



Aerosol source type climatology (2007-2011) derived using the Global Aerosol Classification Algorithm (GACA). Combining aerosol data, e.g. from MODIS, with trace gas data from GOME-2 (NO₂, HCHO, and SO₂) and MOPITT (CO) is an innovative approach to the difficult issue of aerosol classification from space. GACA exploits the co-existence and correlation between aerosols and trace gases (due to e.g. co-emission, as in the case of HCHO, CO, and small absorbing particles from biomass burning) to derive the dominant aerosol source type. The sources discriminated are (see legend): biomass burning (BB), desert dust (DD), secondary aerosols of biogenic (BIO) or urban/industrial (URB) origin, aged/transported aerosols (AGED), volcanic sulfate (VOG), and sea salt (SS); unknown aerosol mixtures are designated XX; regions with very little aerosol or trace gas data were not assessed (na). (Penning de Vries et al., 2015). Courtesy: Marloes Penning de Vries (MPIC).