

Pixel level uncertainties

Introduction, seed questions

Thomas Popp (DLR)

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AEROSAT discussions on uncertainties

➤ Achievements

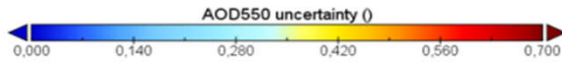
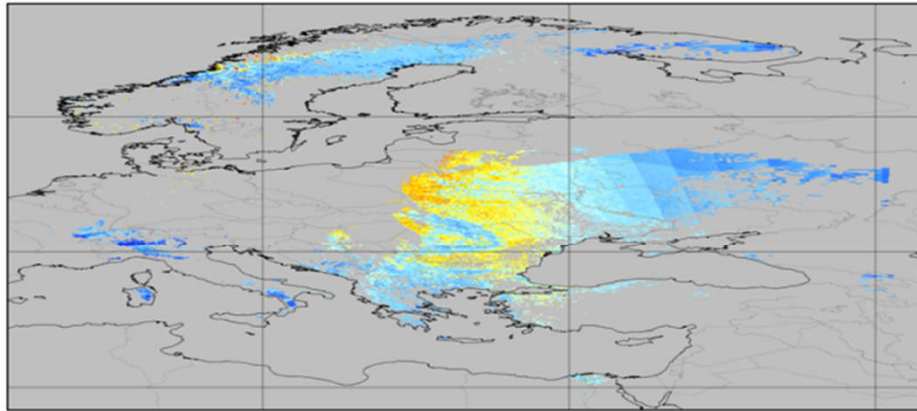
- Clarified the **definition** of uncertainty terms
- Many **new ideas** about how to estimate uncertainties
- **Some understanding** of strengths, limitations, usability
- **Overview paper** / validation framework (led by A. Sayer)

➤ Issues started to discuss

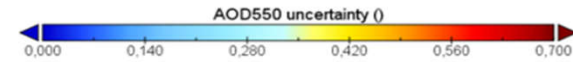
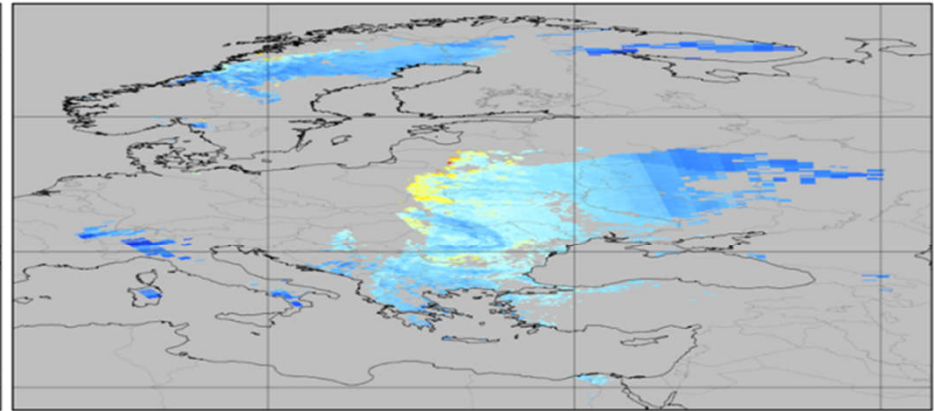
- QA flags vs. uncertainties (complementary or alternative)
- Sampling uncertainties (assess with models or GEO)
- Correlations of uncertainty sources
- Availability of good reference data (e.g. for properties)
- Derived parameters: ANG / SSA vs. FMAOD / AAOD

Uncertainty propagation

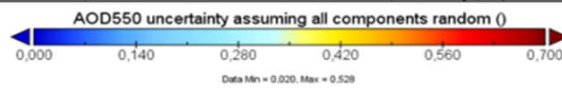
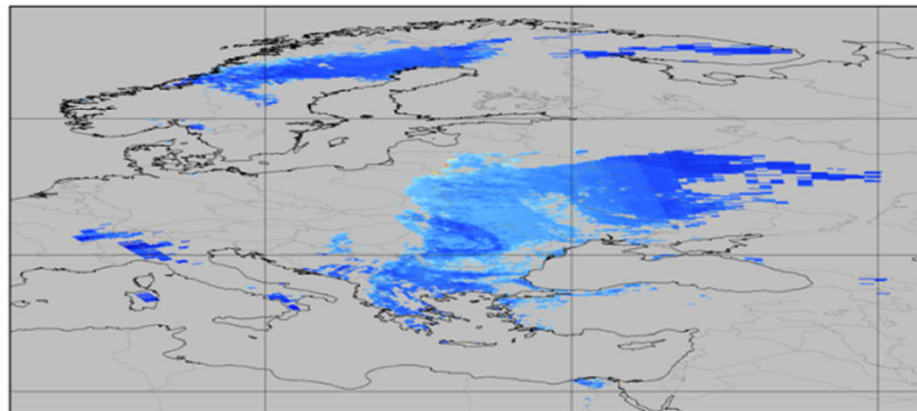
1x1



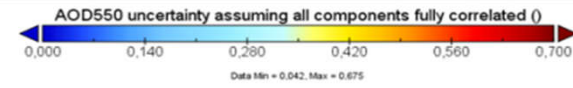
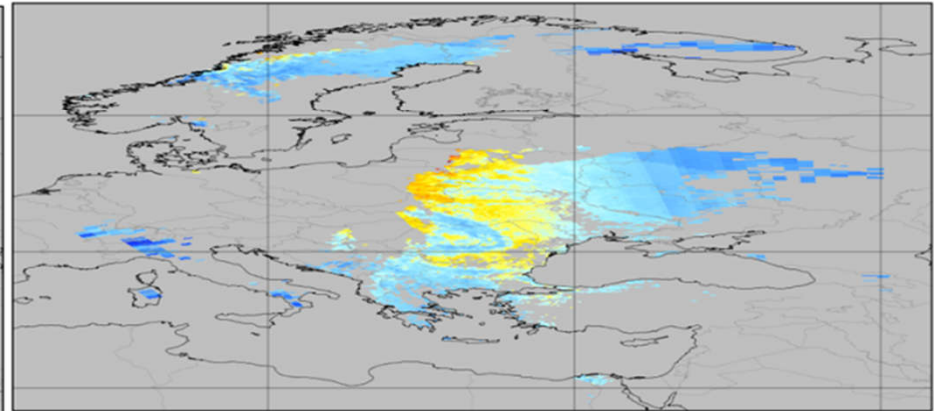
3x3



assuming all random 3x3



assuming all correlated 3x3



Propagation to gridded products (poster Popp)

Seed questions

- How do data assimilation users work with uncertainties?
- How do we best validate pixel-level uncertainties?
- How do we propagate uncertainties to gridded products?
- How can we provide uncertainties for derived properties?
- Should we separate uncertainties from sources having different spatio-temporal correlations?