

Contribution of Ephemeral Lakes on Dust Impacts on the Earth's Climate System

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Ephemeral lakes are among the most active dust sources but due to their limited size it is unclear if their impacts on the Earth's climate system is significant. Here, we present the first global inventory of ephemeral lakes (over 55 thousands spread worldwide), and their clustering into properties related to dust emission. Using the GFDL climate model, we performed simulations with and without emissions from the ephemeral lakes, and with different optical properties from scattering to absorbing. The contribution of these lakes to regional and global radiative forcing, PM10 and oceanic deposition will be presented, and the factors amplifying their impacts on The Earth's Climate System will be discussed.