

AEROSOL BREAKOUT SESSION

Derived Products

- FIDUCEO is deriving the total column aerosol optical thickness at $0.55\mu\text{m}$ ($0.67\mu\text{m}$) and uncertainty from MVIRI VIS band and AVHRR for CDR generation
- GAIA-CLIM EARLINET aerosol nighttime backscattering and extinction coefficients (for validation purposes of CALIOP)

1. Scientific intellectual synergies

- What do we do together?
 - Using Lidar climatology to study spread of aerosol type accounting for the nighttime daytime difference to define prior information on aerosol class
 - Closer study using Lidar derived aerosol types.

2. Consistency/inconsistencies

- Consistent:
 - traceability, Angstrom coefficient
- Inconsistencies:
 - definition of aerosol classes
 - Day (sat) versus night (Lidar) time measurement!
 - Collocation AERONET – Lidar : not the same observation time
 - AOT seems too complicated to be currently consistently (ie, the same way at each station) delivered by GAIA-CLIM. It is beyond the current commitment.

3. Possible area of convergence?

- Define climate data set of aerosol type of Europe accounting for day –night time difference making sure that the aerosol type definition is the same (in coordination with AEROSAT)
- Verify how many Lidar data from EARLINET are available during daytime

4. Implications for C3S, CAMS

- How to harmonize the different ground networks providing long time series information or proxy about aerosol concentration and properties:
 - Visibility (meteo stations, Eumetnet)
 - Downward shortwave flux (BSRN)
 - AERONET
 - EARLINET
 - ...

4. Implications for C3S, CAMS, ...

- Reanalysis plan for the pre-MODIS era?
- Need from other communities, eg, solar energy, that need AOD climate data set