Surface air quality data → WRF-CMAQ modelling system → Clean air actions in Beijing and surroundings

- Air quality improvement analysis
- Observed changes in air quality in Beijing during 2013–2017
- Decomposition of improved PM$_{2.5}$ air quality

- WRF-CMAQ modelling system
  - AQ simulation and evaluation
  - Meteorology changes
  - Regional emission reductions
  - Local emission control

- Clean air actions in Beijing and surroundings
  - Emission reduction estimation
  - Control measures aggregation and quantification
  - Local and regional emissions during 2013–2017
  - Attribution of emission reductions to specific measures