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Compilation of an anthropogenic emission inventory for Greece and the two urban centres of Athens and Thessaloniki

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An anthropogenic chemical speciated PM10 emission inventory has been compiled for Greece in a 10Km resolution grid and 2Km resolution for the two large urban centers of Thessaloniki and Athens. The inventory was established for the reference year 2003 using a UTM Projection system for the gridded domains. It comprises of all particulate matter sources following the CORINAIR Selected Nomenclature for Air Pollution (SNAP). Data from various official national sources and international databases (EMEP, EPER, RAINS, USEPA) were applied for temporal and spatial disaggregation of emissions to the gridded domains using simple or detailed methodologies (CORINAIR) depending on the availability of the input dataset. The resulted estimations were compared to other sources including international databases and other scientific studies. Industry sector is the major contributing sector in both Greece and the two urban centers of Athens and Thessaloniki with energy production industries and non-road activities to follow, while road transport seems to be more significant in the urban agglomerations than on a national level. Calculations for resuspension of road dust were also performed showing that the resuspension effect has a prominent role to yearly emissions.