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The effect of Aerosols on regional climate: examples from around the world

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Aerosols are one of the most powerful influences on regional climate. Not only do they act directly on radiation and the surface energy budget and interfere with the microphysics of clouds, but the spatial variability of these effects leads to changes in some of the most important dynamical features of the climate system. In this talk I will give examples from several years of work covering the East Asian and South Asian monsoon, and Sahelian Africa, and introduce some more recent results on the southern hemisphere annular mode and South American climate.