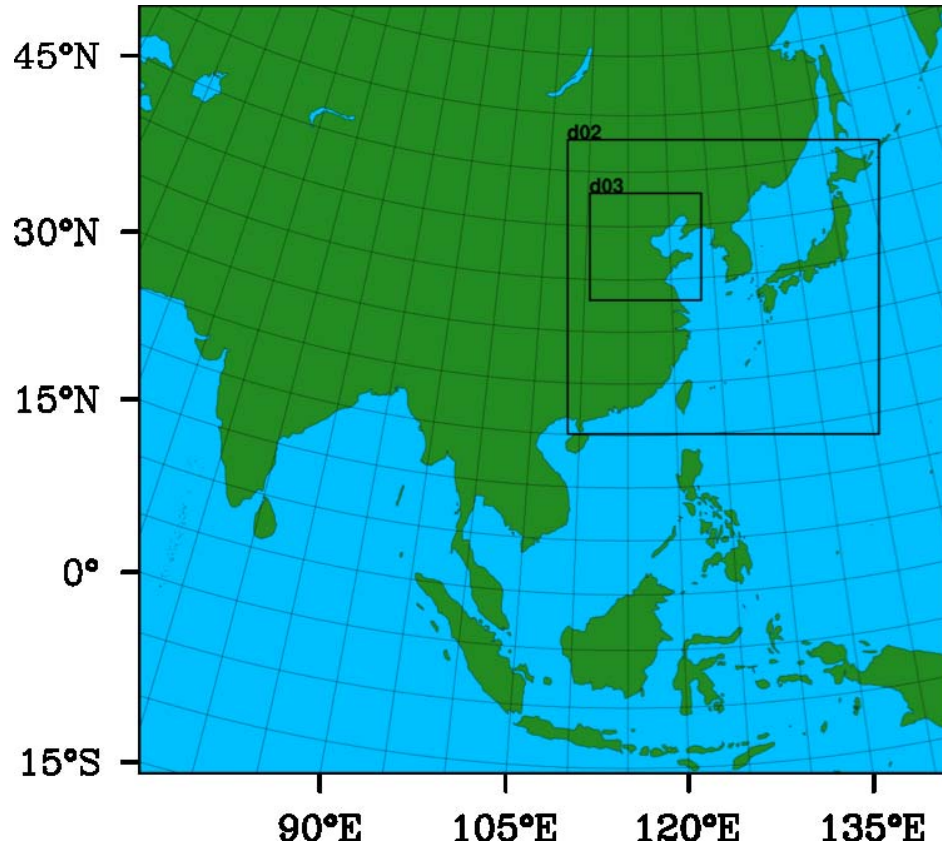


# Model domain and simulation period



## □ Model domain

First domain (D1: 45 km)  
Asia, including East,  
Southeast, South, and  
Central Asia

Second domain (D2: 15 km)  
NE Asia covering NE and SE  
China, Korea, and Japan

Third domain (D3: 5 km)  
Beijing and surroundings.

## □ Simulation period for first submission

Topic 1 (Model Intercomparison) : Full period 2010

Topic 3 (Air Quality and Climate Change): January 2010 and 2013

# Input data

- **Meteorological fields are prepared by WRFv3.4.1.**
- **Two sets of boundary conditions are provided by GEOS-Chem and CHASER. Modelers can select favorable one.**
- **Emission data sets from all sources are ready.**
  - **Anthropogenic emissions are from MIX inventory which is included in HTAPv2.**
  - **Biogenic emissions are prepared by MEGANv2.04**
  - **Biomass burning emissions are from GFEDv3.1**
  - **Volcano emissions are from AEROCOM hindcast data and Japan Meteorological Agency.**
- **Following observation data are available:**
  - **EANET data**
  - **Lidar monitoring data in IAP(?)**
  - **Gridded observation in China from IAP(?)**

# Submission lists for Topic 1

- **Monthly surface data**
  - **SO<sub>2</sub>, NO<sub>x</sub>, CO, HNO<sub>3</sub>, NH<sub>3</sub>, BC, OC, Sulfate, Nitrate, Ammonium, SOA, PM<sub>10</sub>, PM<sub>2.5</sub>, OH, HO<sub>2</sub>, HONO**
- **Monthly 3-D data**
  - **O<sub>3</sub>, CO, NO<sub>2</sub>, AOD**
- **Monthly 2-D data**
  - **Wet deposition: Sulfate, Nitrate, Ammonium, Calcium ion, Magnesium ion, Sodium ion, Potassium ion, Chloride ion**
  - **Dry Deposition: SO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>, Sulfate, Nitrate, Ammonium**
  - **Column: SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>**
- **Data at observation site**
  - **SO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub>, CO, HNO<sub>3</sub>, NH<sub>3</sub>, BC, OC, Sulfate, Nitrate, Ammonium, SOA, PM<sub>2.5</sub>, PM<sub>10</sub>, AOD, OH, HO<sub>2</sub>, HONO**
  - **PBL height, Vertical exchange coefficients, Vertical profile of aerosols**

**Preliminary analysis of results will be started about a month later.**

# Submission lists for Topic 3

- **Hourly mean meteorology:**
  - **Air temperature and water vapor mixing ratio at 2m above ground (T2 and Q2), wind speed at 10m (WS10) and short wave radiation flux at the surface, 1km and 3km**
- **Hourly mean concentrations:**
  - **SO<sub>2</sub>, NO<sub>x</sub>, CO, O<sub>3</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, and sulfate, nitrate, ammonium, BC, OC and dust in PM<sub>2.5</sub> at the surface, 1km and 3km**
- **Hourly mean AOD, aerosol direct radiative forcings at the surface, TOA and in the atmosphere**  
**(Single scattering albedo is an option for participants)**
- **Hourly mean integrated liquid water, cloud optical depth**
- **Change in T2, Q2, WS10 and PM<sub>2.5</sub> concentration at the surface due to both direct and indirect aerosol's effects.**

**Preliminary analysis of results will be started about a month later.**