Figure S1. Daily averaged spatial distribution of PM$_{2.5}$ mass concentration and the wind field at 850hPa from ECMWF over eastern China during 09-15 October, 2015.
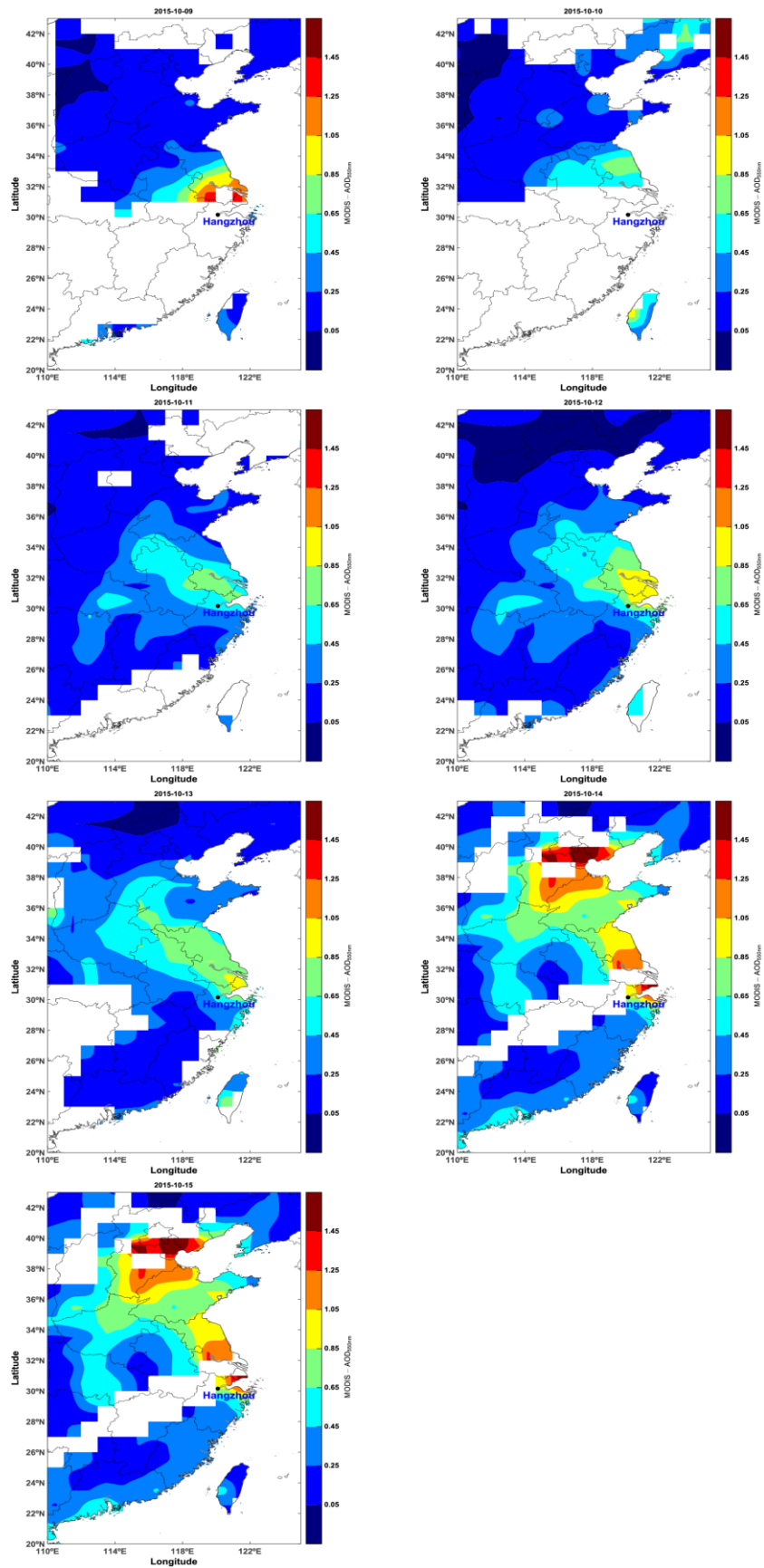
Figure S2. Daily averaged spatial distribution of AOD from MODIS, over eastern China during 09-15 October, 2015.
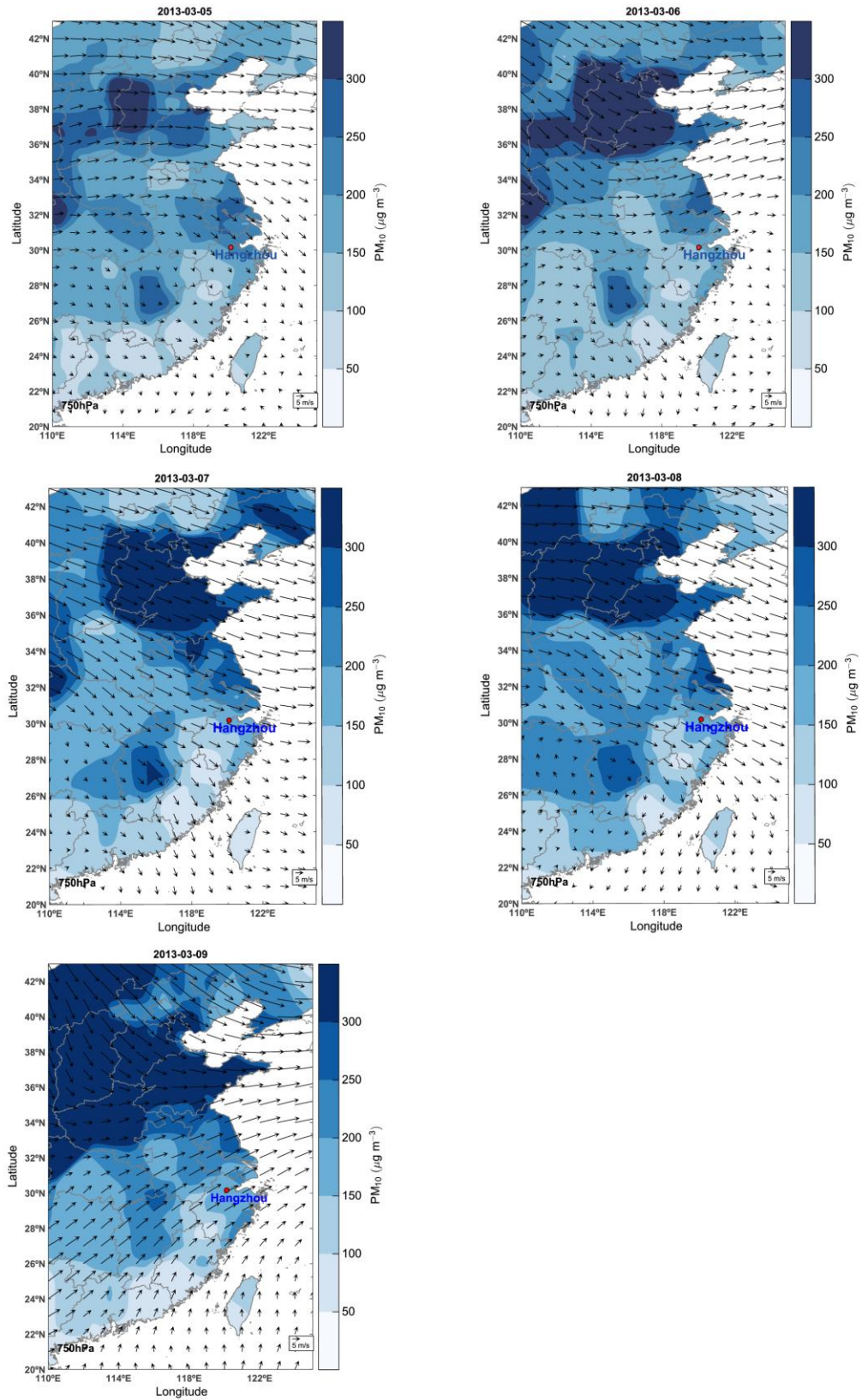
Figure S3. Daily averaged spatial distribution of PM$_{10}$ mass concentration and the wind field at 750hPa from ECMWF over eastern China, during 05-09 March, 2013.
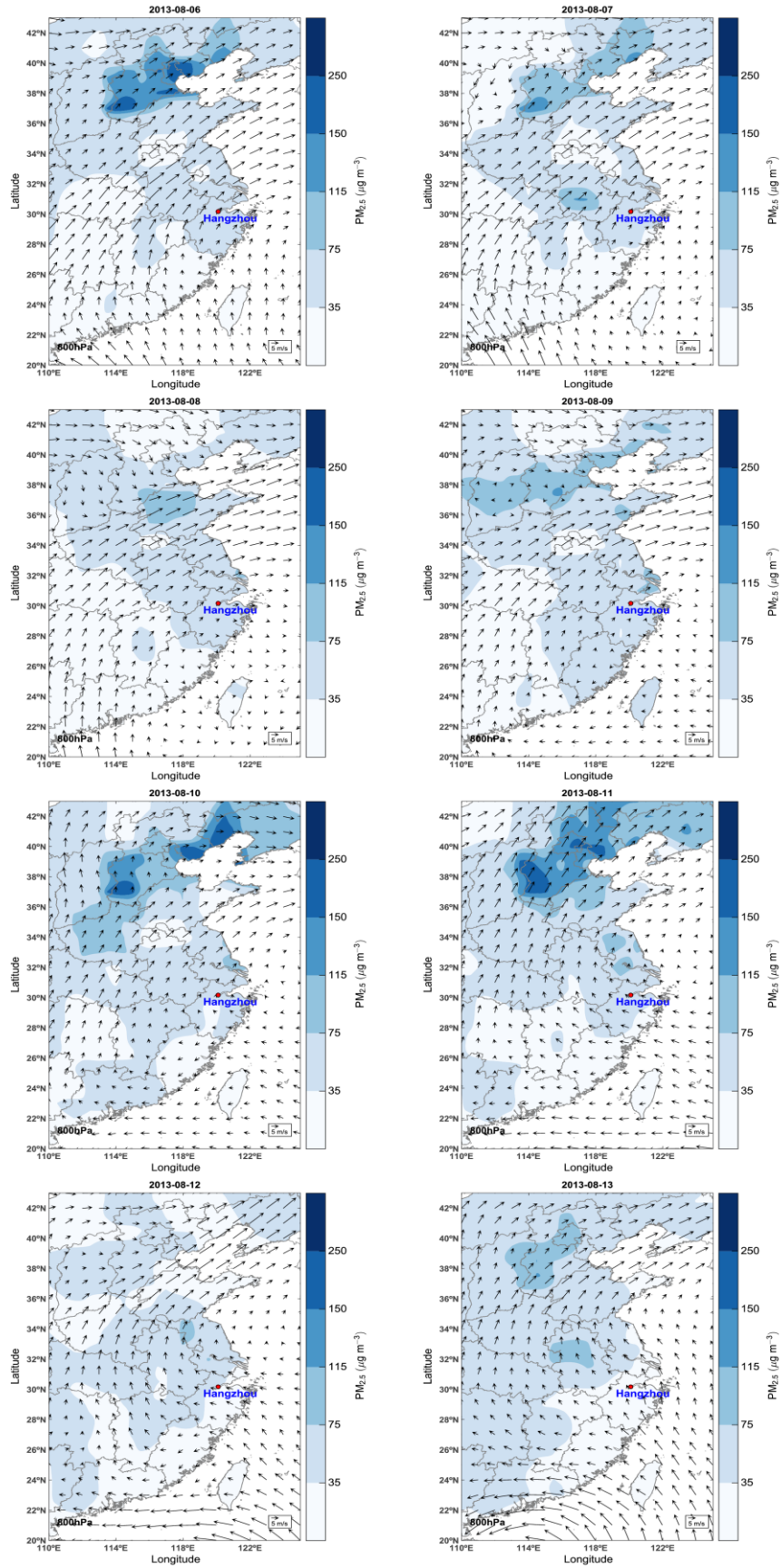
Figure S4. Daily averaged spatial distribution of PM$_{2.5}$ mass concentration and the wind field at 800hPa from ECMWF over eastern China, during 06-13 August, 2013.
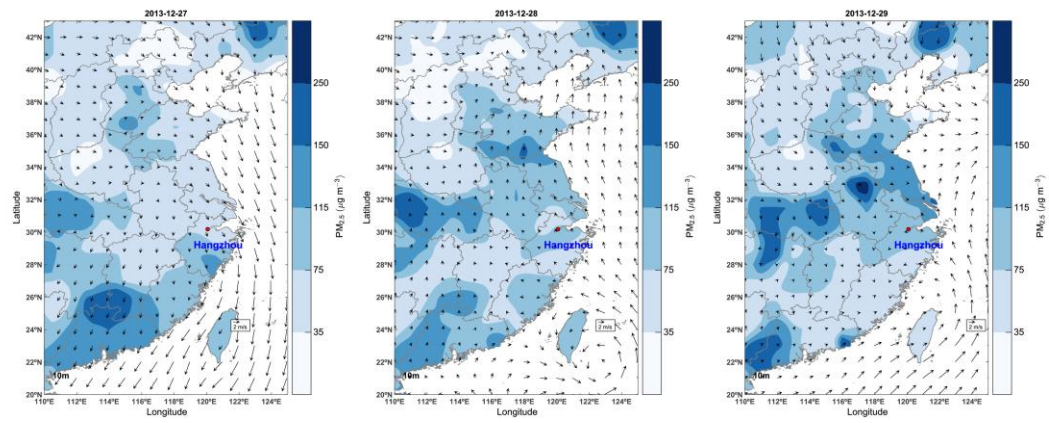
Figure S5. Spatial distribution of PM$_{2.5}$ and the wind field at 10m from ECMWF over eastern China, during 27-29 December, 2013.
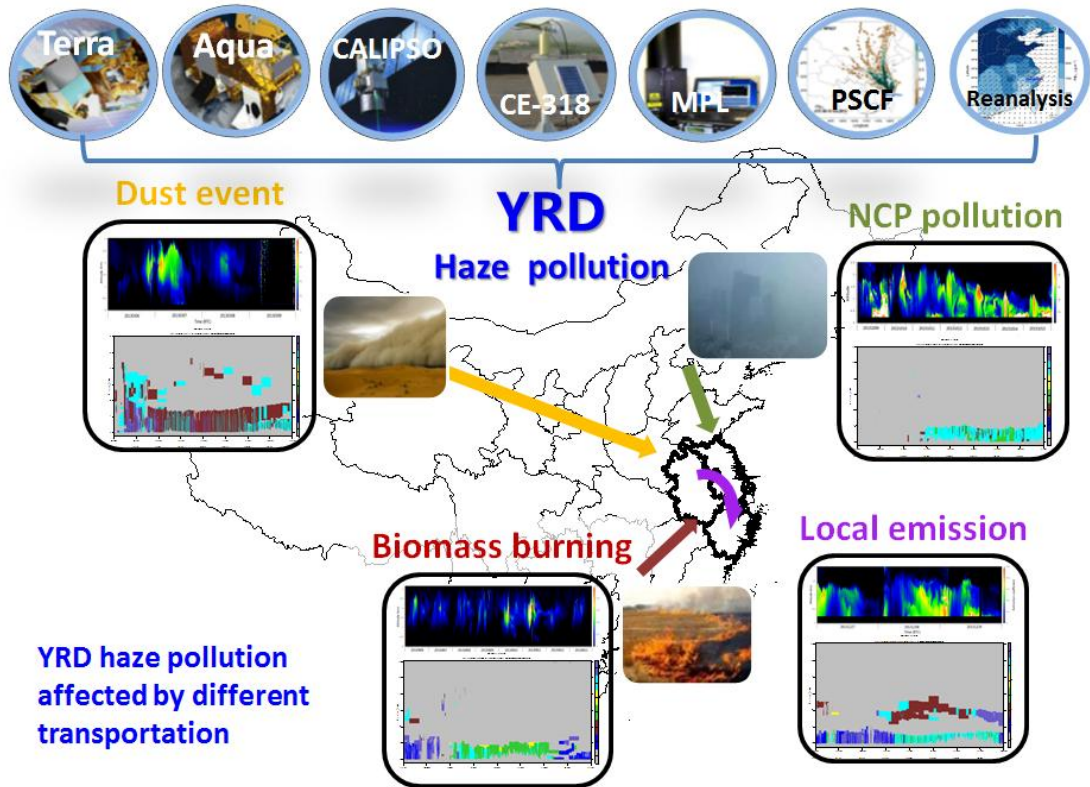
Figure S6. The sketch diagram of regional transport of different aerosol types over eastern China.