

Air pollution in Asia and its effects on the climate and public health

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The Asian region is an area of active economical and human activities, that leads to a large emission of air pollutants, as called Atmospheric Brown Clouds (ABC), and cause serious impacts on the earth's climate and the health of people living in this area. Launch of an international initiative, Climate and Clean Air Coalition (CCAC), is an example of efforts to ease the difficulties. The main objective of CCAC is to reduce Short-Lived Climate Pollutants (SLCPs), i.e., black carbon aerosol, methane and other short-lived atmospheric materials that heat the earth system along with long-lived greenhouse gases. Impacts of the ABC, however, have large uncertainties as assessed by IPCC, UNEP, WHO, OECD and other reports, and have to be studied more comprehensively.

I like to discuss recent important topics of studies on the ABC characteristics and their impacts on climate and public health with use of earth observation and modeling useful for seeking mitigation and adaptation paths to reduce the impacts of ABC. The discussion will be extended to the role of the new ICSU initiative of Future Earth launched for developing mitigation and adaptation strategies in the process of post-Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs). These trends indicate that the earth science is expected to contribute to solving the societal problems.