

Tuesday, October 9

Poster Session 2

10:30–12:30

## Poster 46

### **DRONES IN SUPPORT OF EARTH OBSERVATION FOR WATER QUALITY MAPPING IN CASE-2 WATERS**

Current high-resolution satellite missions like Sentinel-2 and Landsat-8 have proven their use for mapping water quality in case-2 waters. However, cloud cover or low revisit times reduce the final dataset suitable for water quality mapping. Optical sensors mounted under drones can help filling these gaps or serve as validation and calibration data for EO services. But retrieving quantitative data from drone-imagery is challenging and requires correction of geometry, vignetting effects and sky glint. This study shows the workflow behind drone-image processing from raw digital number (DN) to water quality products (TSM and turbidity). An RGB (Sony NEX-6) and multispectral (MicaSense RedEdge) sensor were mounted under an octocopter drone platform. The results and lessons-learned during different field campaigns will be presented. The test-sites include the harbor of Breskens (NL) near the Scheldt outlet, characterized by high tidal sediment dynamics, and Loch Leven in Schotland. Finally, in-situ data, drone imagery and satellite products are all interlinked to show the benefits from combining different datasets.

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