



MEDIAS
FRANCE



UCL
Geomatics-Belgium



BROCKMANN
CONSULT



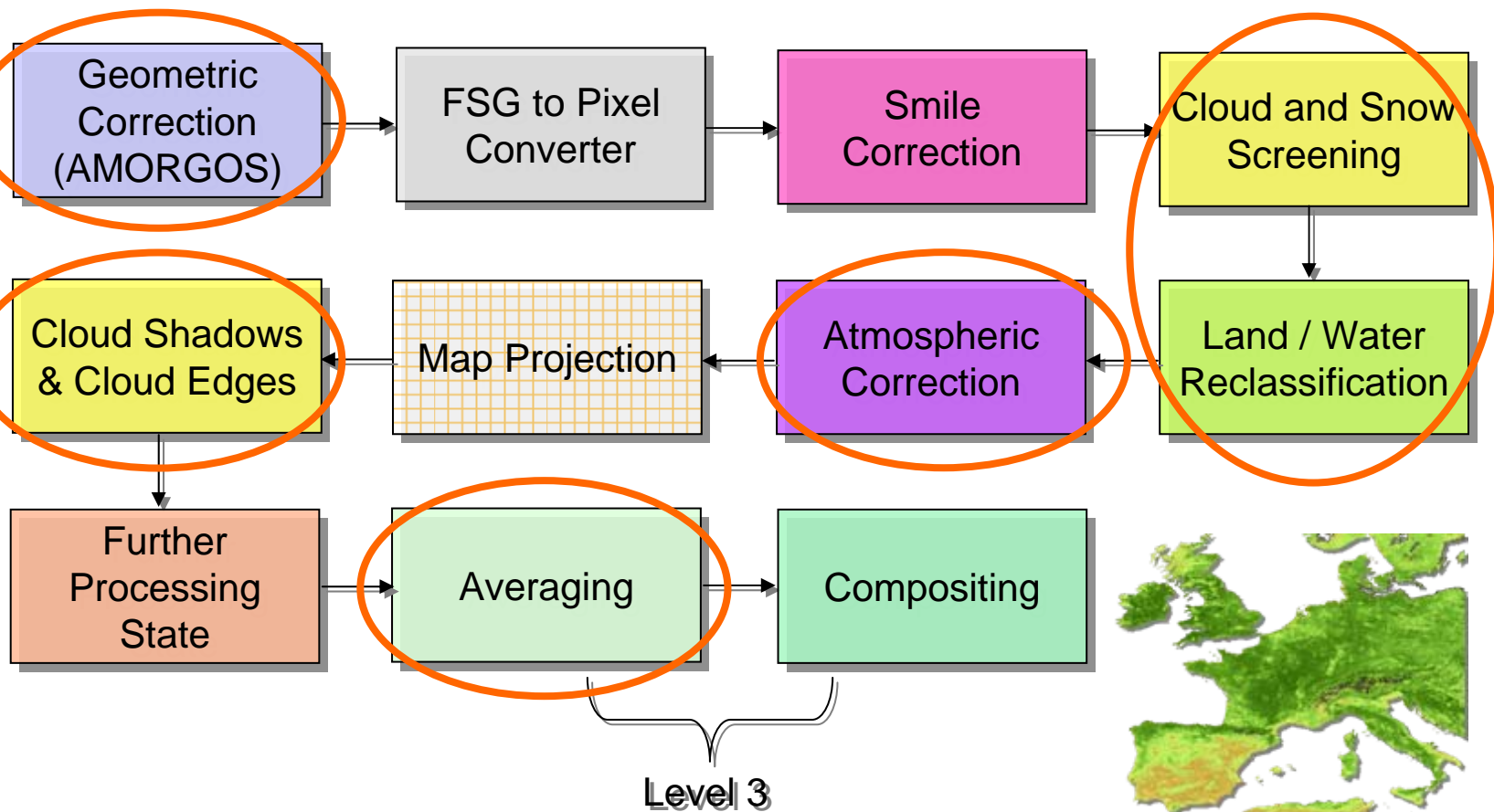
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June 20, 2007

GLOBCOVER End User Meeting

- Preprocessing Status and Improvements -



Preprocessing overview



Geometric Correction

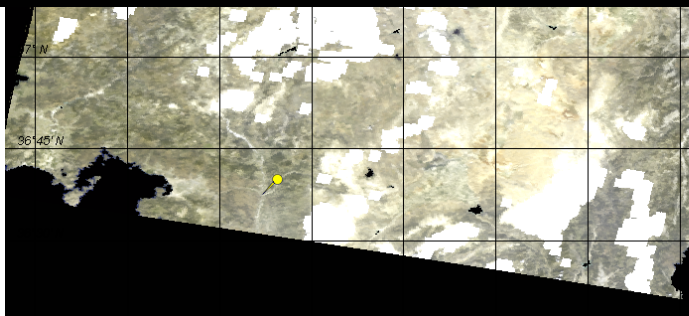
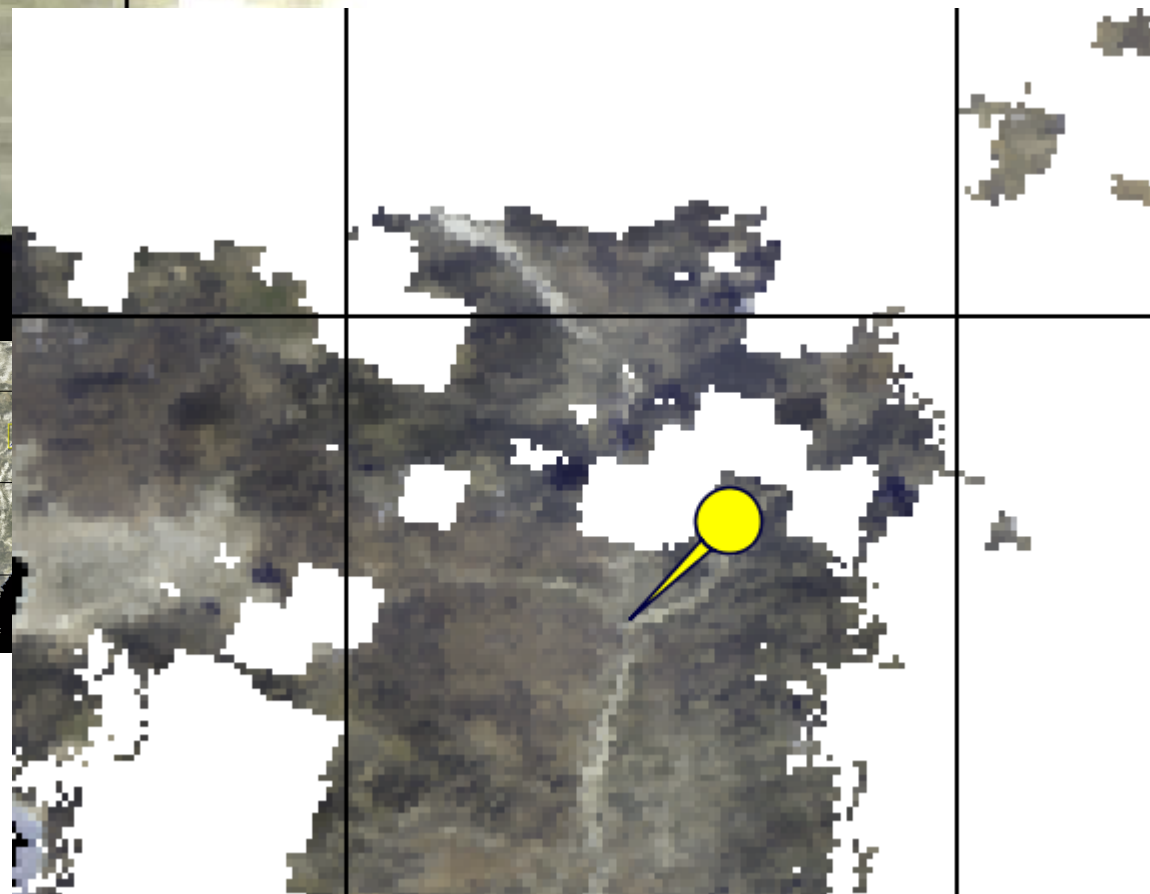
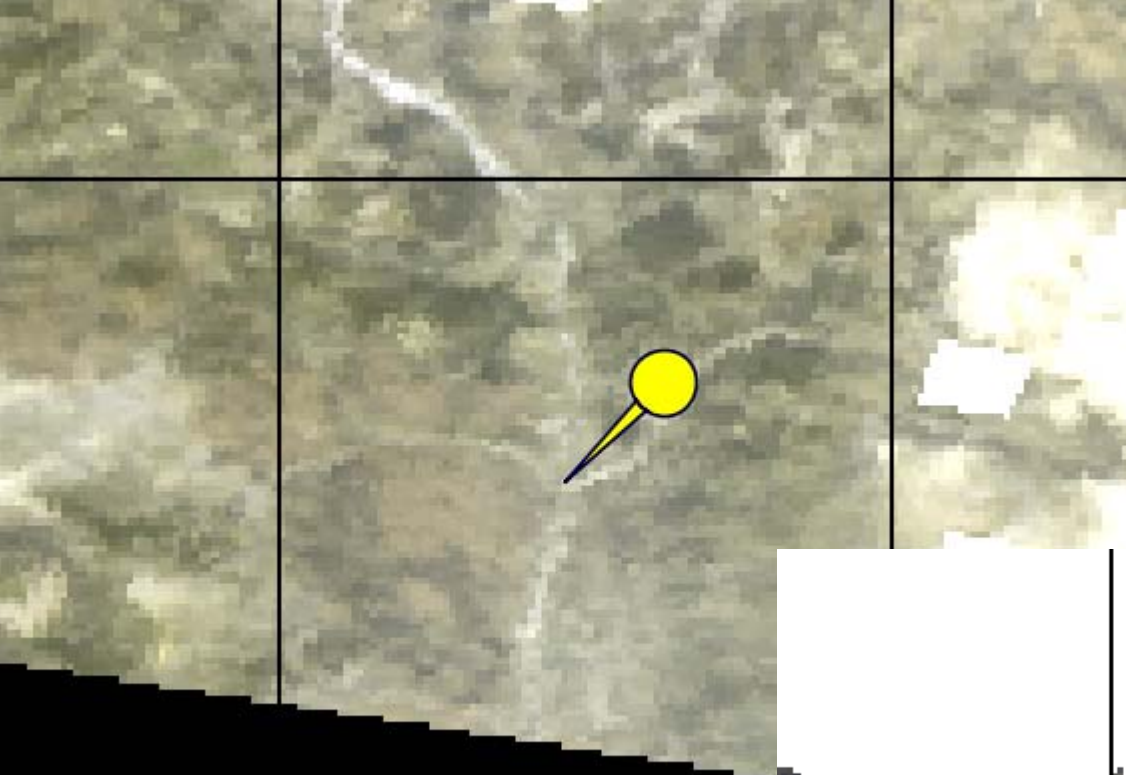
🌐 **AMORGOS:**

- 🌐 standard FR accuracy: 300m or worse
- 🌐 Recalculation of imaging geometry
 - 🌐 **orbit state vector**
 - 🌐 **pointing vector**
- 🌐 ortho-rectification
- 🌐 accuracy: < 150m

🌐 **Problem with products at high latitudes**

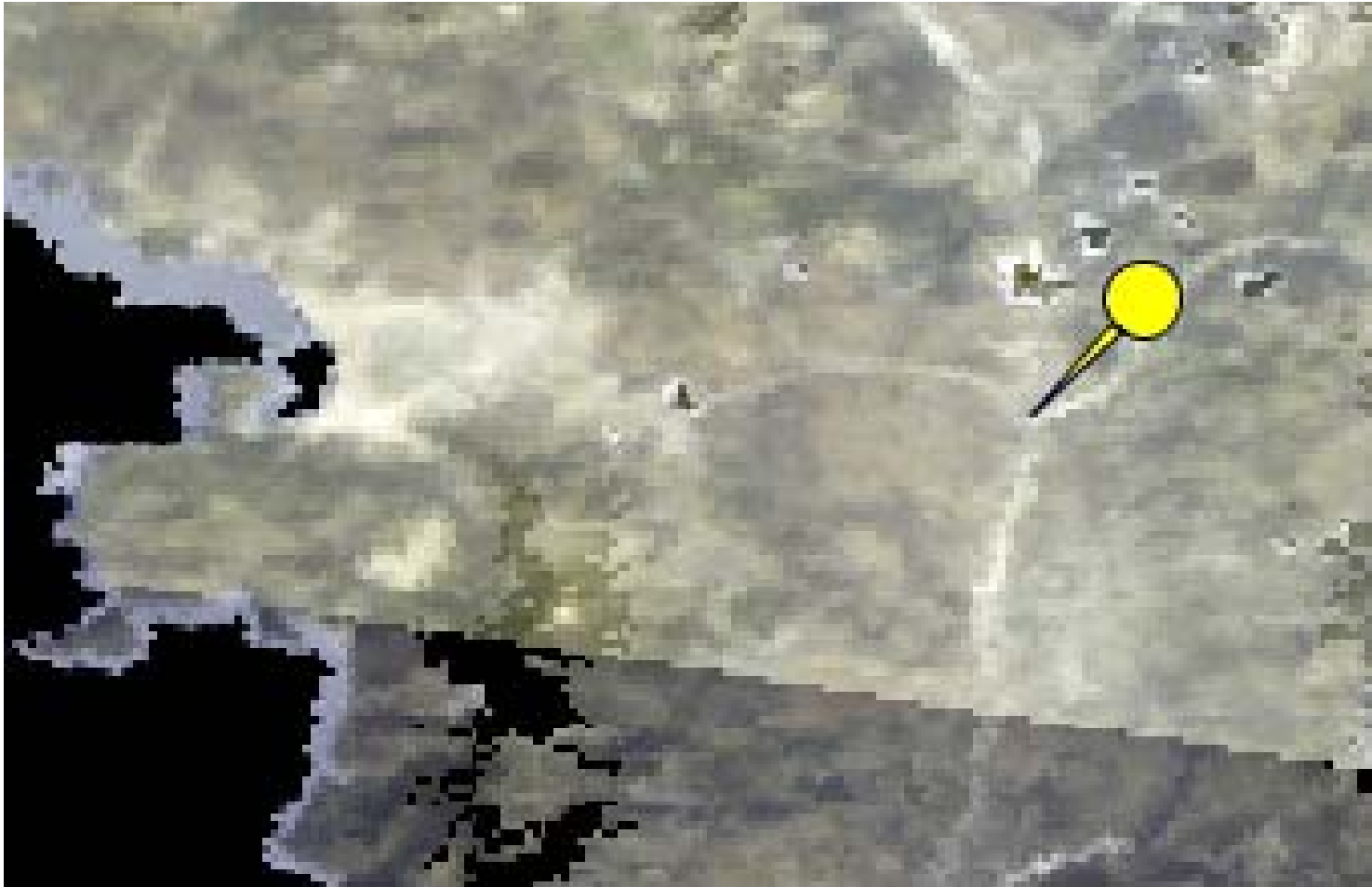
- 🌐 rejection of 10% of products
- 🌐 updated version of AMORGOS early June
- 🌐 validation in progress

Correction



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Geometric Correction



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Cloud Detection

● **Cloud and Snow Screening**

- Cloud probability NN
- Blue bands method
 - updates:
 - **snow plausibility test (snow/bright land discrimination)**
 - **Bright land test (SDR9/SDR14 in [SLOPE interval])**
 - **Improved pressure test**
- Combination of Cloud probability and Blue bands

● **At Level 3 processing**

- statistical filtering

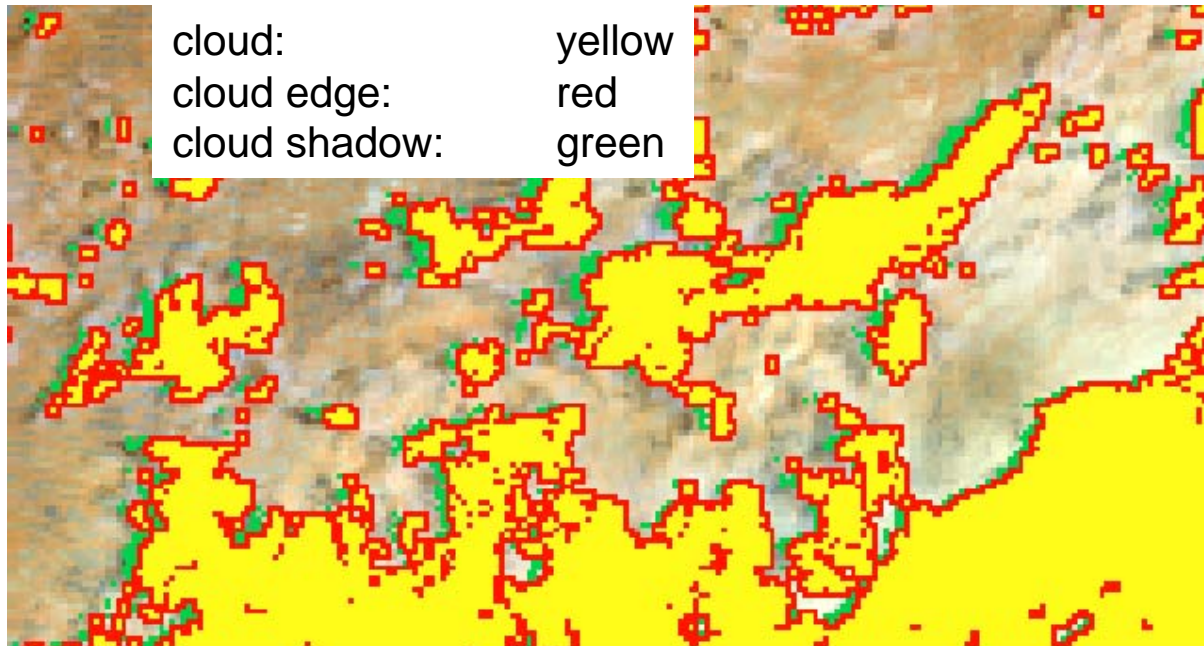
● **High altitude Problem**

- under investigation
- caused by pressure test?

Cloud Detection

Cloud Edge and Shadow Processing

- cloud edge expansion: 4 pixels in FR \Rightarrow 9x9 pixels
1 pixel in RR \Rightarrow 3x3 pixels
- cloud shadow update:** use Cloud Top Pressure for cloud height instead of constant cloud height



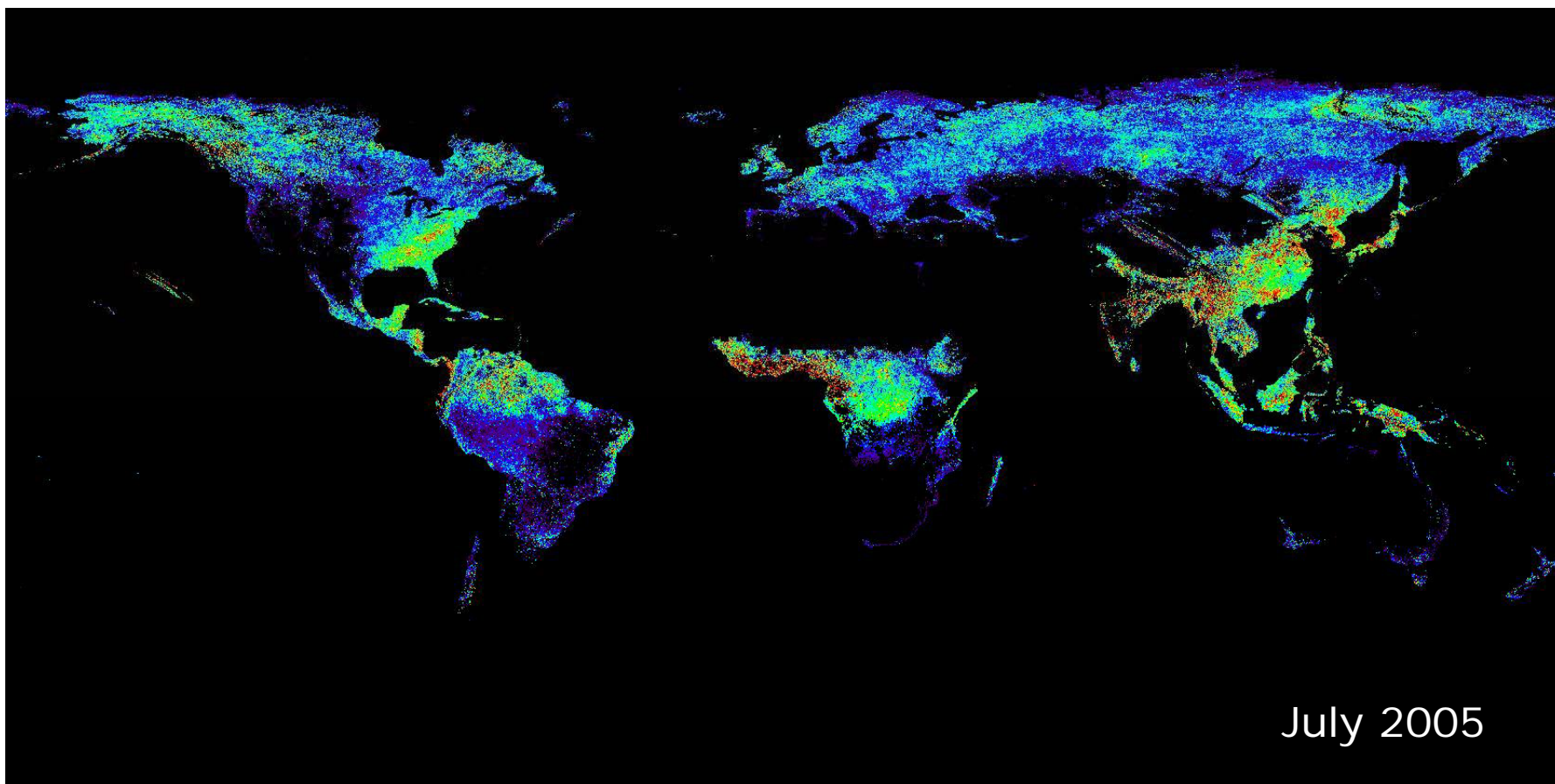
● Land – Water classification

- current: simple reclassification of a-priori land pixels
- Update:
 - *different tests for*
 - ***land-in-water***
 - ***water-in-land***
 - *reclassify pixels with altitude > -50m*
 - *include coastal waters, flooded areas, ...*
 - *set flag for flooded areas*
 - ***a priori land but reclassified into water***

Atmospheric Correction

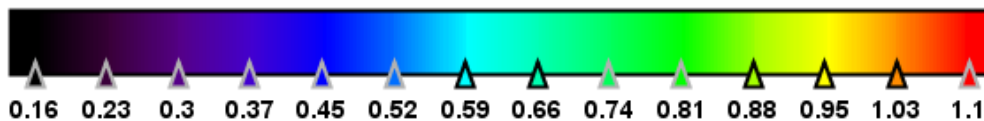
- **Aerosol correction**
 - „blue shade“ problem
 - Analysis of
 - **MERIS L2 algorithm (LARS)**
 - good quality (reported at last meeting)
 - **Bremen Aerosol Retrieval (BAER)**
 - less quality and less number of pixels
 - **Parasol**
 - not enough data
 - **MISR**
 - bad spatial and temporal coverage
 - Result: LARS to be used as primary aerosol source
 - **First choice: LARS Level 2 from RR data**
 - **Fill values: LARS from monthly climatology**
 - **Fall back: aot_43 = 0.1; ang = 1.0**
 - **spatio – temporal interpolation**

LARS AOT 443nm

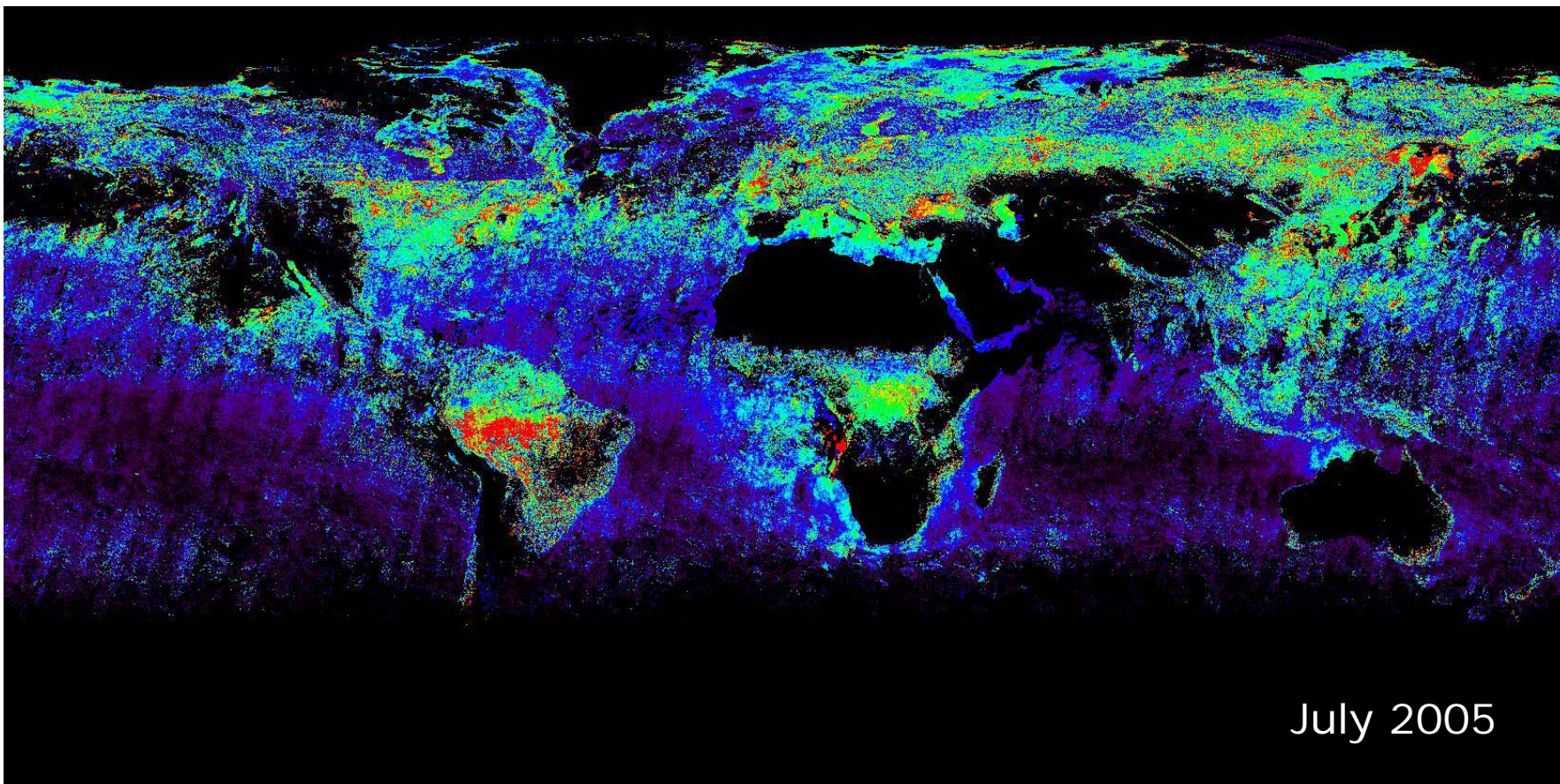


aero_opt_thick_443 [-]

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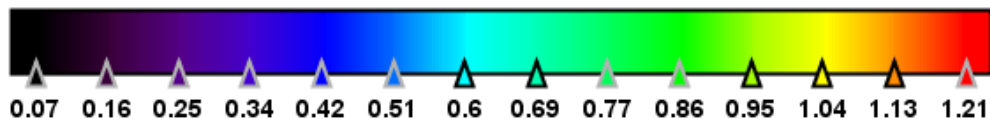


LARS Angstrom

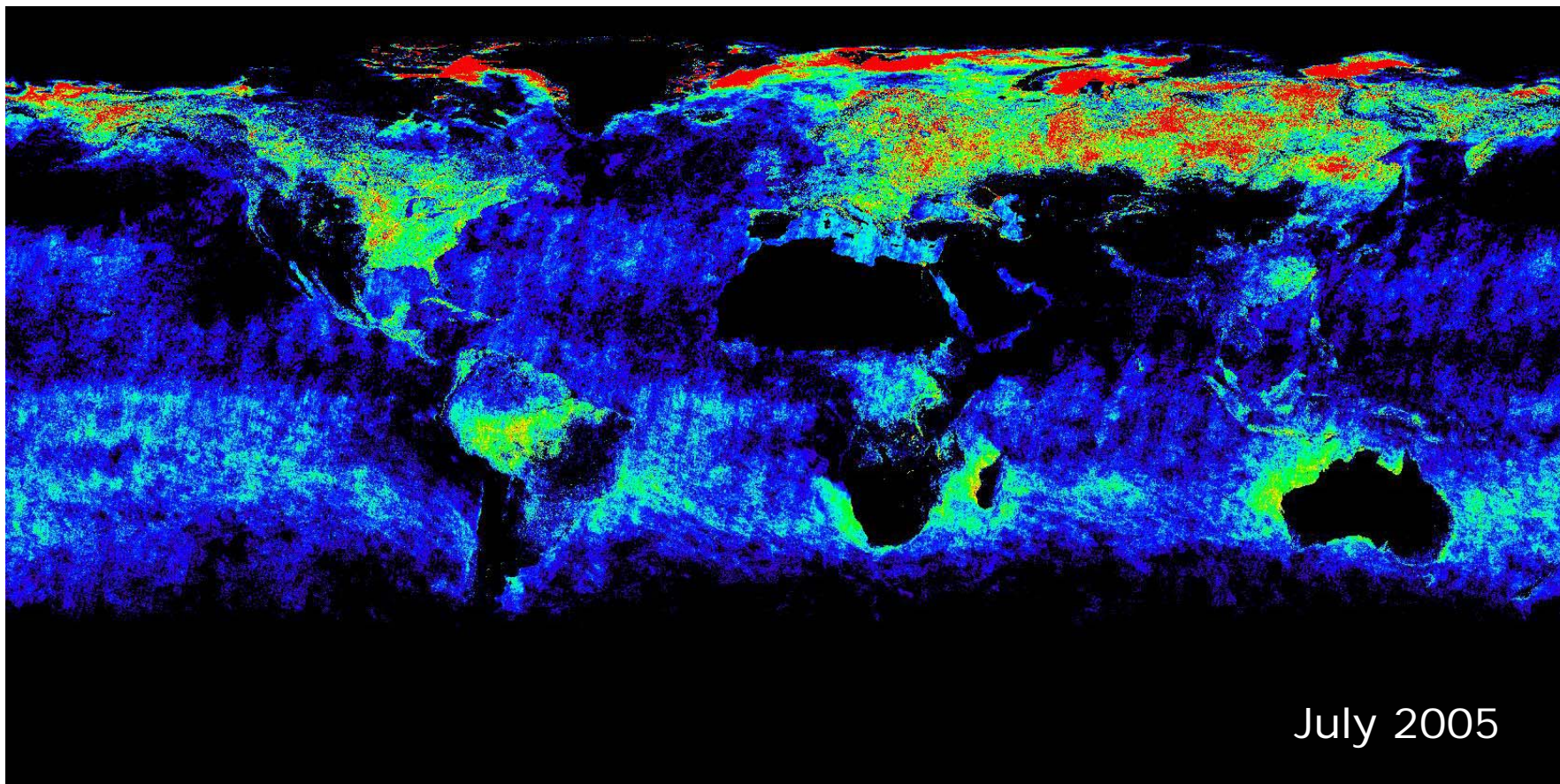


aero_alpha [-]

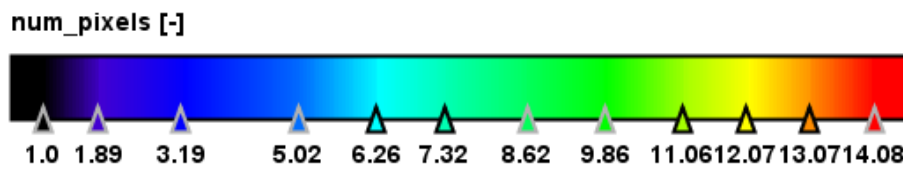
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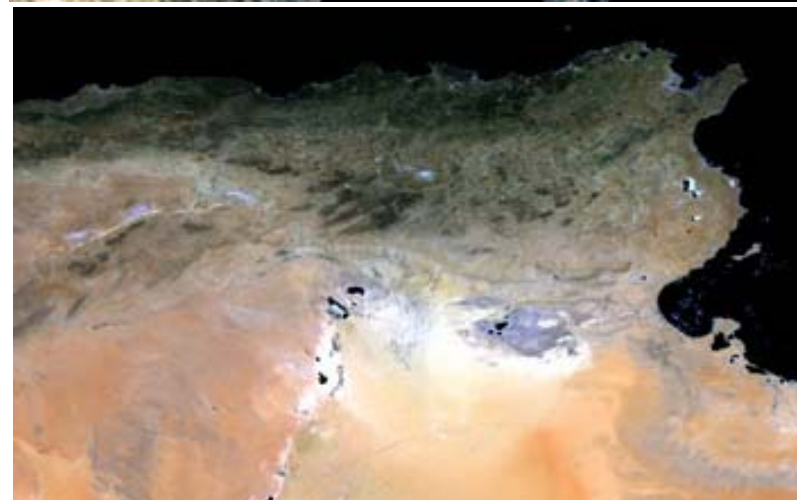
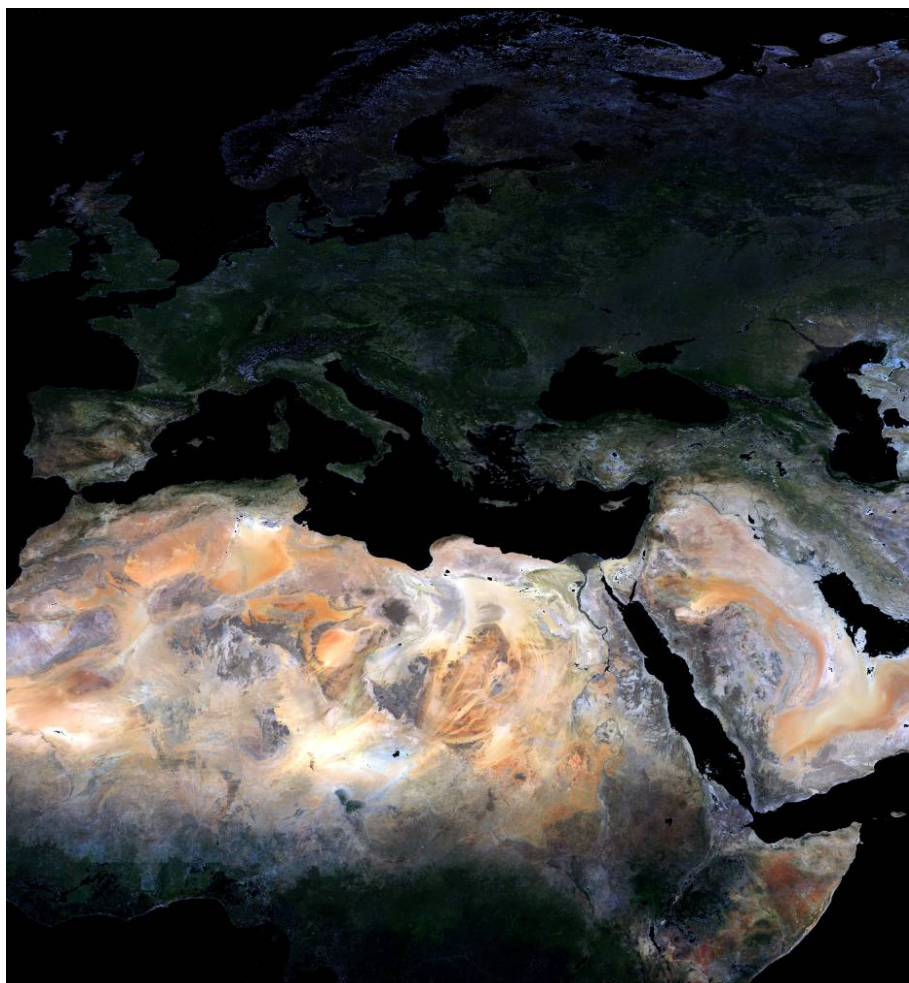
LARS Number of Pixels



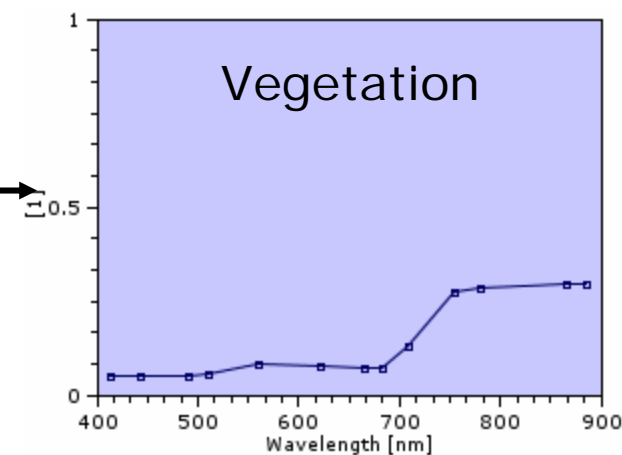
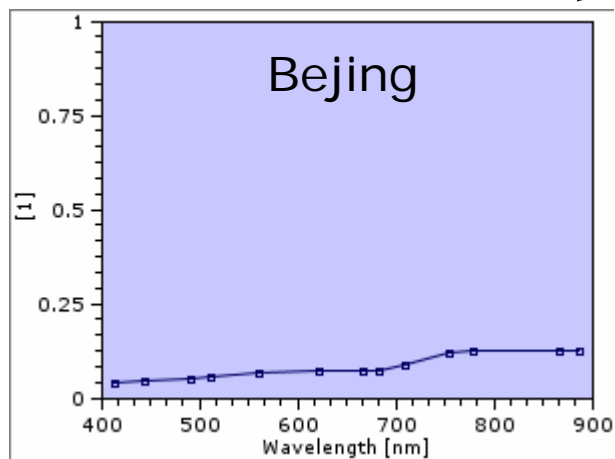
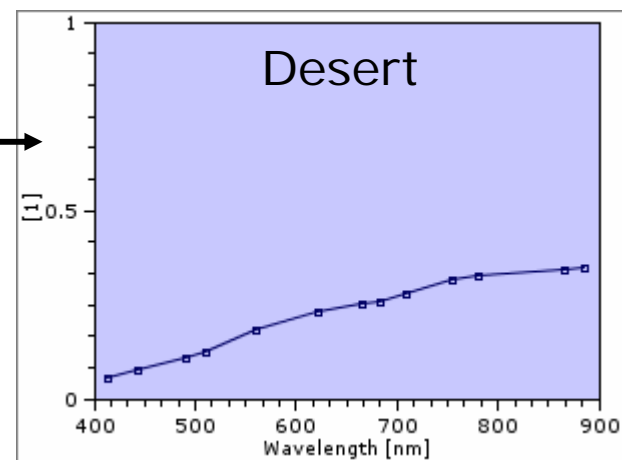
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200505 Mosaic SDR-RGB

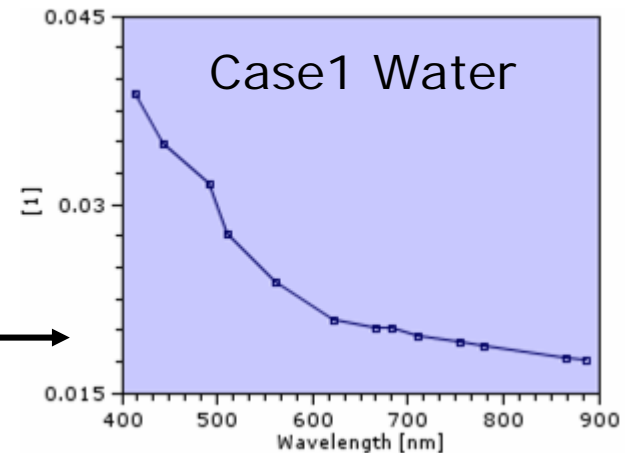
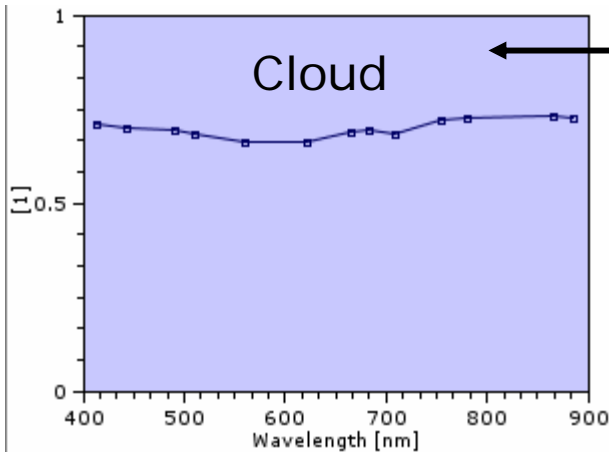
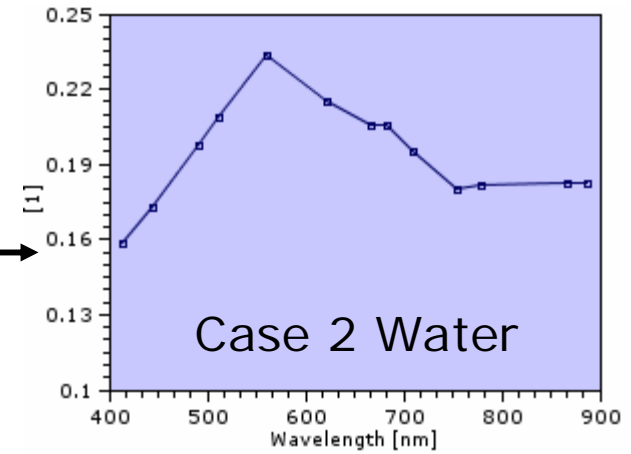


SDR Example



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SDR Example



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● Averaging and compositing

- simple but effective treatment of BRDF differences
- new: removal of outliers (e.g. undected clouds) by temporal filtering

Thank you for your attention