Geophysical Research Abstracts, Vol. 9, 11585, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-11585

Air-soil partitioning and cycling of persistent organic pollutants: methods and processes

J. Dachs (1) and A. Cabrerizo (1)

(1) Department of Environmental Chemistry, IIQAB-CSIC, Jordi Girona 18-26, Barcelona, Catalunya, Spain

Soils are the main reservoir of historical and emerging persistent organic pollutants (POPs) at regional and global scales. Therefore the understanding of the processes controlling the air-soil exchanges of POPs is key for assessing their fate, transport and impact. Several methodological and theoretical approaches have been suggested for the study of air-soil partitioning, however, much less knowledge is available on the dynamic air-soil cycling of POPs. Here we will review these approaches and show results from modeling and field work on the air-soil dyanimcs of polychlorinated biphenyls, polycyclic aromatic hydrocarbons and other POPs. The results on air-soil fluxes will be put in the context of current knowledge of sorption processes (molecular scale) and its implications for regional and global dynamics and modeling of POPs.