

Atmospheric Environment

General Situation

In general, urban air quality across the country was good and better than that of last year, but some cities still suffer from relatively serious pollution. The acid rain distribution area across the country remained stable but with still relative heavy acid rain pollution.

Air Quality

In 2010, 471 cities at or above county level across the country carried out monitoring of ambient air quality with monitoring items being SO₂, NO₂ and particulate. Among them, 3.6% of them met Grade I national air quality standard, 79.2% met Grade II air quality standard, 15.5% met Grade III standard, and 1.7% failed to meet Grade III standard. 85.5% of county-level cities across the country met Grade II air quality standard, which is slightly higher than that of cities at or above prefecture level.

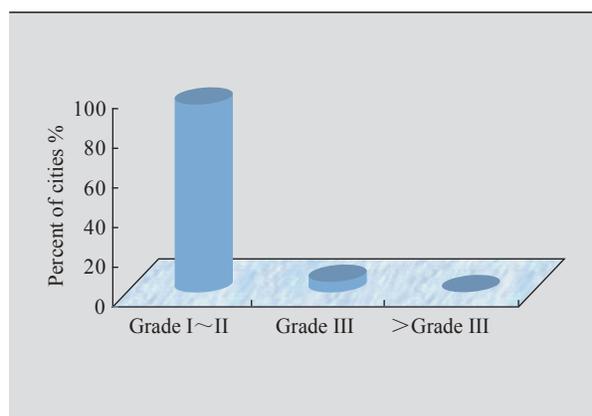
Cities at or above prefecture level (including capitals of prefectures, autonomous prefectures and leagues) 3.3% of the cities enjoyed Grade I national air quality standard, 78.4% met Grade II quality standard, 16.5% met Grade III standard

and 1.8% failed to meet Grade III standard.

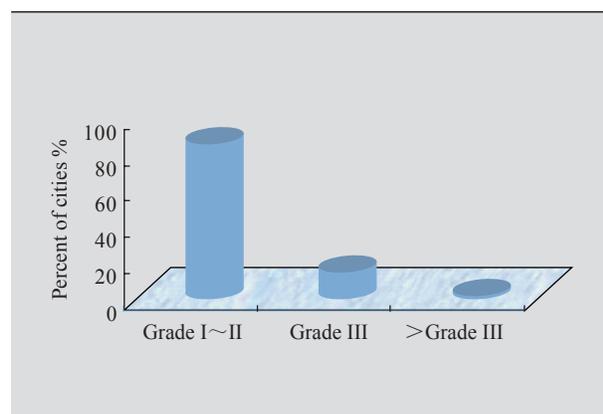
The annual average PM₁₀ of 85.0% cities met or was superior to Grade II standard, 1.2% city failed to meet Grade III standard.

The percent of cities with annual average SO₂ concentration meeting or superior to Grade II standard was 94.9%, there was no city failing to meet Grade III air quality standard.

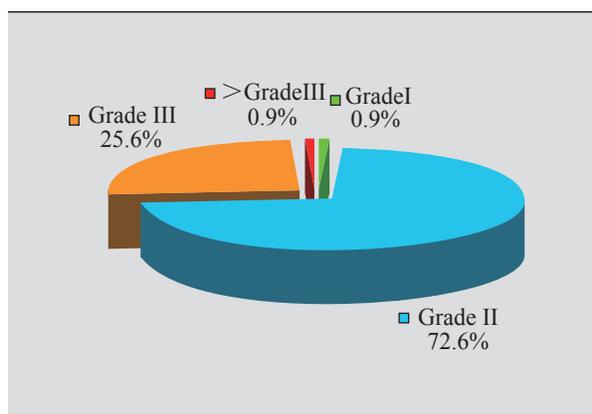
The annual average NO₂ of all cities at or above prefecture level met Grade II standard, 86.2% of such cities met Grade I air quality standard.



Percent of cities with different SO₂ concentrations in 2010



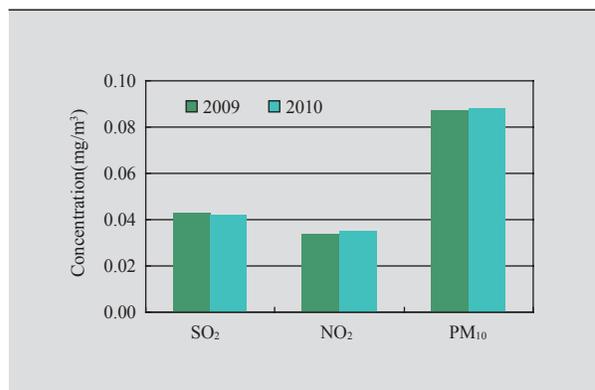
Percent of cities with different PM₁₀ concentrations in 2010



Percent of major cities with different air quality in 2010

Key cities The urban air quality of 113 major cities on environmental protection had some improvement. 0.9% of them met Grade I national air quality standard, 72.6% met Grade II standard, 25.6% met Grade III standard and 0.9% failed to meet Grade III standard. The percent of cities meeting Grade II standard went up by 6.2 percentage points compared with that of last year.

In 2010, the average NO_2 and PM_{10} concentrations of key cities on environmental protection had slight increase compared with that of last year, while the average SO_2 level had some reduction.



Year-on-year comparison of pollutant concentration of major cities

Acid Rain

Acid rain frequency In 494 cities (counties) under monitoring, 249 cities (counties) had acid rain, taking up 50.4%. 160 cities had acid rain frequency over 25%, taking up 32.4%;

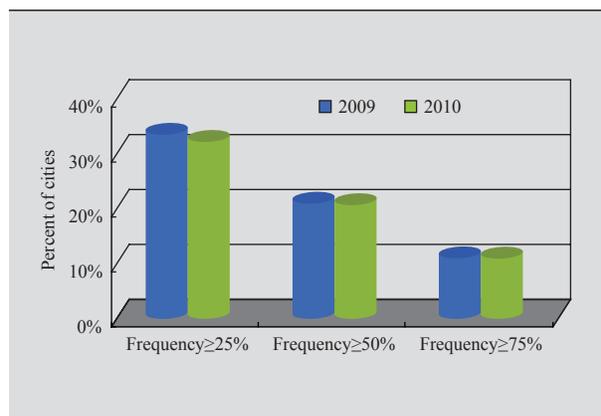
54 had acid rain frequency over 75%, accounting for 11.0%.

Statistics of acid rain frequencies in China in 2010

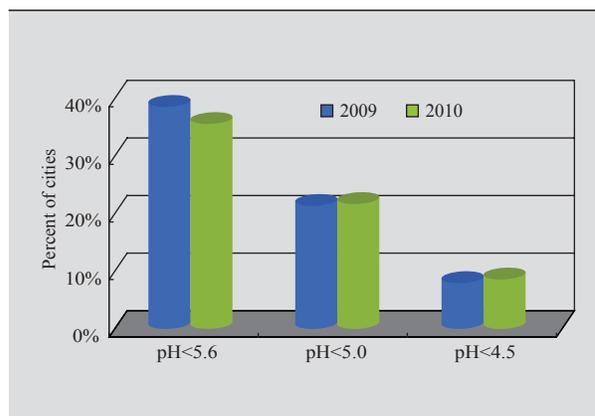
Acid rain frequency	0	0 ~ 25%	25% ~ 50%	50% ~ 75%	≥ 75%
Amount of cities	245	89	57	49	54
Percent (%)	49.6	18.0	11.5	9.9	11.0

Precipitation acidity The proportion of cities with acid rain (the annual average pH of precipitation < 5.6) went down by 3.1 percentage points compared with that of last year, the proportion of cities with relatively serious acid rain (the

annual average pH of precipitation < 5.0) and serious acid rain (the annual average pH of precipitation < 4.5) basically remained the same as that of last year.



Percent of cities with different acid rain frequencies



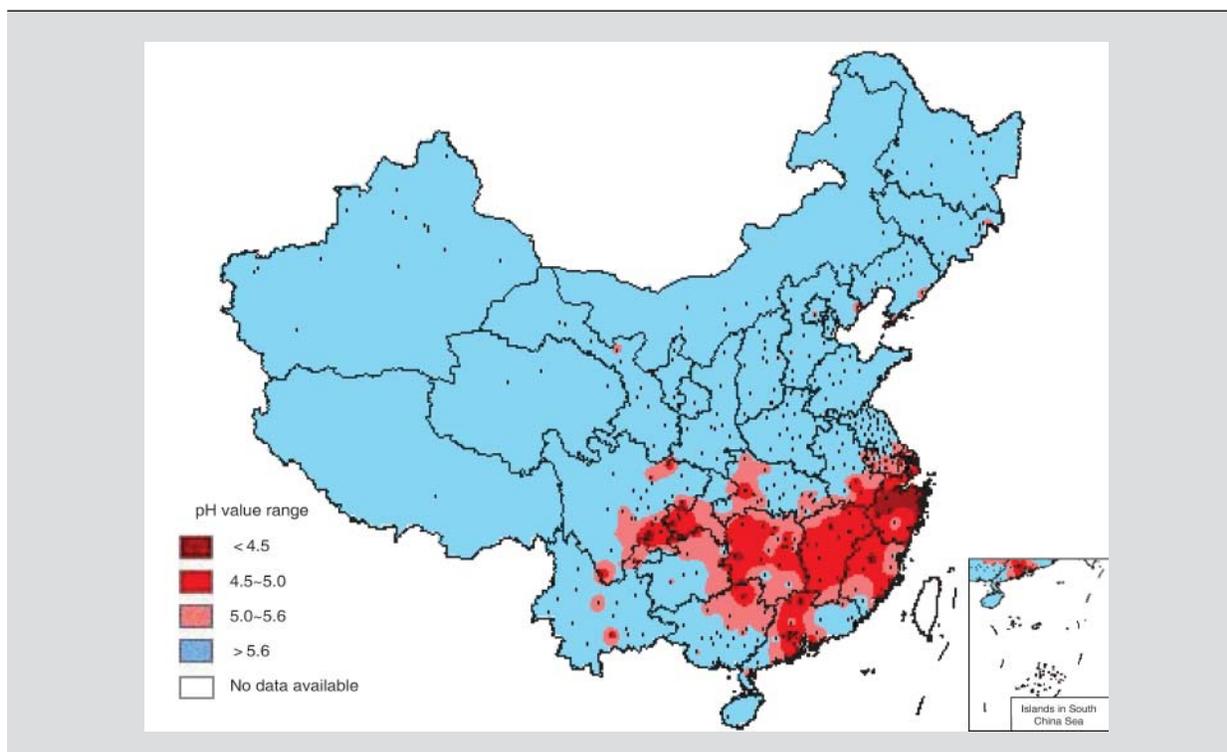
Percent of cities with different annual average pH value of precipitation

Statistics of annual average pH values of precipitation in 2010

Annual average pH value	< 4.5	4.5 ~ 5.0	5.0 ~ 5.6	5.6 ~ 7.0	≥ 7.0
Amount of cities	42	65	69	238	80
Percent (%)	8.5	13.1	14.0	48.2	16.2

Acid rain distribution Acid rain was mainly distributed to the south of Yangtze River and to the east of Qinghai-Tibet Plateau, including most areas in Zhejiang, Jiangxi, Hunan and Fujian, Yangtze River delta, southern part of Anhui, western

part of Hubei, southern part of Chongqing, southeastern part of Sichuan, northeastern part of Guizhou, northeastern part of Guangxi and central part of Guangdong.



Isograms of annual pH value of precipitation in 2010

Emissions of major pollutants in waste gas

In 2010, total emission was 21.851 million t for SO₂, 8.291 million t for soot, 4.487 million t for industrial dust, down by 1.3%, 2.2% and 14.3% respectively compared with that of last year.

Year-on-year comparison of emissions of major air pollutants in waste gas in China

Year	Item	SO ₂ emission (10000 t)			Soot (10000 t)			Industrial dust (10000 t)
		Total	Industry	Domestic	Total	Industry	Domestic	
2006		2588.8	2234.8	354.0	1088.8	864.5	224.3	808.4
2007		2468.1	2140.0	328.1	986.6	771.1	215.5	698.7
2008		2321.2	1991.3	329.9	901.6	670.7	230.9	584.9
2009		2214.4	1866.1	348.3	847.2	603.9	243.3	523.6
2010		2185.1	1864.4	320.7	829.1	603.2	225.9	448.7



Measures and Actions

【Annual Report on Prevention and Control of Vehicle Pollution in China (2010)】 Ministry of Environmental Protection released the *Annual Report on Prevention and Control of Vehicle Pollution in China (2010)* on November of 2010, which for the first time made public vehicle emissions in China and systematically introduced the progress of prevention and control of pollution by vehicle emissions. The Annual Report says that vehicle emission pollution in China becomes increasingly serious. Vehicle emissions become one of the main sources of air pollution in big and medium sized cities of China. Automobiles are the main contributor to total vehicle emissions, CO and hydrocarbon emissions from vehicles exceed 70%, NO_x and PM₁₀ emissions from vehicles exceeded 90% of the total. The environmental management of vehicles in China has made big progress after the development of nearly 30 years. In 2009, individual vehicle emissions of newly manufactured light-duty vehicles went down by over 90% compared with that of 2000. The total vehicle emissions do not grow at the same pace along with rapid growth of the amount of in-service automobiles thanks to rapid implementation of more stringent emission standard. The

amount of in-service vehicles grows by 25 times compared with that of 1980, however, the total emissions grows by only 12 times, indicating effective mitigation of the big pressure of increasing automobiles on the environment.

【Joint prevention and control of atmospheric pollution】 The General Office of the State Council distributed the *Guidance on Promoting Joint Prevention and Control of Atmospheric Pollution and Improving Regional Air Quality* issued by nine national departments including Ministry of Environmental Protection on May 11, 2010, which makes clear the guidance, objectives and main measures for prevention and control of atmospheric pollution in China in the next few years. It is the first comprehensive policy of China on prevention and control of atmospheric pollution. Ministry of Environmental Protection issued the *Circular on Development of the “12th Five-Year Plan” for Joint Prevention and Control of Atmospheric Pollution of Major Regions* on October 9, 2010. It has decided to launch the development of the “12th Five-Year Plan” for Joint Prevention and Control of Atmospheric Pollution of Major Regions in Yangtze River delta, Pearl River delta, Beijing-Tianjin-Hebei; six city clusters such as Chengdu-Chongqing, central part of Liaoning Province, Shandong Peninsula, Wuhan, Changsha-Zhuzhou-Xiangtan, and western bank of the Taiwan Strait (hereinafter referred to as “three regions and six city clusters”).

National campaign on improving the urban and rural environmental sanitation (2010–2012)

The 2010-2012 Program for National Campaign on Improving the Urban and Rural Environmental Sanitation (hereinafter referred to as the Program) was printed and distributed in May 2010, inaugurating the national campaign on improvement of environmental sanitation conditions in the urban and rural areas. The Program proposed that after a three-year campaign, the environmental sanitation conditions would have been improved, the idea of healthy environment would have been disseminated, the dirty, disorderly, and poor environmental sanitation in the urban and rural areas would have been addressed, the environmental sanitation infrastructure construction would have been strengthened in urban and rural areas especially the rural areas, the sound mechanism for administration on environmental sanitation would have been improved, the integration of urban and rural areas for improving environmental sanitation would have been advanced, and the sanitation awareness, health level and life quality of urban and rural residents would have been enhanced. The specific goals as follows would have been met by the end of 2012: the environmentally sound treatment rate of municipal wastes to reach 76%; the municipal wastewater treatment rate to reach 80%; the farmers' markets that fail to meet with regulatory standards to drop by a half in urban areas; both the municipal waste and wastewater treatment rates to be up by 10%, and the integrated environmental treatment to be completed in 20,000 villages; the up-to-standard rate of drinking water in rural areas to be up by 15%; and the popularization rate of sanitary toilets to be up by 10% in the countryside.