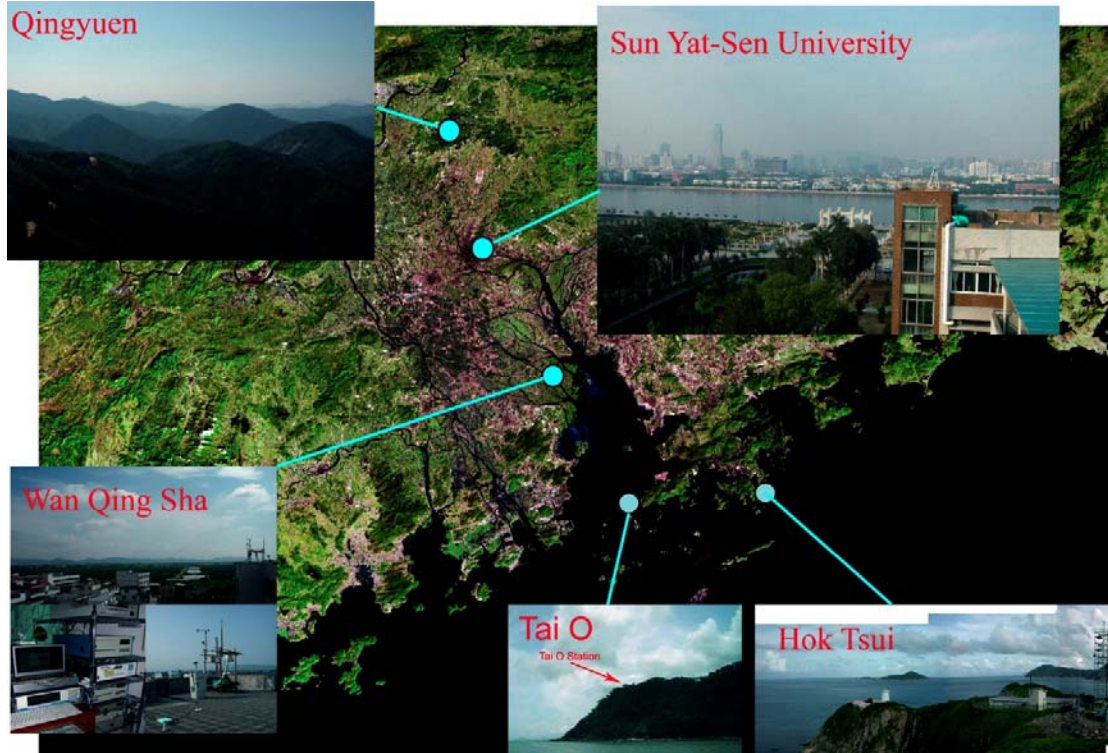


Field Study in Peal River Delta





To study the cause of ozone pollution and poor visibility in western part of Hong Kong, a “super” chemistry site was set up and operated at Tai O on the Lantau Island for 16 months (September 2001-December 2002). An extensive list of trace gases and chemical and optical properties of aerosols have been measured.

This study has produced additional information on seasonal variation of O₃, precursor gases and air-mass characteristics from the South China Sea and the industrialized Pearl River delta (Wang et al., 2005; Simpson et al., 2006) and revealed serious ozone and fine particle pollution (Wang and Kwok, 2003; Wang et al., 2003; Cheung et al., 2005; Zhang et al., 2007). Analysis of the observation using meteorological, statistical and chemical models showed an important role of sea-land breezes in the transport of air pollution (Ding et al., 2004), the dominating role of reactive aromatics (toluene and xylenes) in the formation of ozone (Zhang et al., 2007), and the major sources for these VOCs (Guo et al., 2006). The contribution of different aerosol components to the light extinction was evaluated indicating an important contribution of sulfate particles in reducing visibility (Cheung et al., 2005).

In spring and summer 2004, we extended the measurement to three sites in inland Guangdong Province (Guangzhou—urban site, Wanqingsha—sub-urban site in central Pearl River Estuary, and Qingyuan—a rural site in northern PRD). These studies help us to obtain a more complete picture of the source characteristics and photochemical pollution over the PRD. The field study in the inner PRD was conducted in collaboration with Zhongshan University.

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