

Ozone Photochemistry and Export from China Experiment (OPECE)

Yuhang Wang

Georgia Institute of Technology

Objectives

- Extend the EMeRGe-Asia aircraft dataset with in situ observations in the outflow pathway from the NCEP region. Assess the 3-D modeling capability using in situ and satellite observations.
- Examine radical and ozone photochemistry in China using CAREBEIJING 2014 (Wangdu), OPECE, and EMeRGe-Asia observations.
- Improve the emission inventories of NO_x, aromatics, and other VOCs, and quantify the effects of key photochemical processes and precursor emissions on regional ozone formation and export.
- Understand the export processes in the boundary layer and free troposphere during spring and investigate large-scale atmospheric systems affecting springtime pollution export from China. The export process changes due rapid or large climate changes/variations will be emphasized.

Experiment site



The site is located in a marsh ecological preservation area, downwind from the North China Plain (NCP), where mega cities such as Beijing and Tianjin reside.

Measurements

O_3 , NO, NO_2 , HONO, HNO_4 , PANs, CO, VOCs, OVOCs, SO_2 , halogens (Cl_2 , $ClNO_2$, and possibly Br species), $PM_{2.5}$, aerosol size distributions, multi-wavelength aerosol absorption/scattering, J values, and meteorological parameters.

