Supplemental material for manuscript: Risk-Based Prioritization Among Air Pollution Control Strategies in Yangtze River Delta, China

Table S1 CMAQ and MM5 model configurations

Chemistry model	**CMAQ 4.6**
Horizontal resolution	3km
Vertical resolution	19 sigma-pressure levels(with the top pressure of 100mb)
Projection	Lambert Conformal Conic
Advection	piecewise parabolic scheme
Vertical diffusion	K-theory
Meteorology model	**MM5 V3.6**
Advection	global mass-conserving scheme
Planetary boundary layer(PBL) scheme:	Blackadar
Explicit moisture scheme	Mix phase
Atmospheric radiation scheme	Cloud
Cumulus scheme	Grell
Multi-layer soil temperature model	five-layer soil model
Observational data	NCEP Automated Data Processing (ADP) Operational Global Surface Observations (ds464.0); NCEP ADP Operational Global Upper Air observations (ds353.4)

Figure S1 Nested study domains with grid resolutions of 27 km, 9 km and 3 km, respectively

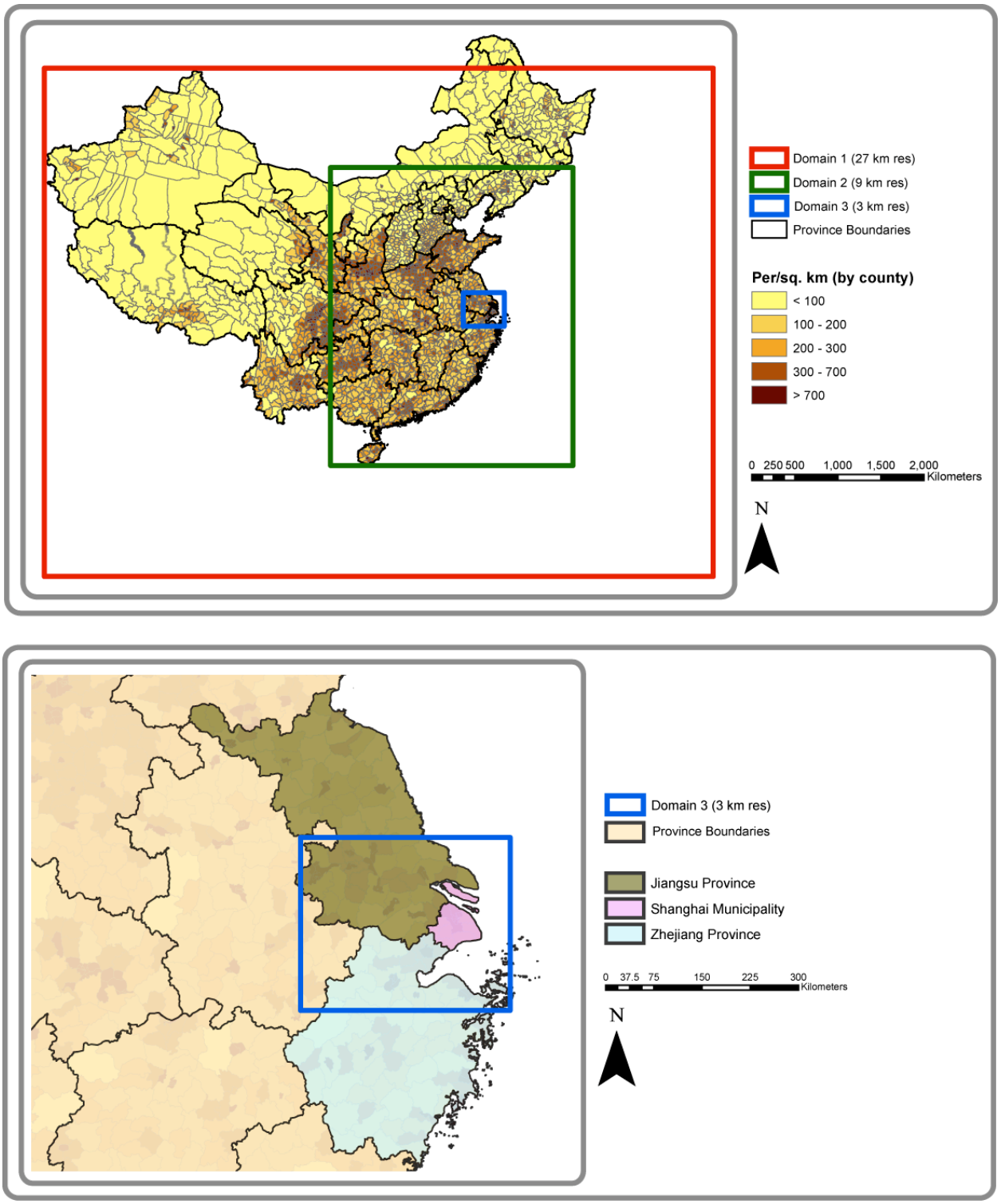
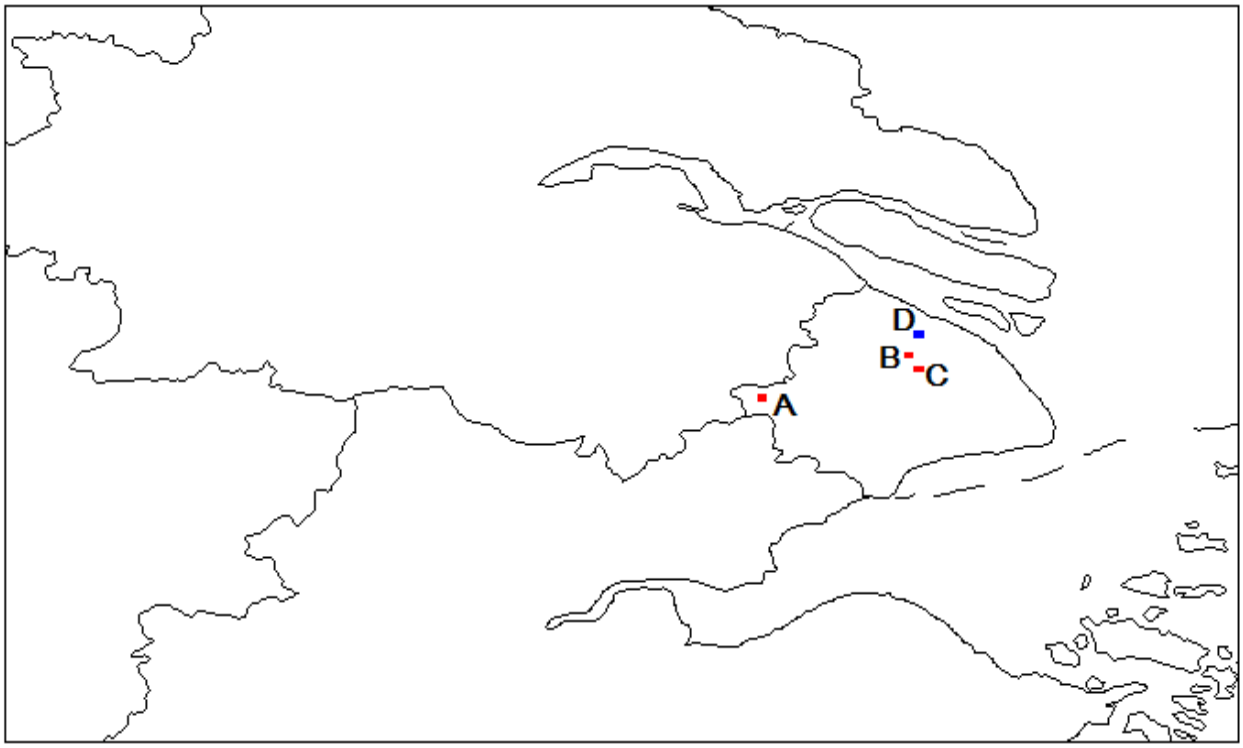


Figure S2 Locations of observational sites in Shanghai used for validating CMAQ output



Note: Stations A, B and C are ozone observational sites; Station D is $PM_{2.5}$ observational site

Figure S3 Number of People in Each Grid Cell (3 km by 3 km) in the YRD Domain

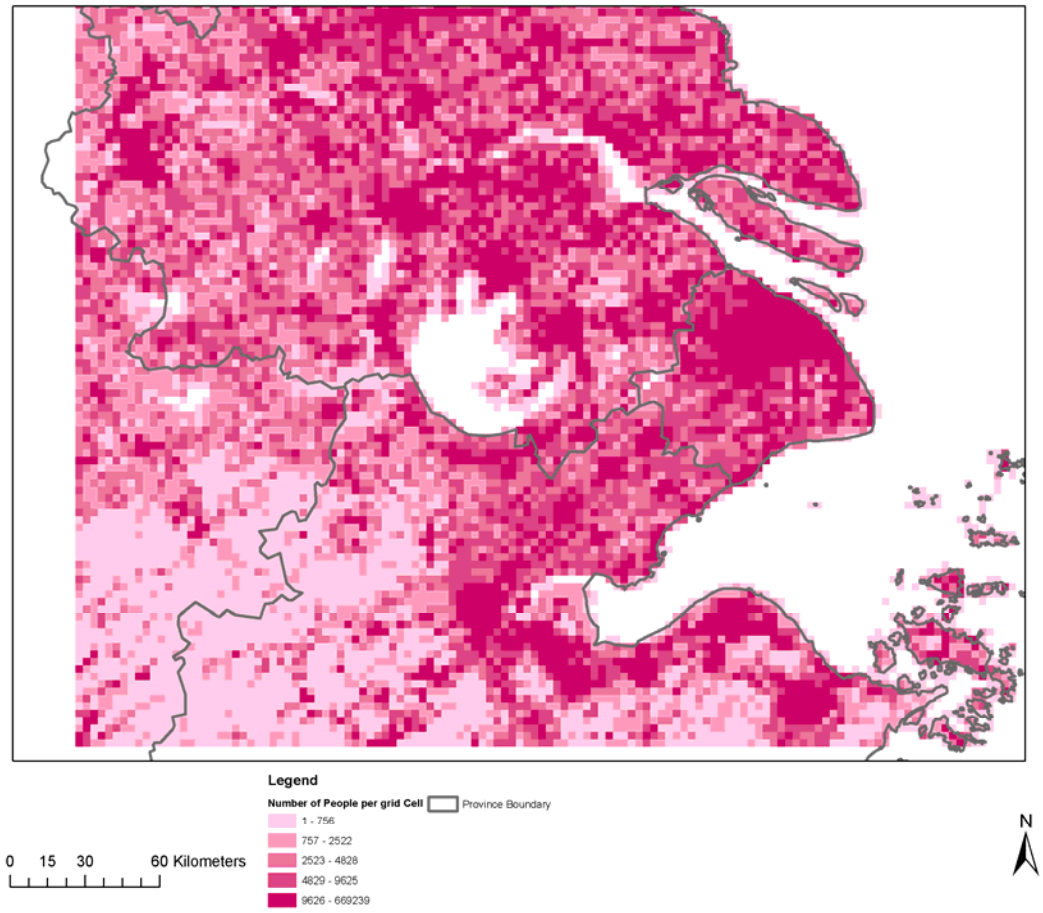
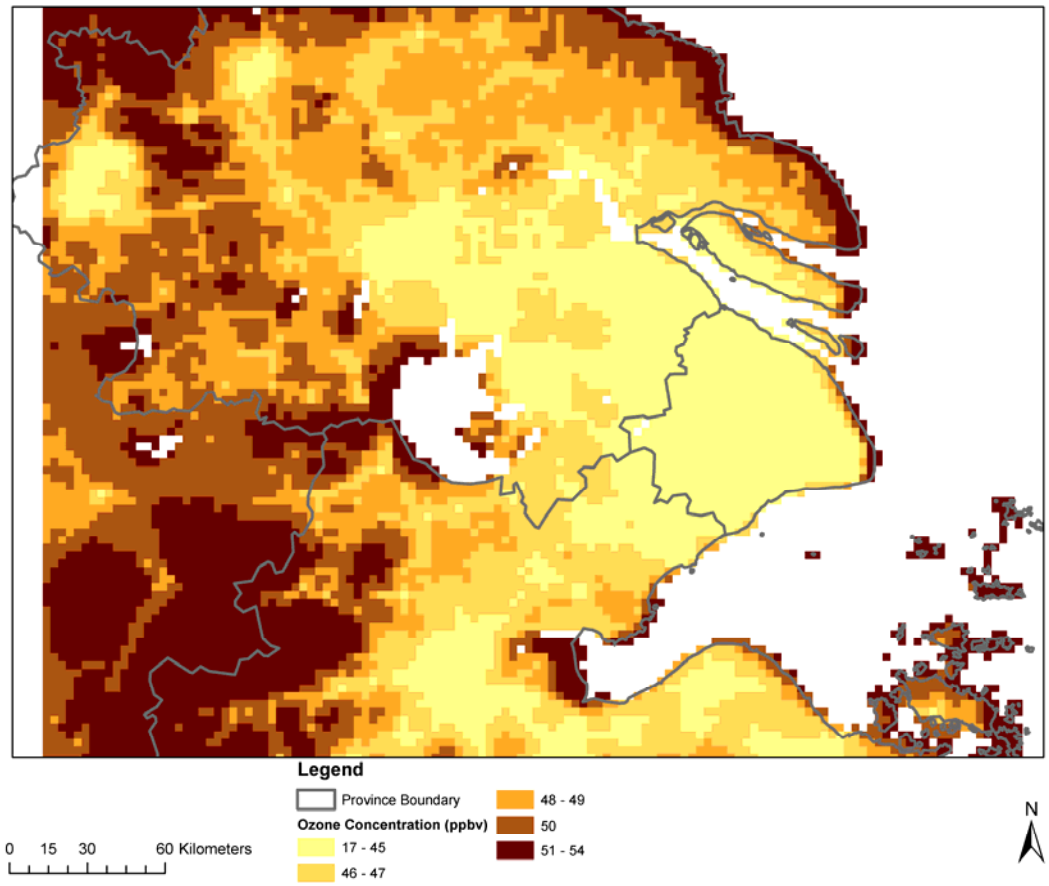



Figure S4 Annual Average 8-hour maximum Ozone Concentration in the YRD Domain in Base Case (ppbv)