

An Introduction to Aerosol-Climate Interactions

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This presentation introduces atmospheric aerosols and their direct and indirect impacts on the climate with a focus on aerosol radiative effects. The high variability of aerosol particles in terms of concentrations and properties is emphasized and the comparison between greenhouse gases and aerosols shows that aerosol radiative effects are dominant at the regional scale. The various aerosol direct and indirect (through clouds) radiative effects and relevant aerosol parameters are described. Their assessment is illustrated with case studies from field experiments in the tropics. Finally, suggestions are given for future regional studies of aerosol-climate interactions in the Mediterranean region.