

3.134 Urban pollution to the Andean cryosphere.

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Abstract:

Large portions of South America's population live west of the Andes as well as in the Andean valleys and plateaus, with a strong dependence on water resources from the melting of Andean glaciers and snow. Various studies have shown that these glaciers have receded in the last decades in response to temperature and precipitation changes. However, absorbing particles such as black carbon (BC) and dust could potentially also contribute to the increase of melting rates. Important sources of these pollutants, such as cities and mining activity, are located on the slopes or vicinity of the mountain range. The study of the potential transport of urban pollutants to the Andean cryosphere is the focus of several projects and initiatives that have been started in the last few years in the region. Results of two winter campaigns measuring transport up into the Andes as well as model outputs simulating this transport will be presented.