S3-MPC needs for FRM data

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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.

- **What do we (want to) do with FRMs**

- **What do we have as FRMs for OC so far**

- **When can we reach reasonable SVC**

- **Conclusion**

What do we (want to) do with FRMs

The main use is <u>quantitative validation of L2 products</u> (marine reflectance, Chl, Kd, etc.) for S3/OLCI-SLSTR

= processor performance assessment and products uncertainty assessment

→ not only "high quality" required, <u>uncertainty estimates</u> are mandatory for delivery with FRM data

In specific cases, we do "vicarious adjustment"

→ using FRMs for adjustment of L2 processors

→ must be verified on additional FRMs

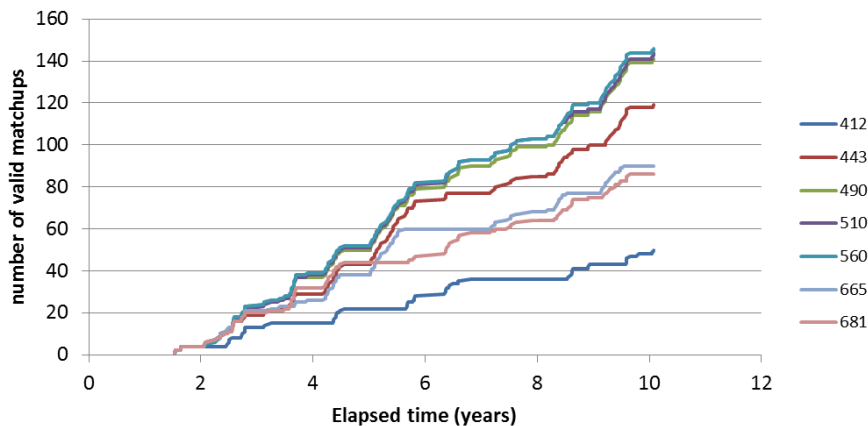**BOUSSOLE, MOBY and AERONET-OC**

BOUSSOLE &MOBY for SVC, AERONET-OC for Validation

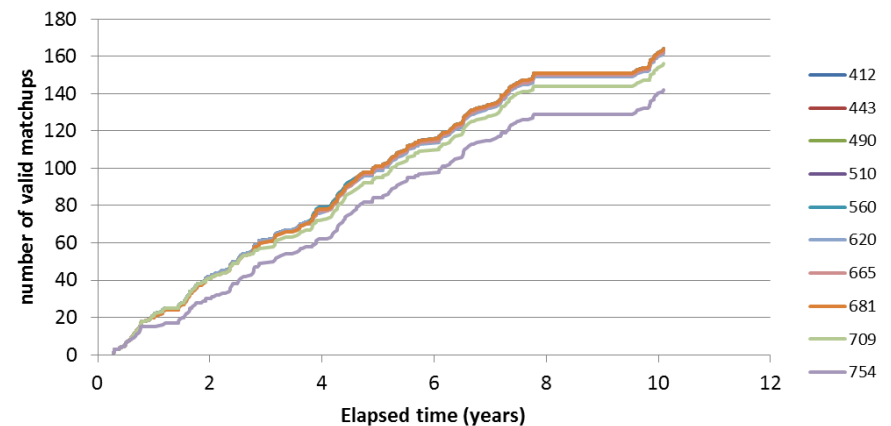   **5, 7 & TBC matchups over the reprocessed period (3.75 months)**

    → **≈3.2 matchup a month for SVC, a bit better than MERIS**

    → **not enough for Val, even less for SVC**
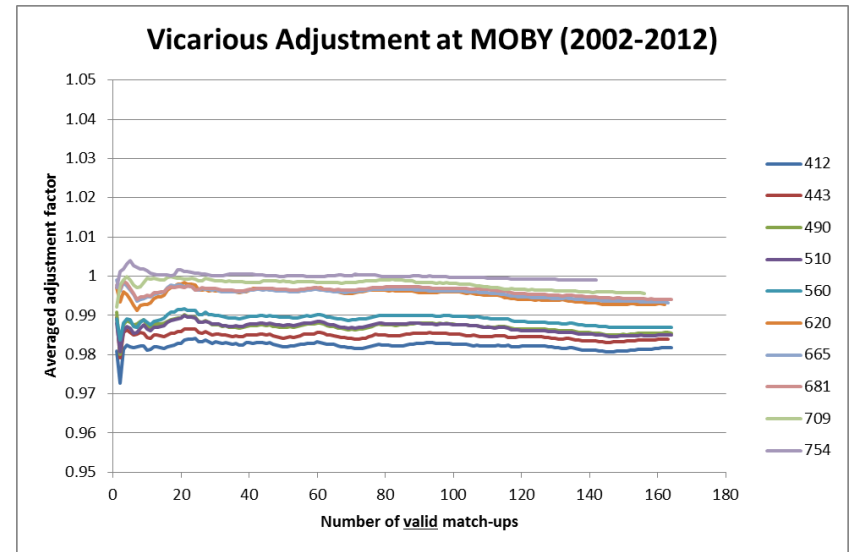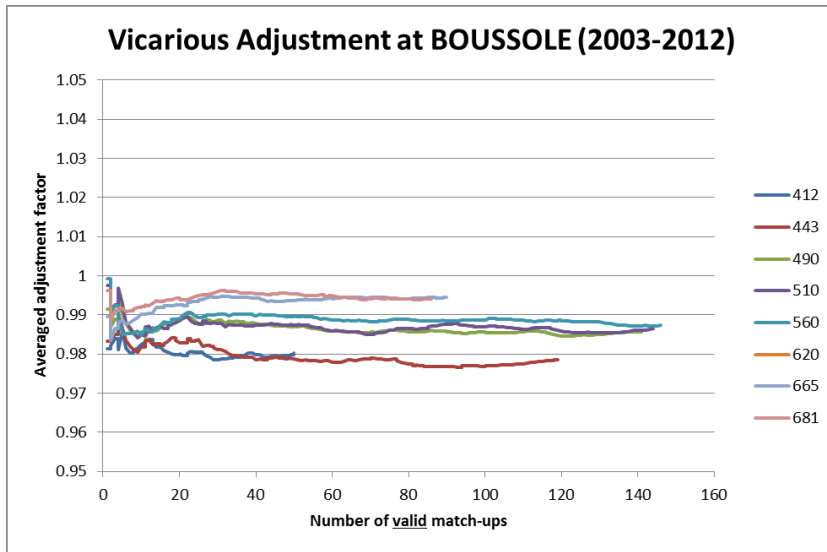
SVC litterature estimates 30 to 50 matchups required for SVC stability , (assuming sensor well corrected for time drifts)

MERIS experience says a bit less (25 to 40)

This implies a minimum of 9 months, using both sites, before getting decent OC products, everything else assumed cleaned out (sensor calibration, troubleshooting, data availability…)

Conclusion

Assuming L1 stabilized and consistently reprocessed, decent SVC adjustment can only be reached after 6 months of mission IF

- 3 "SVC-class" sites

- Or using climatogical records over "pseudo-invariant" sites

Validation requires as many FRMs as possible, for various water/atmosphere conditions. Collocated aerosol measurements required to validate aerosol products.

SVC must then be continuously monitored and refreshed as appropriate.