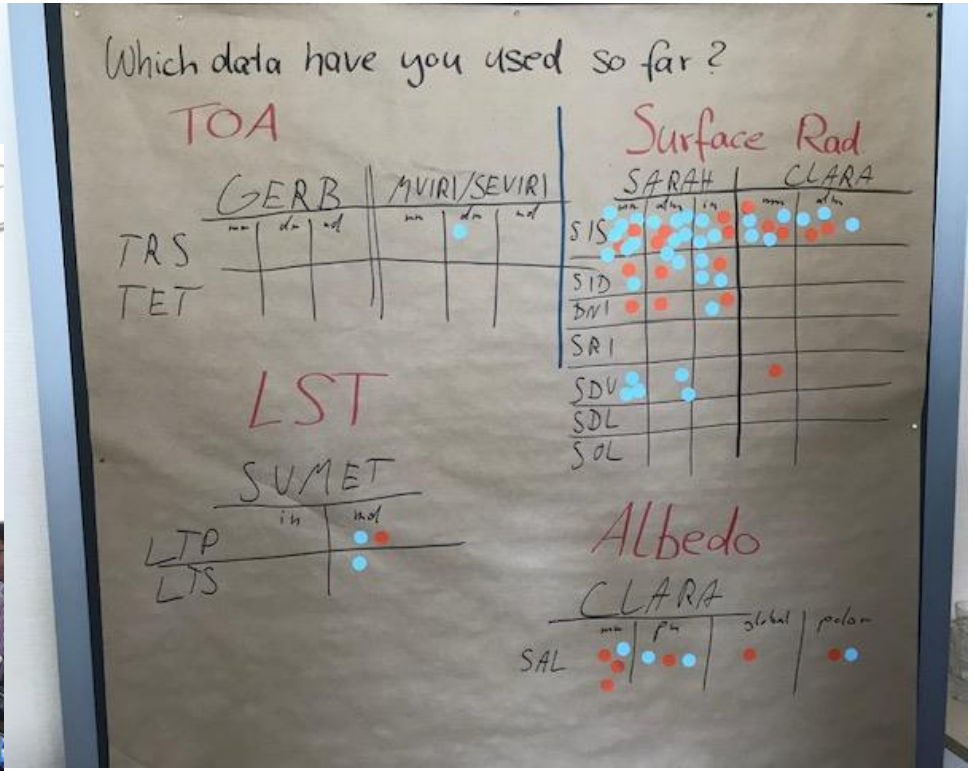
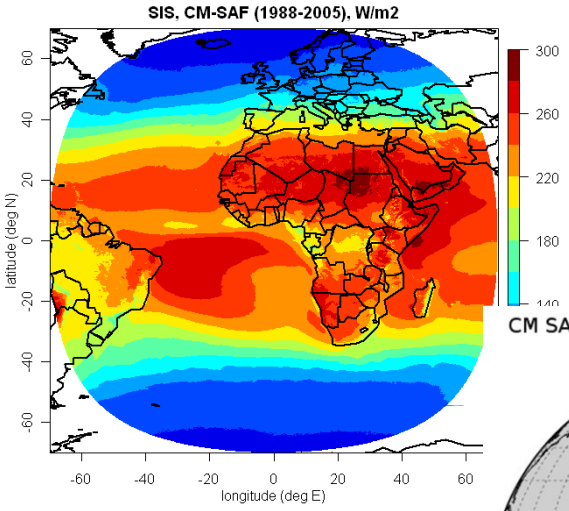
From the Top to the Bottom: Radiation- and Surface-related data records

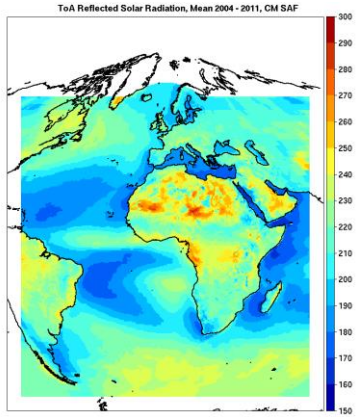
About 30 participants / users

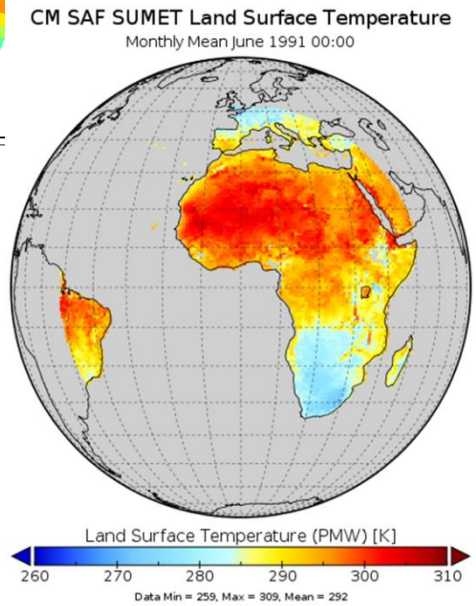


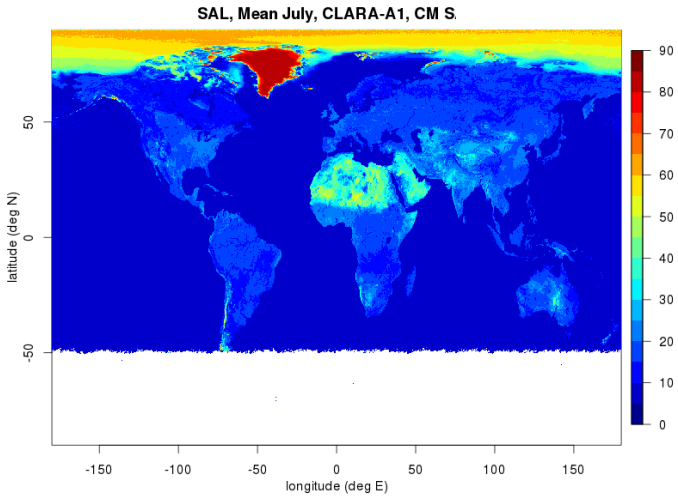
Top-to-Bottom Climate Data Sets

- TOA Radiation
- SARAH
- CLARA
- SUMET



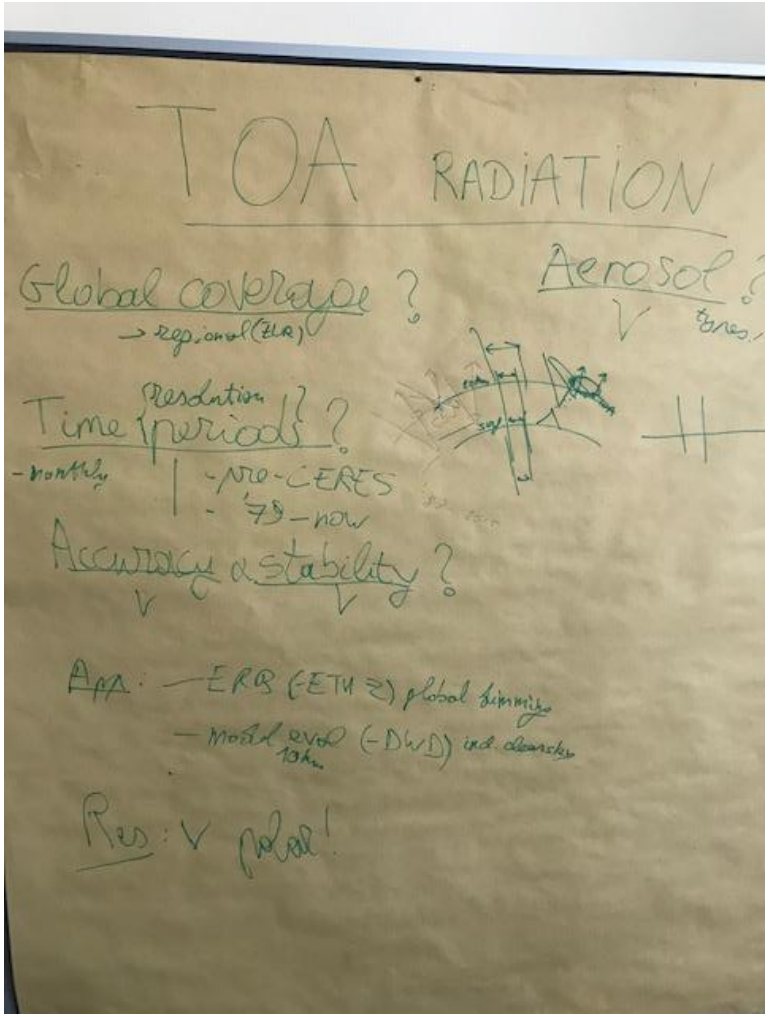






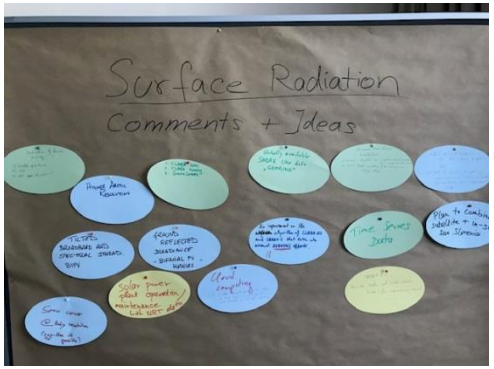
TOA Radiation

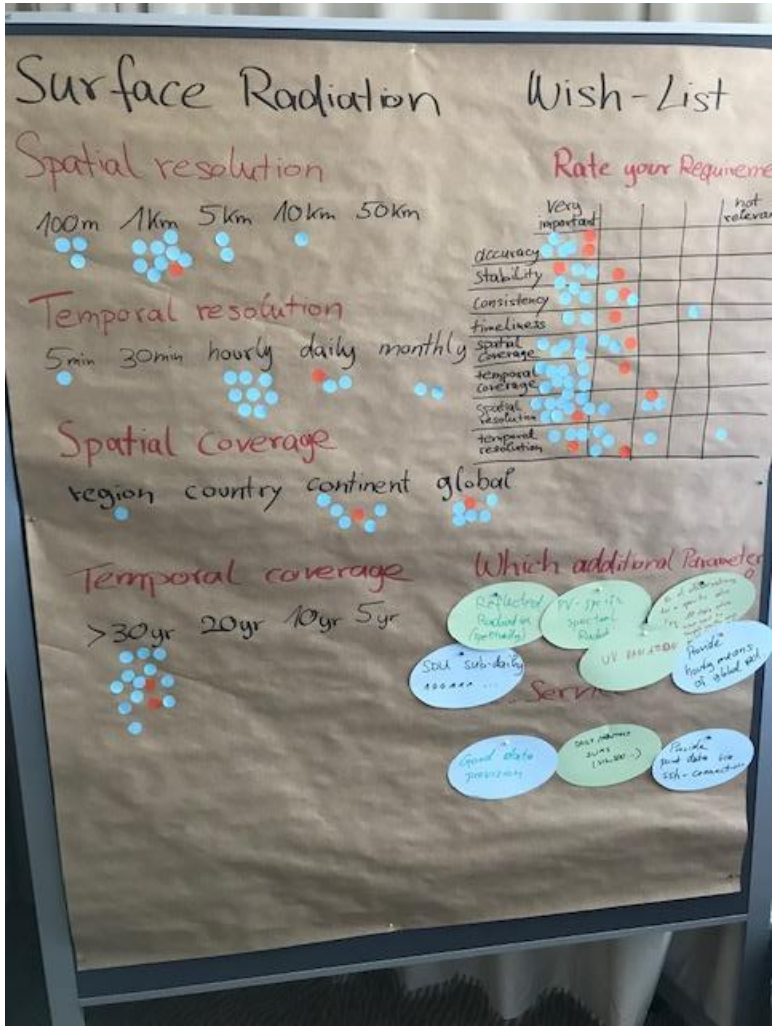
- ➔ pre-CERES (< 2000) very relevant
- ➔ Applications: Earth Radiation Budget / Model evaluation
- ➔ Clear-sky radiation (OLR / RSF) requested
- ➔ Provide data on polar grid



Surface Radiation

- ➔ UV / PV / spectral bands / snow
- ➔ include aerosol variability
- ➔ SARAH-like georing
- ➔ Higher spatial resolution (global, polar), global direct radiation
- ➔ Hourly data, time series extraction, hosted processing
- ➔ Sub-daily sunshine duration



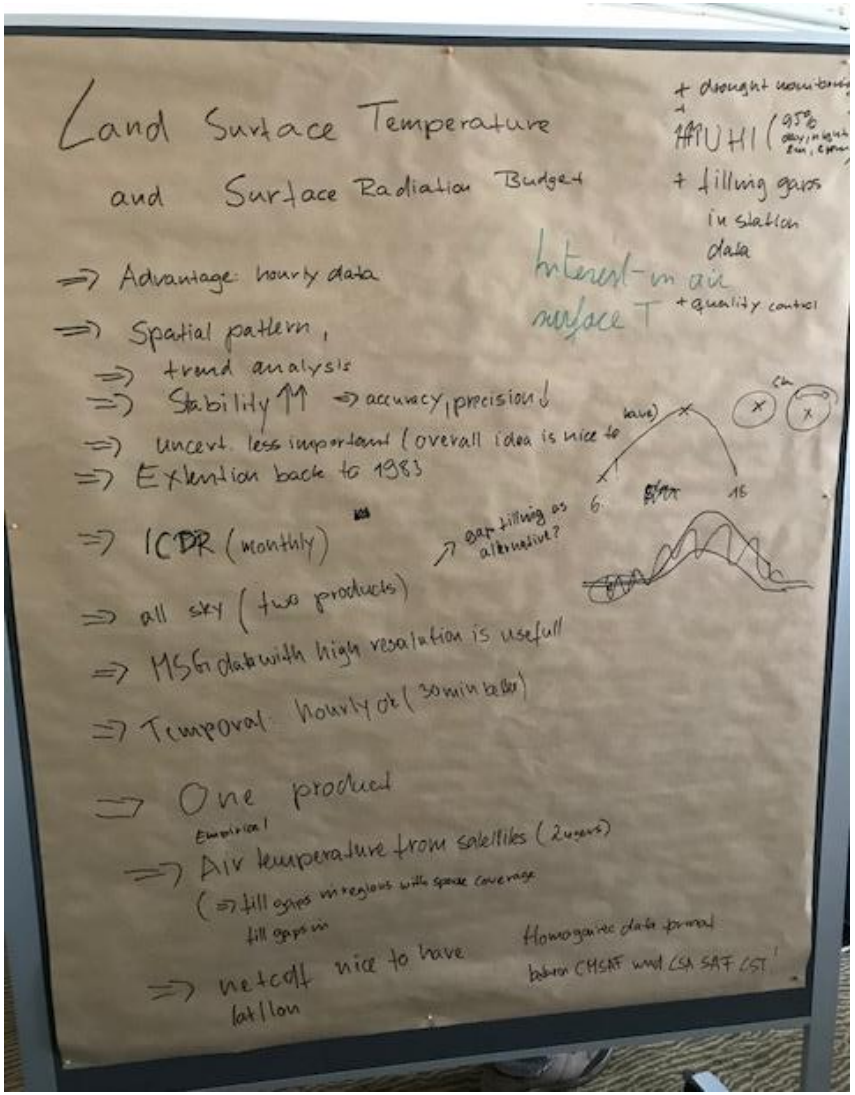


Land Surface Temperature

- ➔ Long-time series
- ➔ Hourly data
- ➔ Easy data format (netcdf)

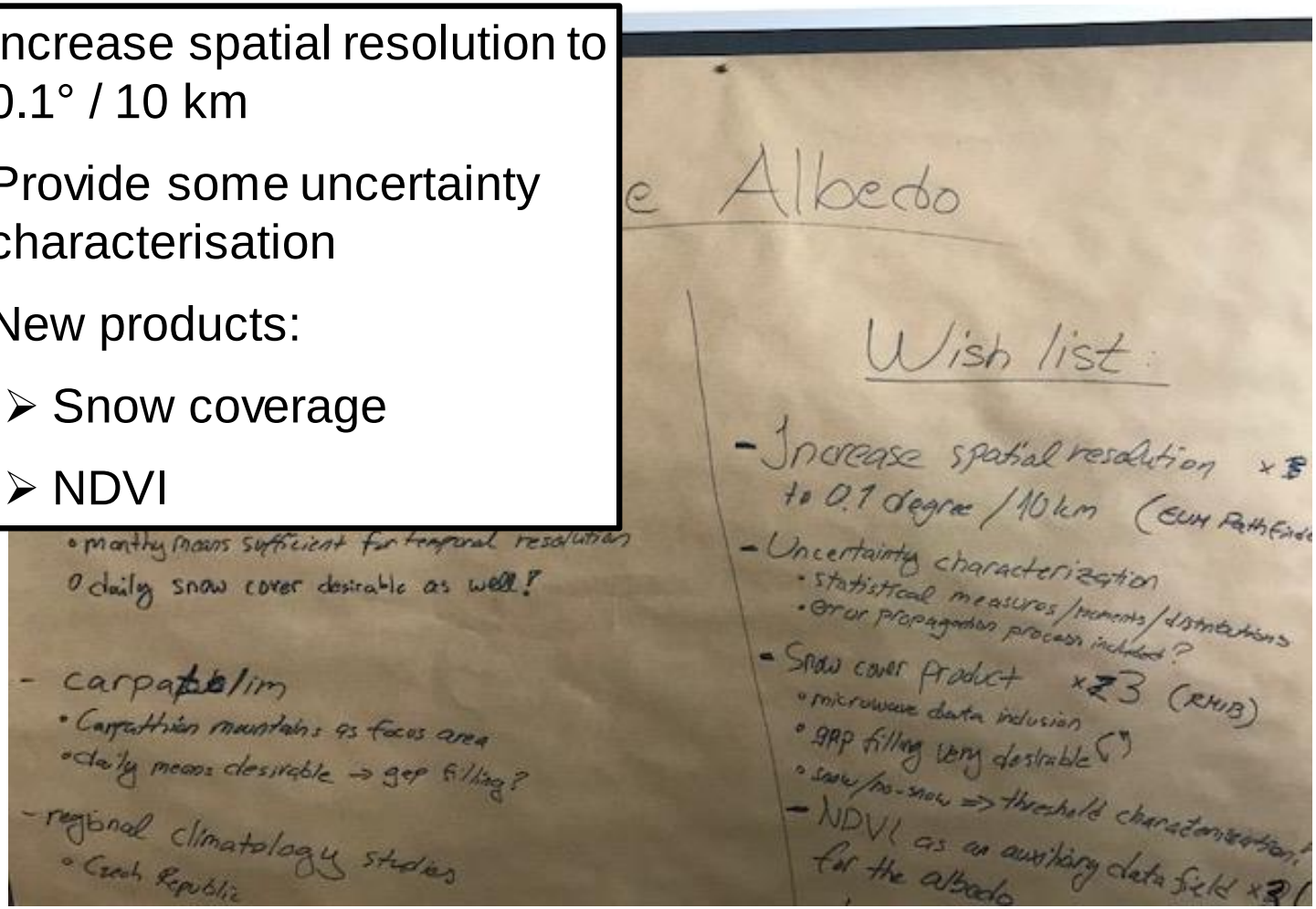
- ➔ Stability most relevant
- ➔ Uncertainty nice, but no must
- ➔ Provide only one LST product
- ➔ New: all-sky LST,
  ICDR (on monthly basis sufficient)

- ➔ 2m air temperature?



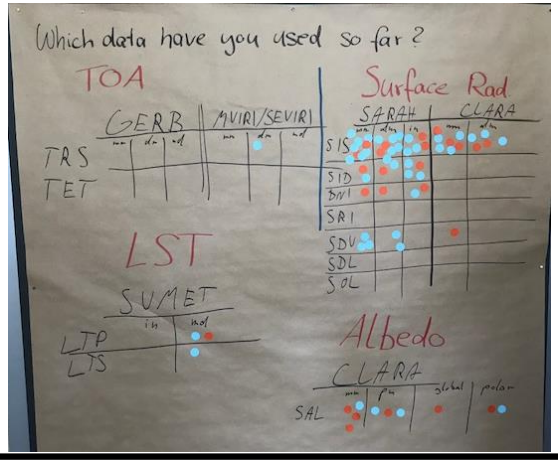
Surface Albedo

- ➔ Increase spatial resolution to 0.1° / 10 km
- ➔ Provide some uncertainty characterisation
- ➔ New products:
  - ➢ Snow coverage
  - ➢ NDVI



From the Top to the Bottom: Radiation- and Surface-related data records

- Continue to provide high-quality climate data
- Data access via API / Hosted processing ?
- Provide global data (CLARA) at higher spatial resolution / more data on polar grid
- SARAH-like georing data record
- Wishlist for new data records:
  - clear-sky TOA fluxes, surface UV
  - Snow coverage / NDVI
  - all-sky LST incl. ICDR



Thank you for the discussions and the valuable feedback!