc.nasa.gov/new_web/ocean_color.html