



Abstract Details

[AOGS 1st Annual Meeting](#) > [Ocean and Atmospheres](#) > (OA16-Invited) Tropospheric Ozone in East Asia and its Environmental Implication >

Corresponding Author : Dr. Hajime Akimoto (akimoto@jamstec.go.jp)

Organization: Frontier Research System for Global Change

Category: Ocean and Atmospheres

Paper ID: 57-OOA-A1693

Title: (OA16-Invited) Tropospheric Ozone in East Asia and its Environmental Implication

Abstract: Ozone is radiatively active as well as biologically toxic gas giving a climatic and ecological impact on environment. Since atmospheric lifetime of ozone is the order of a week to month, intra- and inter-continental long-range transport in addition to in-situ photochemistry affects its spatial distribution and temporal variability in a regional scale. Regional distribution and seasonal change of tropospheric ozone in Asia is thus controlled by in-situ photochemical build-up, long-range transport within Asia and also affected by inter-continental transport from Europe and even from North America. These three components should be separated in order to analyze the observational data of ozone in Asia and also to estimate future trend. In Northeast Asia, ozone concentration contained in the East Eurasian/Siberian air mass defines regional continental background, and that in the Pacific air mass defines marine background. While Pacific air mass contains still very low concentration (ca. 10 ppbv) of ozone, East Eurasian background air mass contains substantially high ozone (ca. 50 ppbv in spring). This concentration is about 10 ppbv higher than that contained in the background air of Europe from the Atlantic Ocean in spring, and apparently affected by European outflow. In-situ photochemistry due to air pollution within East Asian region further enhances ozone to very high level, which would jeopardize ecosystems in this region. In Southeast Asia, biomass burning mainly contributes to very high ozone in dry season while marine air mass from the Indian Ocean brought very low concentration of ozone in wet season. Synthesis of observational and modeling data on tropospheric ozone in East Asia will be presented in the talk.

Presentation Mode: Oral

Keywords: tropospheric ozone, intra-continental transport, inter-continental transport, in-situ photochemistry, air pollution, biomass burning

Status: Pending.

Co-Authors

No.	Title	First Name	Family Name	Organization
-----	-------	------------	-------------	--------------

