

6.079 Quantifying information content and gaps in the AERONET network in South America.

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Abstract:

In previous work we have developed and applied statistical and variational approaches to characterize the representativity and specificity of air quality networks, as well as the changes in information content over time. These methods are derived from information theory and used in the context of optimal network design. Here we apply these methods to better characterize the atmospheric optical depth (AOD) information collected from an increasing number of sun photometers under the Aerosol Robotic Network (AERONET) in South America. Thus in addition to assessing how the network's information content has grown over time, and quantifying the representativity and specificity of the stations, we gain insight in terms of the suitability of the network stations for data assimilation exercises. Preliminary results will be presented.