

## ***Supplementary Information***

**Title:** The wet deposition of the inorganic ions in the 320 cities across China: spatiotemporal variation, source apportionment, and dominant factors

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*China*

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**Tab. S1** All of the 320 observation cities, provinces, and five ecological regions including Northeast China (NEC), North China (NC), Southeast China (SEC), Southwest China (SWC), and Northwest China (NWC).

City	Province/Autonomous Region/Municipality	Region
Aba	Sichuan	SWC
Arksu	Xinjiang	NWC
Alxa	Inner Mongolia	NC
Altay	Xinjiang	NWC
Ankang	Shaanxi	NWC
Anqing	Anhui	SEC
Anshun	Guizhou	SWC
Anyang	Henan	NC
Anshan	Liaoning	NEC
Bayannur	Inner Mongolia	NC
Bayingolin	Xinjiang	NWC
Bazhong	Sichuan	SWC
Baicheng	Jilin	NEC
Baishan	Jilin	NEC
Baiyin	Gansu	NWC
Baise	Guangxi	SWC
Bengbu	Anhui	SEC
Baotou	Inner Mongolia	NC
Baoji	Shaanxi	NWC
Baoding	Hebei	NC
Baoshan	Yunnan	SWC
Beihai	Guangxi	SWC
Beijing	Beijing	NC
Benxi	Liaoning	NEC
Bijie	Guizhou	SWC
Binzhou	Shandong	NC
Bozhou	Anhui	SEC
Cangzhou	Hebei	NC
Changji	Xinjiang	NWC
Changde	Hunan	SEC
Changzhou	Jiangsu	SEC
Chaoyang	Liaoning	NEC
Chaozhou	Guangdong	SEC
Chengzhou	Hunan	SEC
Chengdu	Sichuan	SWC
Chengde	Hebei	NC
Chizhou	Anhui	SEC
Chifeng	Inner Mongolia	NC
Chongzuo	Guangxi	SWC

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Chuzhou	Anhui	SEC
Chuxiong	Yunnan	SWC
Dazhou	Sichuan	SWC
Dali	Yunnan	SWC
Dalian	Liaoning	NEC
Daqing	Heilongjiang	NEC
Datong	Shanxi	NC
Dandong	Liaoning	NEC
Dehong	Yunnan	SWC
Deyang	Sichuan	SWC
Dezhou	Shandong	NC
Diqing	Yunnan	SWC
Dingxi	Gansu	NWC
Dongguan	Guangdong	SEC
Dongying	Shandong	NC
Erdos	Inner Mongolia	NC
Ezhou	Hubei	SEC
Enshi	Hubei	SEC
Fangchenggang	Guangxi	SWC
Foshan	Guangdong	SEC
Fuzhou	Fujian	SEC
Fushun	Liaoning	NEC
Fuzhou	Jiangxi	SEC
Fuxin	Liaoning	NEC
Fuyang	Anhui	SEC
Gannan	Gansu	NWC
Ganzi	Sichuan	SWC
Ganzhou	Jiangxi	SEC
Guyuan	Ningxia	NWC
Guangan	Sichuan	SWC
Guangyuan	Sichuan	SWC
Guangzhou	Guangdong	SEC
Guigang	Guangxi	SWC
Guiyang	Guizhou	SWC
Guilin	Guangxi	SWC
Harbin	Heilongjiang	NEC
Hami	Xinjiang	NWC
Haibei	Qinghai	NWC
Haikou	Hainan	SEC
Hainan	Qinghai	NWC
Haixi	Qinghai	NWC
Handan	Hebei	NC
Hanzhong	Shaanxi	NWC
Hangzhou	Zhejiang	SEC

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Hefei	Anhui	SEC
Hetian	Xinjiang	NWC
Hechi	Guangxi	SWC
Heyuan	Guangdong	SEC
Heze	Shandong	NC
Hezhou	Guangxi	SWC
Hebi	Henan	NC
Hegang	Heilongjiang	NEC
Heishui	Heilongjiang	NEC
Hengshui	Hebei	NC
Hengyang	Hunan	SEC
Honghe	Yunnan	SWC
Hohehot	Inner Mongolia	NC
Hulun Buir	Inner Mongolia	NC
Huludao	Liaoning	NEC
Huzhou	Zhejiang	SEC
Huaihua	Hunan	SEC
Huaian	Jiangsu	SEC
Huaibei	Anhui	SEC
Huainan	Anhui	SEC
Huanggang	Hubei	SEC
Huangnan	Qinghai	NWC
Huangshan	Anhui	SEC
Huangshi	Hubei	SEC
Huizhou	Anhui	SEC
Jixi	Heilongjiang	NEC
Ji'an	Jiangxi	SEC
Jilin	Jilin	NEC
Jinan	Shandong	NC
Jining	Shandong	NC
Jiamusi	Heilongjiang	NEC
Jiaxing	Zhejiang	SEC
Jiayuguan	Gansu	NWC
Jiangmen	Guangdong	SEC
Jiaozuo	Henan	NC
Jieyang	Guangdong	SEC
Jinchang	Gansu	NWC
Jinhua	Zhejiang	SEC
Jinzhou	Liaoning	NEC
Jincheng	Shanxi	NC
Jinzhong	Shanxi	NC
Jingmen	Hubei	SEC
Jingzhou	Hubei	SEC
Jingdezhen	Jiangxi	SEC

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Jiujiang	Jiangxi	SEC
Jiuquan	Gansu	NWC
Kaifeng	Henan	NC
Karamay	Xinjiang	NWC
Suerkezi	Xinjiang	NWC
Kunming	Yunnan	SWC
Lhasa	Tibet	SWC
Laibin	Guangxi	SWC
Laiwu	Shandong	NC
Lanzhou	Gansu	NWC
Langfang	Hebei	NC
Leshan	Sichuan	SWC
Lijiang	Yunnan	SWC
Lishui	Zhejiang	SEC
Lianyungang	Jiangsu	SEC
Liangshan	Sichuan	SWC
Liaoyang	Liaoning	NEC
Liaoyuan	Jilin	NEC
Liaocheng	Shandong	NC
Lincang	Yunnan	SWC
Linfen	Shanxi	NC
Linxia	Gansu	NWC
Linyi	Shandong	NC
Liuzhou	Guangxi	SWC
Luan	Anhui	SEC
Liupanshui	Guizhou	SWC
Longyan	Fujian	SEC
Longnan	Gansu	NWC
Loudi	Hunan	SEC
Luzhou	Sichuan	SWC
Luoyang	Henan	NC
Luohe	Henan	NC
Lvliang	Shanxi	NC
Maanshan	Anhui	SEC
Maoming	Guangdong	SEC
Meishan	Sichuan	SWC
Meizhou	Guangdong	SEC
Mianyang	Sichuan	SWC
Mudanjiang	Heilongjiang	NEC
Nanchang	Jiangxi	SEC
Nanchong	Sichuan	SWC
Nanjing	Jiangsu	SEC
Nanning	Guangxi	SWC
Nanping	Fujian	SEC

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Nantong	Jiangsu	SEC
Nanyang	Henan	NC
Neijiang	Sichuan	SWC
Ningbo	Zhejiang	SEC
Ningde	Fujian	SEC
Nujiang	Yunnan	SWC
Panzhihua	Yunnan	SWC
Panjin	Liaoning	NEC
Pingdingshan	Henan	NC
Pingliang	Gansu	NWC
Pingxiang	Jiangxi	SEC
Putian	Fujian	SEC
Puyang	Henan	NC
Puer	Yunnan	SWC
Qitaihe	Heilongjiang	NEC
Qiqihar	Heilongjiang	NEC
Qiandongnan	Guizhou	SWC
Qiannan	Guizhou	SWC
Qianxinan	Guizhou	SWC
Qinzhou	Guangxi	SWC
Qinhuangdao	Hebei	NC
Qingdao	Shandong	NC
Qingyuan	Guangdong	SEC
Qingyang	Gansu	NWC
Quzhou	Zhejiang	SEC
Qujing	Yunnan	SWC
Quanzhou	Fujian	SEC
Rizhao	Shandong	NC
Sanmenxia	Henan	NC
Sanming	Fujian	SEC
Sanya	Hainan	SEC
Xiamen	Fujian	SEC
Shantou	Guangdong	SEC
Shanwei	Guangdong	SEC
Shangluo	Henan	NC
Shangqiu	Henan	NC
Shanghai	Shanghai	SEC
Shangrao	Jiangxi	SEC
Shaoguan	Guangdong	SEC
Shaoyang	Hunan	SEC
Shaoxing	Zhejiang	SEC
Shenzhen	Guangdong	SEC
Shenyang	Liaoning	NEC
Shiyan	Hubei	SEC

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Shijiazhuang	Hebei	NC
Shizuishan	Ningxia	NWC
Shuangyashan	Heilongjiang	NEC
Shuozhou	Shanxi	NC
Siping	Jilin	NEC
Songyuan	Jilin	NEC
Suzhou	Jiangsu	SEC
Suizhou	Suizhou	#N/A
Suining	Sichuan	SWC
Tacheng	Xinjiang	NWC
Taizhou	Zhejiang	SEC
Taiyuan	Shanxi	NC
Taian	Shandong	NC
Taizhou	Jiangsu	SEC
Tangshan	Hebei	NC
Tianshui	Gansu	NWC
Tieling	Liaoning	NEC
Tonghua	Jilin	NEC
Tongliao	Inner Mongolia	NC
Tongchuan	Shaanxi	NWC
Tongling	Anhui	SEC
Tongren	Guizhou	SWC
Weihai	Shandong	NC
Weifang	Shandong	NC
Weinan	Shaanxi	NWC
Wenzhou	Zhejiang	SEC
Wenshan	Yunnan	SWC
Ulanqab	Inner Mongolia	NC
Urumqi	Xinjiang	NWC
Wuxi	Jiangsu	SEC
Wuhu	Anhui	SEC
Wuzhong	Ningxia	NWC
Wuzhou	Guangxi	SWC
Wuhan	Hubei	SEC
Wuwei	Gansu	NWC
Xi'an	Shaanxi	NWC
Xining	Qinghai	NWC
Xishuangbanna	Yunnan	SWC
Xilin Gol	Inner Mongolia	NC
Xianning	Hubei	SEC
Xianyang	Shaanxi	NWC
Xiangtan	Hebei	NC
Xiangxi	Hunan	SEC
Xiangyang	Hubei	SEC

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Xiaogan	Hubei	SEC
Xinzhou	Shanxi	NC
Xinxiang	Henan	NC
Xinyu	Jiangxi	SEC
Xinyang	Henan	NC
Xingtai	Hebei	NC
Xing'an	Heilongjiang	NEC
Suqian	Jiangsu	SEC
Suzhou	Anhui	SEC
Xuzhou	Jiangsu	SEC
Xuchang	Henan	NC
Xuancheng	Anhui	SEC
Ya'an	Sichuan	SWC
Yantai	Shandong	NC
Yan'an	Shaanxi	NWC
Yanbian	Jilin	NEC
Yancheng	Jiangsu	SEC
Yangzhou	Jiangsu	SEC
Yangjiang	Guangdong	SEC
Yangquan	Shanxi	NC
Yichun	Jiangxi	SEC
Yili	Xinjiang	NWC
Yibin	Sichuan	SWC
Yichang	Hubei	SEC
Yichun	Heilongjiang	NEC
Yiyang	Hunan	SEC
Yinchuan	Ningxia	NWC
Yingtian	Jiangxi	SEC
Yingkou	Liaoning	NEC
Yongzhou	Hunan	SEC
Yulin	Shaanxi	NWC
Yulin	Guangxi	SWC
Yuxi	Yunnan	SWC
Yueyang	Hunan	SEC
Yunfu	Guangdong	SEC
Yuncheng	Shanxi	NC
Zaozhuang	Shandong	NC
Zhanjiang	Guangdong	SEC
Zhangjiajie	Hunan	SEC
Zhangjiakou	Hebei	NC
Zhangye	Gansu	NWC
Zhangzhou	Fujian	SEC
Changchun	Jilin	NEC
Changsha	Hunan	SEC

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Changzhi	Shanxi	NC
Zhaotong	Yunnan	SWC
Zhaoqing	Guangdong	SEC
Zhenjiang	Jiangsu	SEC
Zhengzhou	Henan	NC
Zhongshan	Guangdong	SEC
Zhongwei	Shanxi	NC
Chongqing	Chongqing	SWC
Zhoushan	Zhejiang	SEC
Zhoukou	Henan	NC
Zhuhai	Guangdong	SEC
Zhuzhou	Hunan	SEC
Zhumadian	Henan	NC
Ziyang	Sichuan	SWC
Zibo	Shandong	NC
Zigong	Sichuan	SWC
Zunyi	Guizhou	SWC

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**Tab. S2** The correlation coefficients of water-soluble ions and meteorological conditions.

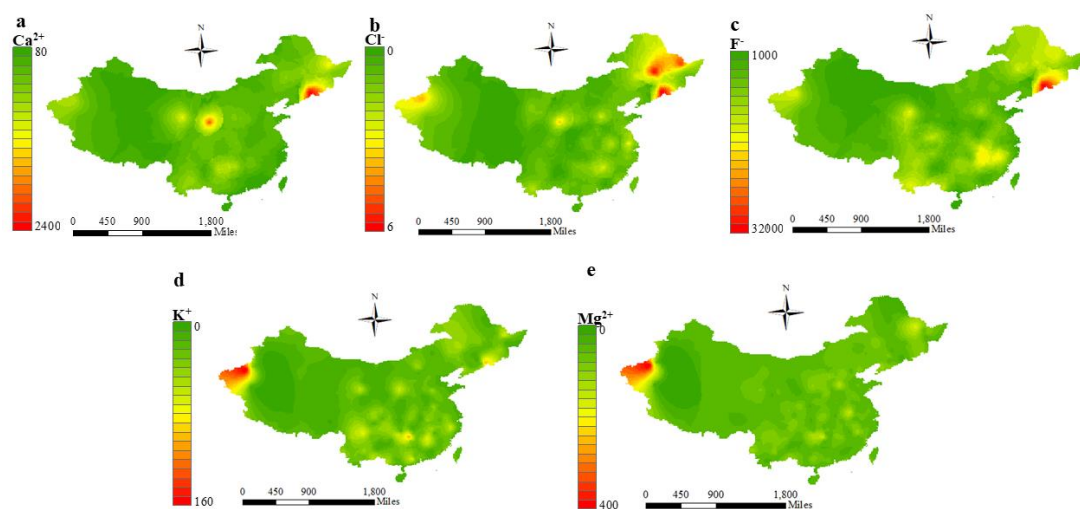
	pH	NO <sub>3</sub> <sup>-</sup>	Cl <sup>-</sup>	Ca <sup>2+</sup>	K <sup>+</sup>	EC	F <sup>-</sup>	NH <sub>4</sub> <sup>+</sup>	Mg <sup>2+</sup>	SO <sub>4</sub> <sup>2-</sup>	Na <sup>+</sup>	PM <sub>2.5</sub>	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>	Precipitation	T <sub>max</sub>	T <sub>min</sub>	Wind speed	Air pressure	RH
pH	1.00	-0.12 <sup>a</sup>	0.12 <sup>a</sup>	0.18 <sup>b</sup>	0.11	0.30 <sup>b</sup>	0.00	-0.10	0.13 <sup>a</sup>	-0.13 <sup>a</sup>	0.15 <sup>a</sup>	0.15 <sup>a</sup>	0.32 <sup>a</sup>	-0.25 <sup>b</sup>	-0.13 <sup>a</sup>	0.58 <sup>b</sup>	-0.26 <sup>b</sup>	-0.50 <sup>b</sup>	0.20 <sup>b</sup>	-0.07	-0.33 <sup>b</sup>
NO <sub>3</sub> <sup>-</sup>		1.00	0.41 <sup>b</sup>	-0.47 <sup>b</sup>	-0.19 <sup>b</sup>	-	0.39 <sup>b</sup>	0.51 <sup>b</sup>	-0.10	0.39 <sup>b</sup>	0.08	0.29 <sup>b</sup>	0.23 <sup>b</sup>	0.16 <sup>b</sup>	0.36 <sup>b</sup>	0.08	0.13 <sup>a</sup>	0.14 <sup>a</sup>	-0.01	0.17 <sup>b</sup>	0.13 <sup>a</sup>
						0.05															
Cl <sup>-</sup>			1.00	-0.57 <sup>b</sup>	-0.38 <sup>b</sup>	0.05	0.32 <sup>b</sup>	0.17 <sup>b</sup>	0.14 <sup>a</sup>	0.34 <sup>b</sup>	0.29 <sup>b</sup>	0.21 <sup>b</sup>	0.23 <sup>b</sup>	0.06	0.22 <sup>b</sup>	-0.06	0.00	0.02	-0.14 <sup>a</sup>	0.08	-0.01
Ca <sup>2+</sup>				1.00	0.40 <sup>b</sup>	0.17 <sup>b</sup>	-0.27 <sup>b</sup>	-0.22 <sup>b</sup>	0.38 <sup>b</sup>	-0.20 <sup>b</sup>	0.19 <sup>b</sup>	0.23 <sup>b</sup>	0.25 <sup>b</sup>	-0.19 <sup>b</sup>	-0.20 <sup>b</sup>	-0.08	0.02	-0.02	0.15 <sup>a</sup>	0.08	0.01
K <sup>+</sup>					1.00	0.01	-0.31 <sup>b</sup>	-0.20 <sup>b</sup>	0.49 <sup>b</sup>	-0.23 <sup>b</sup>	0.11 <sup>a</sup>	0.01	0.03	-0.03	-0.05	-0.00	0.02	0.03	0.02	0.07	0.09
EC						1.00	-0.07	-0.11	0.11	0.07	0.06	0.08	0.22 <sup>b</sup>	0.19 <sup>b</sup>	0.13 <sup>a</sup>	-0.25 <sup>b</sup>	-0.08	-0.21 <sup>b</sup>	0.13 <sup>a</sup>	-0.02	-0.14 <sup>a</sup>
F <sup>-</sup>							1.00	0.48 <sup>b</sup>	0.13 <sup>a</sup>	0.55 <sup>b</sup>	0.13 <sup>a</sup>	0.12 <sup>a</sup>	0.07	0.04	0.10	0.08	0.12 <sup>a</sup>	0.13 <sup>a</sup>	-0.03	0.15 <sup>a</sup>	0.17 <sup>b</sup>
NH <sub>4</sub> <sup>+</sup>								1.00	-0.33 <sup>b</sup>	0.42 <sup>b</sup>	0.33 <sup>b</sup>	0.22 <sup>b</sup>	0.16 <sup>b</sup>	0.07	0.21 <sup>b</sup>	0.10	0.13 <sup>a</sup>	0.14 <sup>a</sup>	0.04	0.15 <sup>a</sup>	0.13 <sup>a</sup>
Mg <sup>2+</sup>									1.00	-0.31 <sup>b</sup>	0.33 <sup>b</sup>	0.19 <sup>b</sup>	0.19 <sup>b</sup>	-0.13 <sup>a</sup>	-0.11	-0.10	-0.03	-0.06	0.11	0.07	0.02

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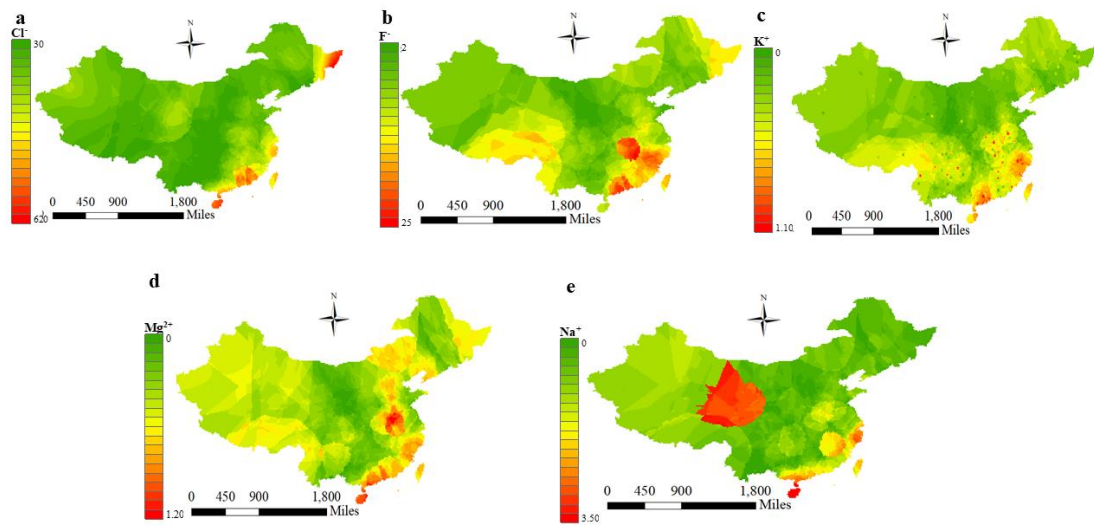
SO <sub>4</sub> <sup>2-</sup>	1.00	0.09	0.25 <sup>b</sup>	0.11	0.34 <sup>b</sup>	0.14 <sup>a</sup>	0.03	0.04	0.04	0.10	0.16 <sup>a</sup>	0.12 <sup>a</sup>
Na <sup>+</sup>		1.00	-0.09	-0.06	0.01	-0.06	0.00	-0.06	-0.04	-0.01	-0.01	0.10
PM <sub>2.5</sub>			1.00	0.90 <sup>b</sup>	0.56 <sup>b</sup>	0.72 <sup>b</sup>	-0.22 <sup>b</sup>	0.08	0.01	-0.12 <sup>a</sup>	0.29 <sup>b</sup>	0.04
PM <sub>10</sub>				1.00	0.61 <sup>b</sup>	0.65 <sup>b</sup>	-0.38 <sup>b</sup>	-0.01	-0.16 <sup>a</sup>	0.19 <sup>b</sup>	0.21 <sup>b</sup>	-0.14 <sup>a</sup>
SO <sub>2</sub>					1.00	0.52 <sup>b</sup>	-0.34 <sup>b</sup>	-0.07	0.23 <sup>b</sup>	-0.23 <sup>b</sup>	0.13 <sup>a</sup>	-0.17 <sup>b</sup>
NO <sub>2</sub>						1.00	-0.12 <sup>a</sup>	0.07	-0.01	0.22 <sup>b</sup>	0.27 <sup>b</sup>	0.03
Precipitation							1.00	0.55 <sup>b</sup>	0.65 <sup>b</sup>	-0.04	0.34 <sup>b</sup>	0.60 <sup>b</sup>
T <sub>max</sub>								1.00	0.87 <sup>b</sup>	0.23 <sup>b</sup>	0.77 <sup>b</sup>	0.82 <sup>b</sup>
T <sub>min</sub>									1.00	-0.10	0.52 <sup>b</sup>	0.75 <sup>b</sup>
Wind speed										1.00	0.63 <sup>b</sup>	0.24 <sup>b</sup>
Air pressure											1.00	0.81 <sup>b</sup>
RH												1.00

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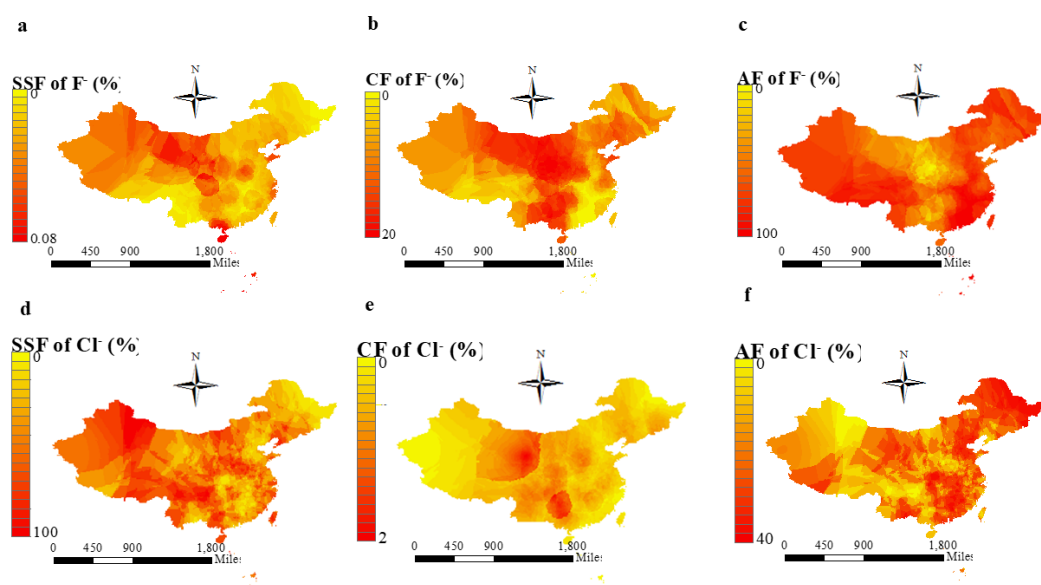
**Fig. S1** The  $EF_{sea}$  of  $Ca^{2+}$ ,  $Cl^-$ ,  $F^-$ ,  $K^+$ , and  $Mg^{2+}$ .



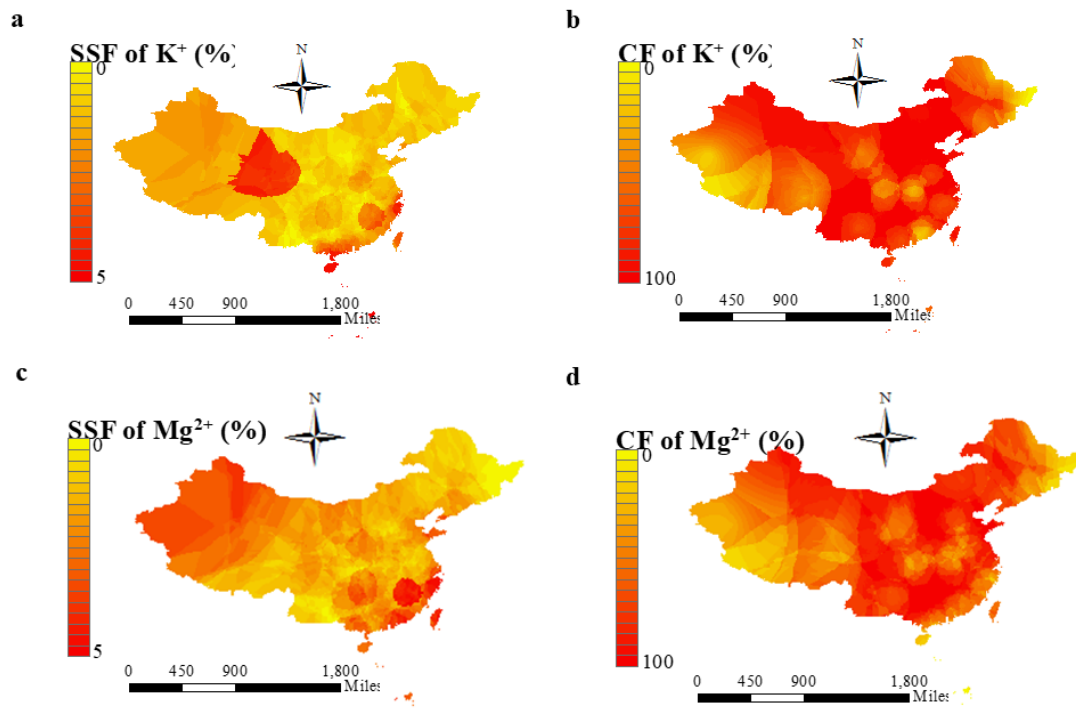
**Fig. S2** The  $EF_{soil}$  of  $Cl^-$ ,  $F^-$ ,  $K^+$ ,  $Mg^{2+}$ , and  $Na^+$ .



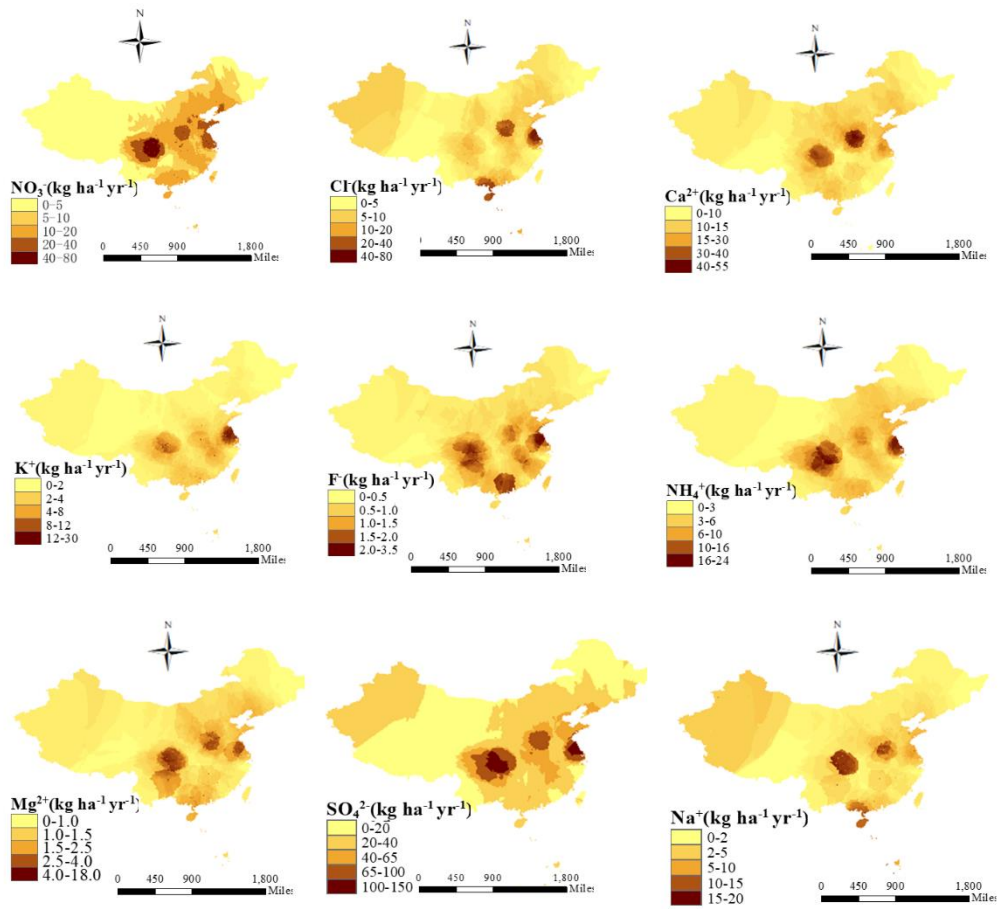
**Fig. S3** The spatial variation of SSF, CF, and AF for  $F^-$  and  $Cl^-$  in the precipitation.



**Fig. S4** The spatial variation of SSF, CF, and AF for  $K^+$  and  $Mg^{2+}$  in the precipitation.

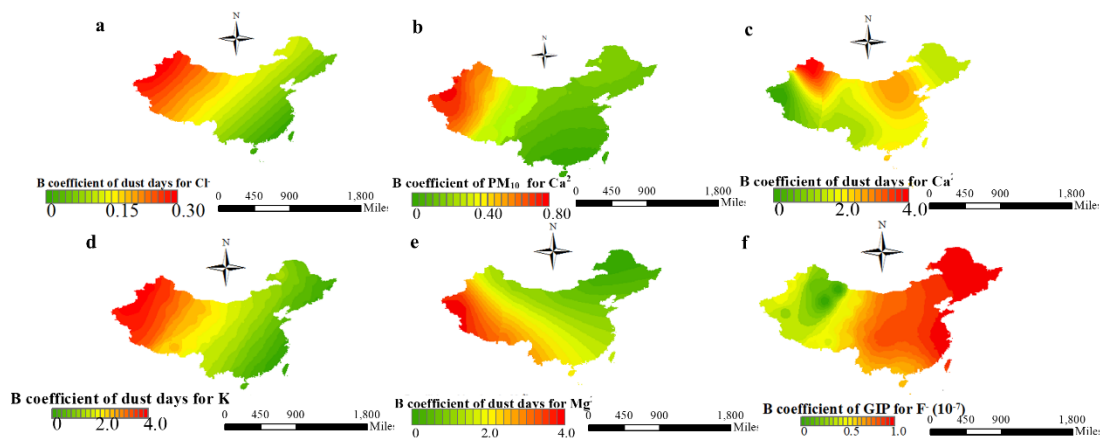


**Fig. S5** The deposition fluxes of nine inorganic ions at spatial scale

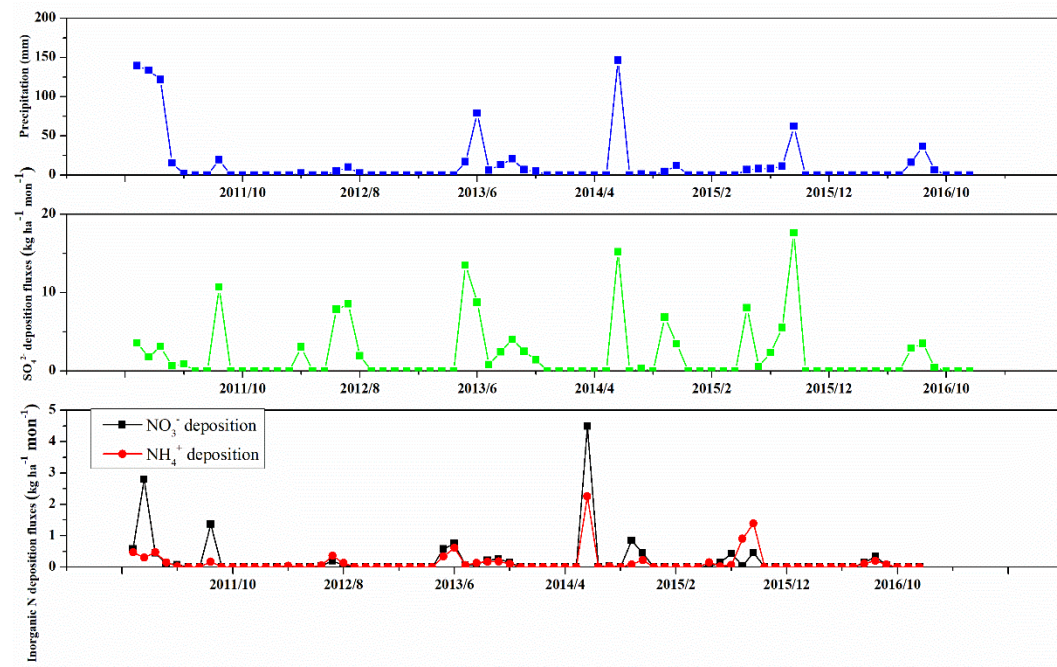




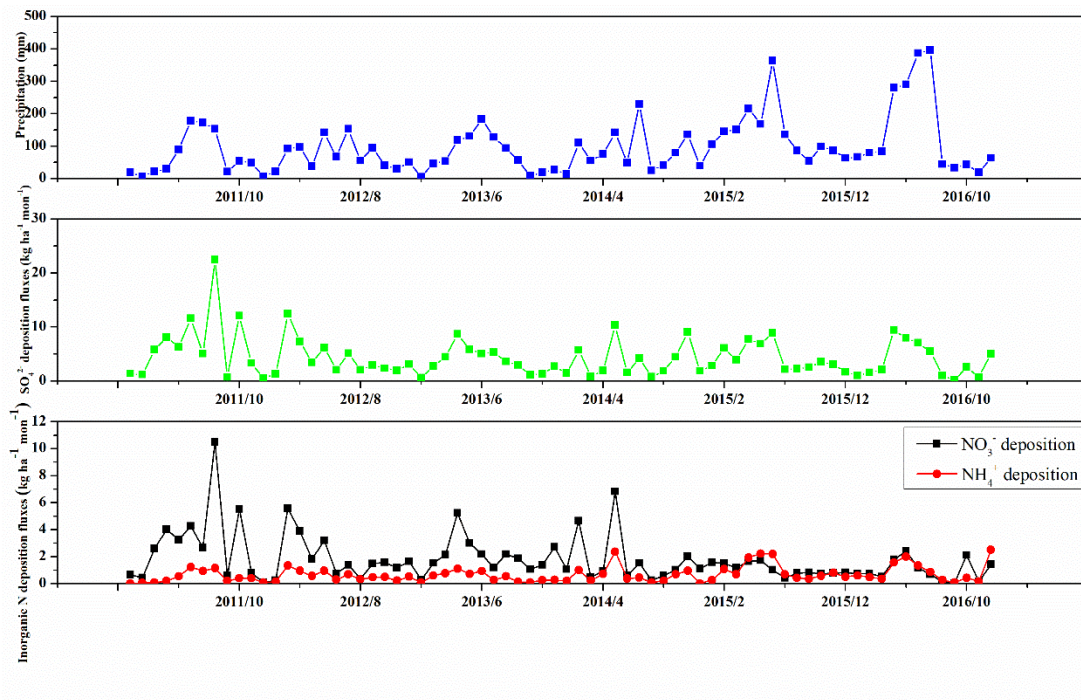
**Fig. S6** The local regression coefficient of influential factors for the  $\text{Ca}^{2+}$ ,  $\text{Cl}^-$ ,  $\text{F}^-$ ,  $\text{K}^+$ , and  $\text{Mg}^{2+}$ .



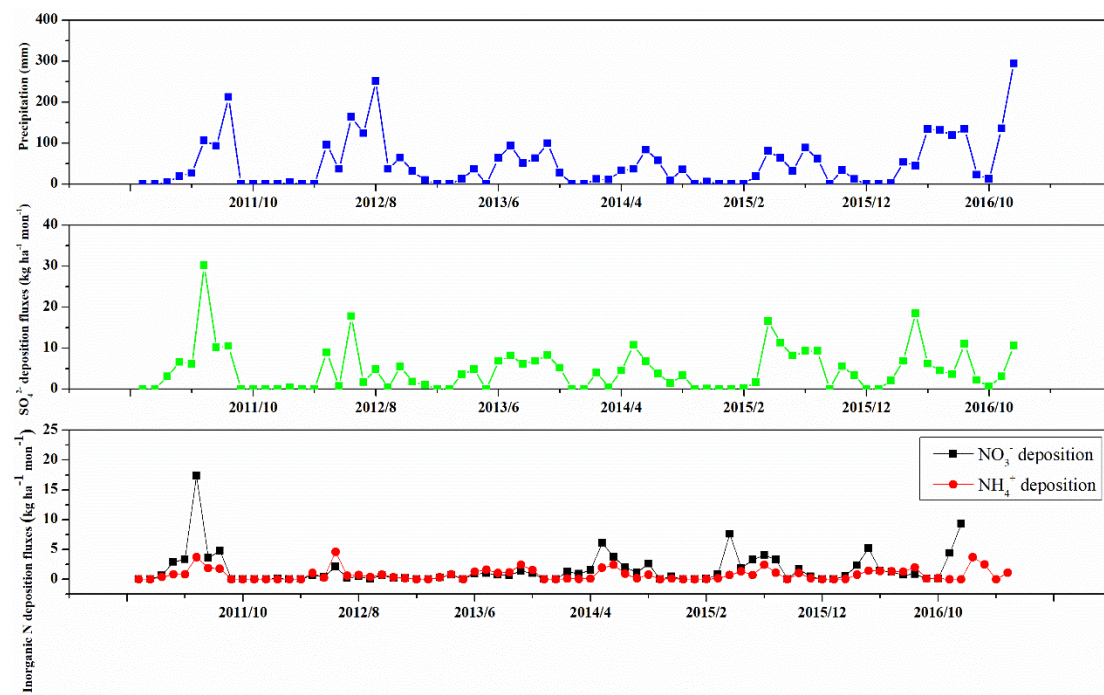
**Fig. S7** The precipitation and wet deposition fluxes of secondary ions in Arksu



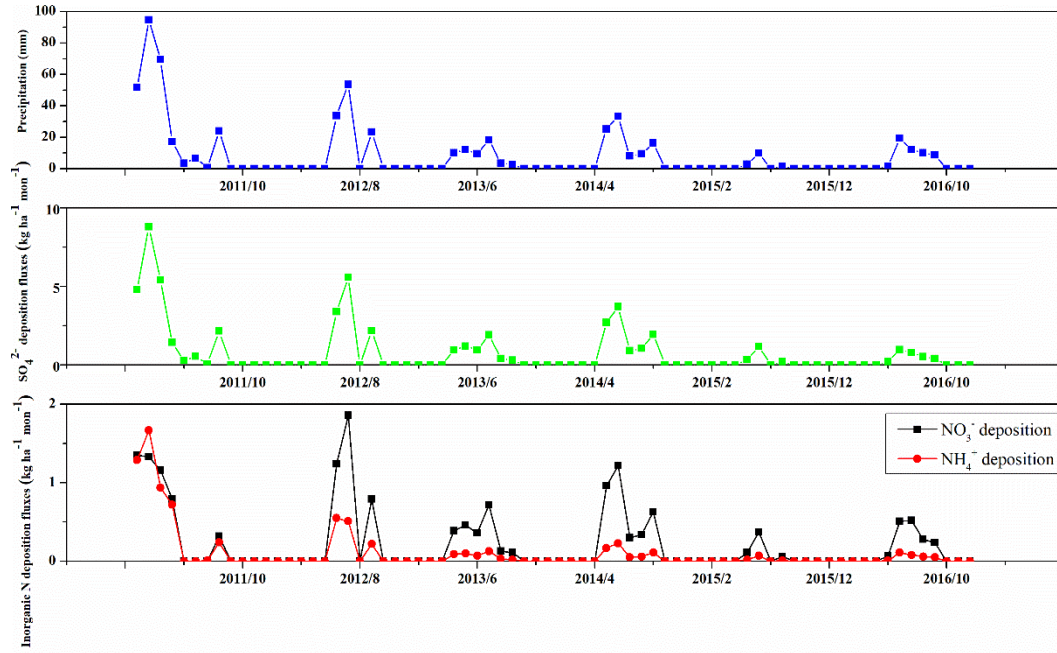
**Fig. S8** The precipitation and wet deposition fluxes of secondary ions in Anqing



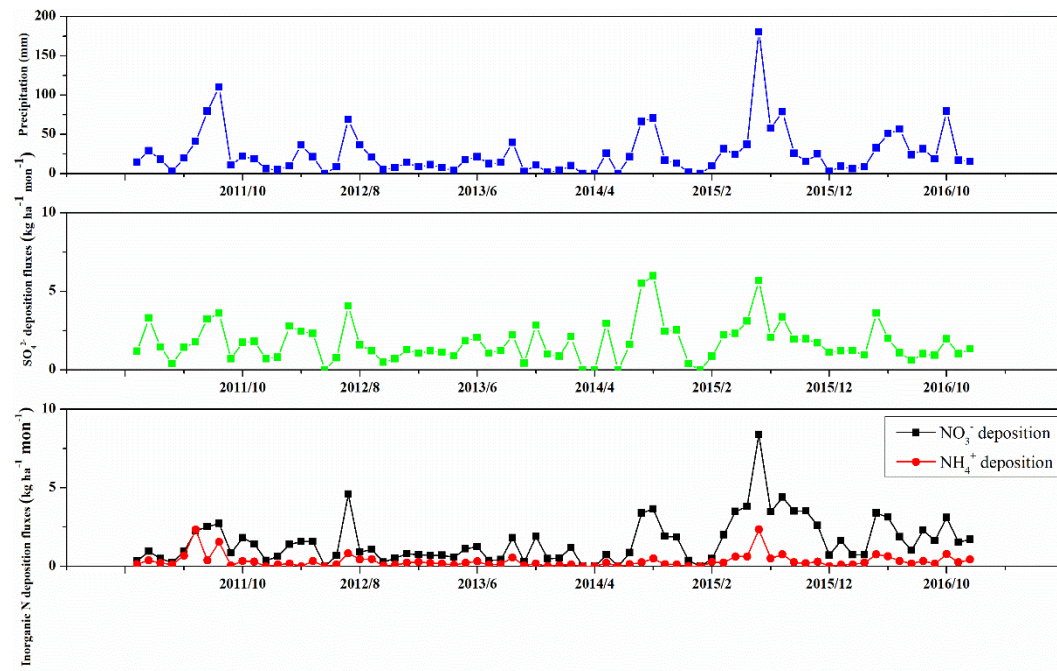
**Fig. S9** The precipitation and wet deposition fluxes of secondary ions in Anshan



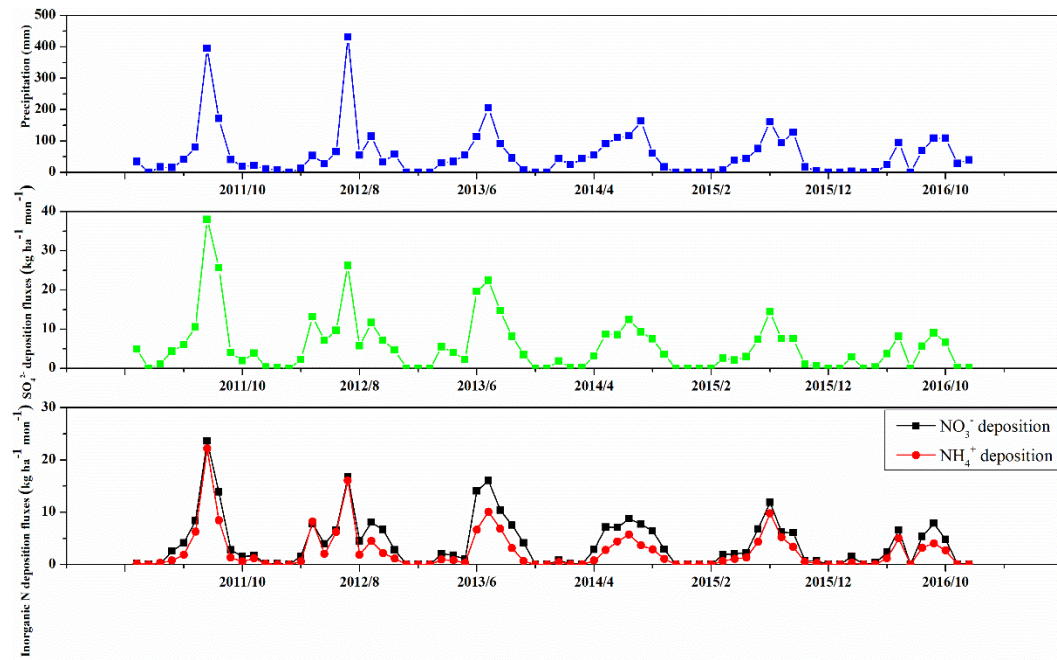
**Fig. S10** The precipitation and wet deposition fluxes of secondary ions in Baishan



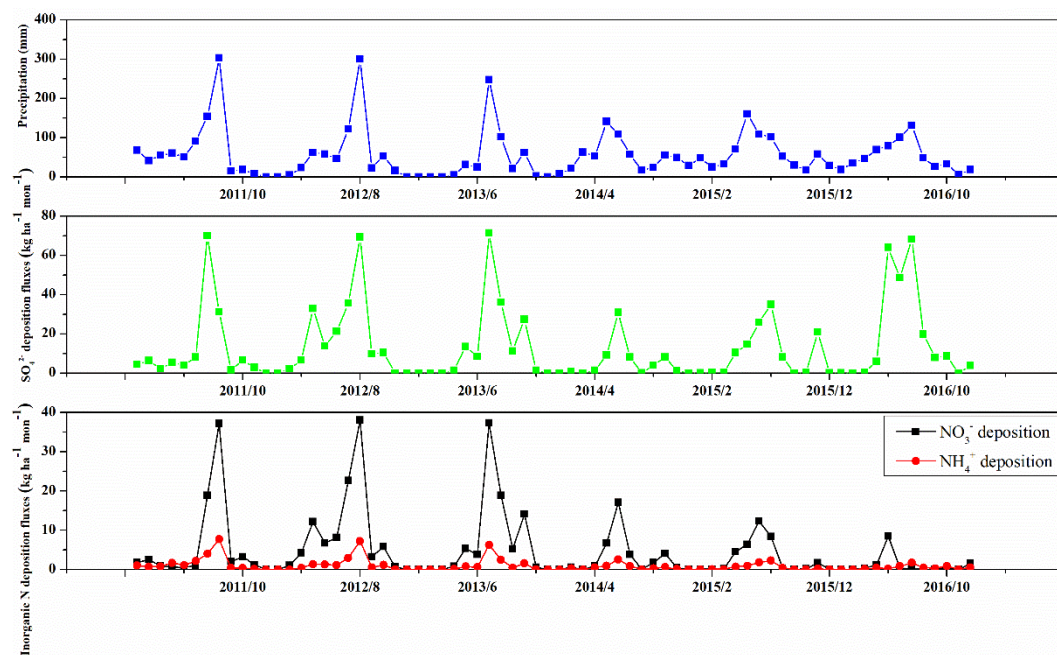
**Fig. S11** The precipitation and wet deposition fluxes of secondary ions in Bengbu



**Fig. S12** The precipitation and wet deposition fluxes of secondary ions in Beijing

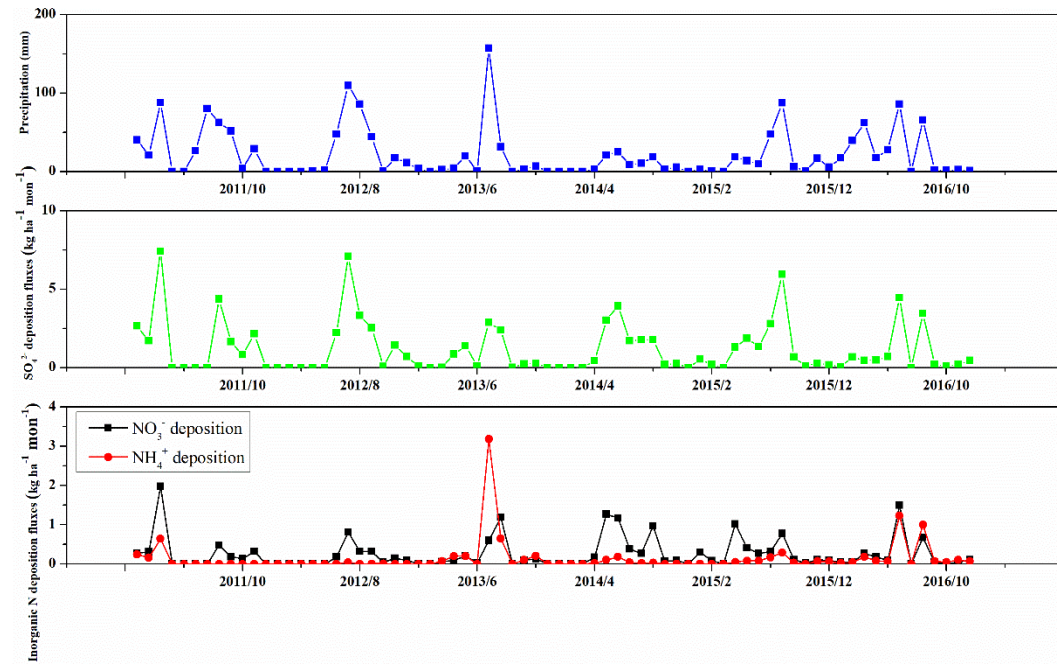


**Fig. S13** The precipitation and wet deposition fluxes of secondary ions in Benxi

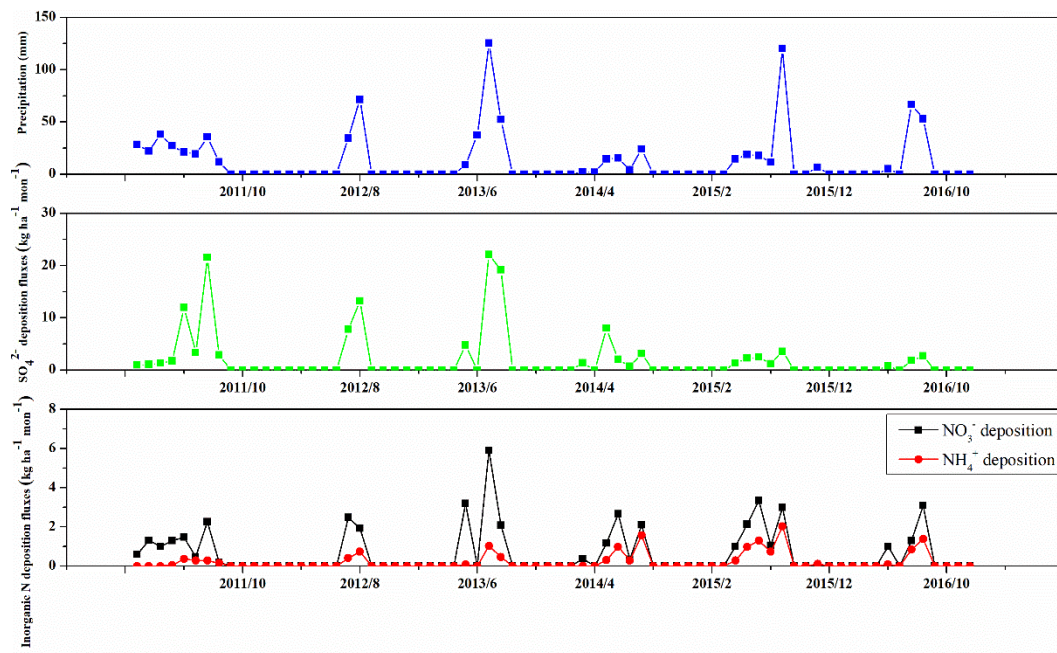




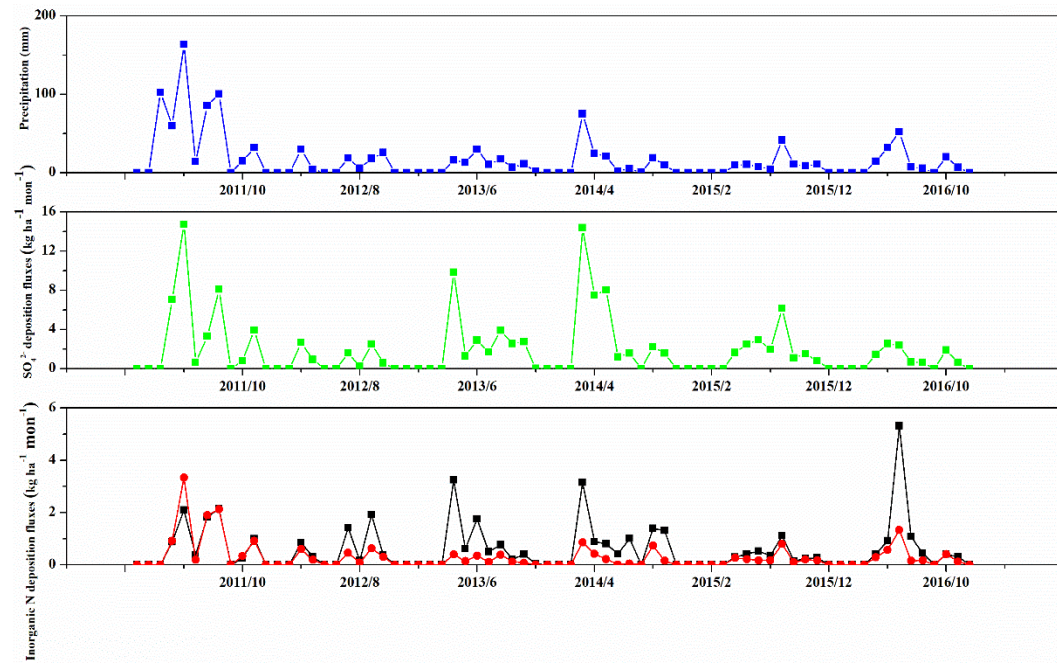
**Fig. S14** The precipitation and wet deposition fluxes of secondary ions in Binzhou



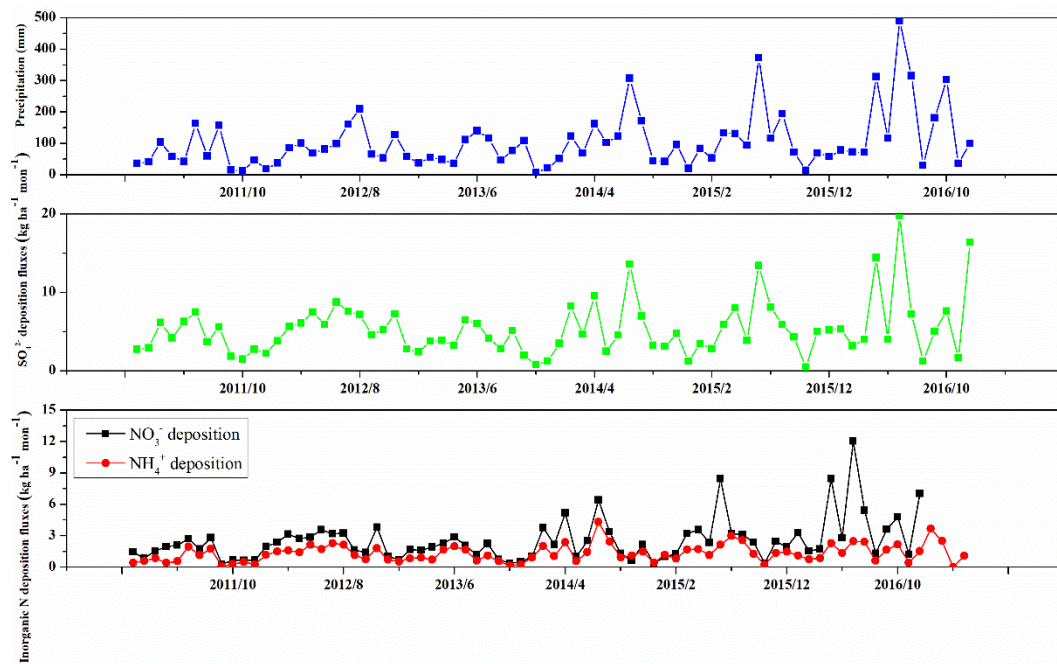
**Fig. S15** The precipitation and wet deposition fluxes of secondary ions in Cangzhou



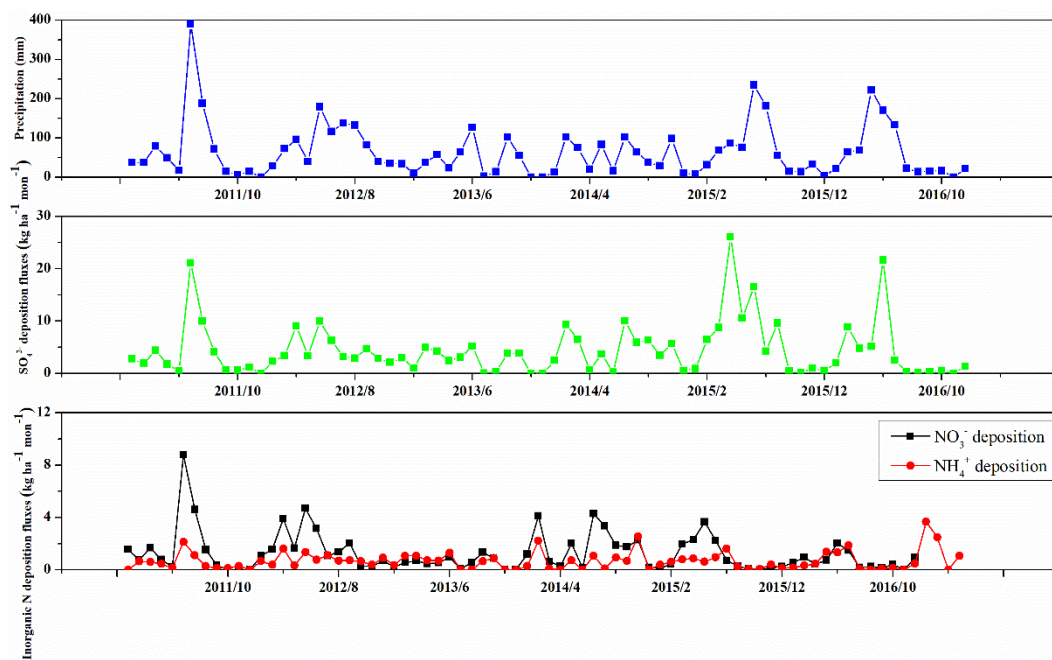
**Fig. S16** The precipitation and wet deposition fluxes of secondary ions in Changji



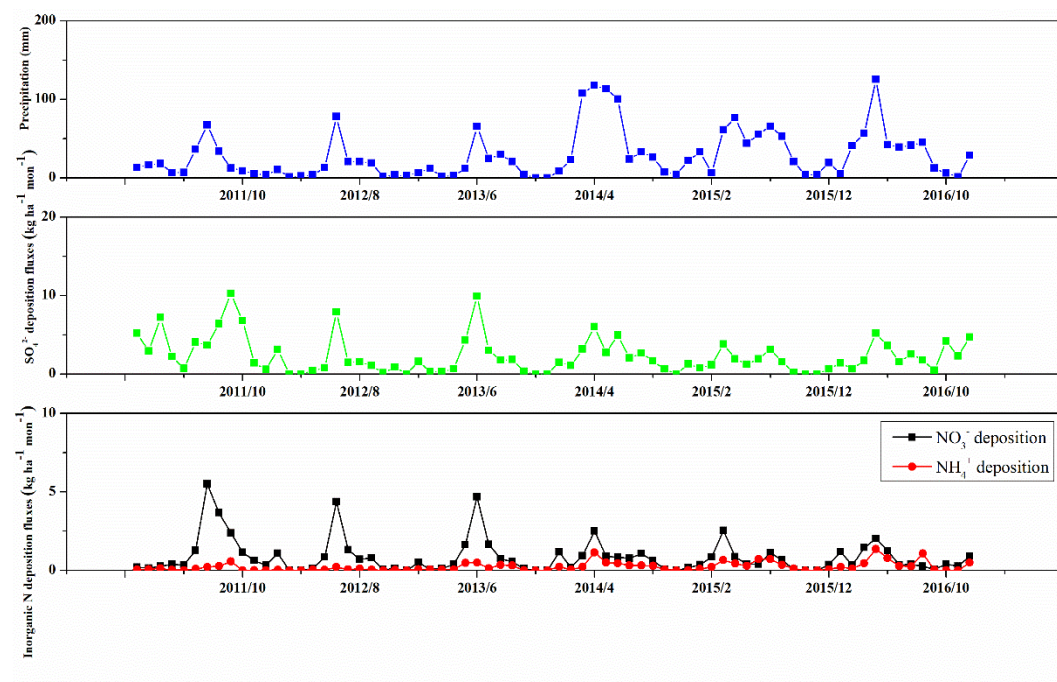
**Fig. S17** The precipitation and wet deposition fluxes of secondary ions in Changzhou



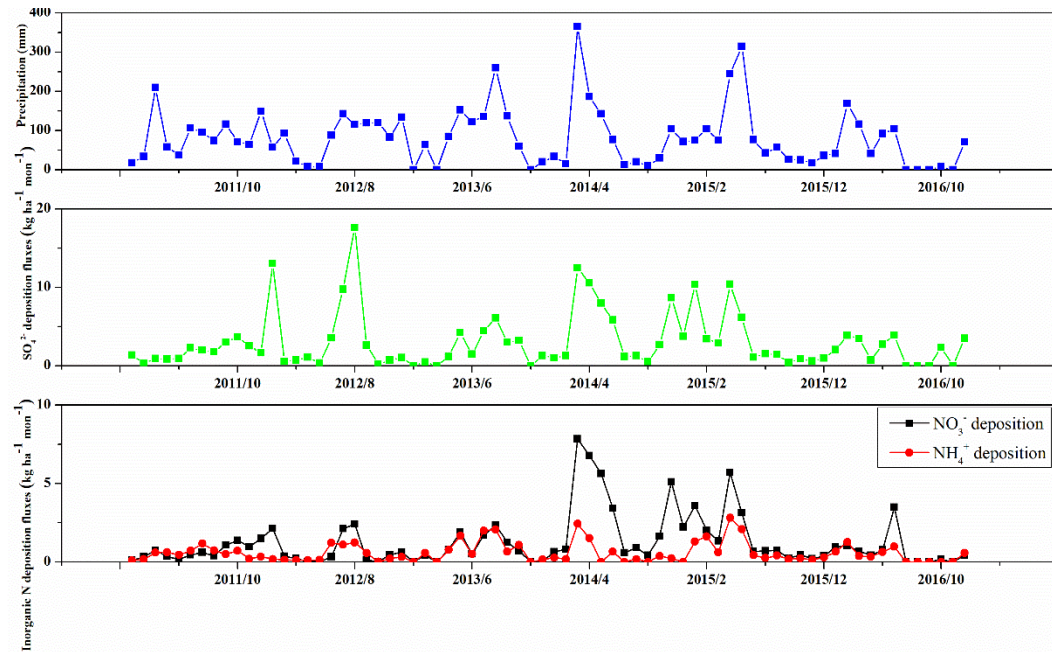
**Fig. S18** The precipitation and wet deposition fluxes of secondary ions in Chizhou



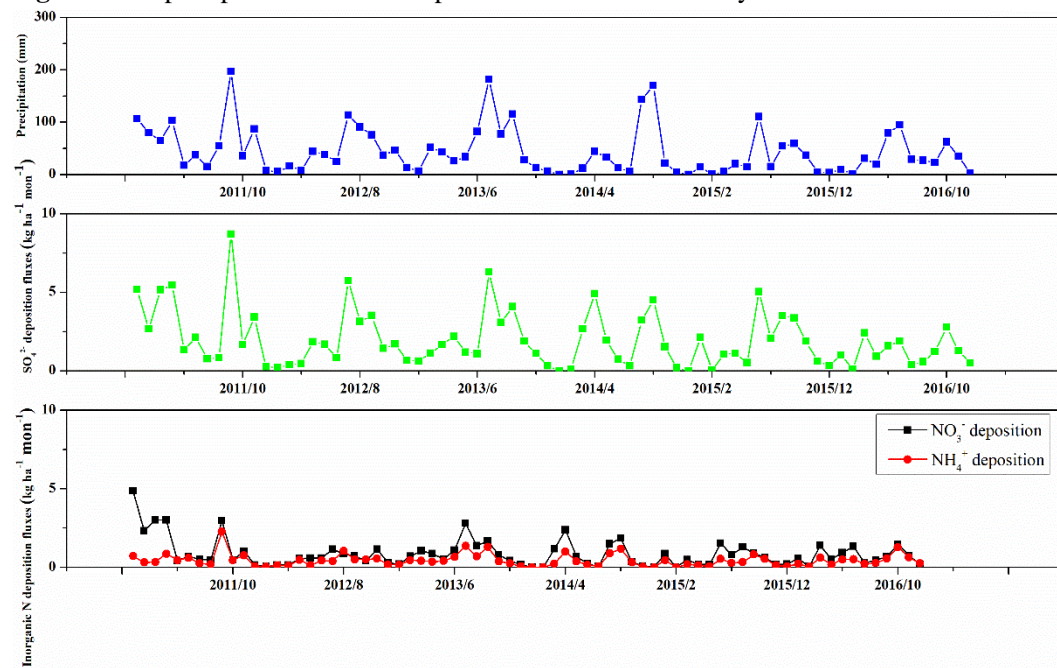
**Fig. S19** The precipitation and wet deposition fluxes of secondary ions in Chifeng



**Fig. S20** The precipitation and wet deposition fluxes of secondary ions in Chuxiong

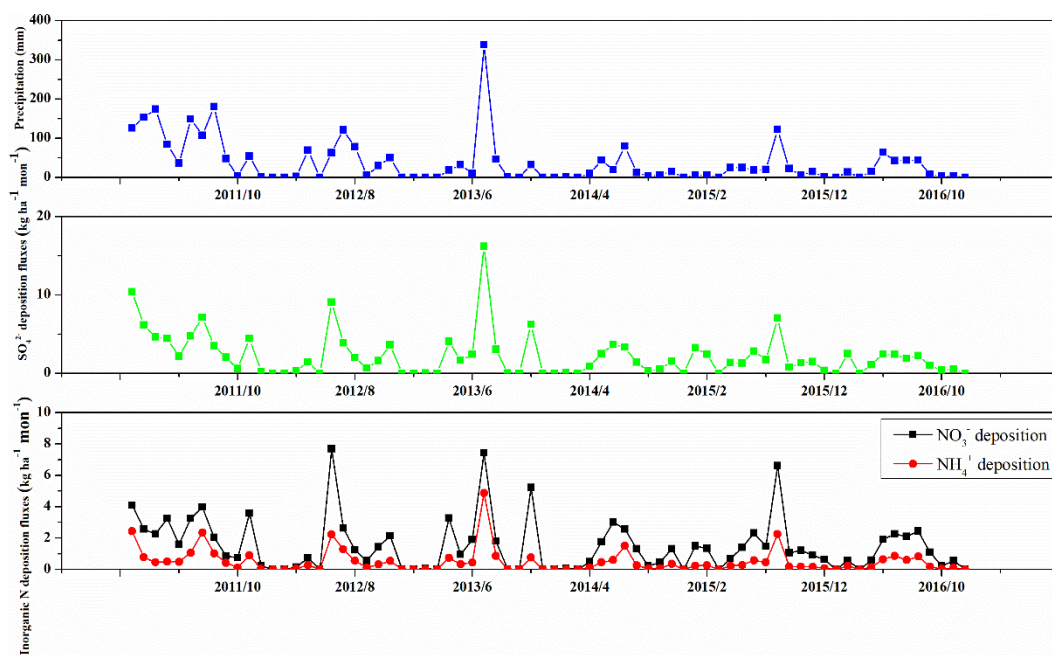


**Fig. S21** The precipitation and wet deposition fluxes of secondary ions in Dazhou

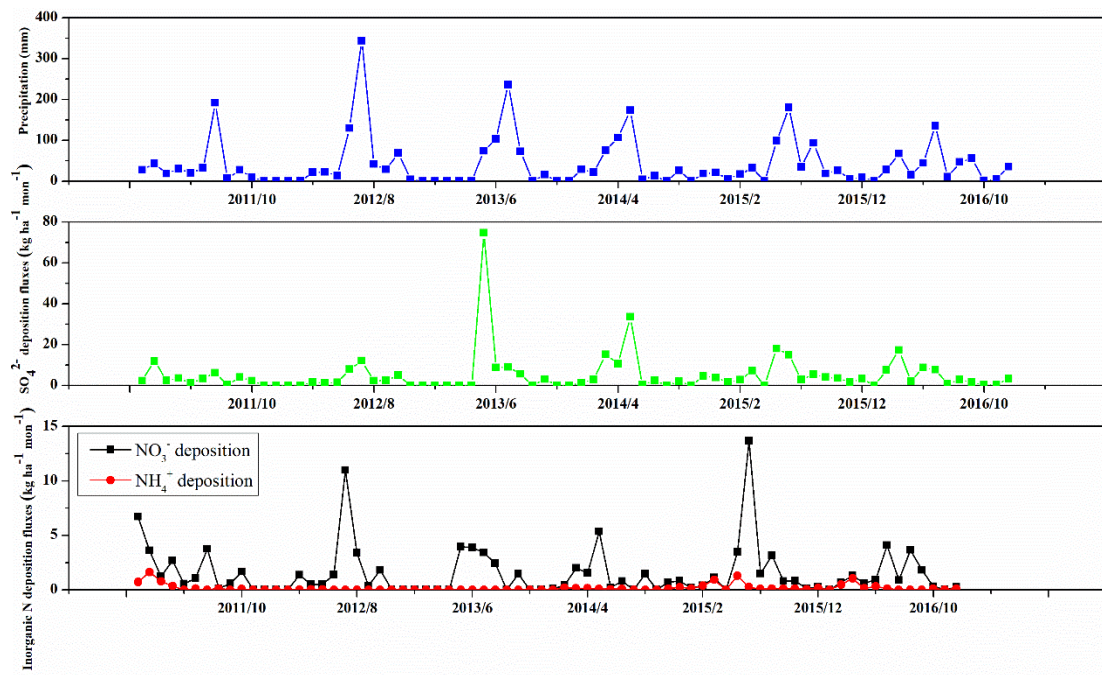




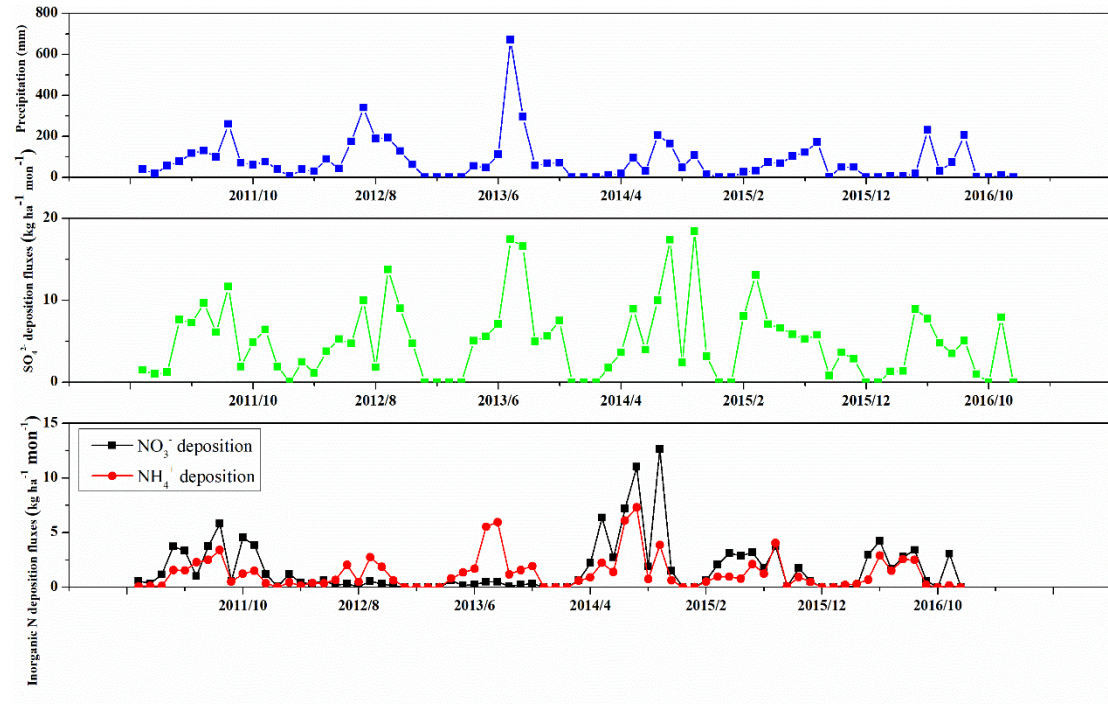
**Fig. S22** The precipitation and wet deposition fluxes of secondary ions in Dalian



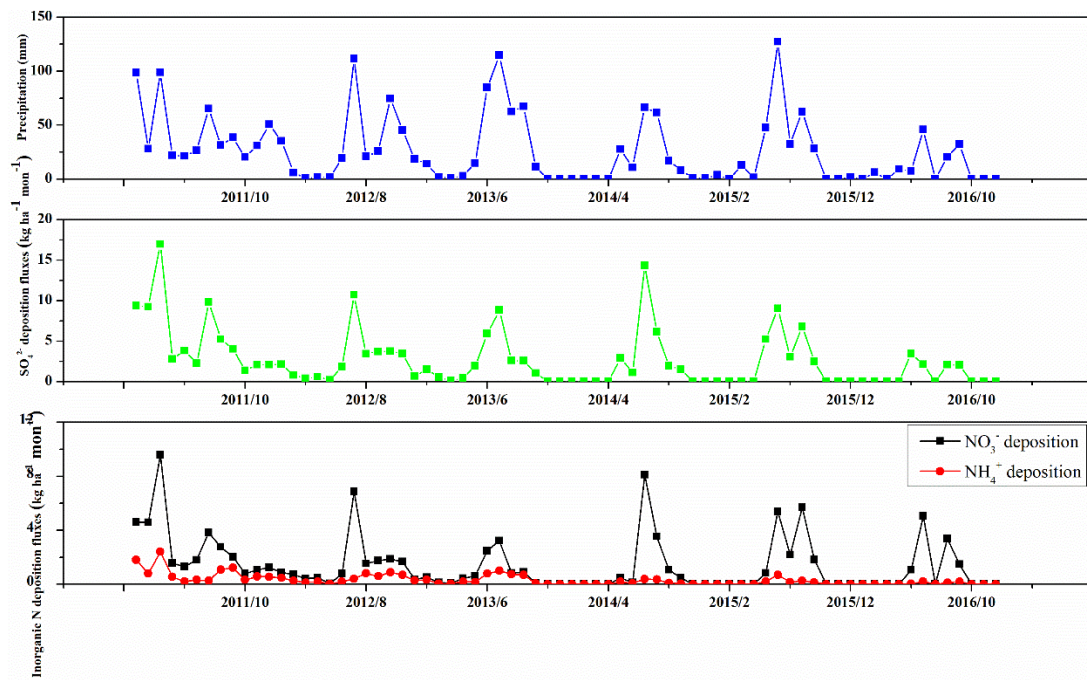
**Fig. S23** The precipitation and wet deposition fluxes of secondary ions in Daqing



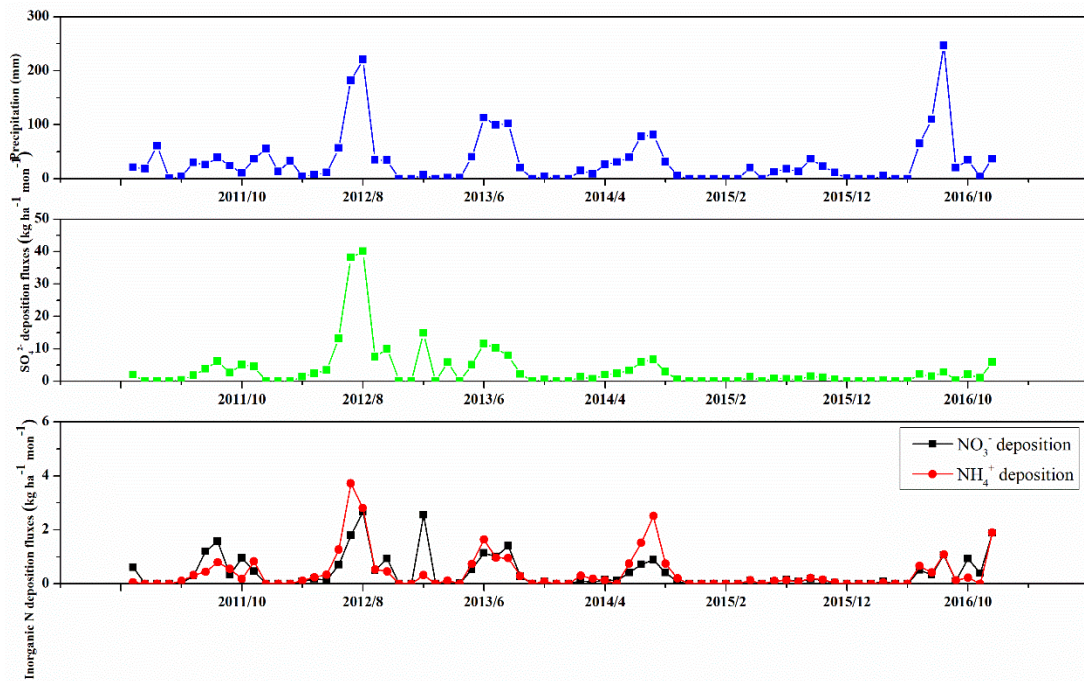
**Fig. S24** The precipitation and wet deposition fluxes of secondary ions in Dandong.



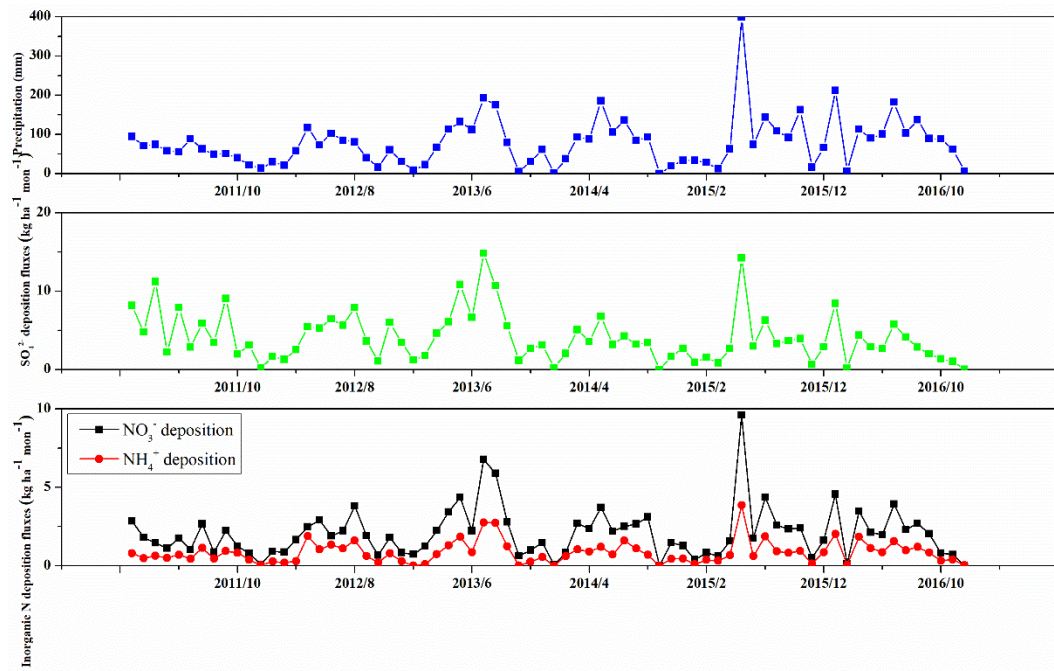
**Fig. S25** The precipitation and wet deposition fluxes of secondary ions in Dehong



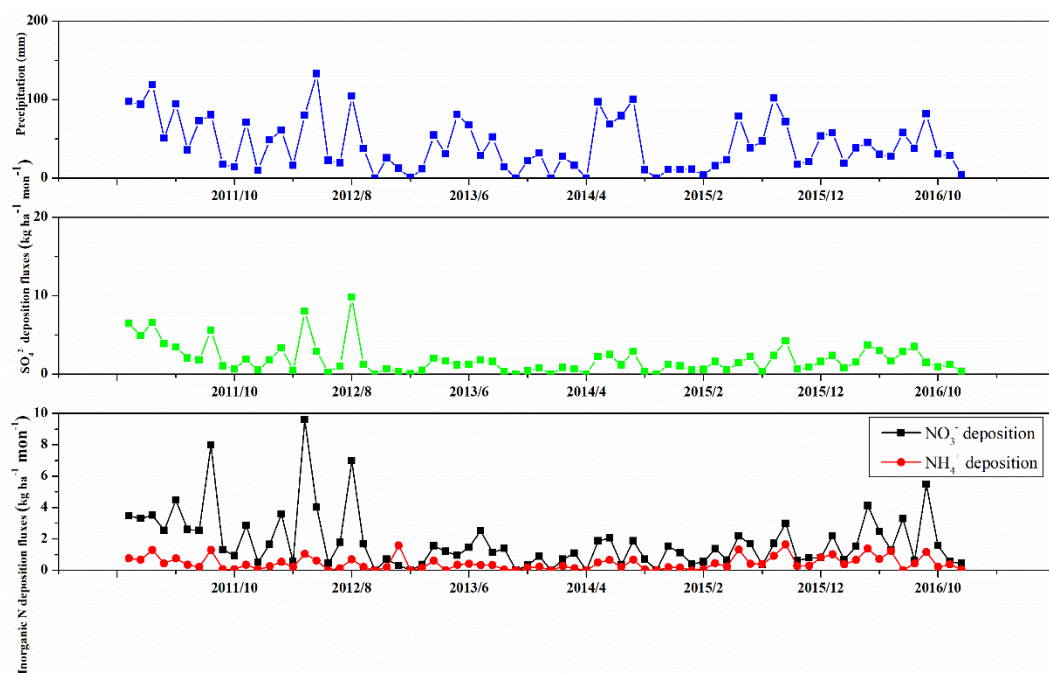
**Fig. S26** The precipitation and wet deposition fluxes of secondary ions in Erdos



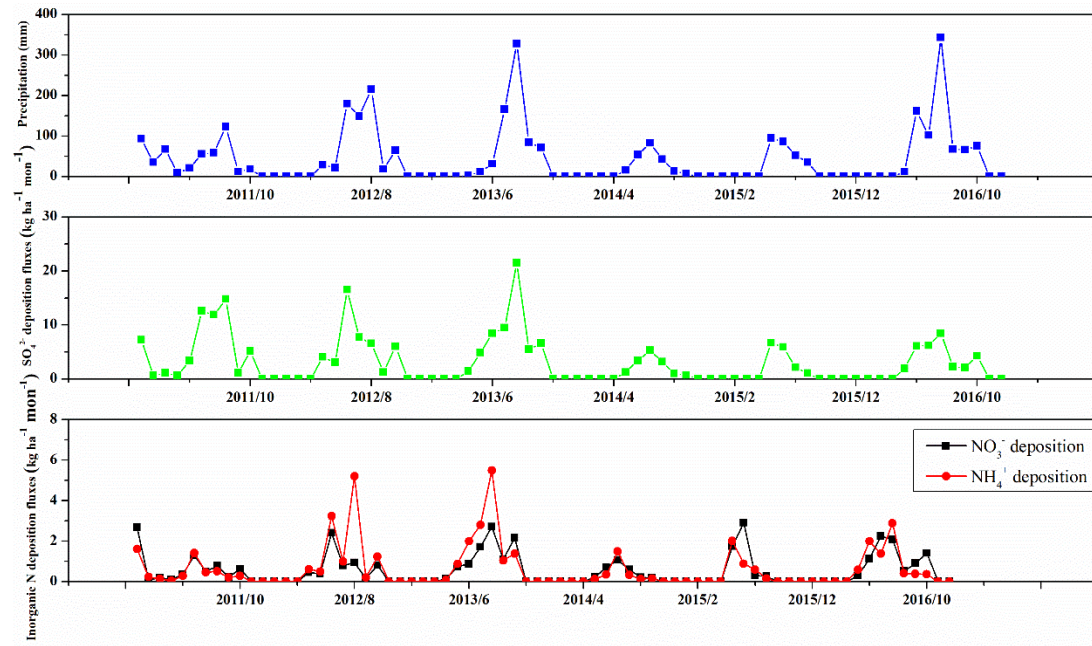
**Fig. S27** The precipitation and wet deposition fluxes of secondary ions in Foshan



**Fig. S28** The precipitation and wet deposition fluxes of secondary ions in Fuzhou

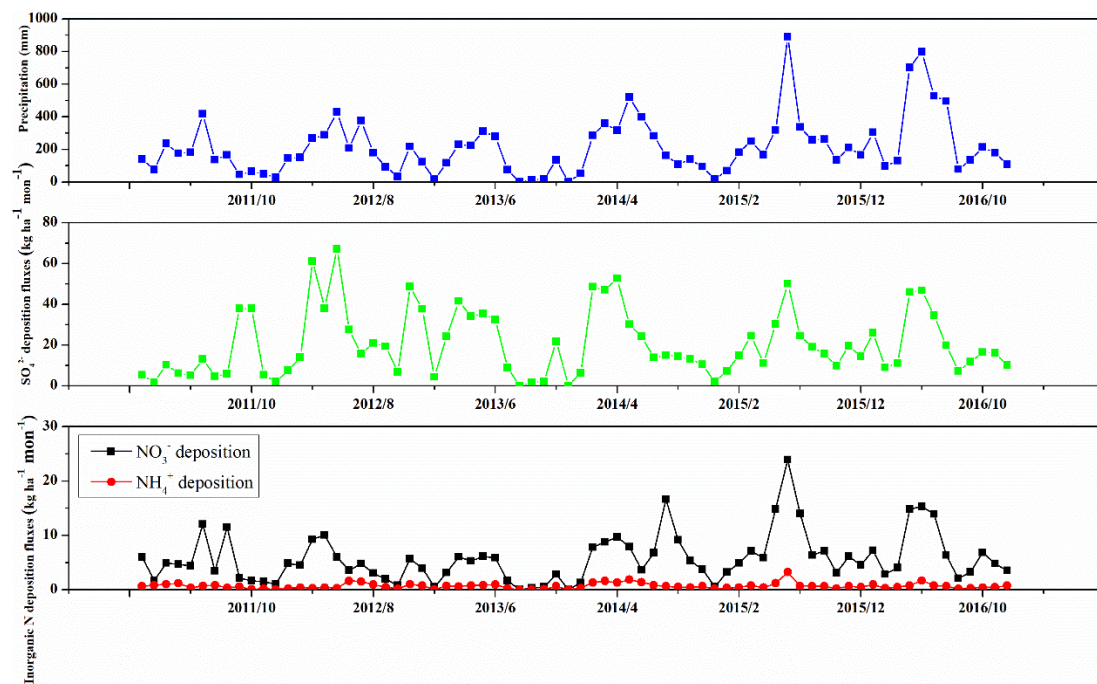


**Fig. S29** The precipitation and wet deposition fluxes of secondary ions in Fushun

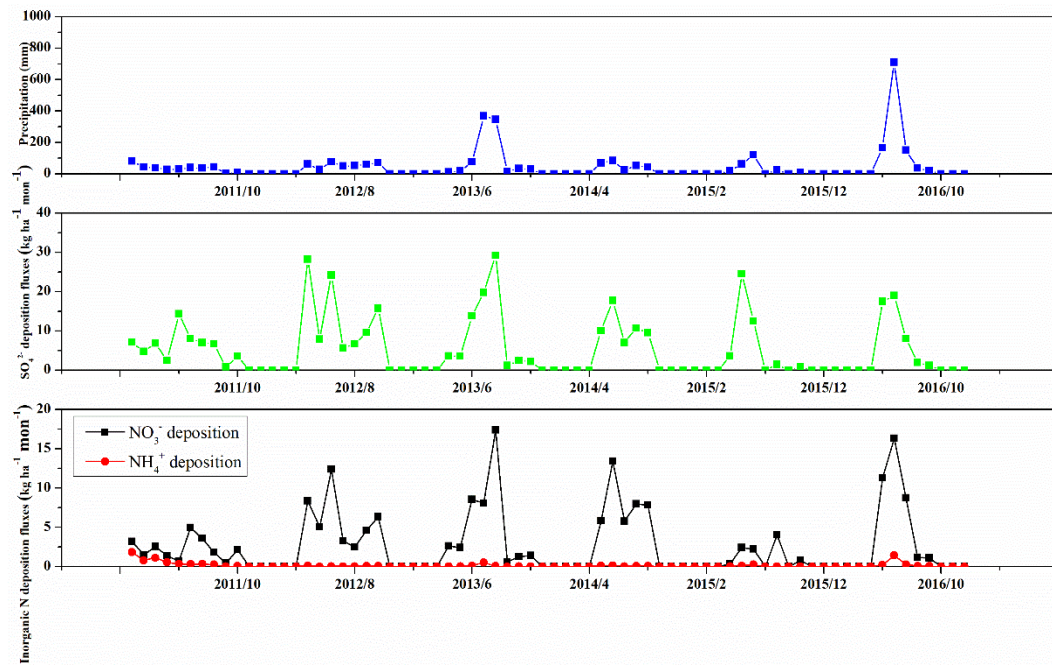




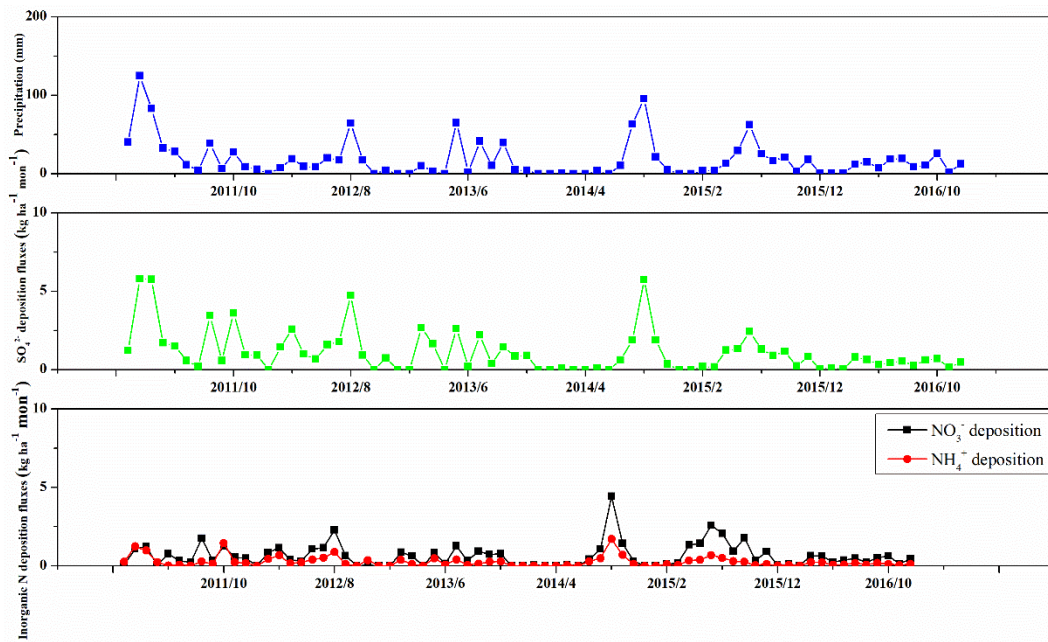
**Fig. S30** The precipitation and wet deposition fluxes of secondary ions in Fuzhou



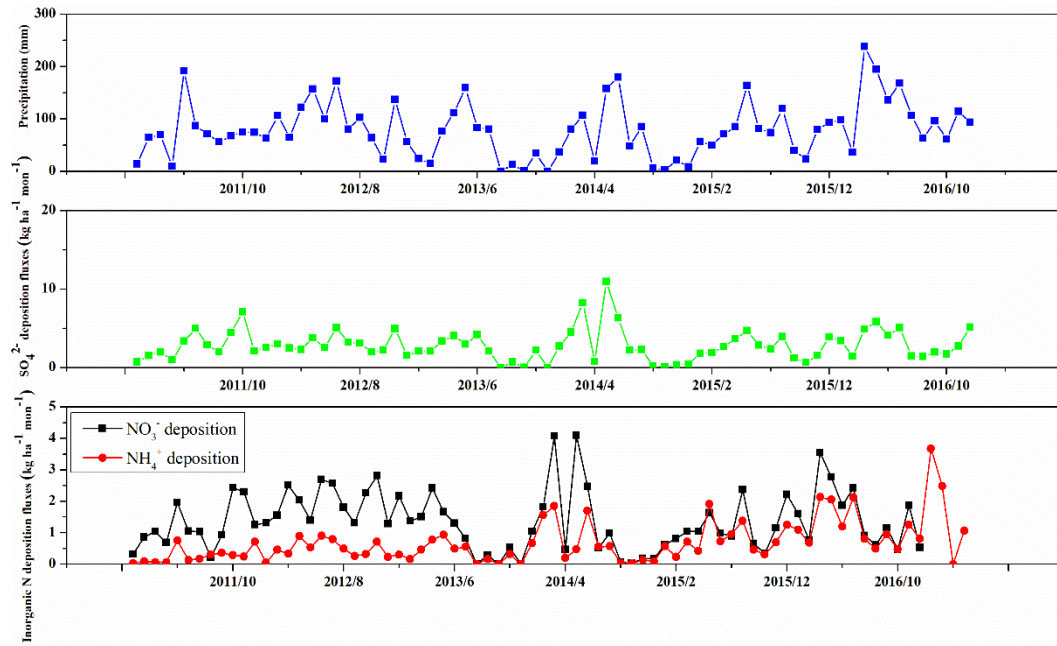
**Fig. S31** The precipitation and wet deposition fluxes of secondary ions in Fuxin



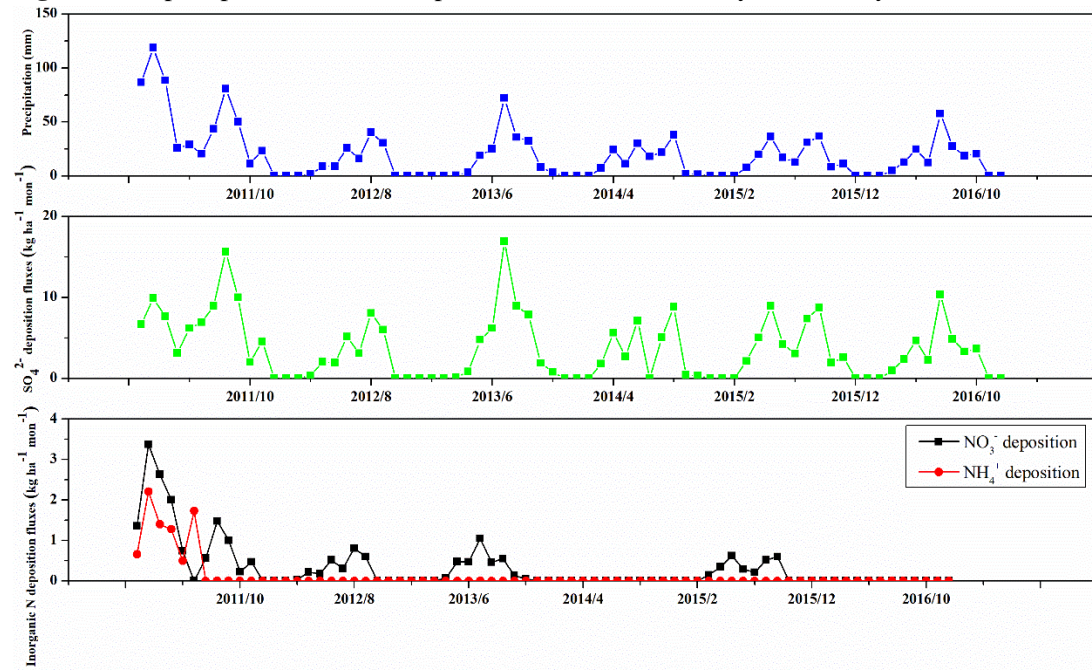
**Fig. S32** The precipitation and wet deposition fluxes of secondary ions in Fuyang



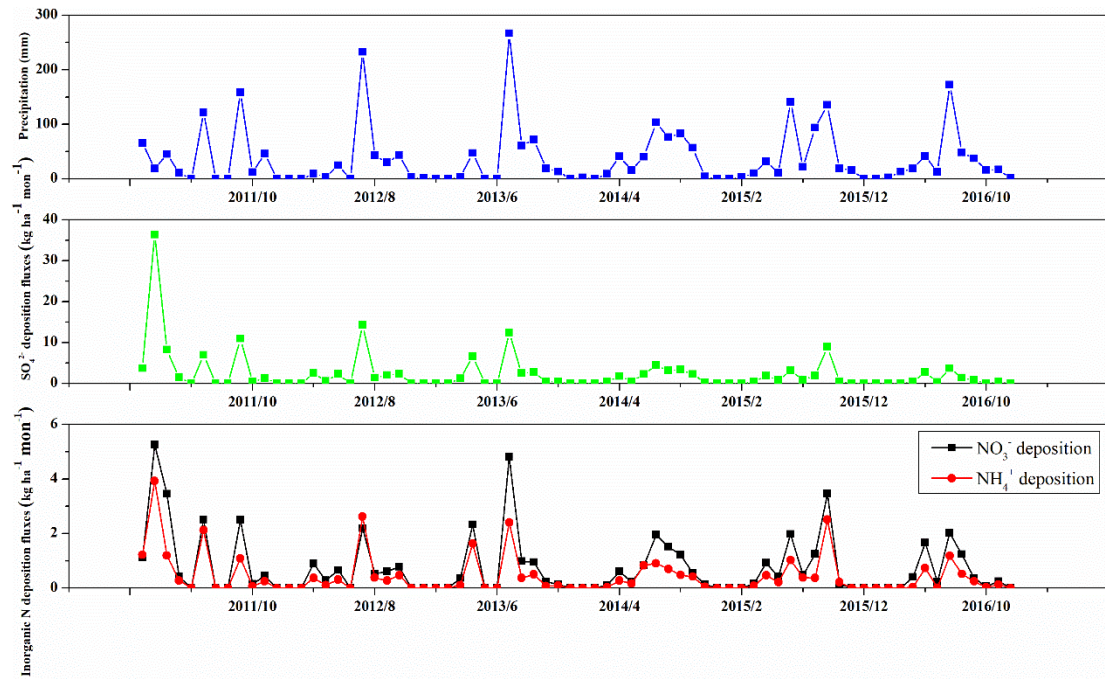
**Fig. S33** The precipitation and wet deposition fluxes of secondary ions in Ganzhou



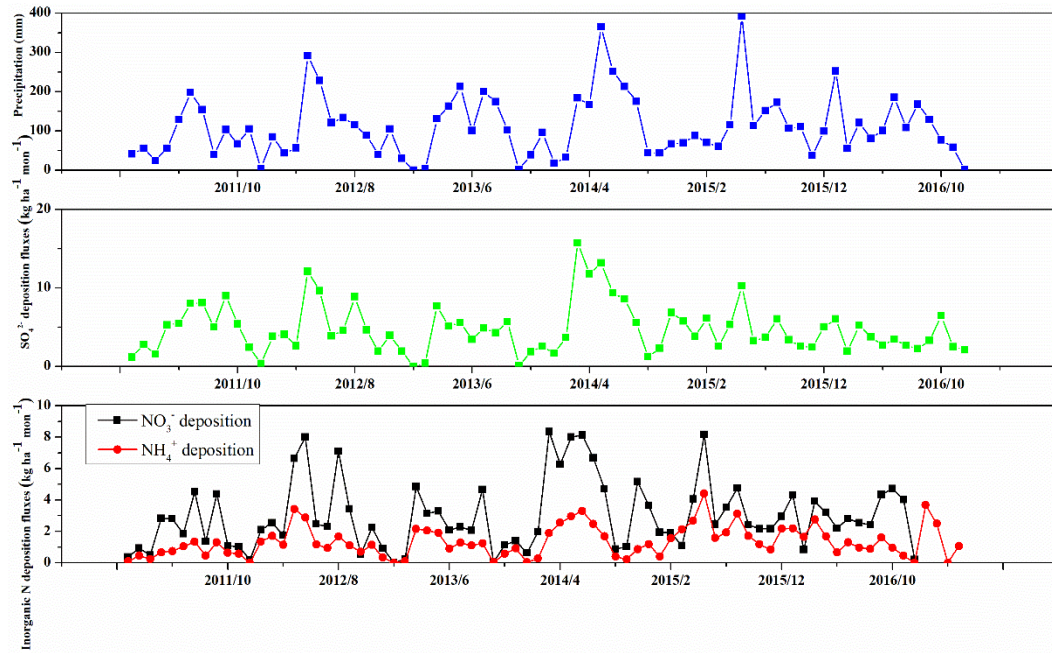
**Fig. S34** The precipitation and wet deposition fluxes of secondary ions in Guyuan



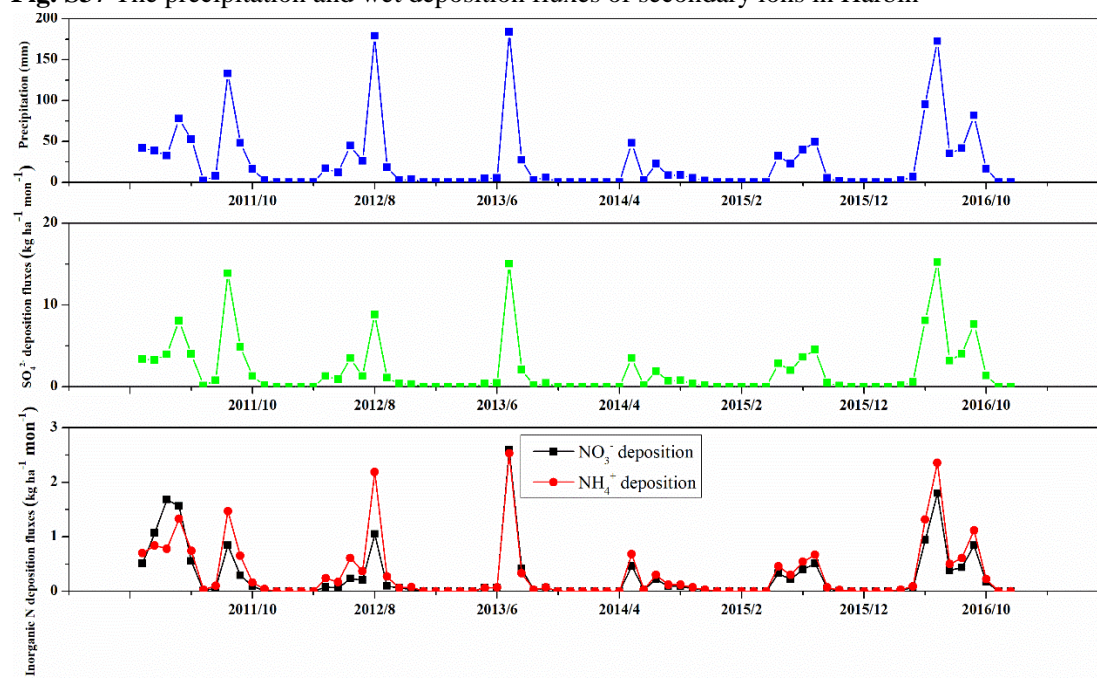
**Fig. S35** The precipitation and wet deposition fluxes of secondary ions in Guangyuan



**Fig. S36** The precipitation and wet deposition fluxes of secondary ions in Guangzhou

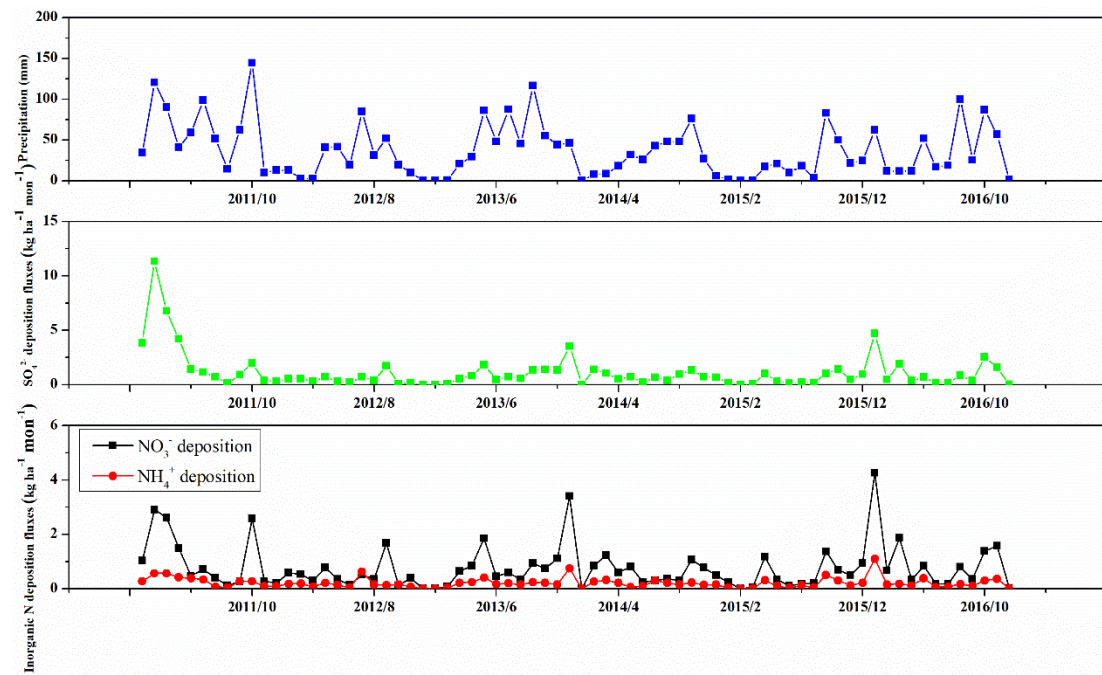


**Fig. S37** The precipitation and wet deposition fluxes of secondary ions in Harbin

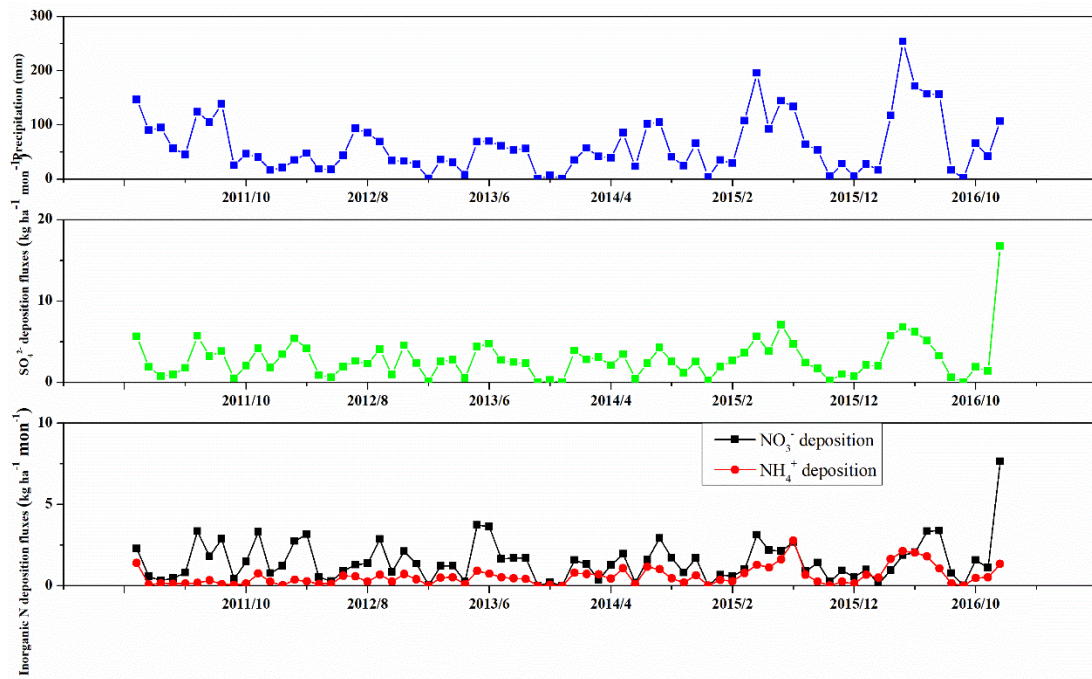




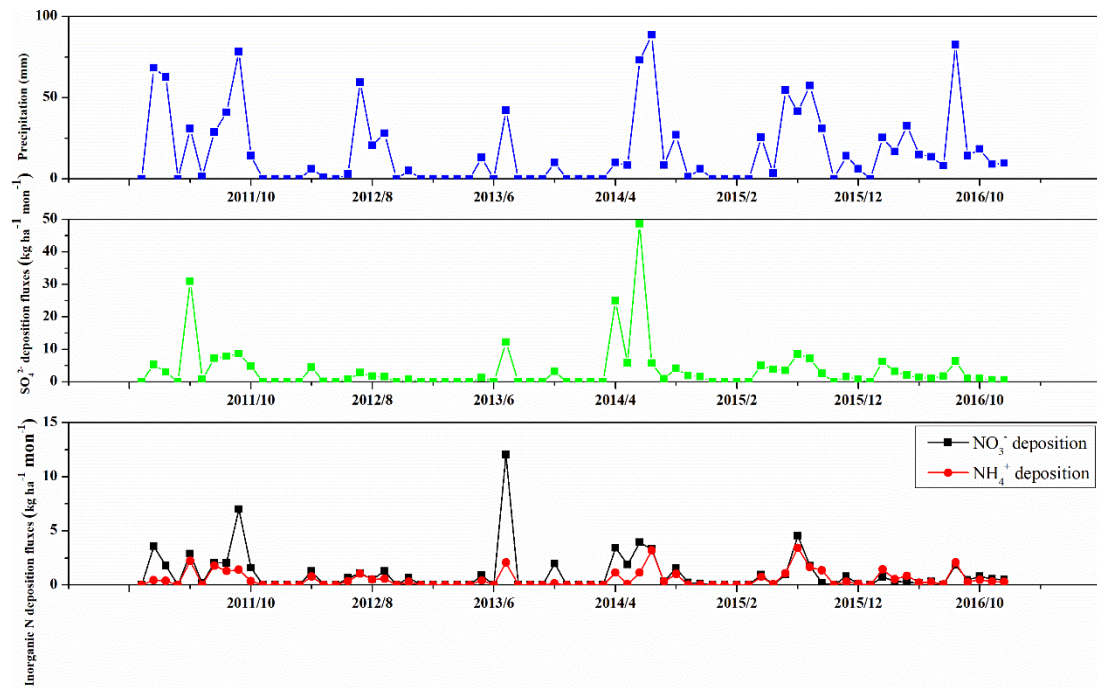
**Fig. S38** The precipitation and wet deposition fluxes of secondary ions in Haikou



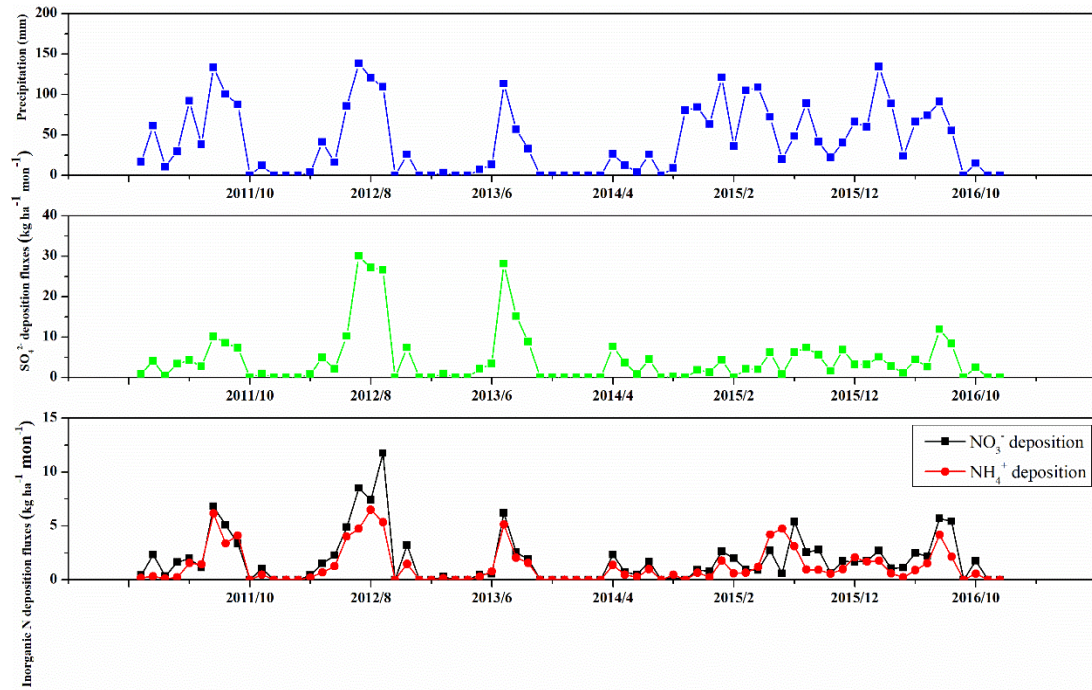
**Fig. S39** The precipitation and wet deposition fluxes of secondary ions in Hefei



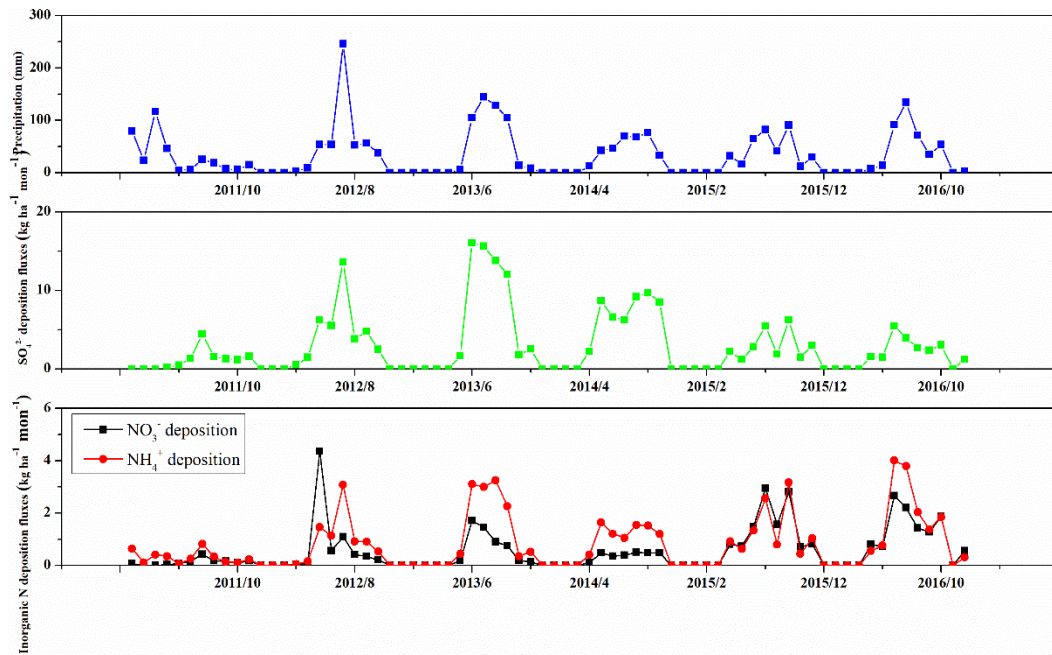
**Fig. S40** The precipitation and wet deposition fluxes of secondary ions in Heze



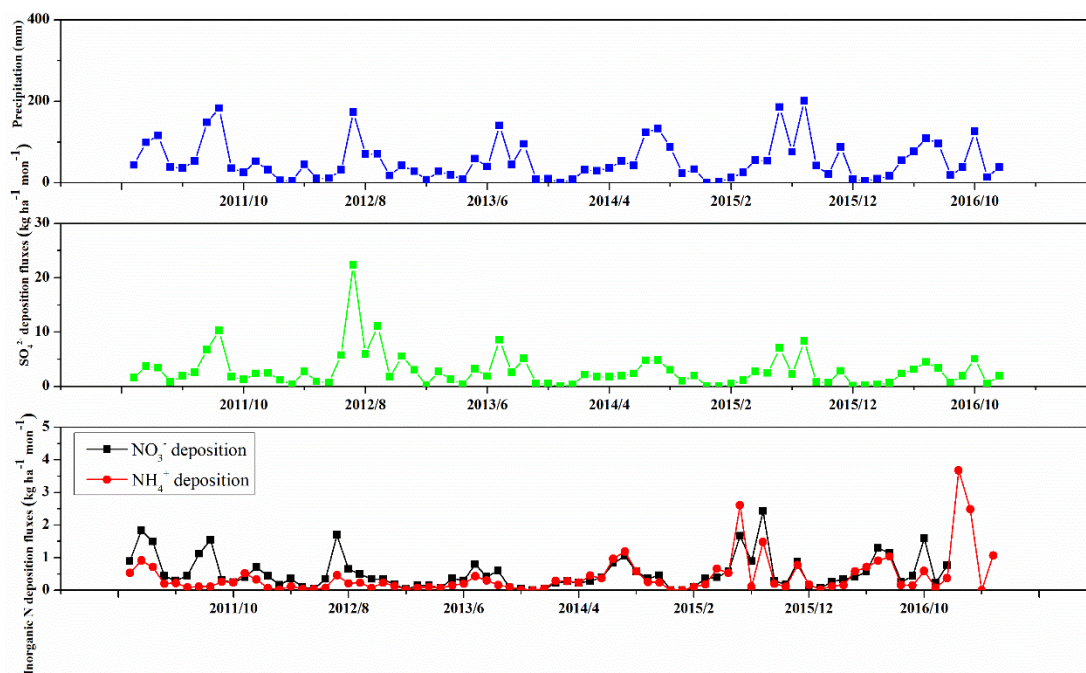
**Fig. S41** The precipitation and wet deposition fluxes of secondary ions in Hengshui



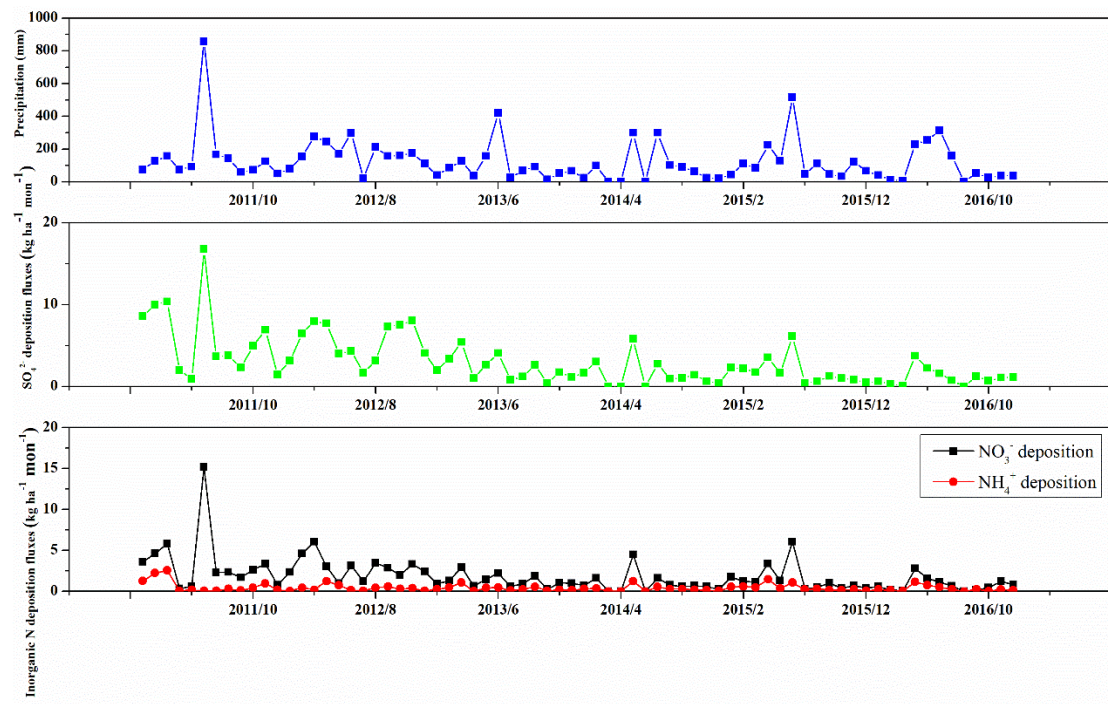
**Fig. S42** The precipitation and wet deposition fluxes of secondary ions in Hohehot



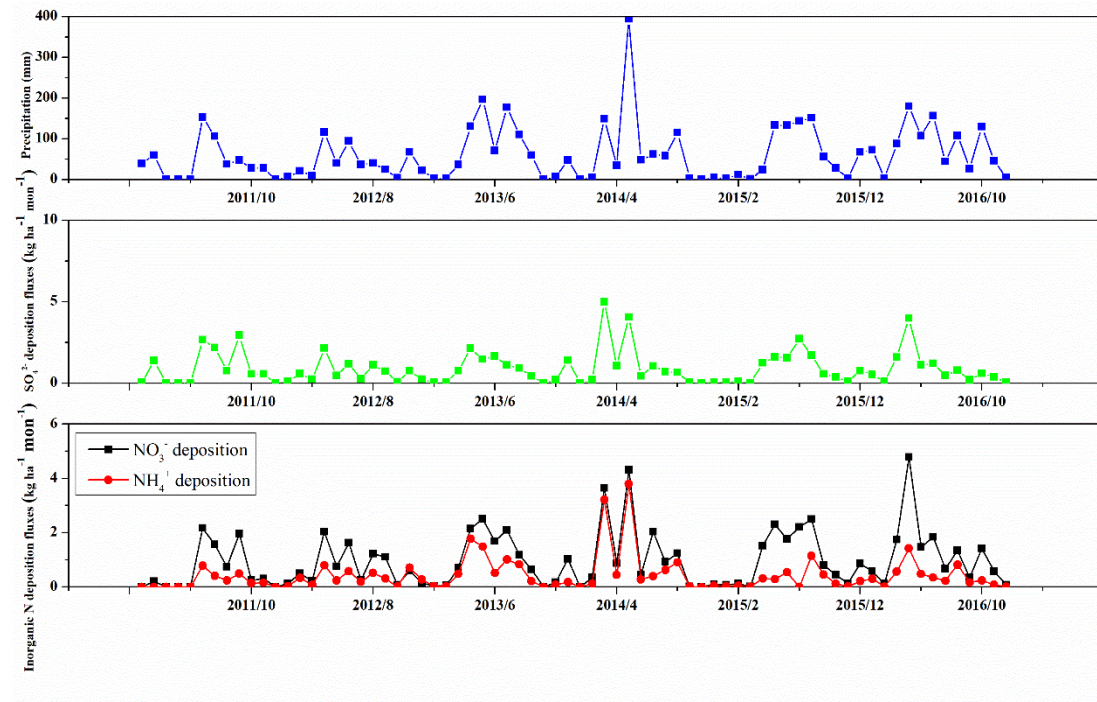
**Fig. S43** The precipitation and wet deposition fluxes of secondary ions in Huaian



**Fig. S44** The precipitation and wet deposition fluxes of secondary ions in Huangshan

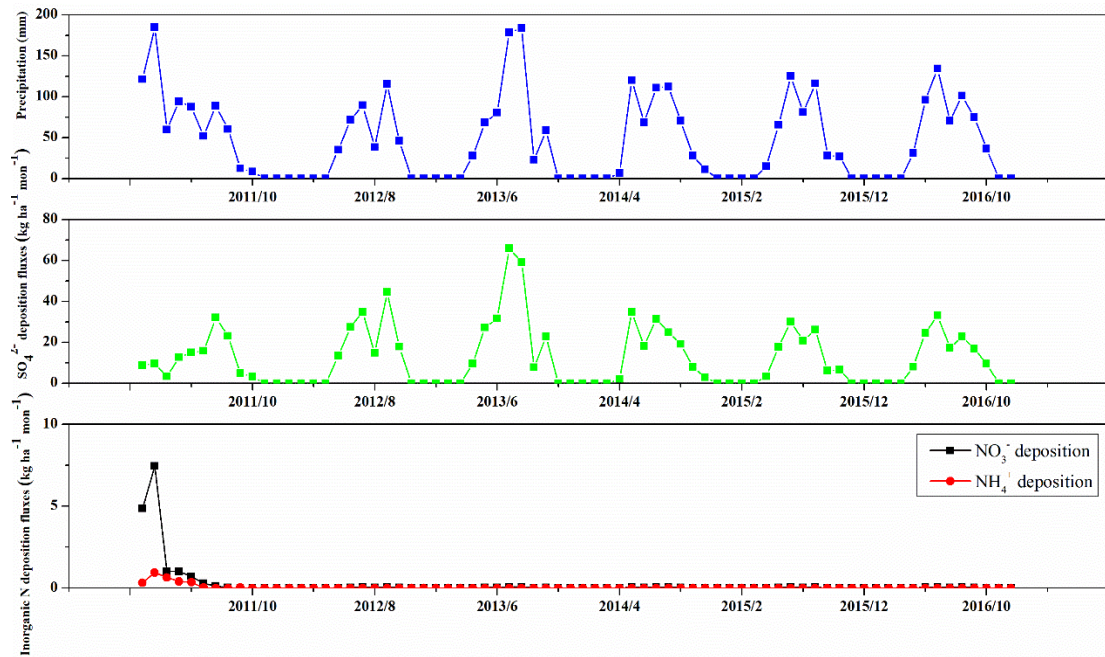


**Fig. S45** The precipitation and wet deposition fluxes of secondary ions in Huizhou

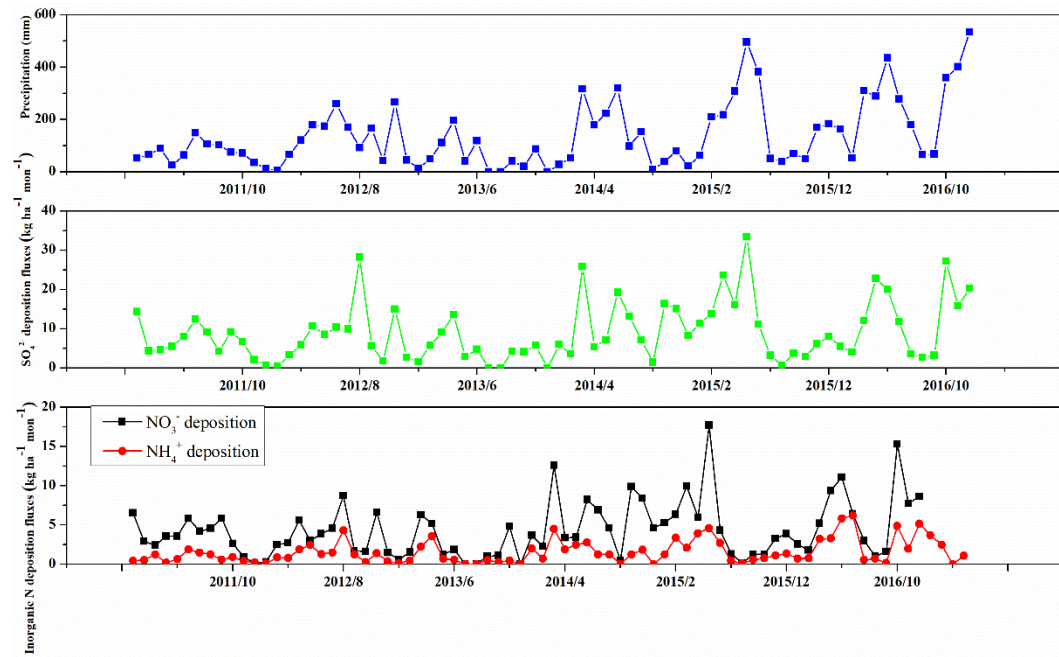




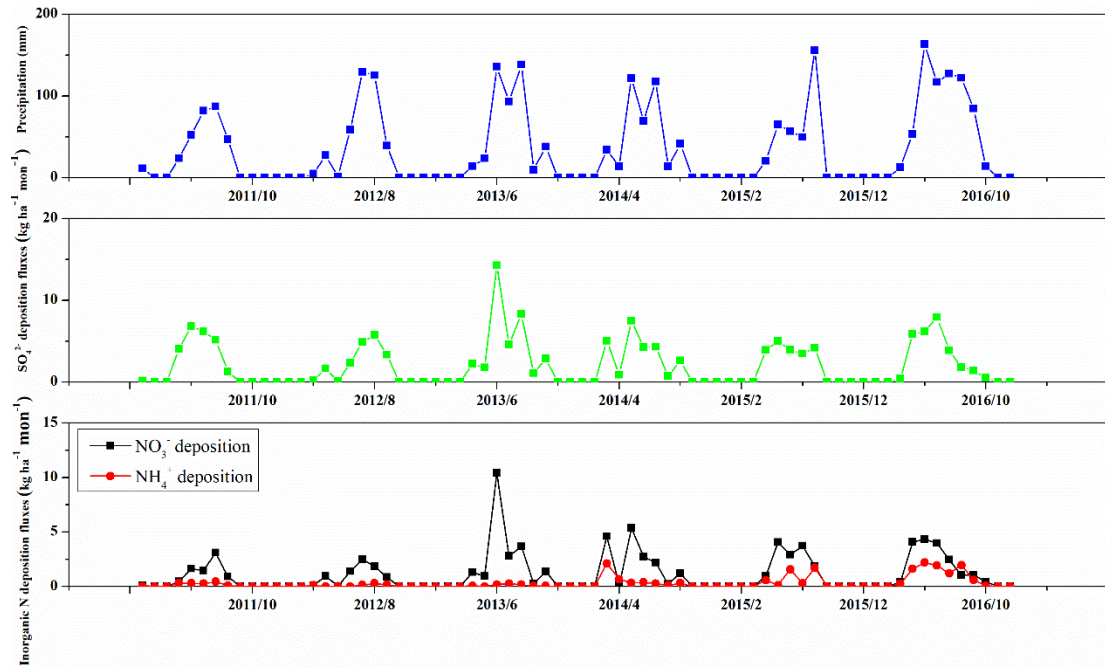
**Fig. S46** The precipitation and wet deposition fluxes of secondary ions in Jixi



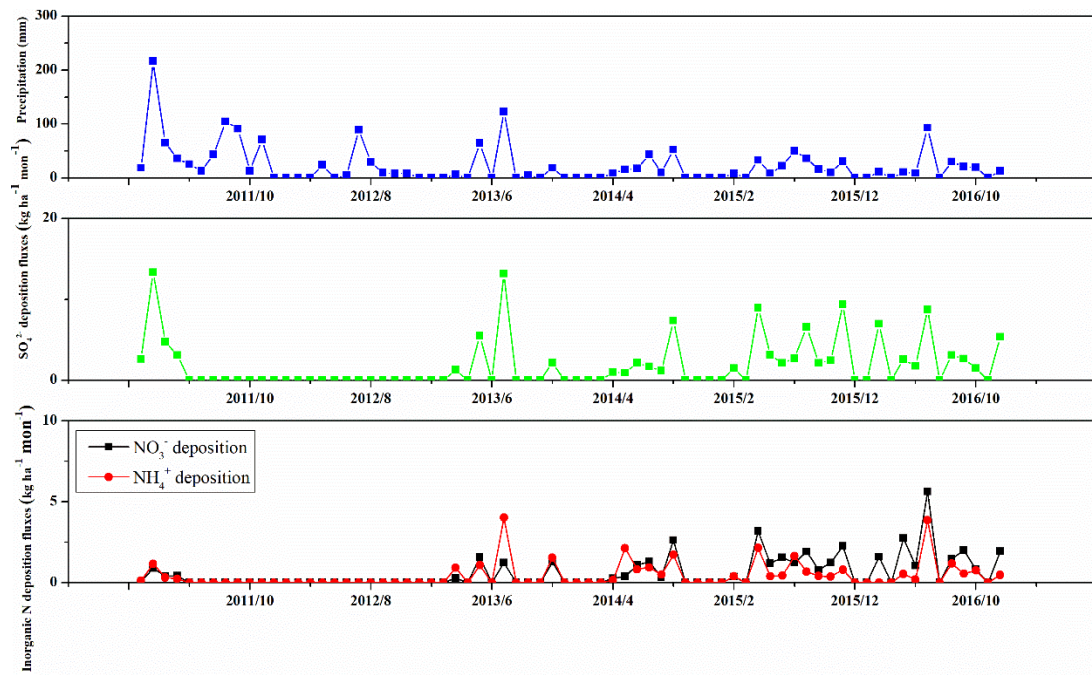
**Fig. S47** The precipitation and wet deposition fluxes of secondary ions in Ji'an



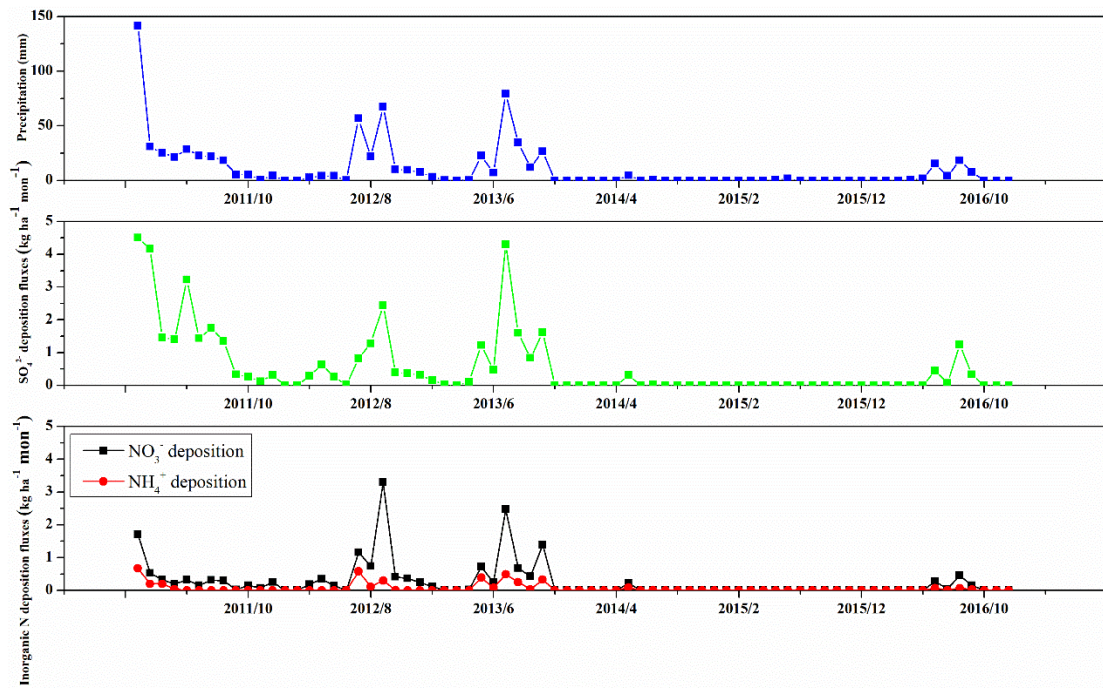
**Fig. S48** The precipitation and wet deposition fluxes of secondary ions in Jilin



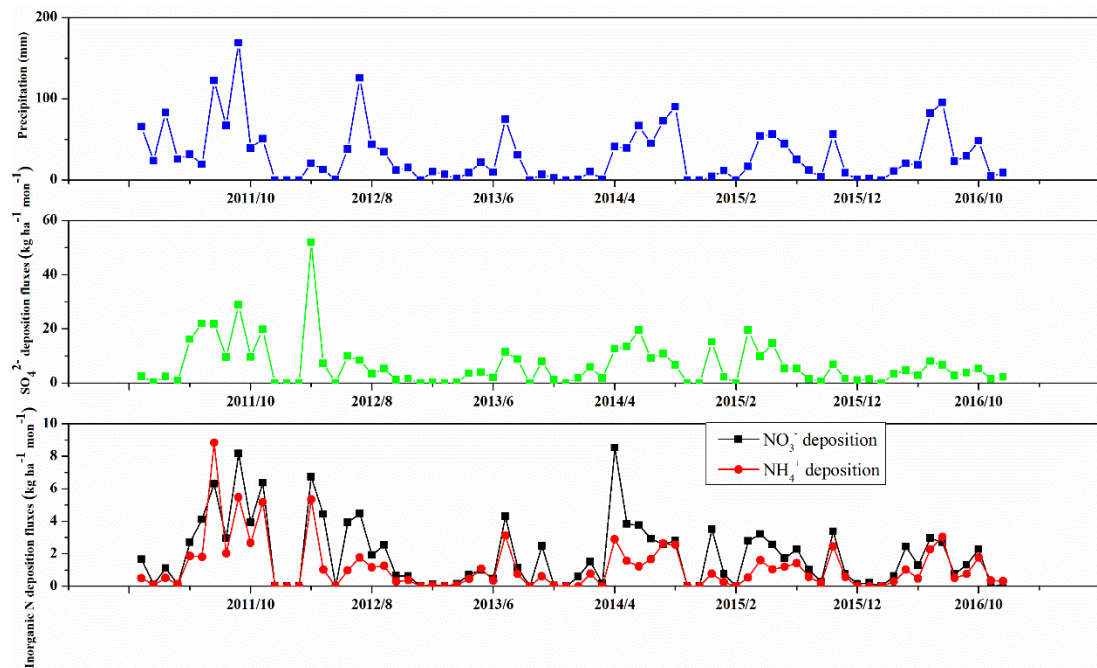
**Fig. S49** The precipitation and wet deposition fluxes of secondary ions in Jining



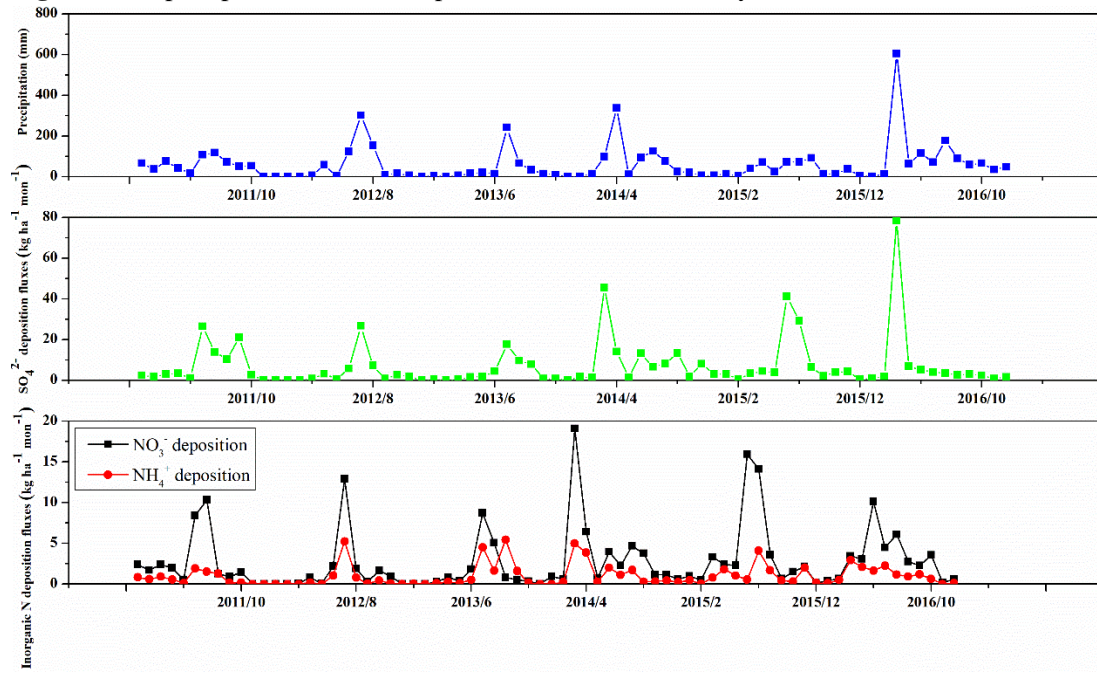
**Fig. S50** The precipitation and wet deposition fluxes of secondary ions in Jiamusi



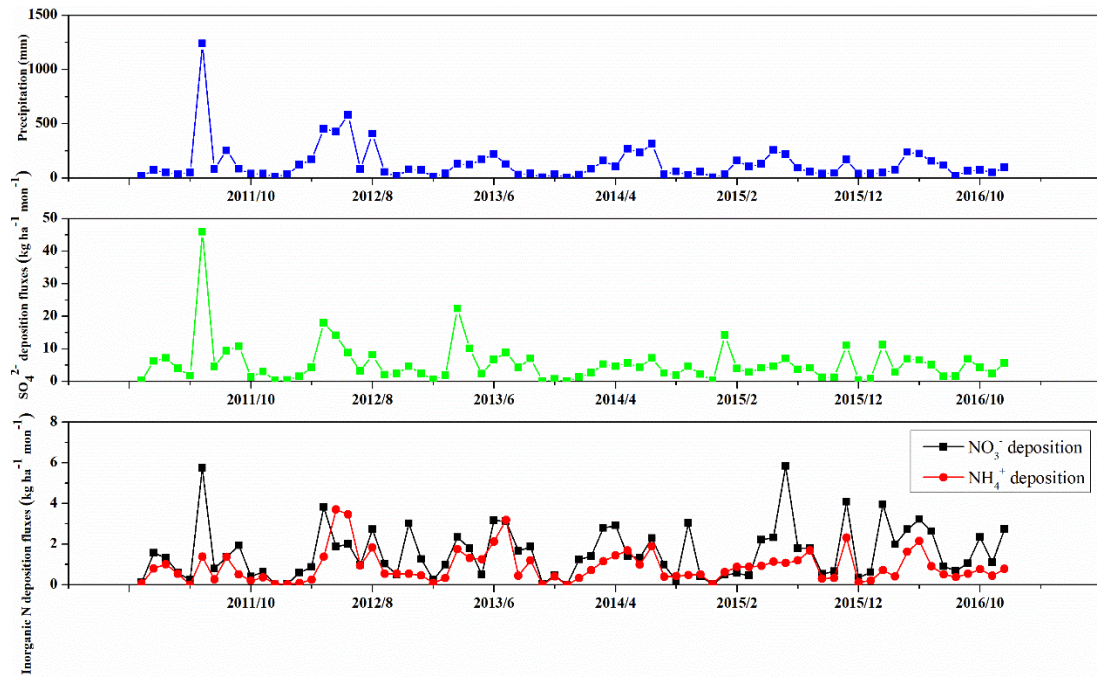
**Fig. S51** The precipitation and wet deposition fluxes of secondary ions in Jiaozuo



**Fig. S52** The precipitation and wet deposition fluxes of secondary ions in Jinzhou

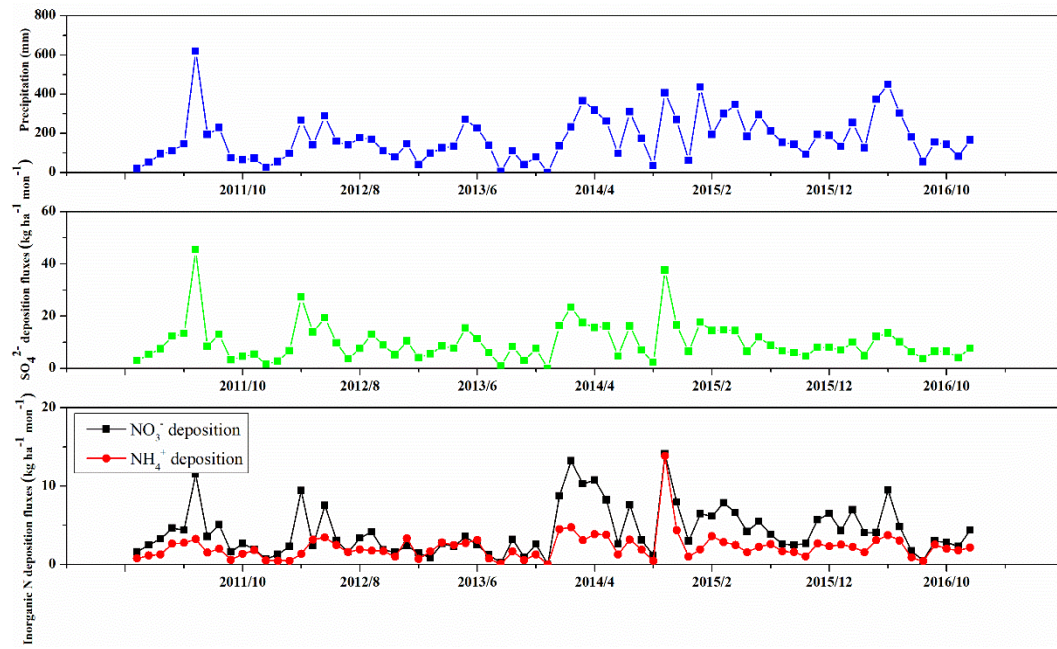


**Fig. S53** The precipitation and wet deposition fluxes of secondary ions in Jingdezhen

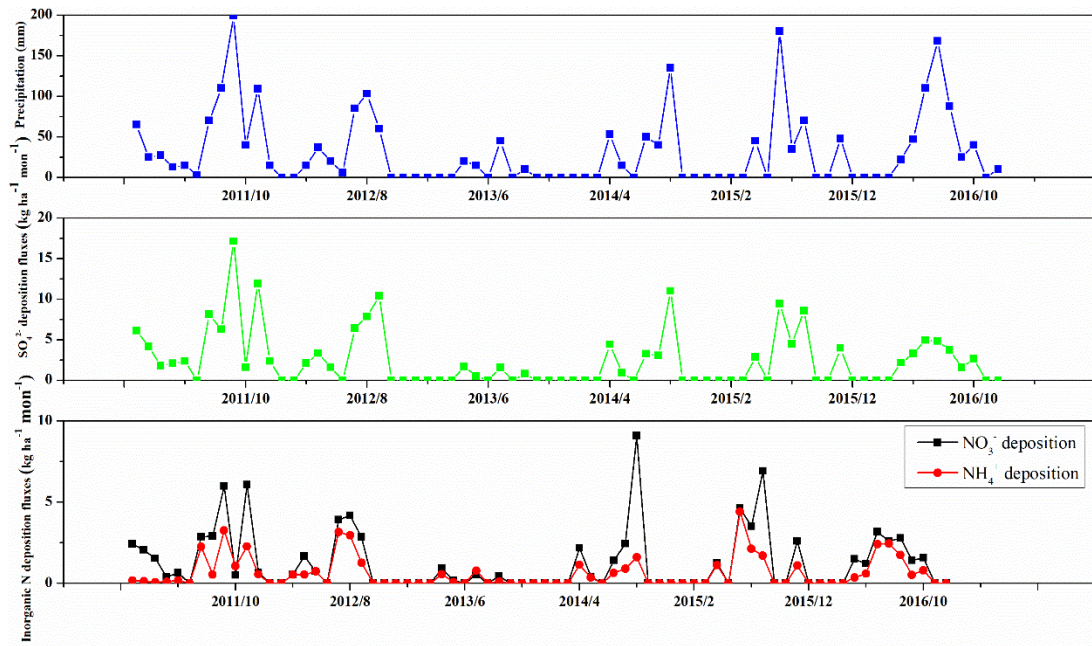




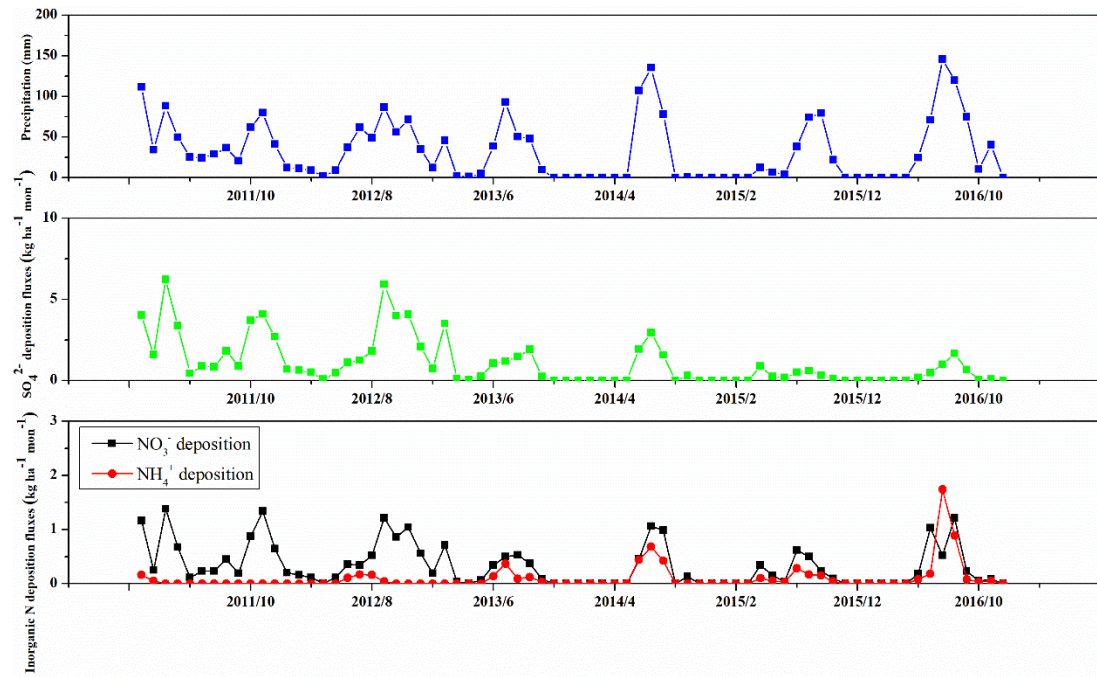
**Fig. S54** The precipitation and wet deposition fluxes of secondary ions in Jiujiang



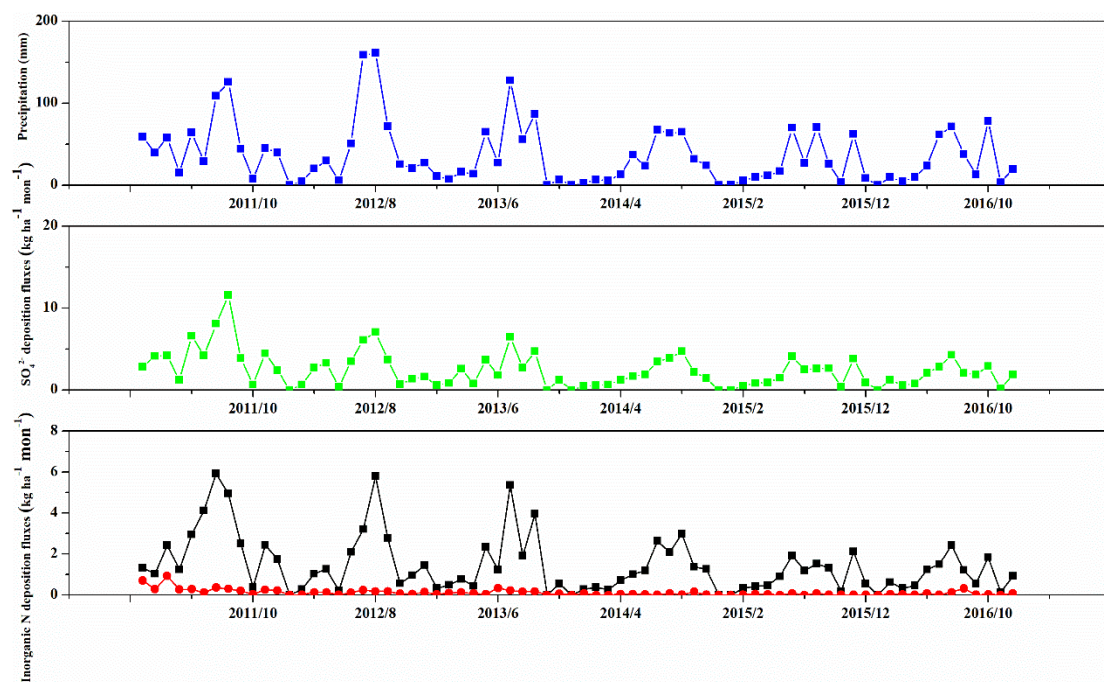
**Fig. S55** The precipitation and wet deposition fluxes of secondary ions in Kaifeng



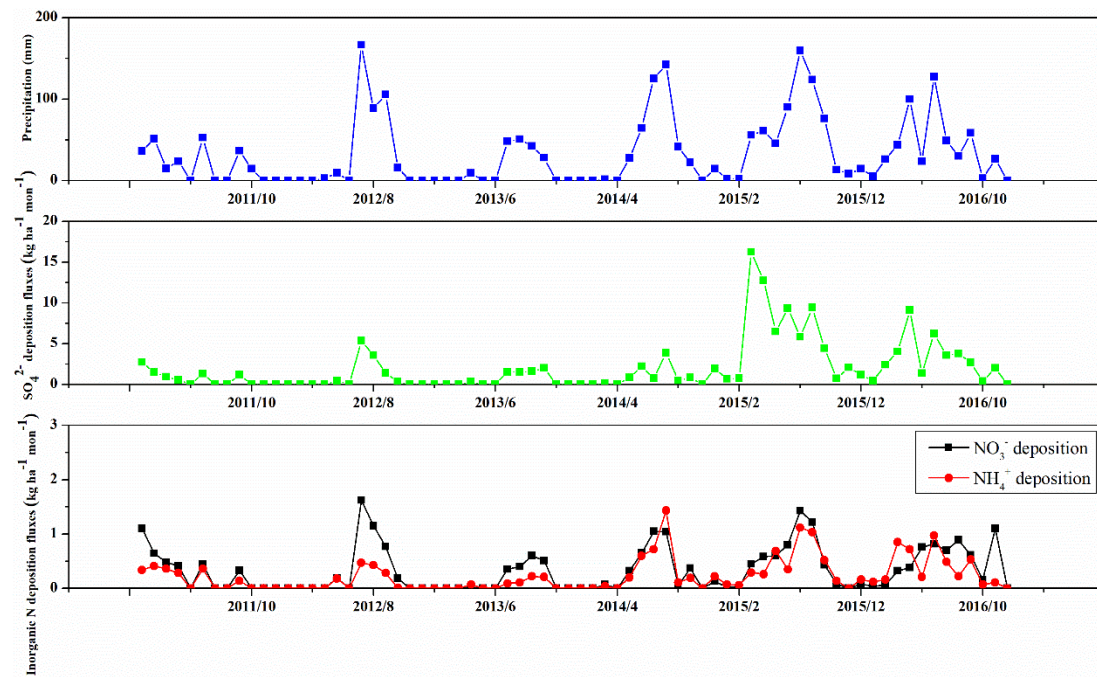
**Fig. S56** The precipitation and wet deposition fluxes of secondary ions in Lijiang



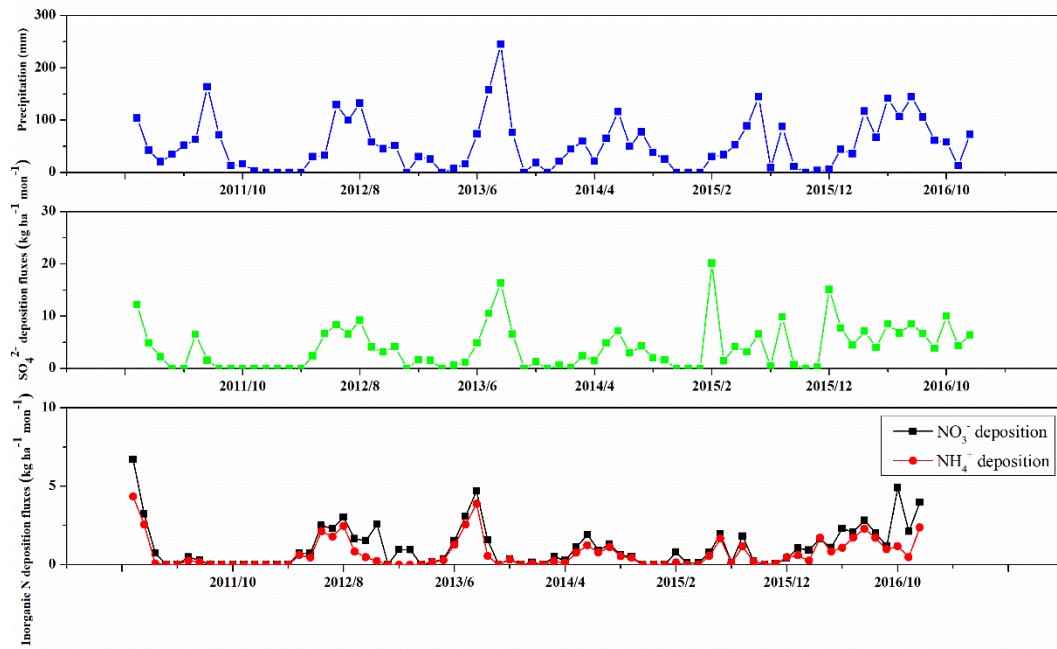
**Fig. S57** The precipitation and wet deposition fluxes of secondary ions in Lianyungang



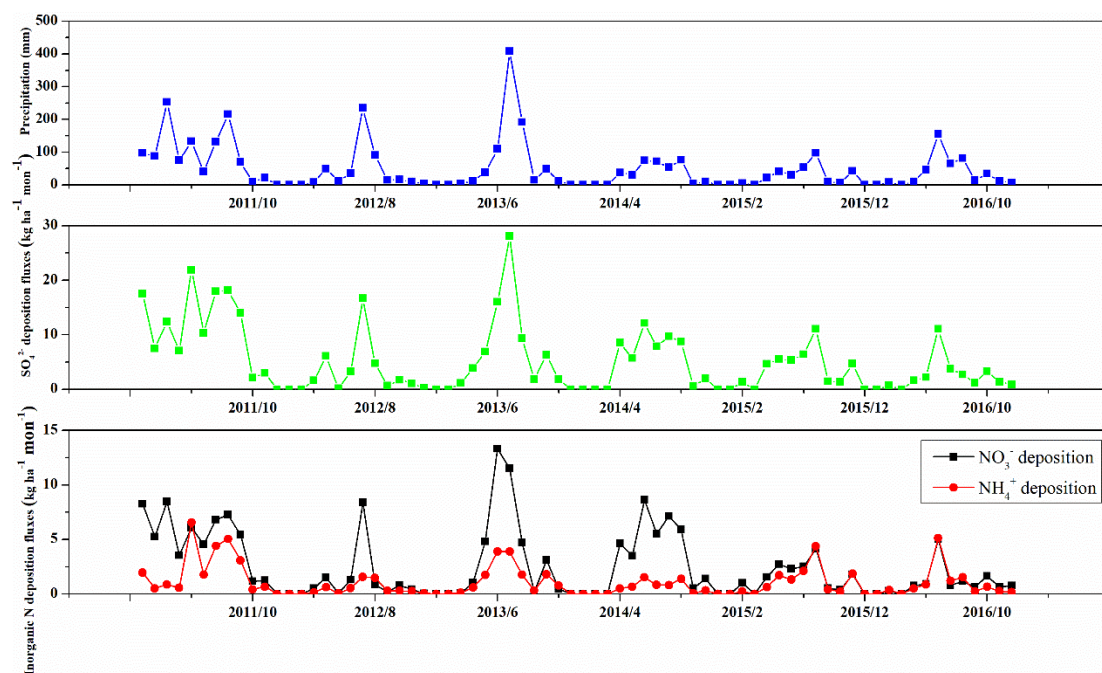
**Fig. S58** The precipitation and wet deposition fluxes of secondary ions in Liangshan



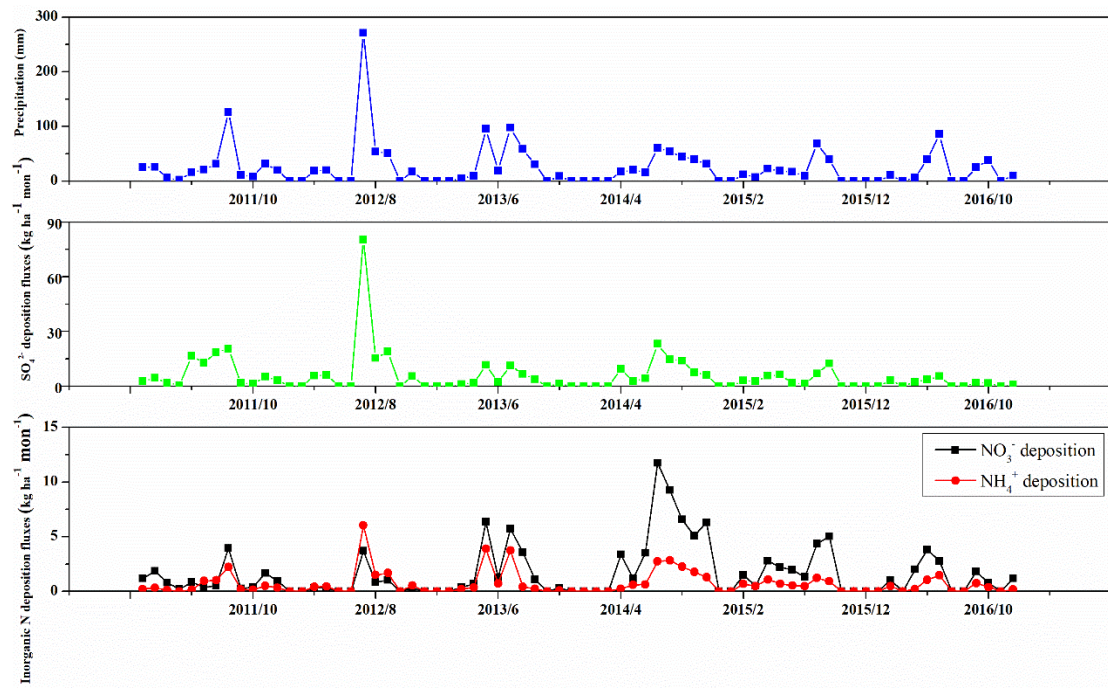
**Fig. S59** The precipitation and wet deposition fluxes of secondary ions in Liaoyuan



**Fig. S60** The precipitation and wet deposition fluxes of secondary ions in Liaocheng

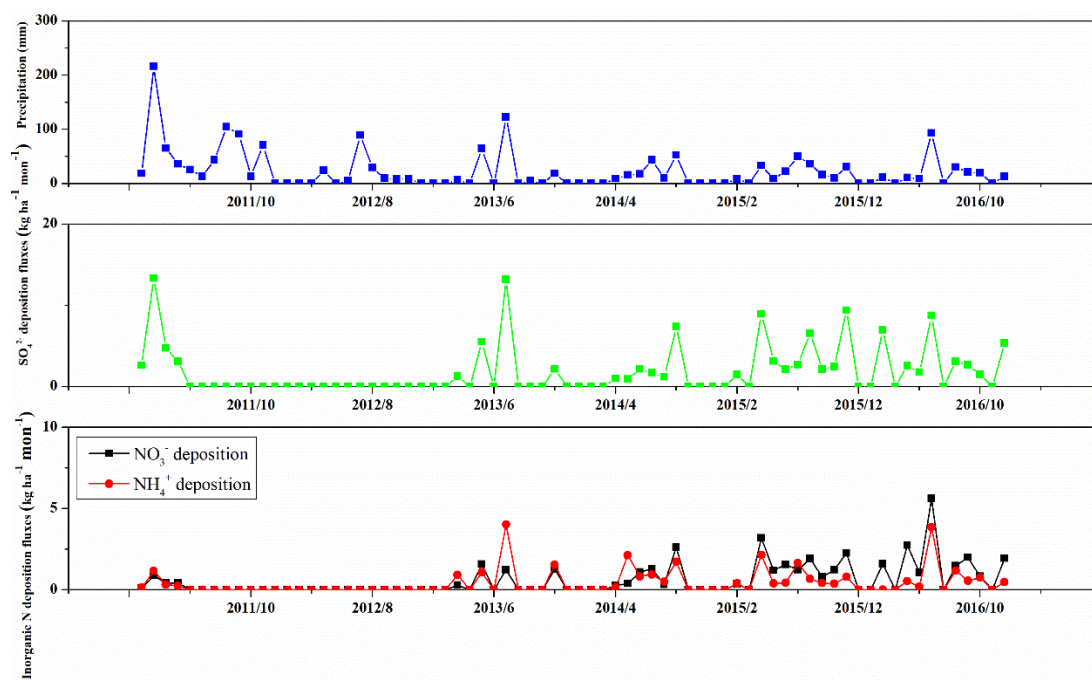


**Fig. S61** The precipitation and wet deposition fluxes of secondary ions in Linyi

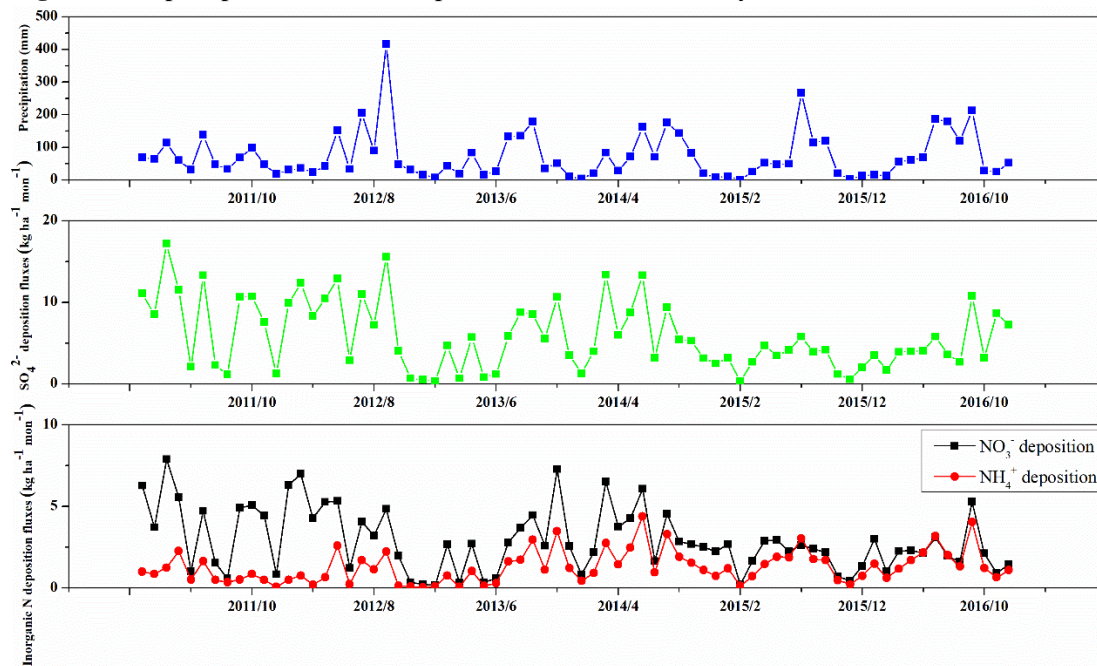




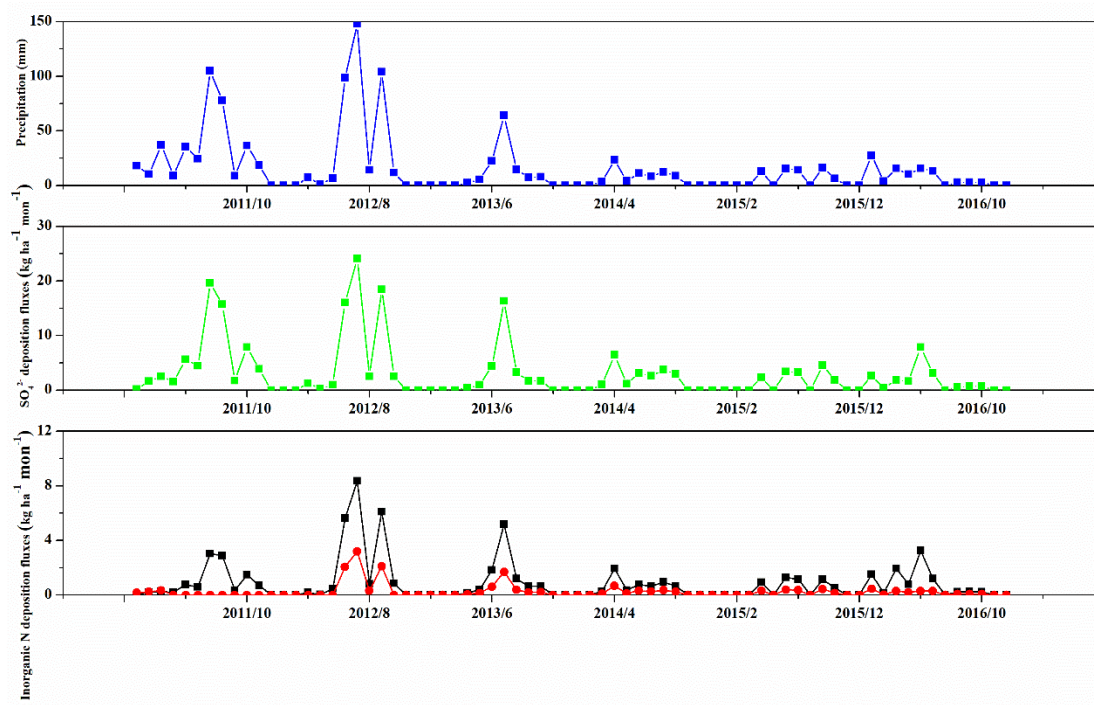
**Fig. S62** The precipitation and wet deposition fluxes of secondary ions in Lu'an



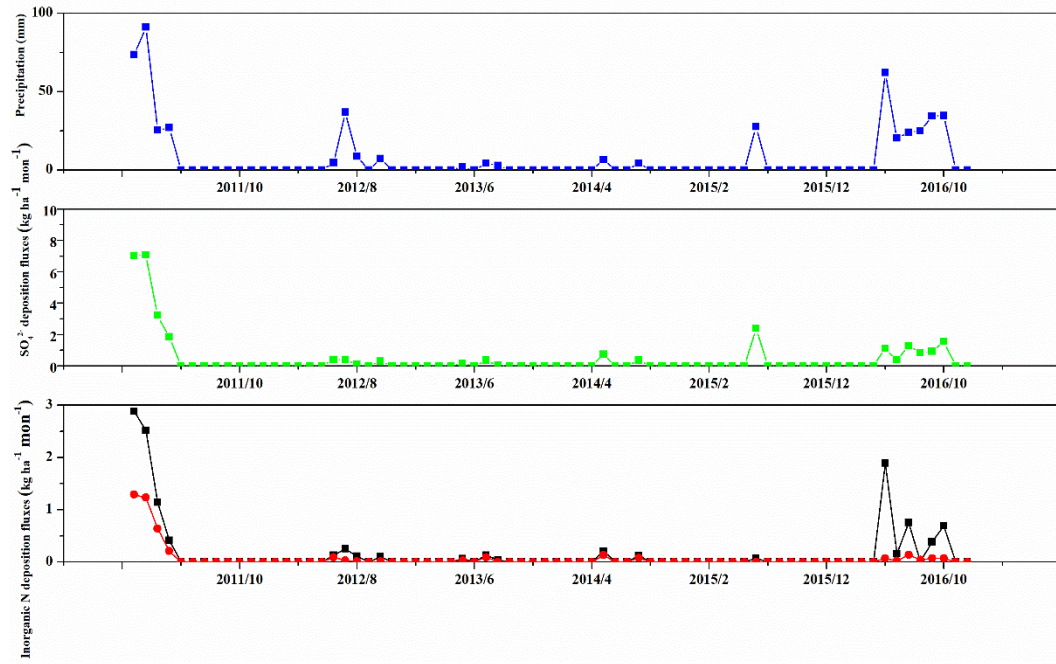
**Fig. S63** The precipitation and wet deposition fluxes of secondary ions in Luzhou



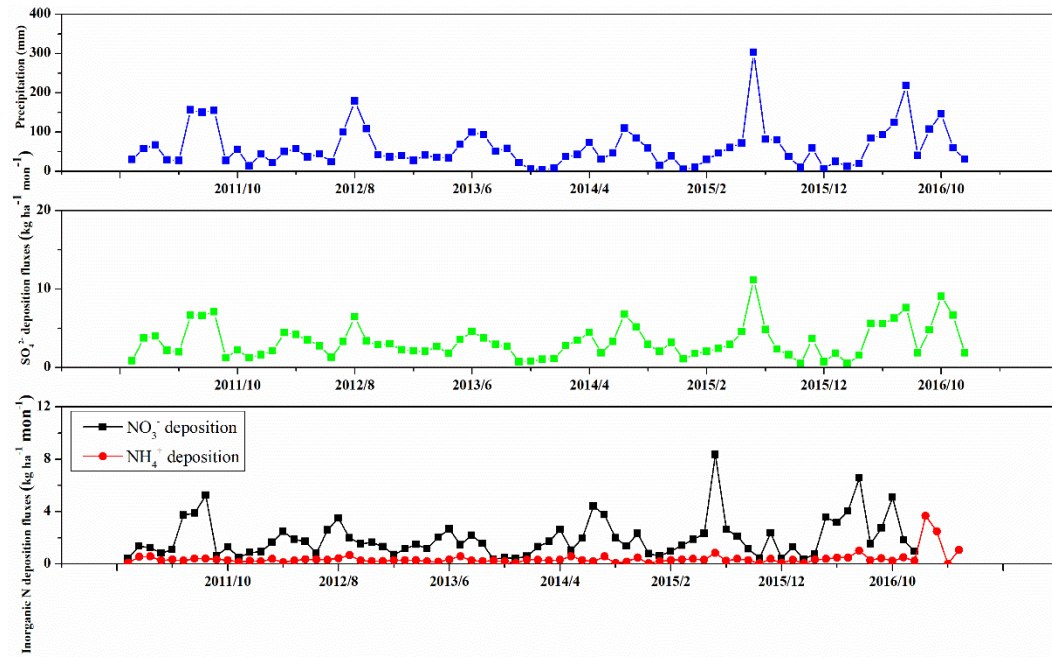
**Fig. S64** The precipitation and wet deposition fluxes of secondary ions in Lvliang



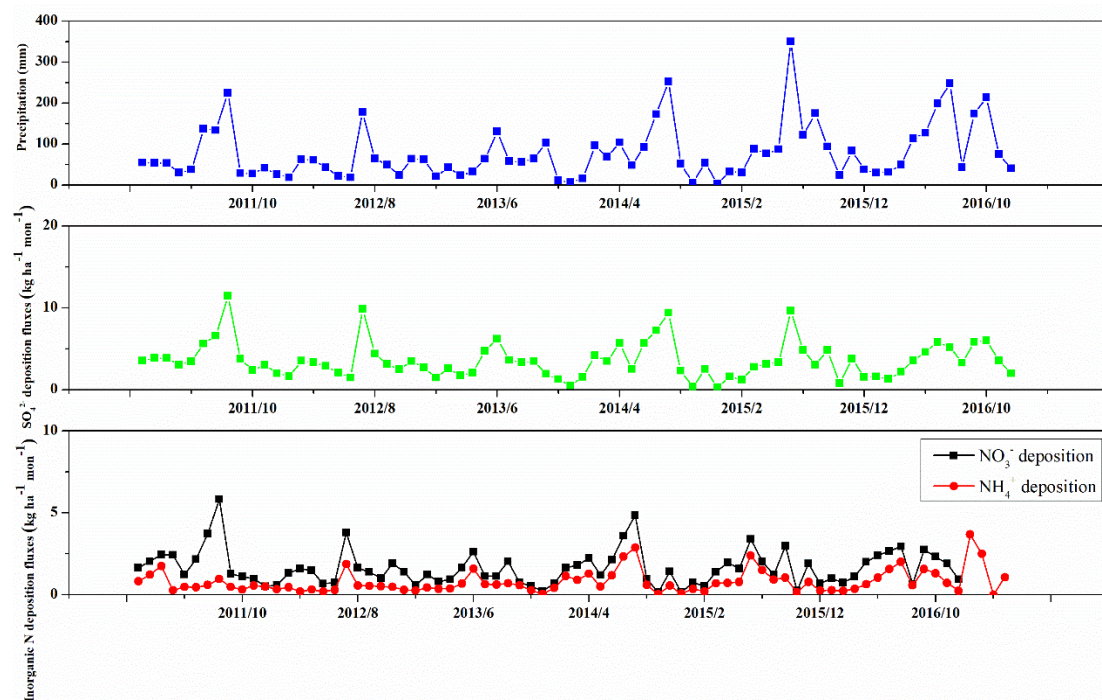
**Fig. S65** The precipitation and wet deposition fluxes of secondary ions in Mudanjiang



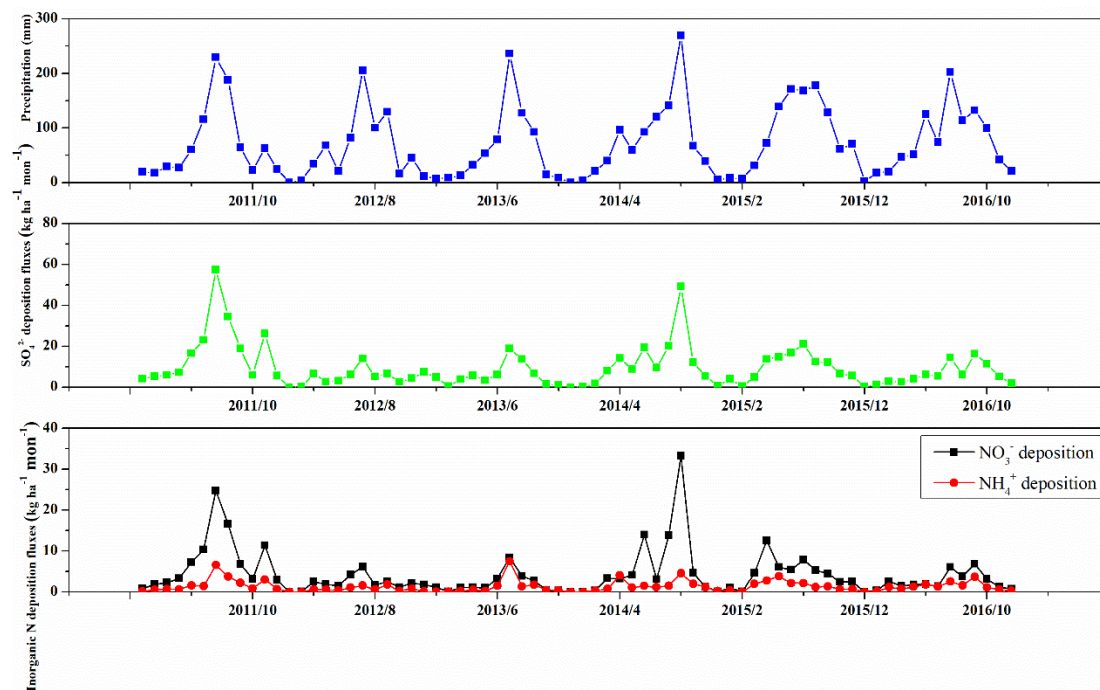
**Fig. S66** The precipitation and wet deposition fluxes of secondary ions in Nanjing



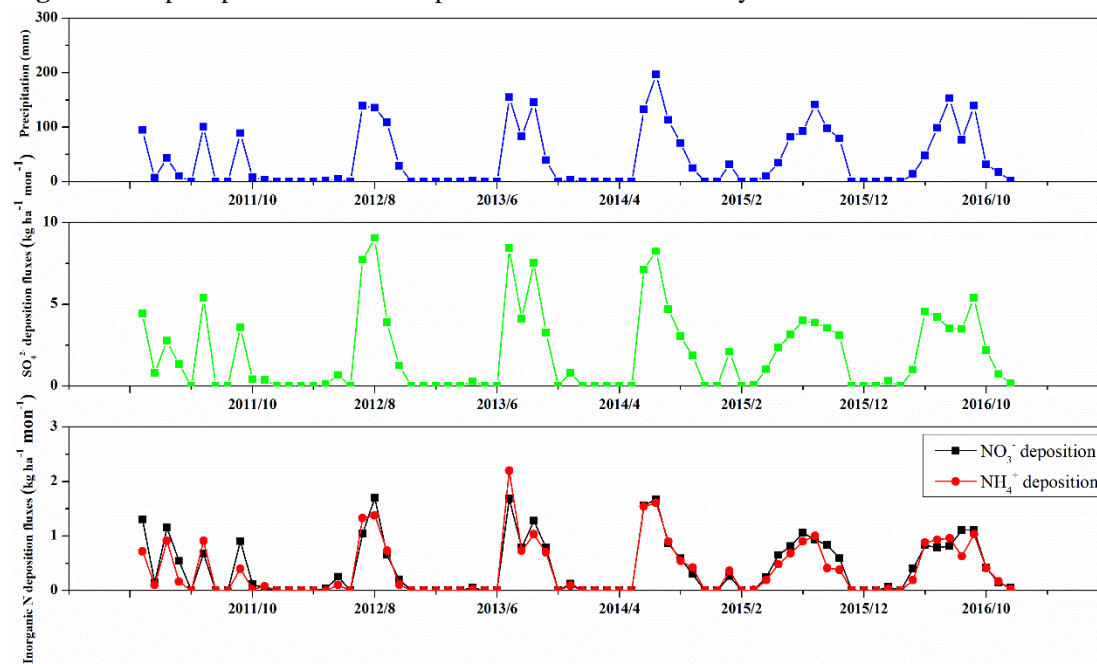
**Fig. S67** The precipitation and wet deposition fluxes of secondary ions in Nantong



**Fig. S68** The precipitation and wet deposition fluxes of secondary ions in Nanyang

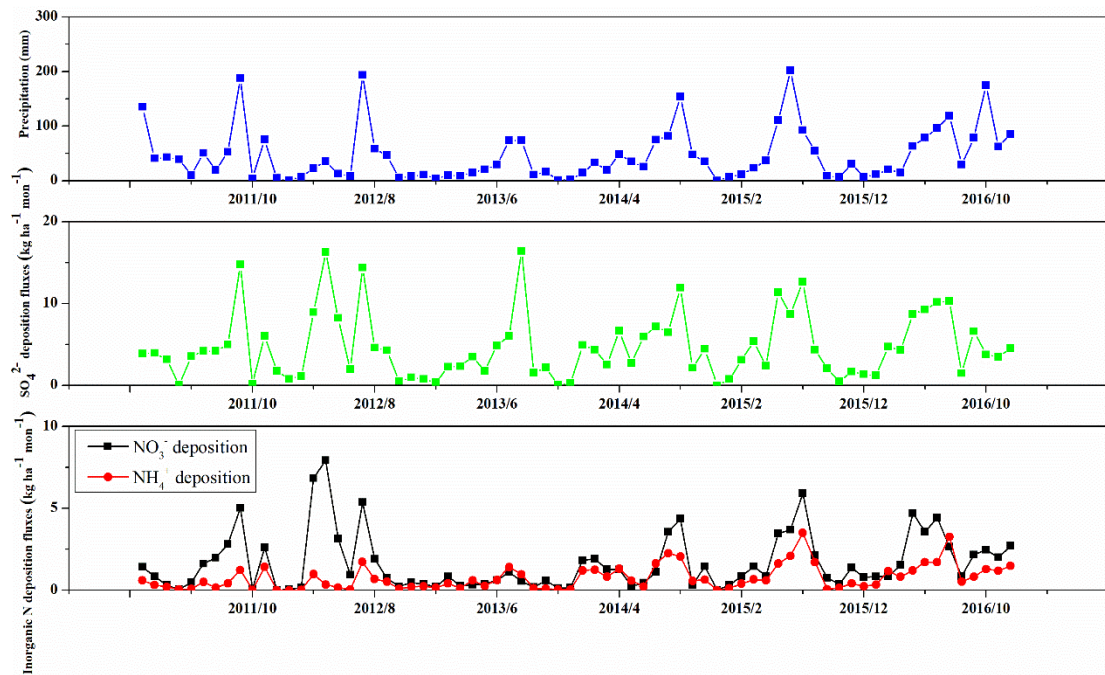


**Fig. S69** The precipitation and wet deposition fluxes of secondary ions in Panzhihua

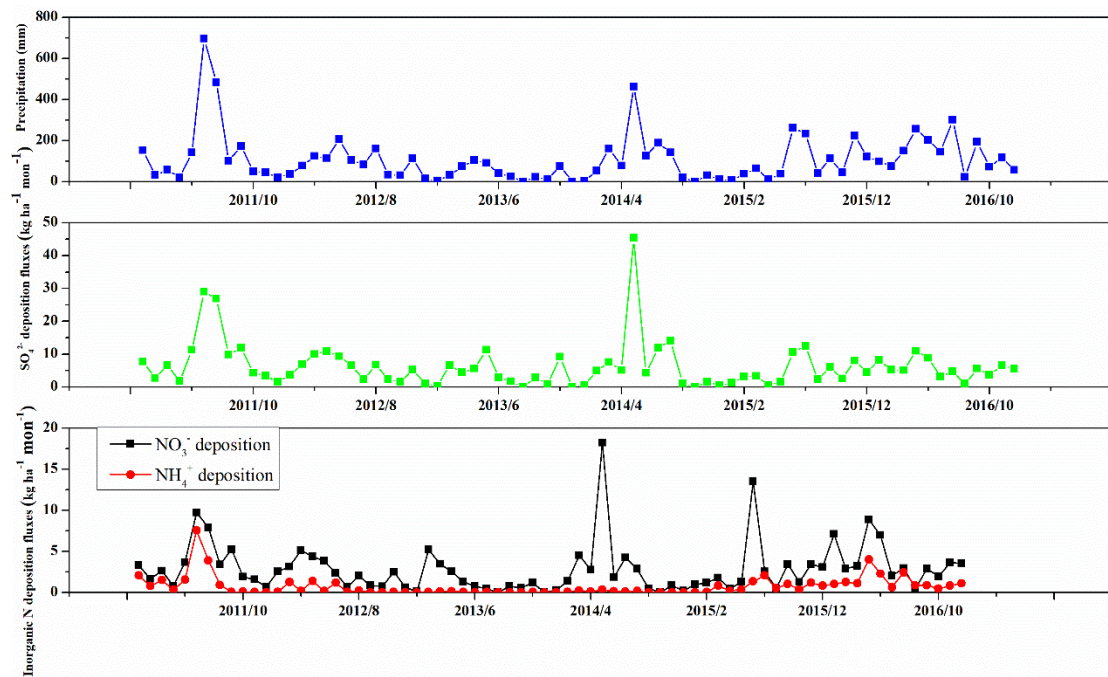




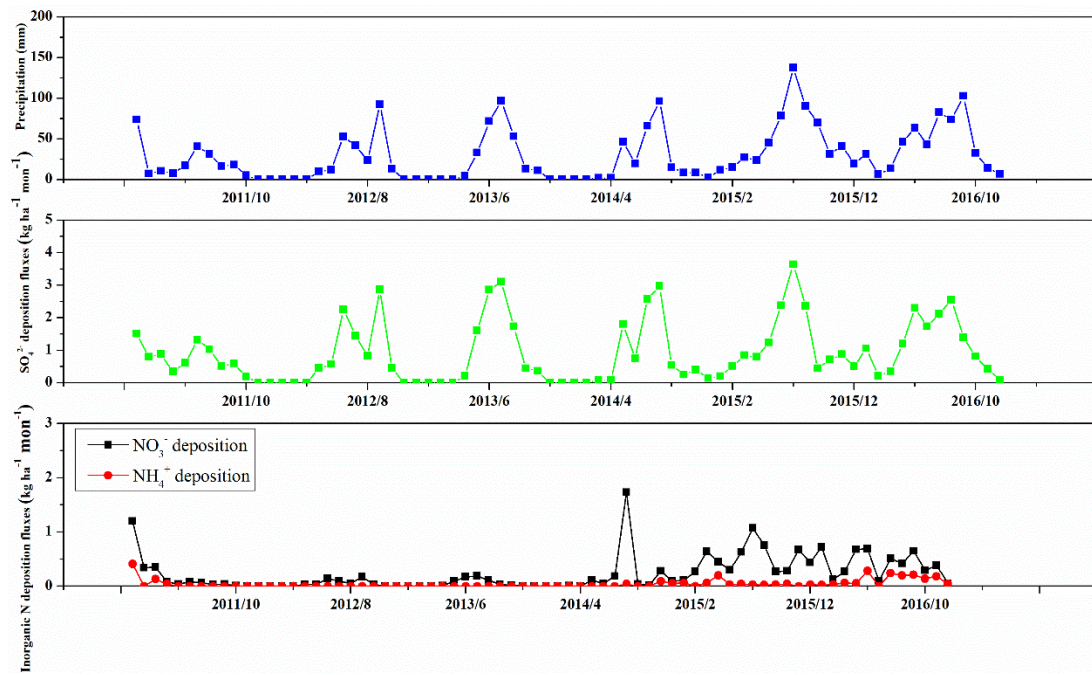
**Fig. S70** The precipitation and wet deposition fluxes of secondary ions in Pingdingshan



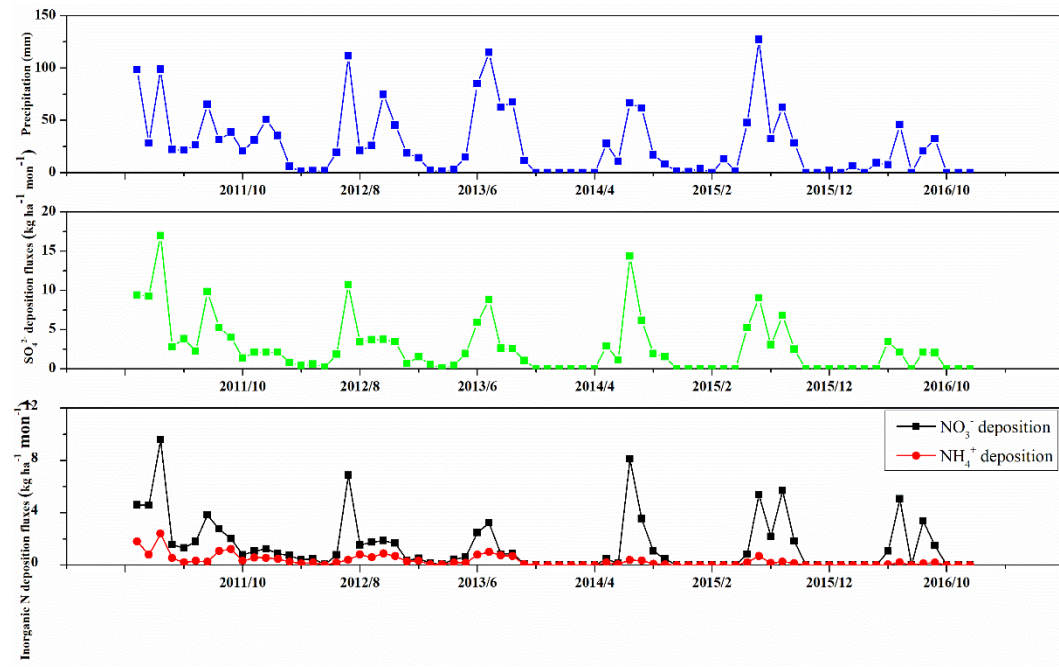
**Fig. S71** The precipitation and wet deposition fluxes of secondary ions in Pingxiang



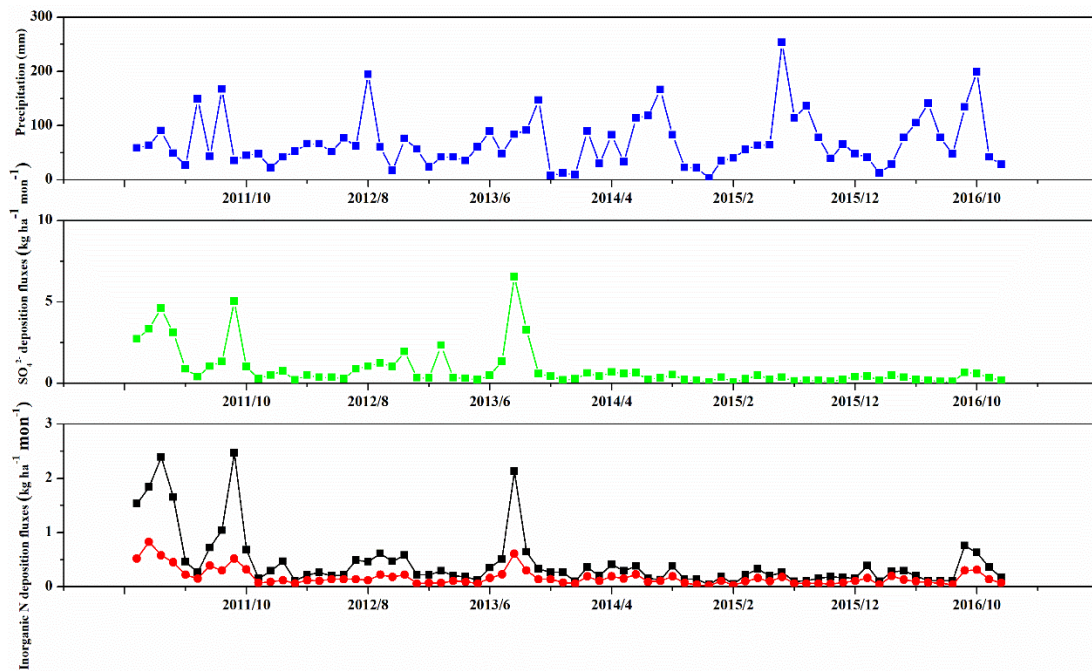
**Fig. S72** The precipitation and wet deposition fluxes of secondary ions in Qitaihe



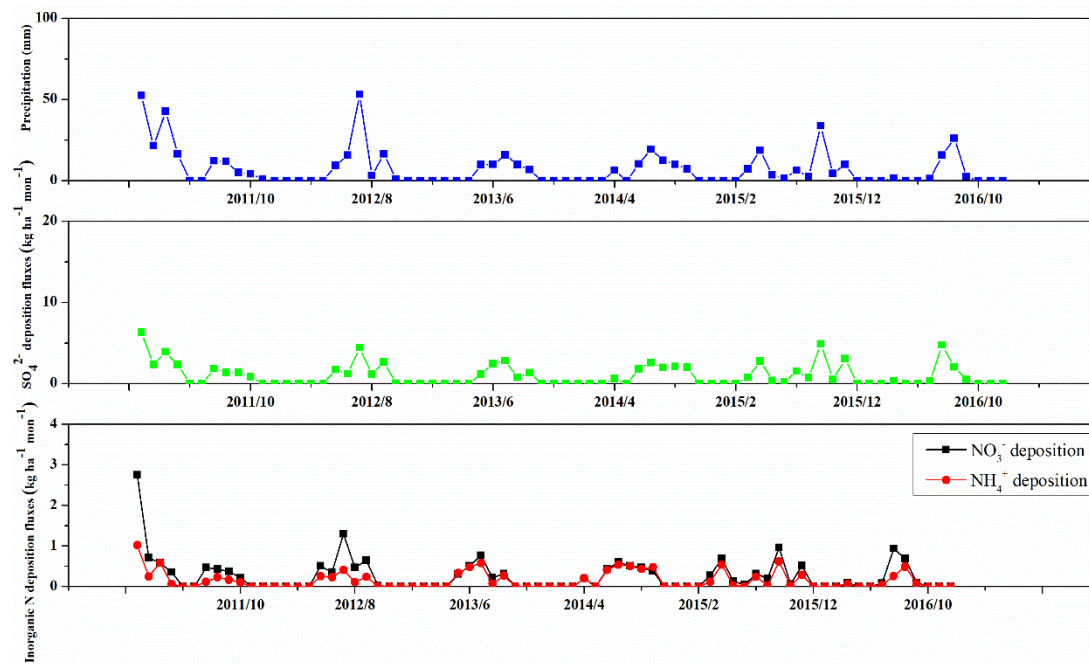
**Fig. S73** The precipitation and wet deposition fluxes of secondary ions in Qiqihaer



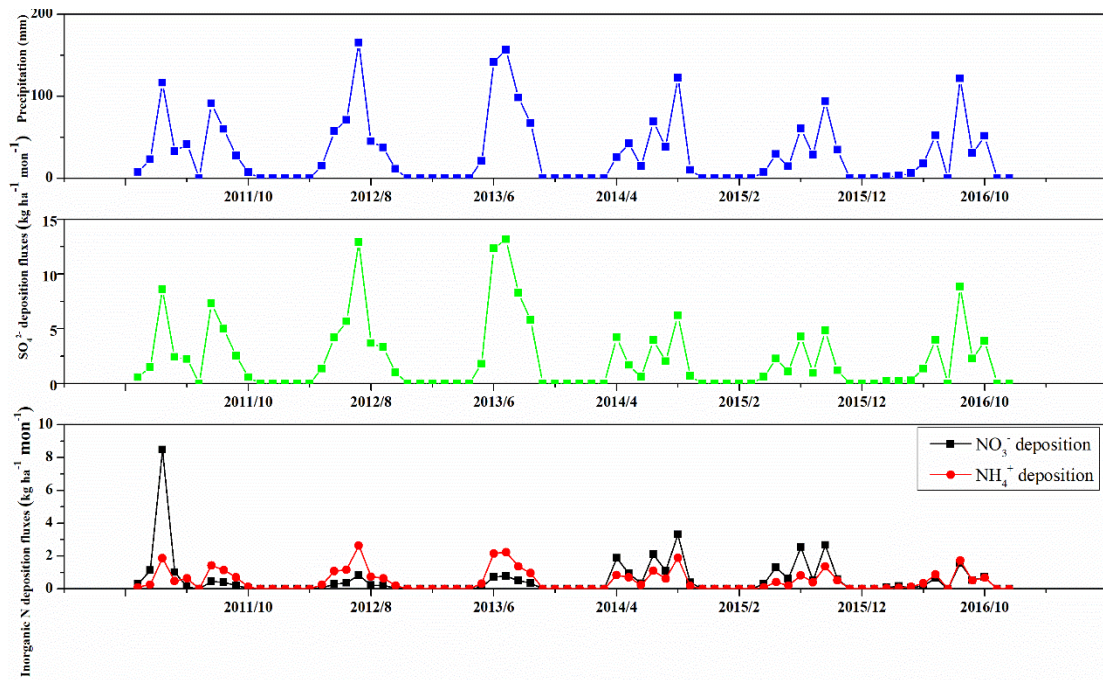
**Fig. S74** The precipitation and wet deposition fluxes of secondary ions in Shanghai



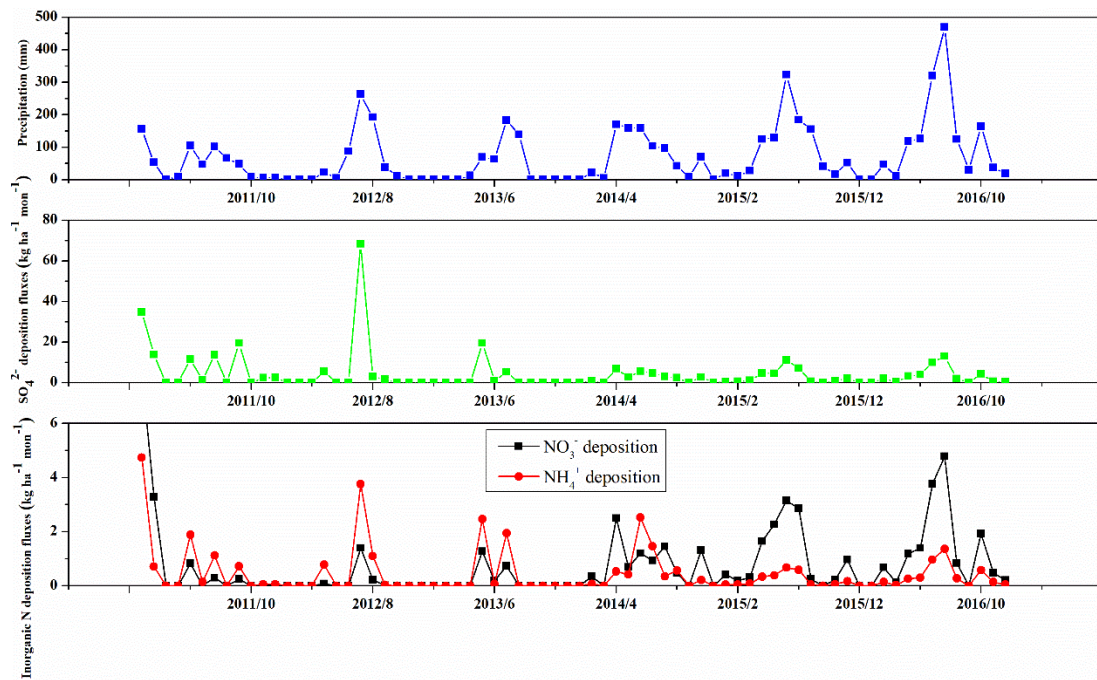
**Fig. S75** The precipitation and wet deposition fluxes of secondary ions in Shizuishan



**Fig. S76** The precipitation and wet deposition fluxes of secondary ions in Shuozhou

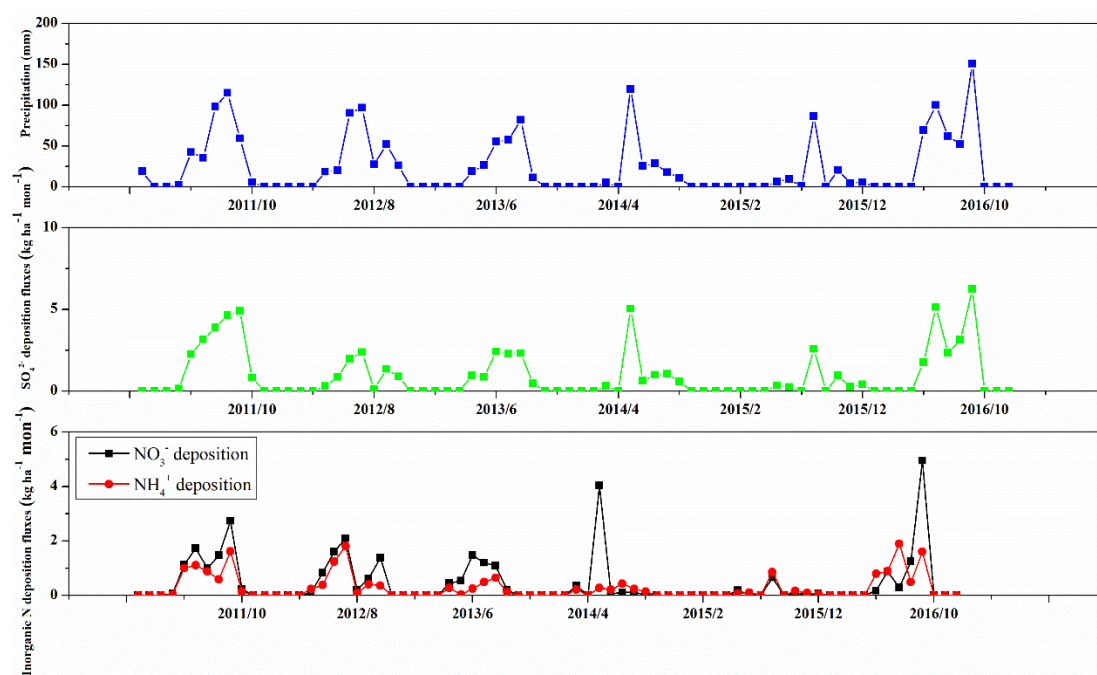


**Fig. S77** The precipitation and wet deposition fluxes of secondary ions in Siping

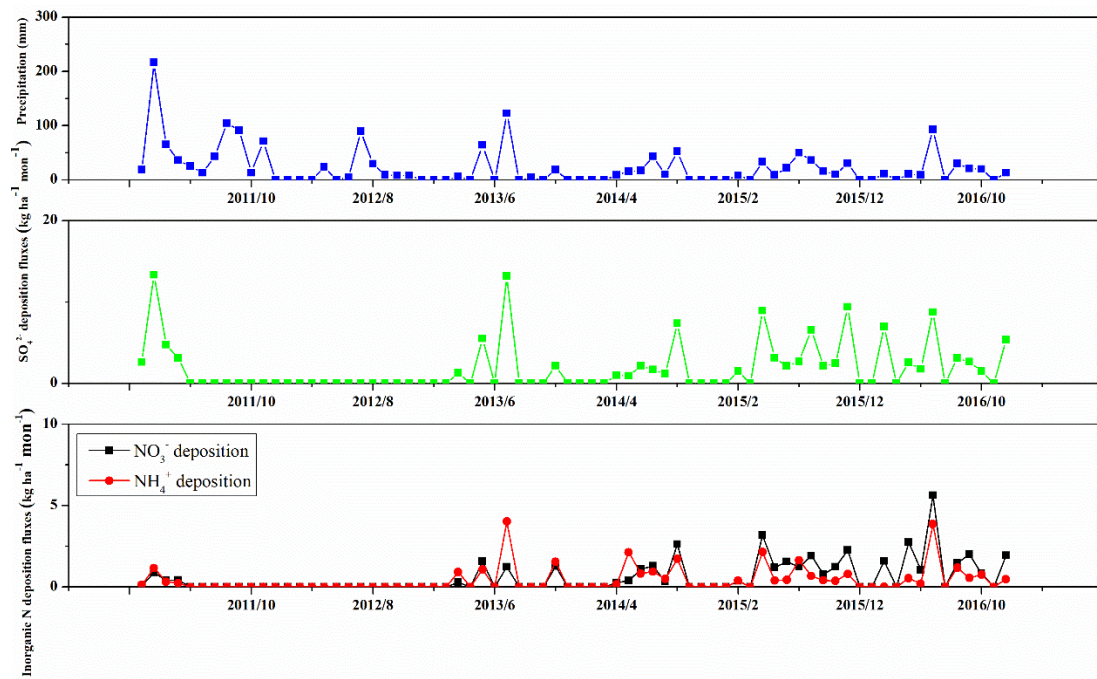




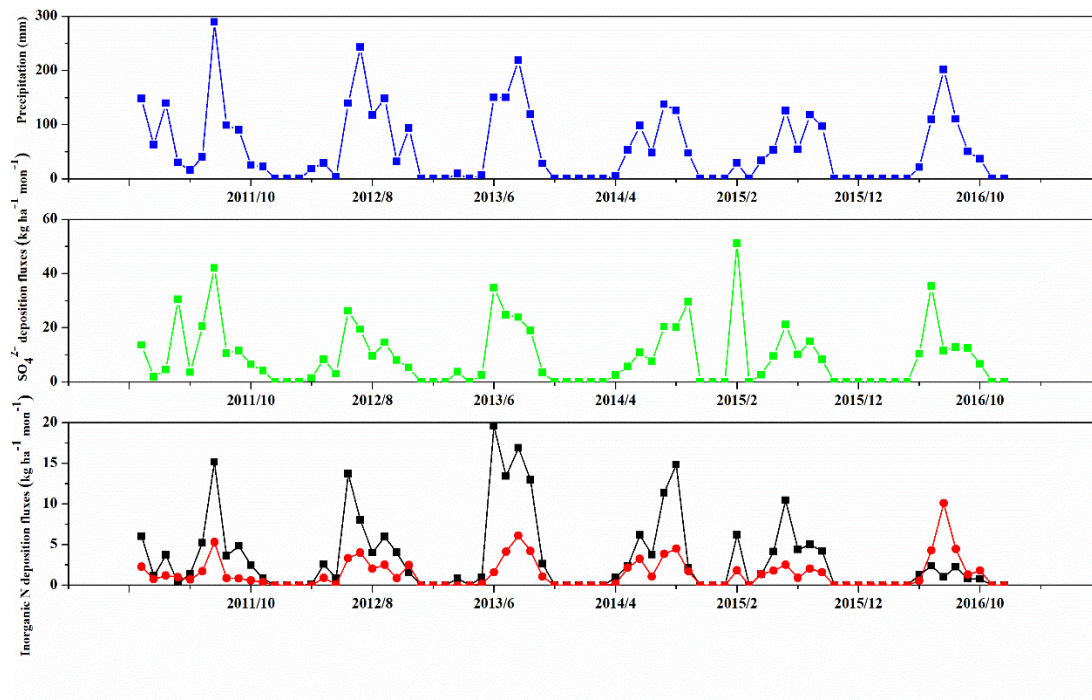
**Fig. S78** The precipitation and wet deposition fluxes of secondary ions in Songyuan



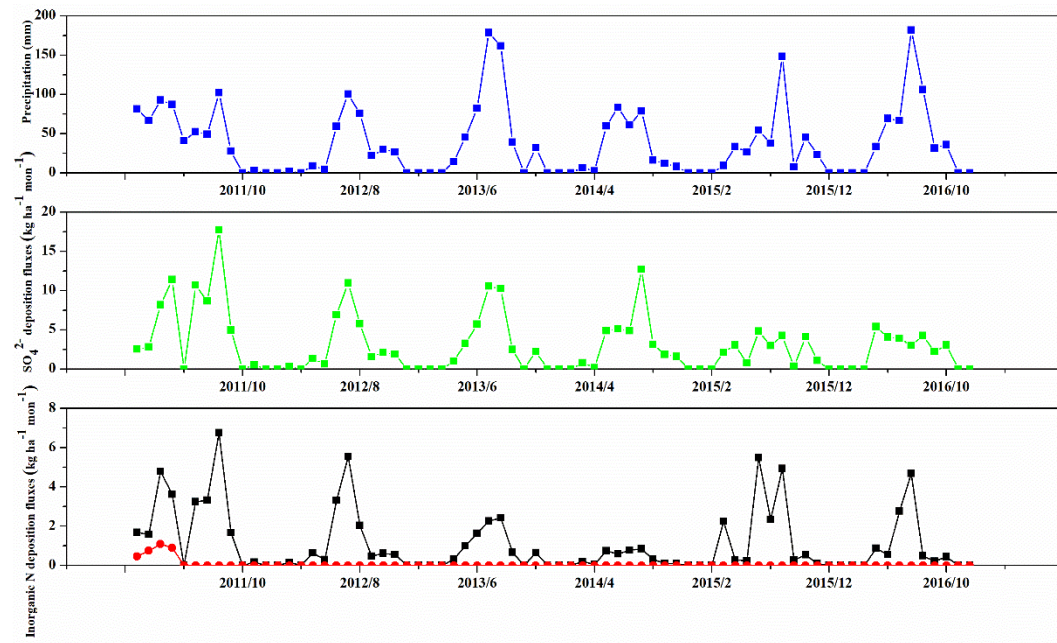
**Fig. S79** The precipitation and wet deposition fluxes of secondary ions in Tacheng



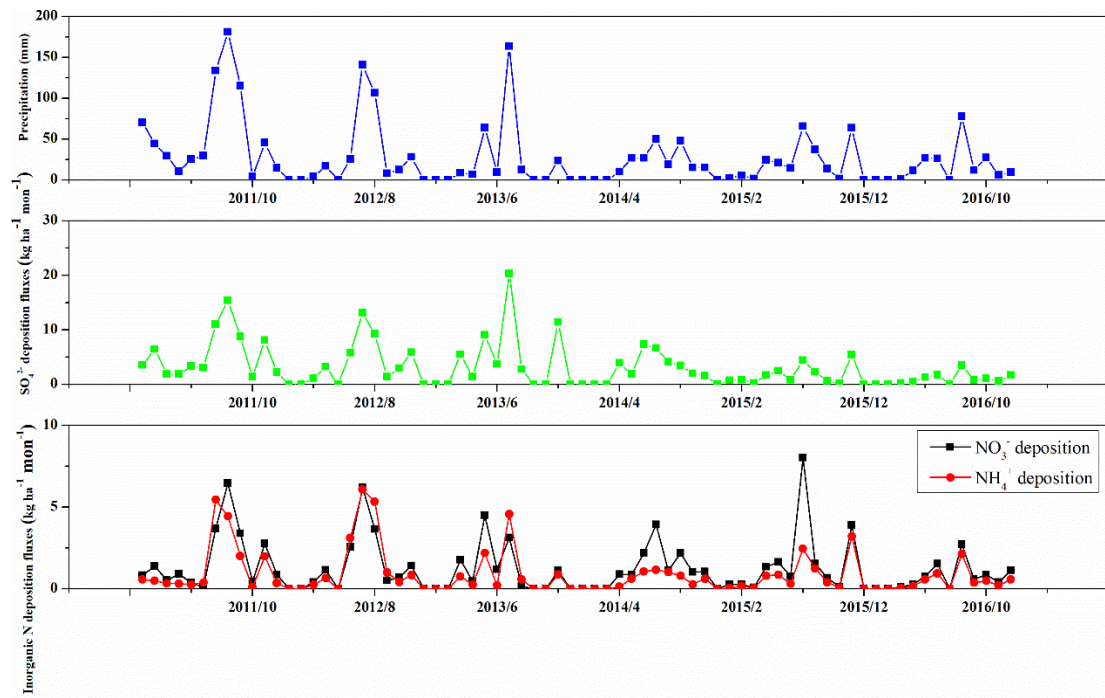
**Fig. S80** The precipitation and wet deposition fluxes of secondary ions in Tangshan



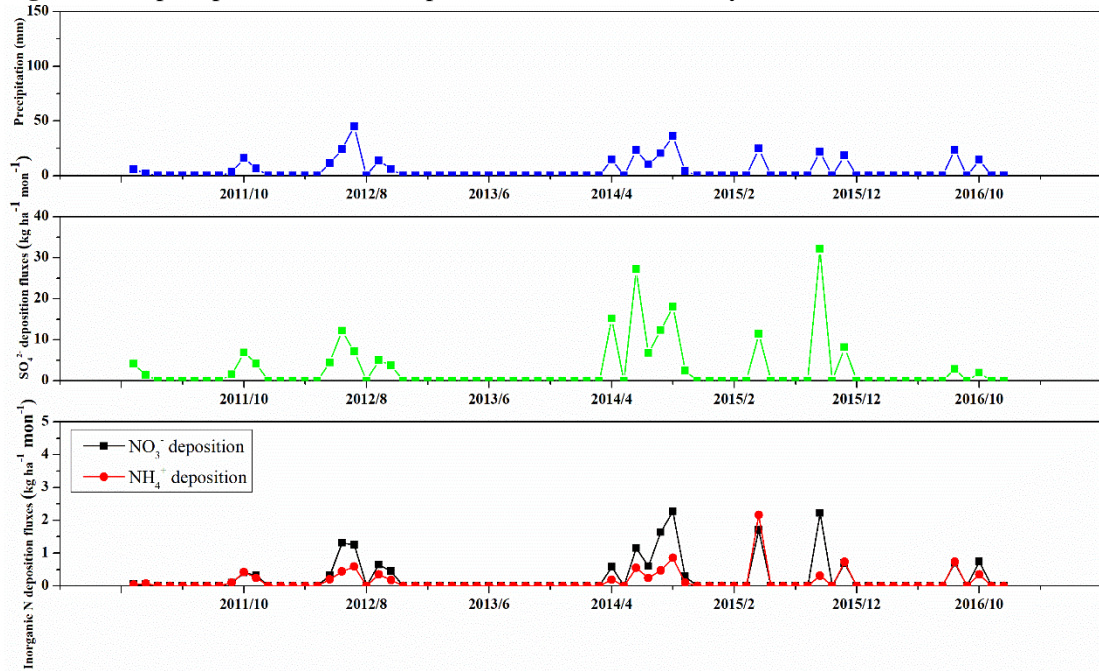
**Fig. S81** The precipitation and wet deposition fluxes of secondary ions in Tonghua



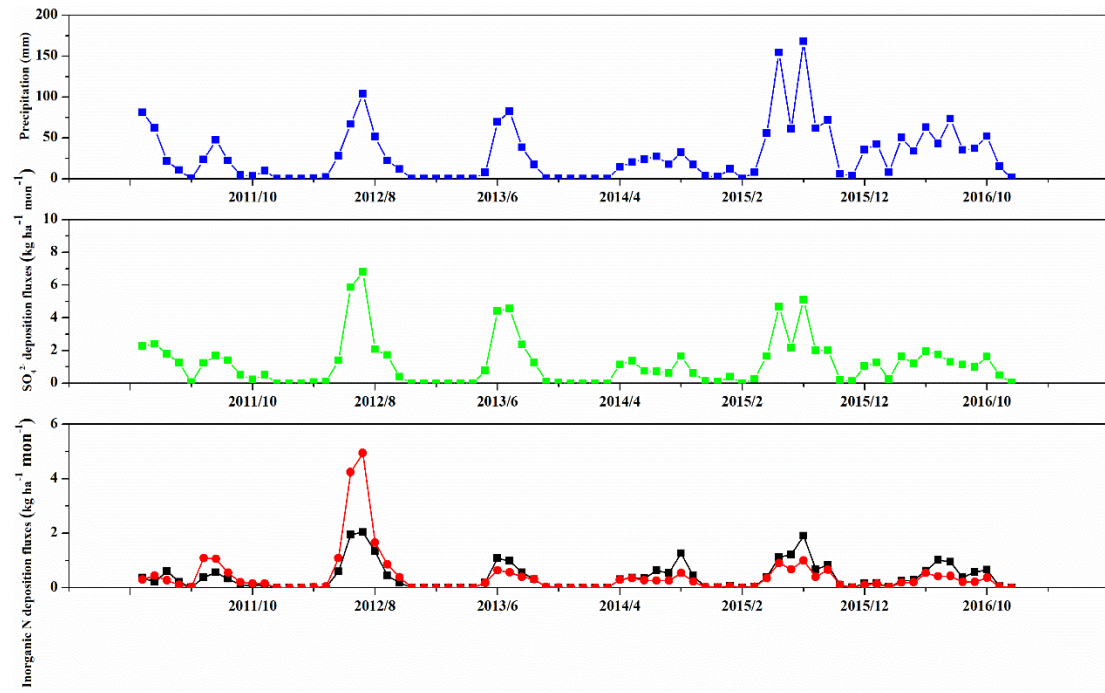
**Fig. S82** The precipitation and wet deposition fluxes of secondary ions in Weifang



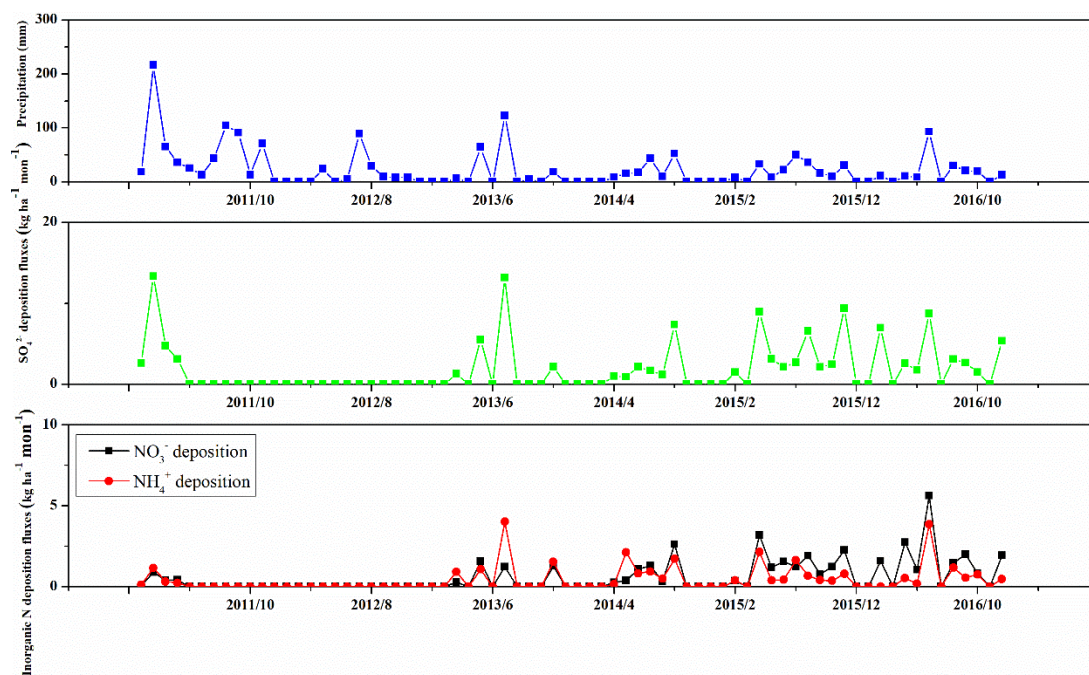
**Fig. S83** The precipitation and wet deposition fluxes of secondary ions in Wuhai



**Fig. S84** The precipitation and wet deposition fluxes of secondary ions in Ulanqab

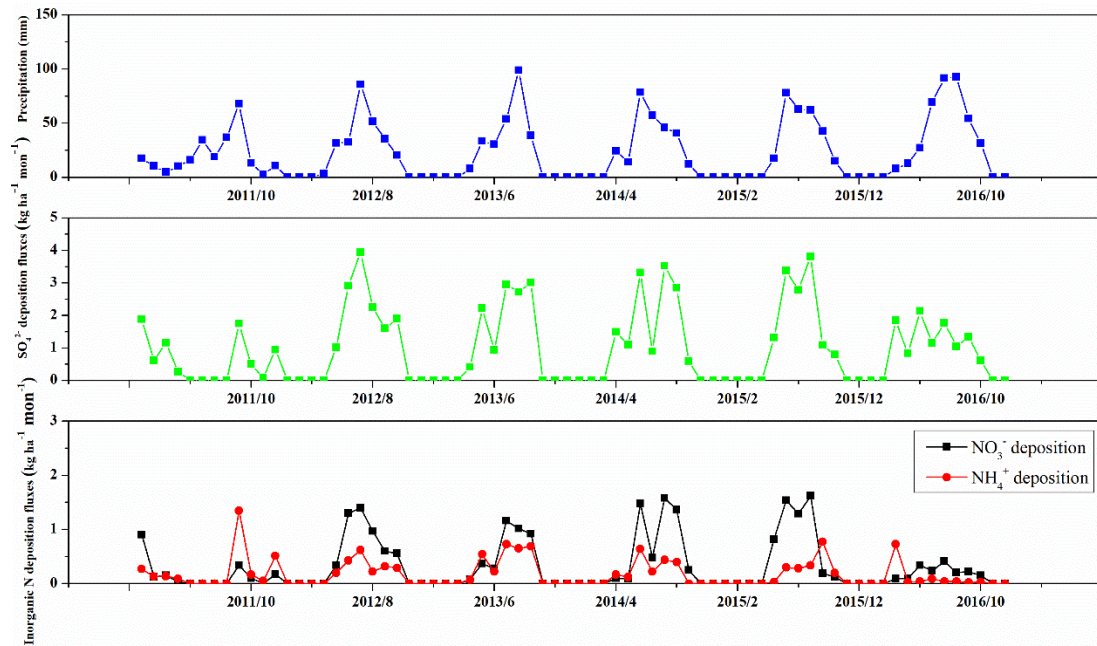


**Fig. S85** The precipitation and wet deposition fluxes of secondary ions in Wuhu

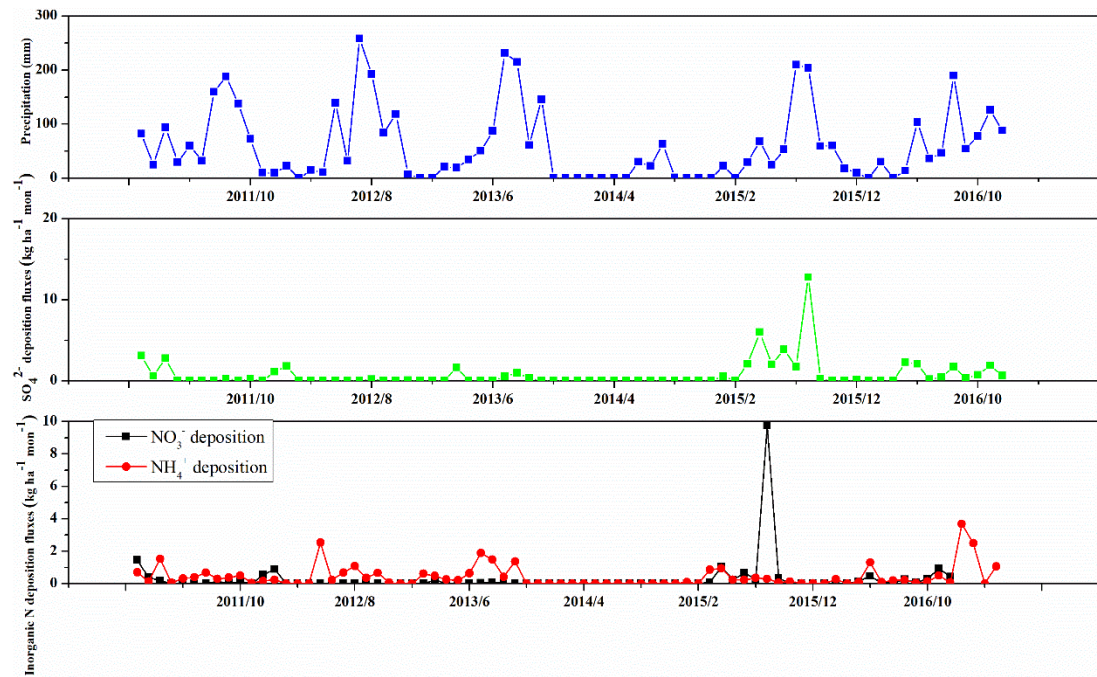




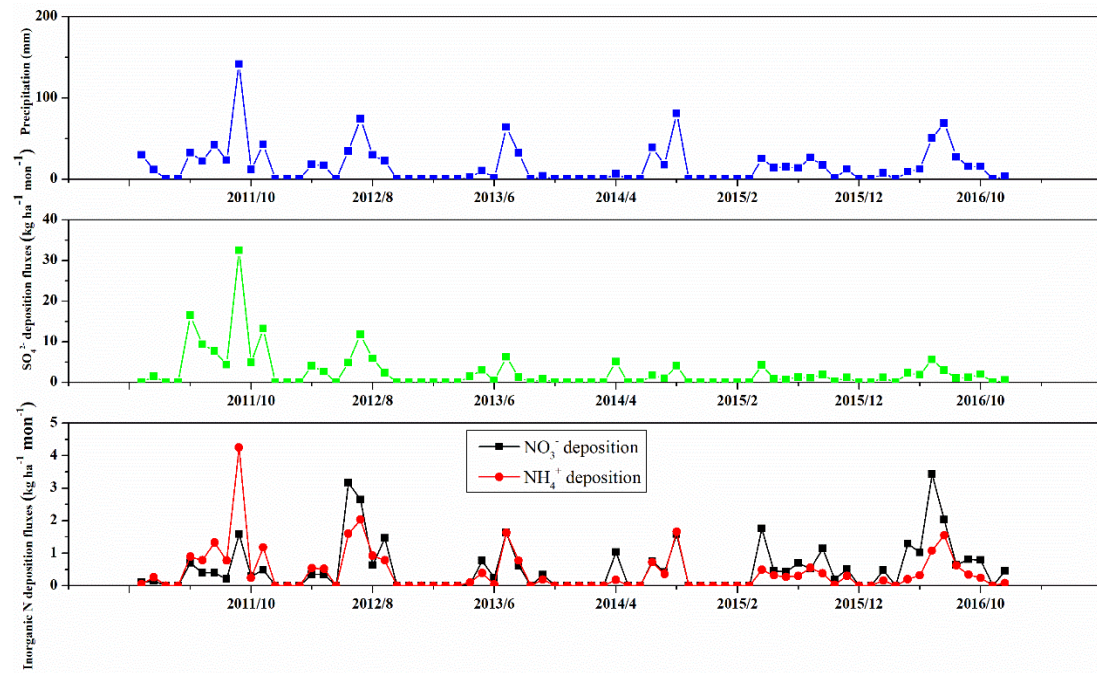
**Fig. S86** The precipitation and wet deposition fluxes of secondary ions in Xining



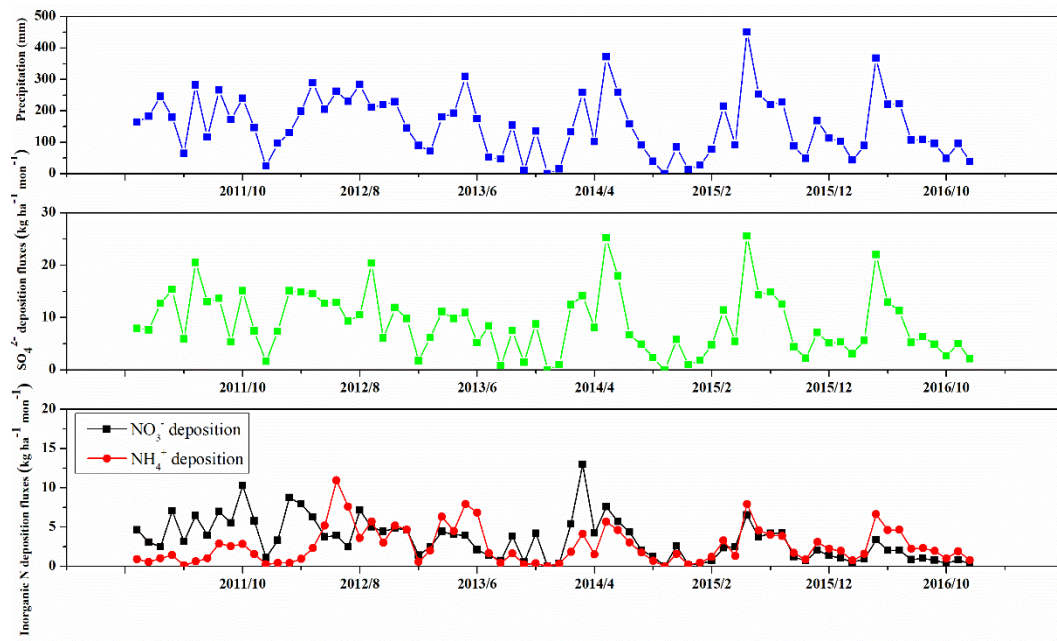
**Fig. S87** The precipitation and wet deposition fluxes of secondary ions in Xishuangbanna



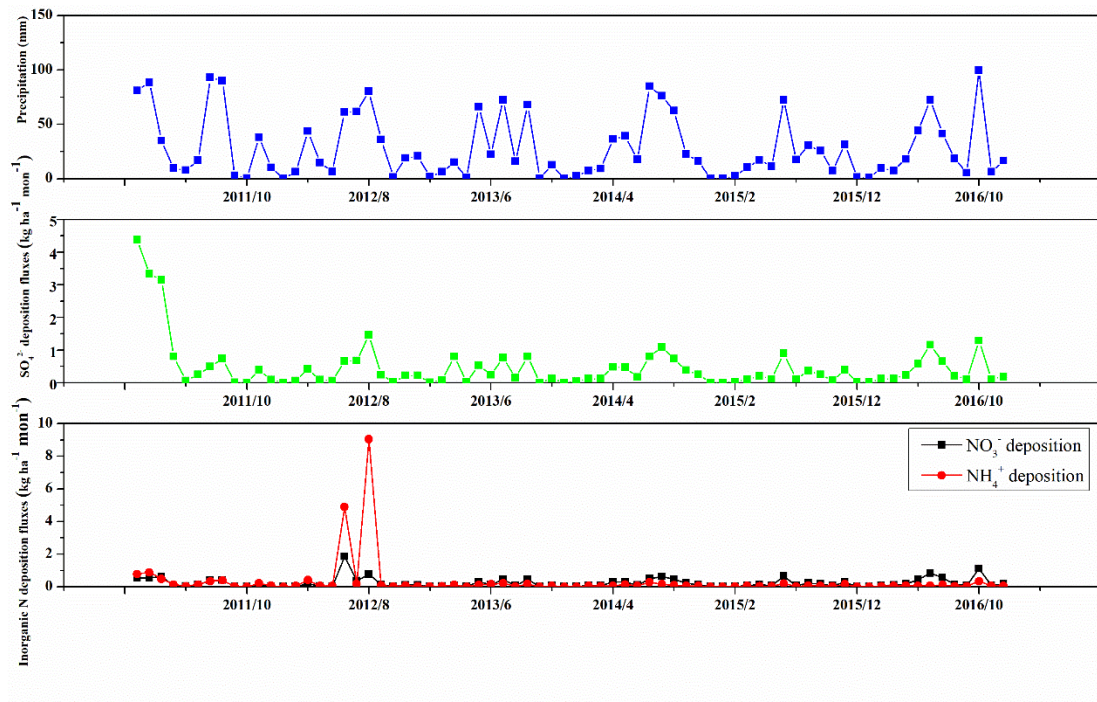
**Fig. S88** The precipitation and wet deposition fluxes of secondary ions in Xinxiang



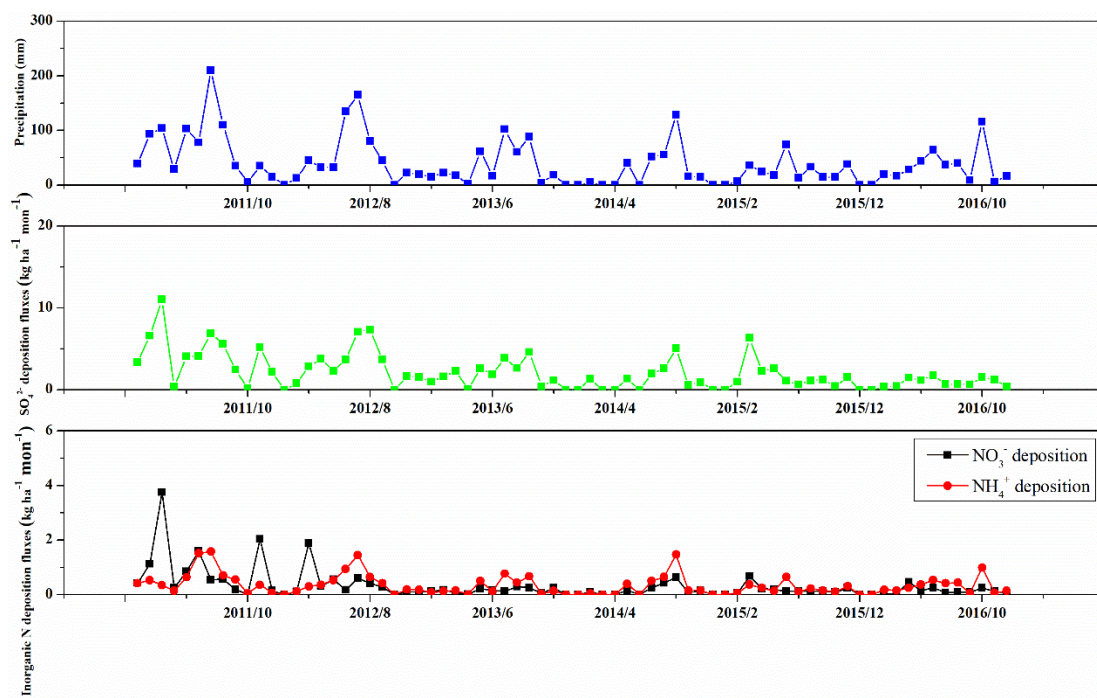
**Fig. S89** The precipitation and wet deposition fluxes of secondary ions in Xinyu



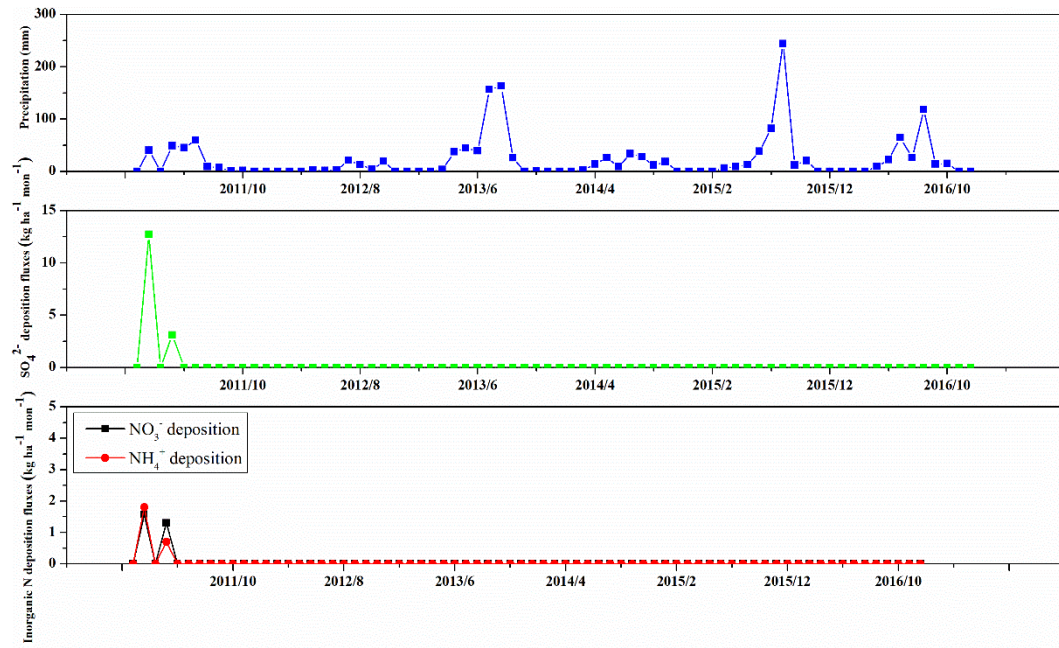
**Fig. S90** The precipitation and wet deposition fluxes of secondary ions in Suqian



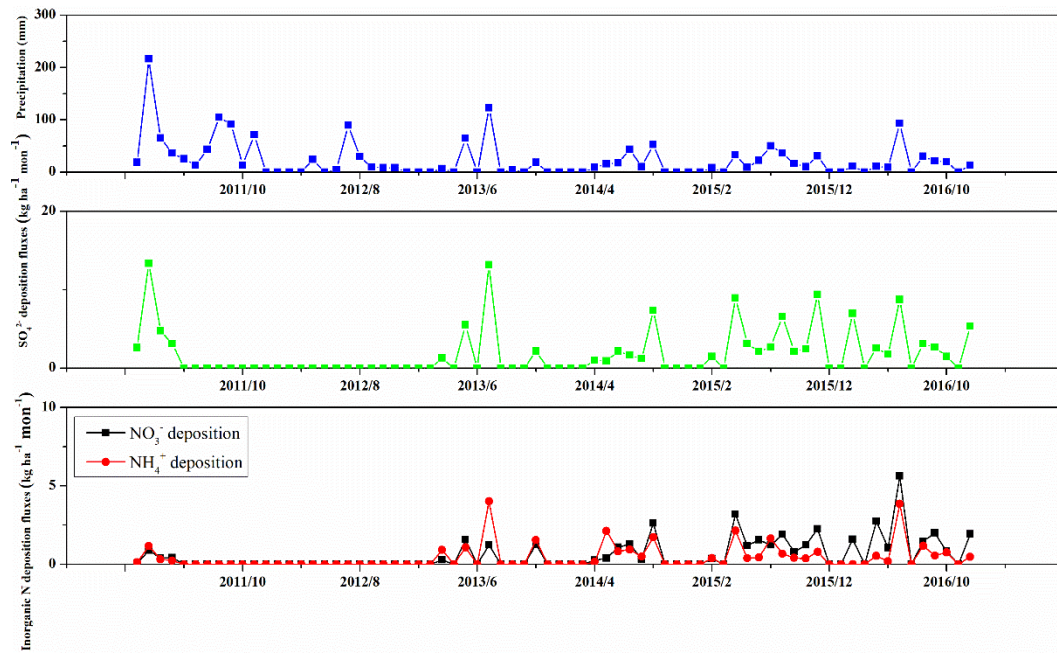
**Fig. S91** The precipitation and wet deposition fluxes of secondary ions in Suzhou



**Fig. S92** The precipitation and wet deposition fluxes of secondary ions in Yanbian



**Fig. S93** The precipitation and wet deposition fluxes of secondary ions in Yingtan





**Fig. S94** The precipitation and wet deposition fluxes of secondary ions in Zhenjiang

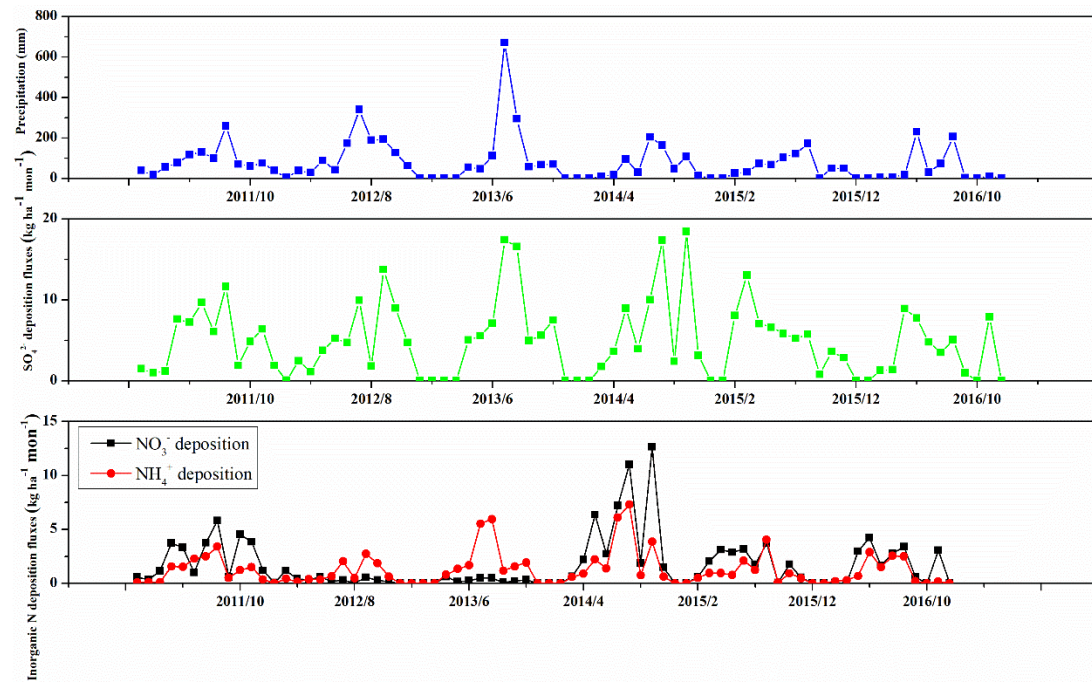


Fig. S95 The precipitation and wet deposition fluxes of secondary ions in Altay

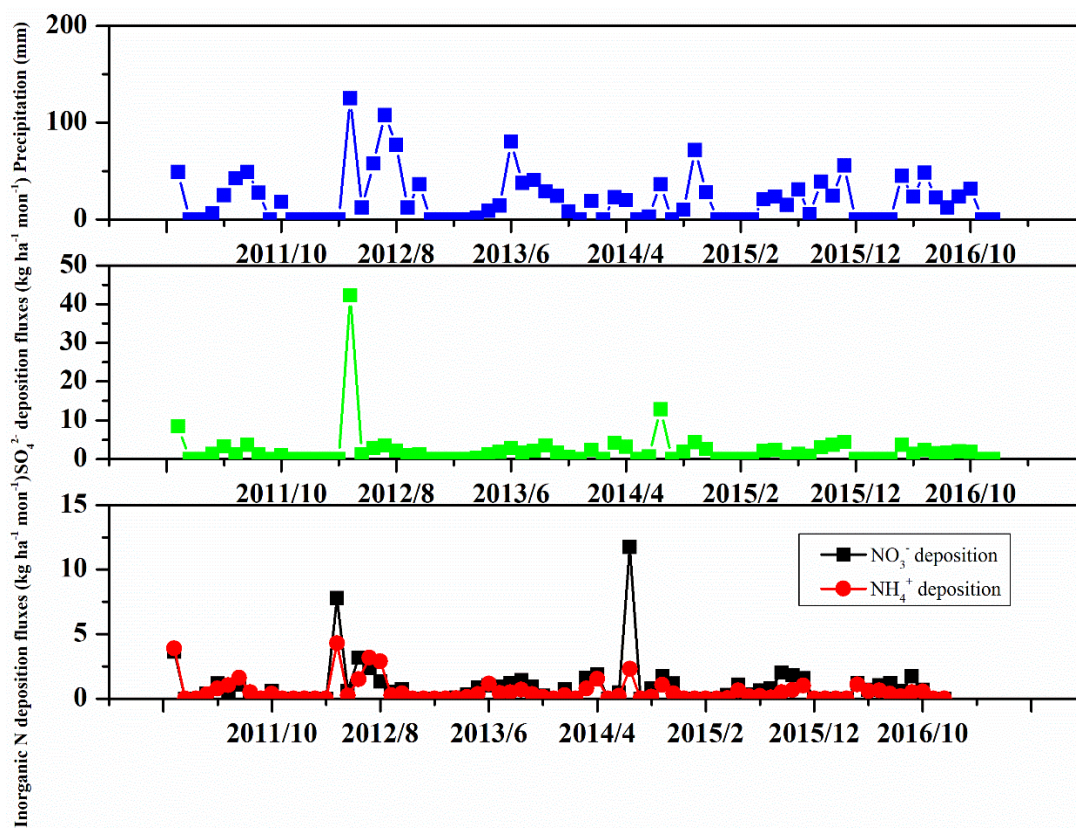


Fig. S96 The precipitation and wet deposition fluxes of secondary ions in Anyang

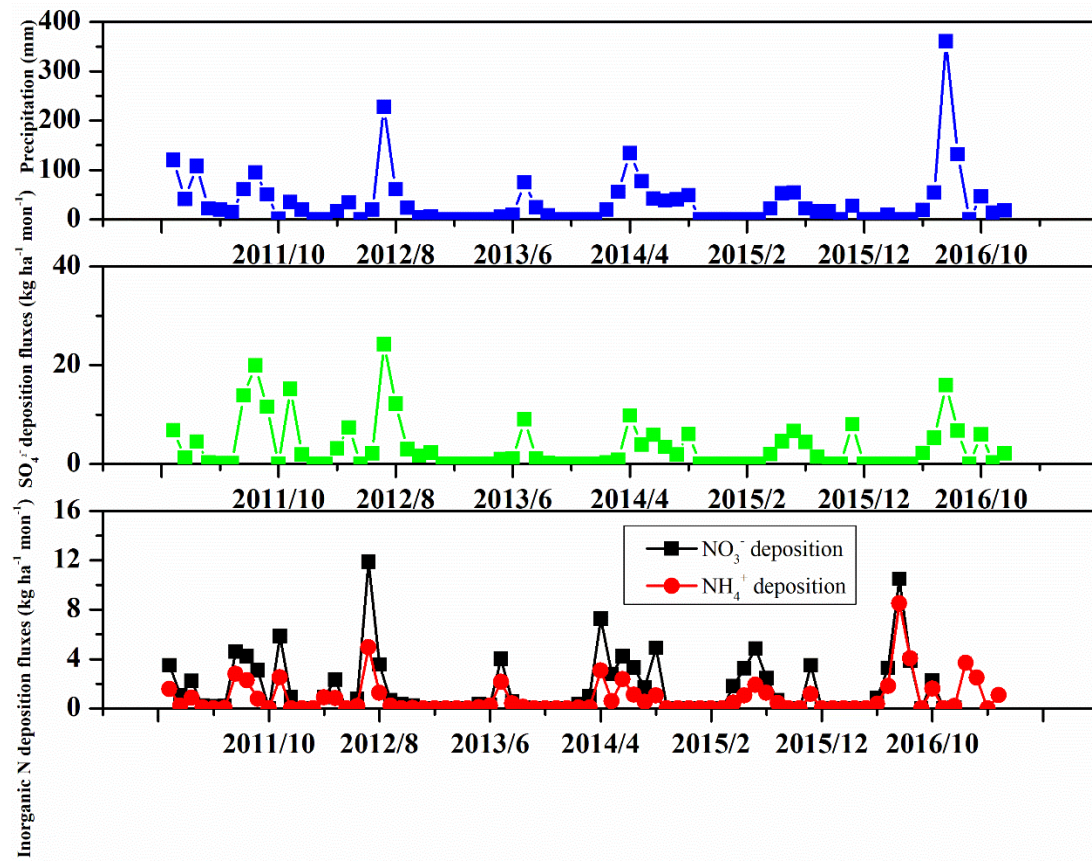


Fig. S97 The precipitation and wet deposition fluxes of secondary ions in Baishan

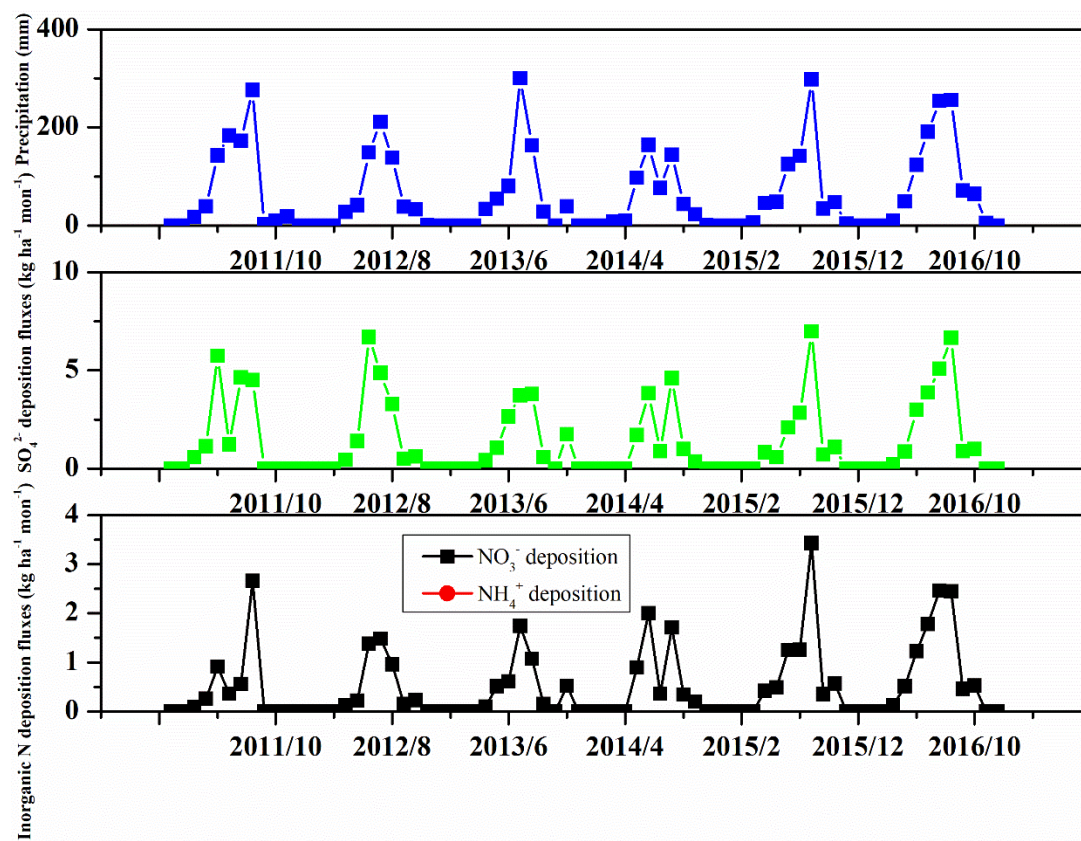
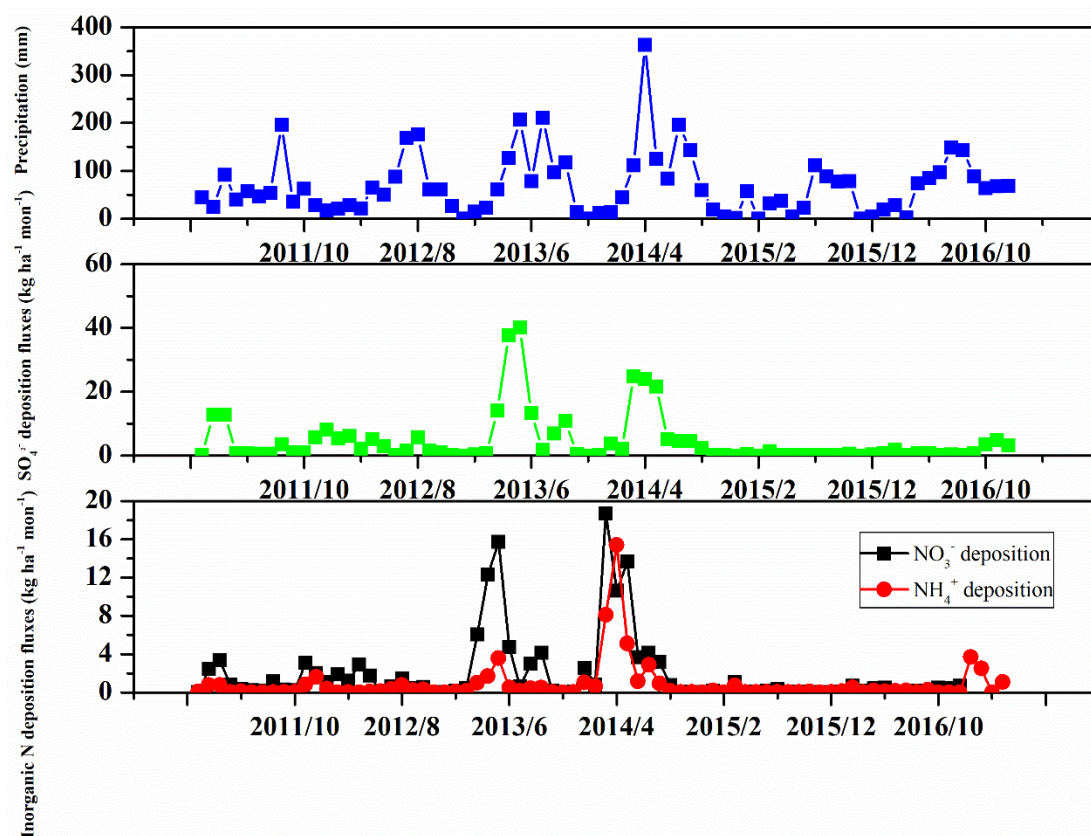
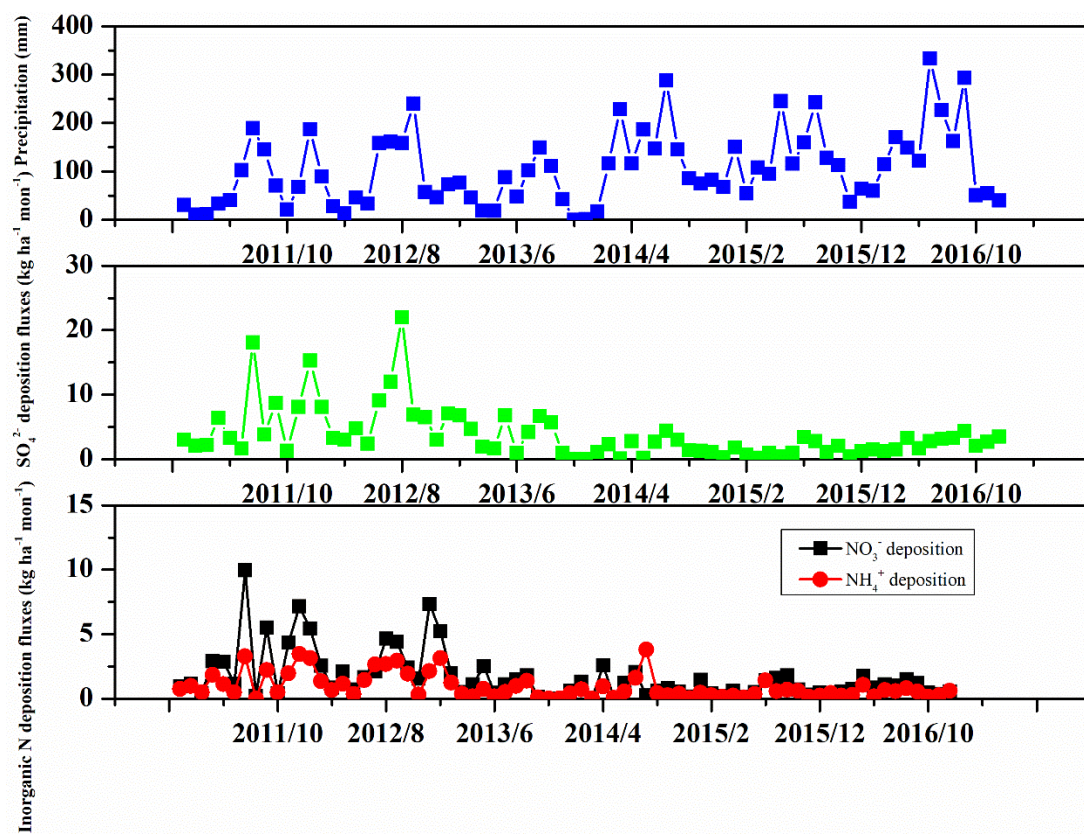


Fig. S98 The precipitation and wet deposition fluxes of secondary ions in Baoshan



**Fig. S99** The precipitation and wet deposition fluxes of secondary ions in Dali



**Fig. S100** The precipitation and wet deposition fluxes of secondary ions in Dezhou

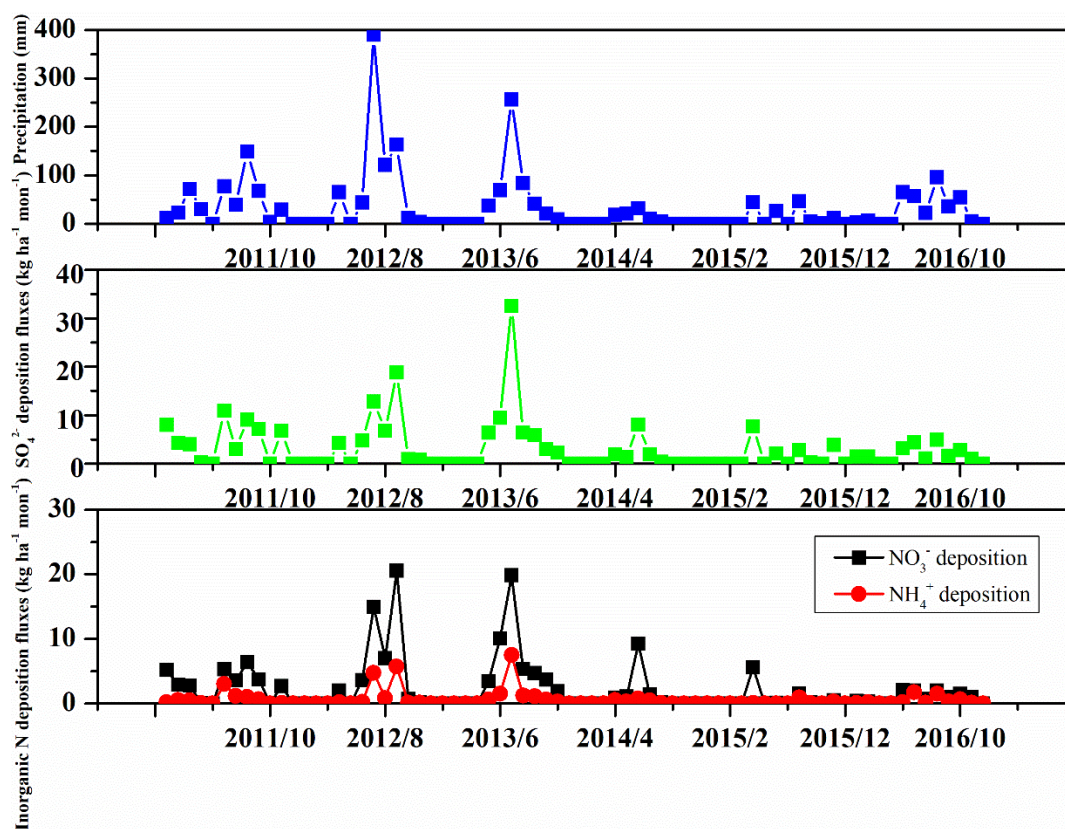
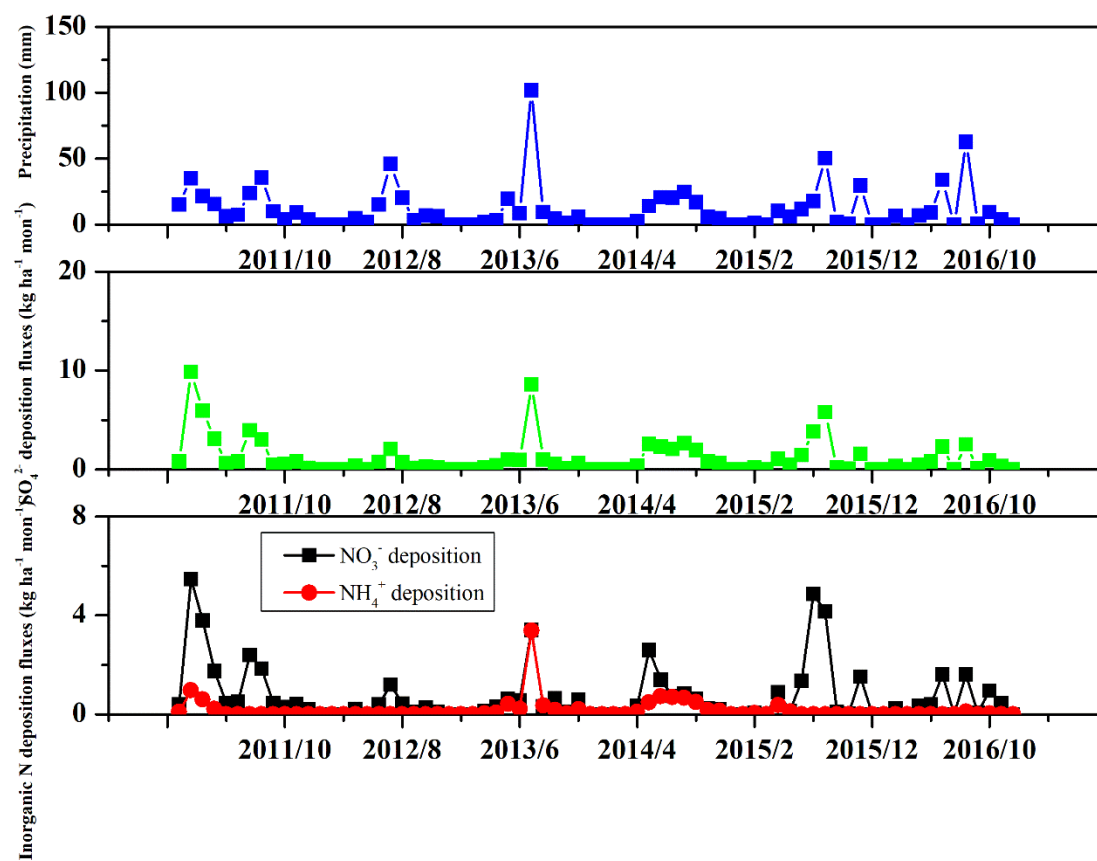


Fig. S101 The precipitation and wet deposition fluxes of secondary ions in Dongying





**Fig. S102** The precipitation and wet deposition fluxes of secondary ions in Guiyang

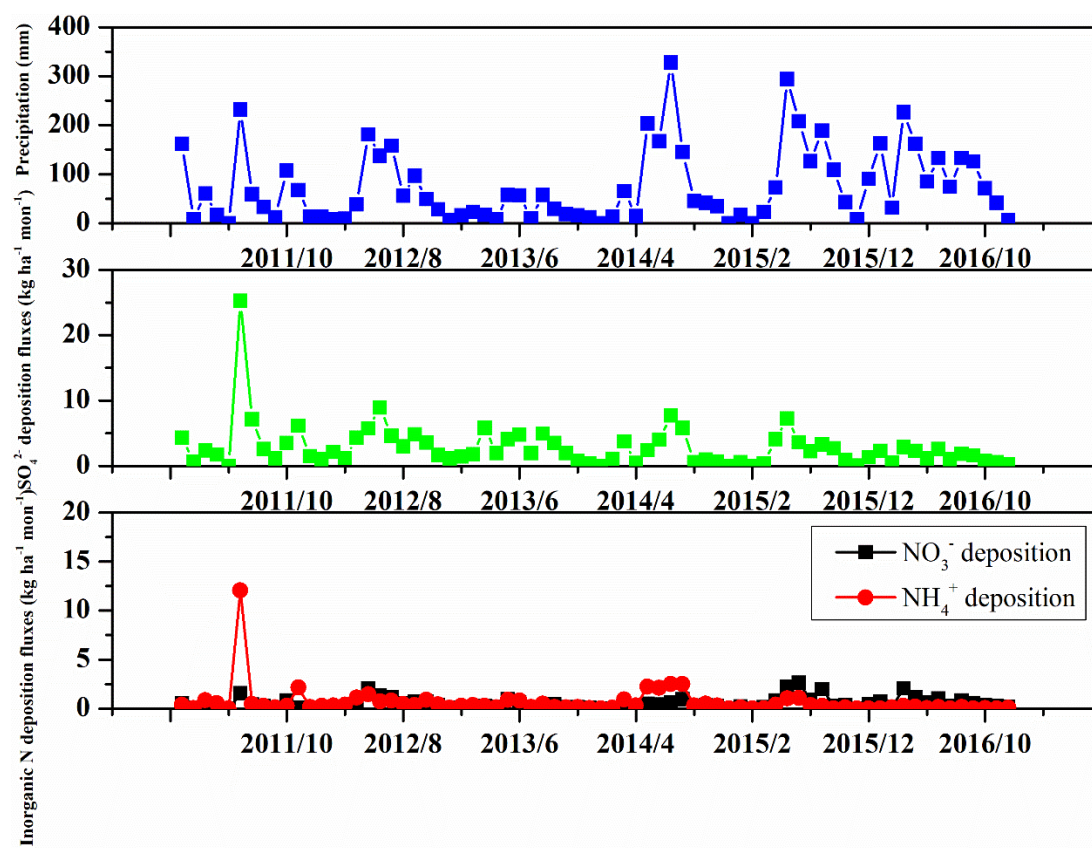


Fig. S103 The precipitation and wet deposition fluxes of secondary ions in Honghe

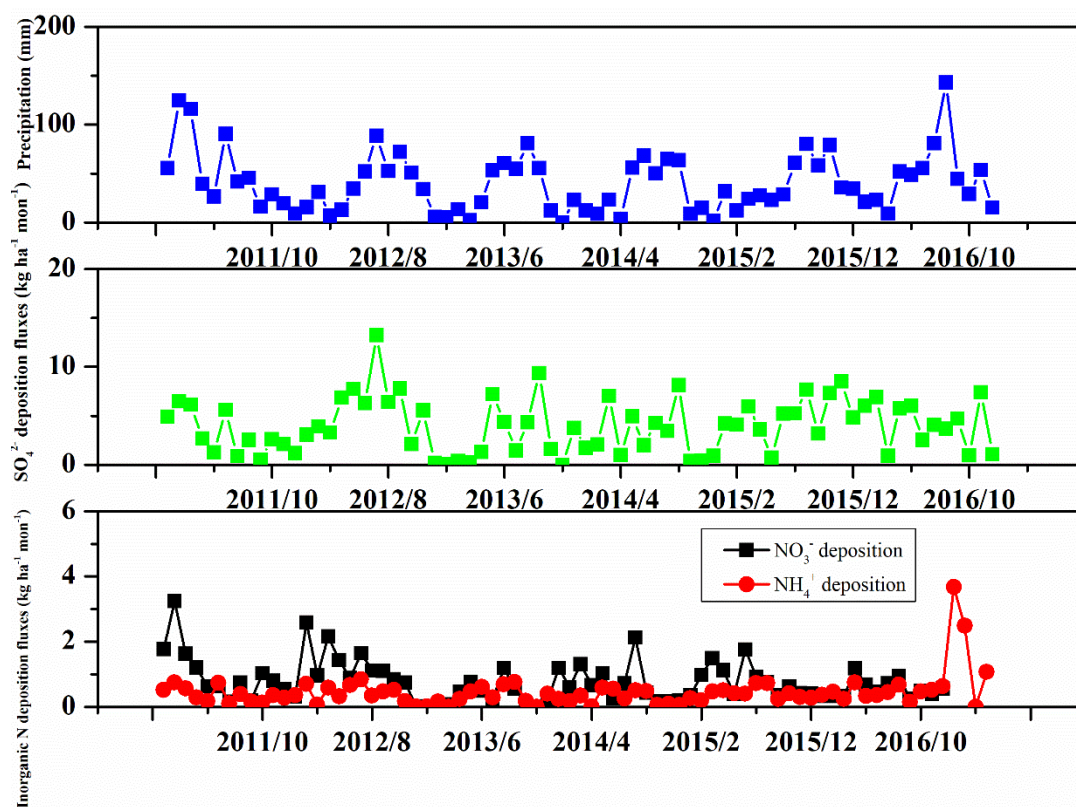


Fig. S104 The precipitation and wet deposition fluxes of secondary ions in Jieyang

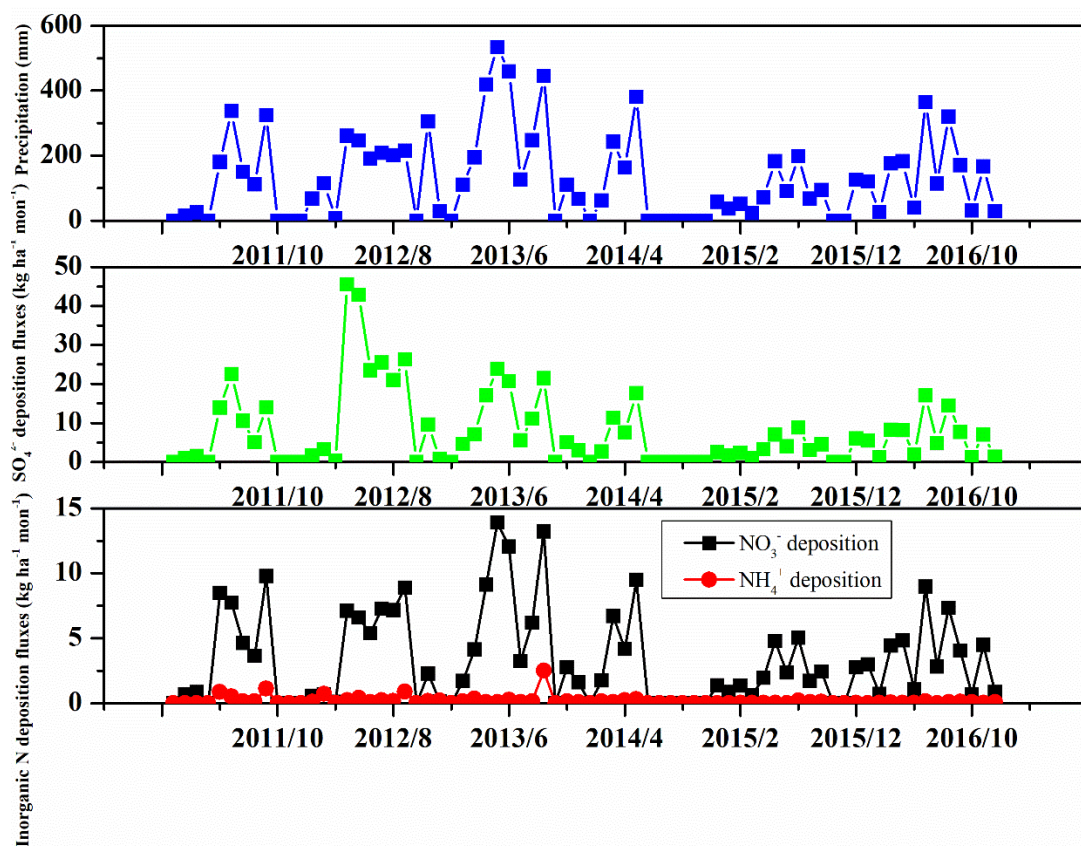


Fig. S105 The precipitation and wet deposition fluxes of secondary ions in Jincheng

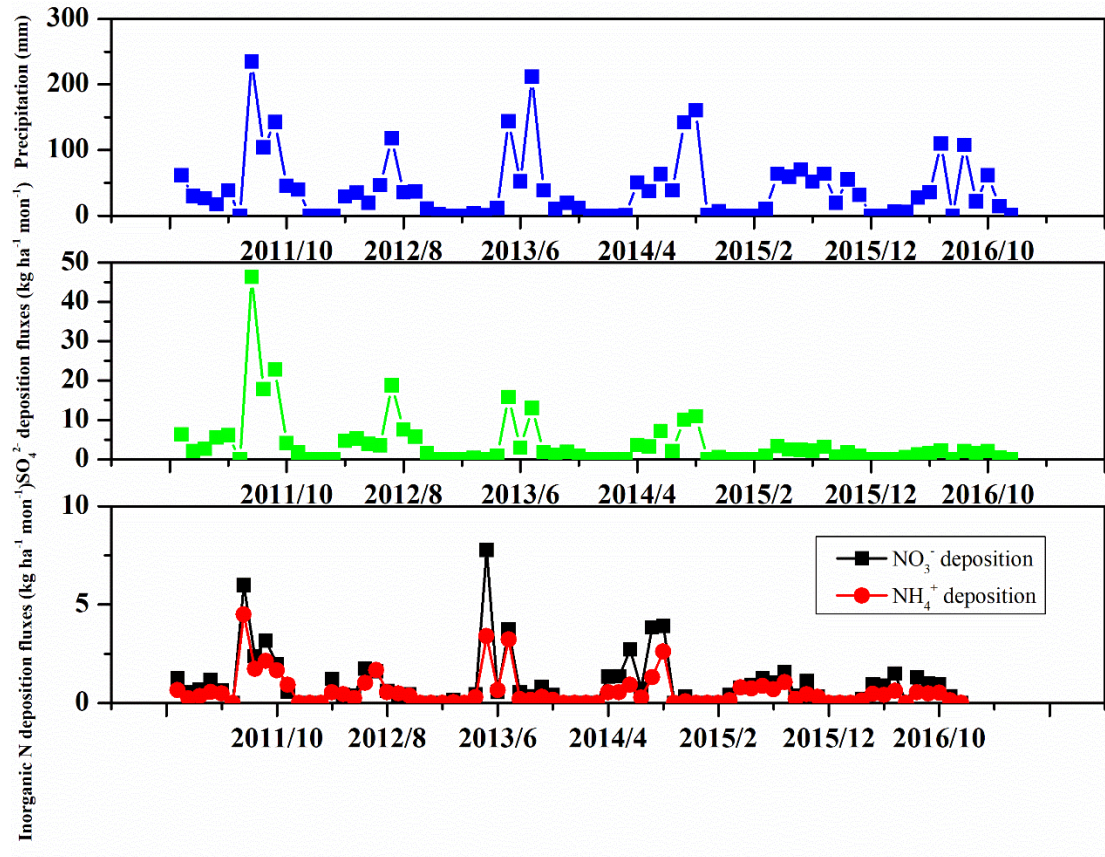


Fig. S106 The precipitation and wet deposition fluxes of secondary ions in Liupanshui

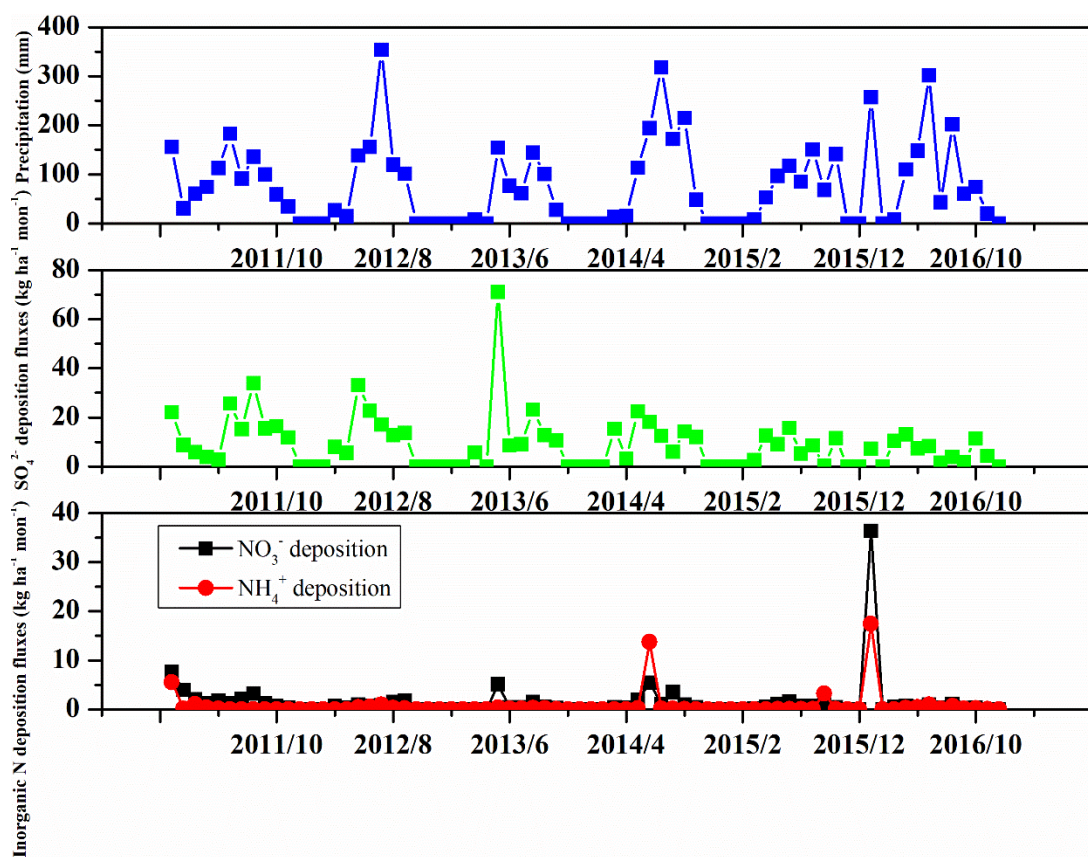


Fig. S107 The precipitation and wet deposition fluxes of secondary ions in Luoyang

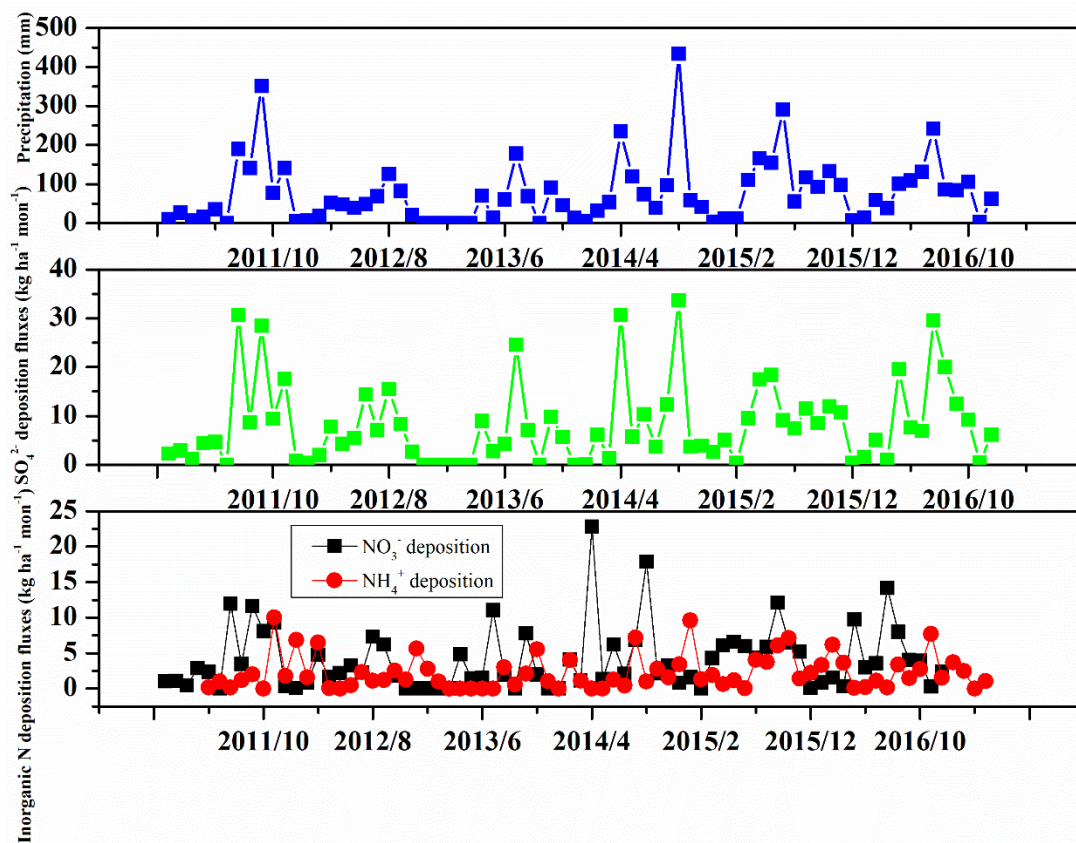
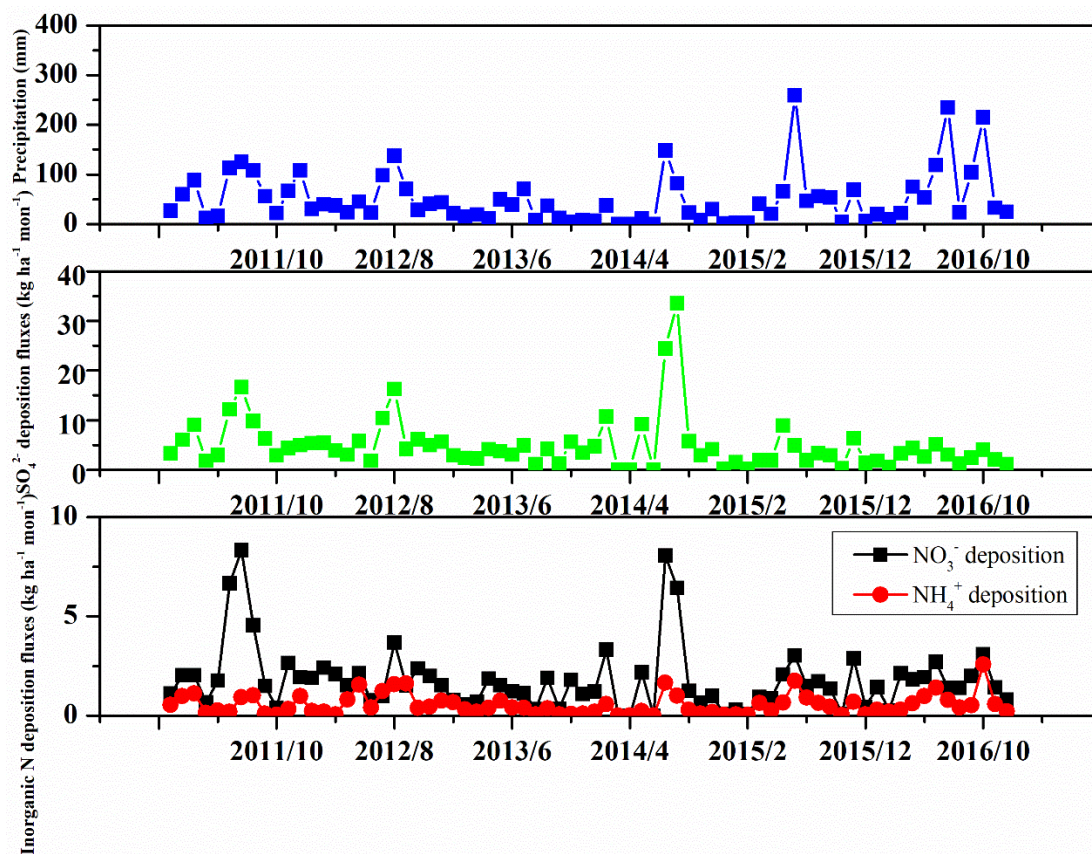
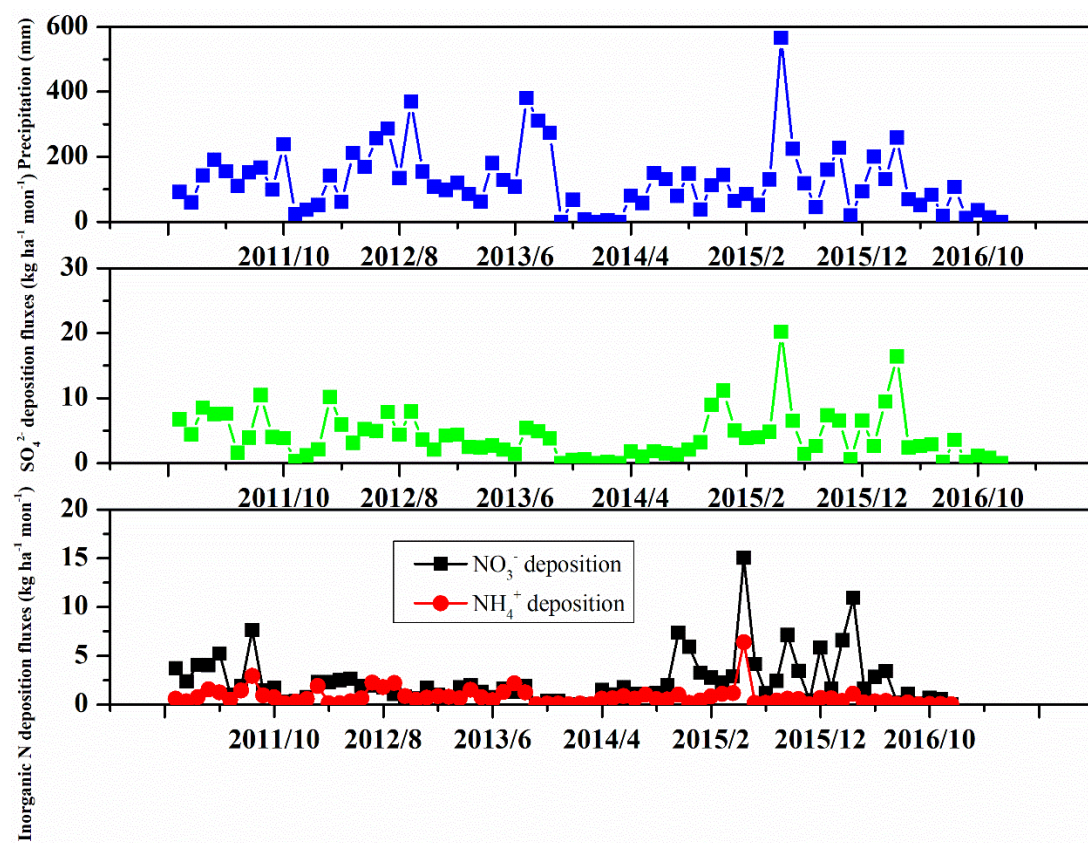


Fig. S108 The precipitation and wet deposition fluxes of secondary ions in Maanshan

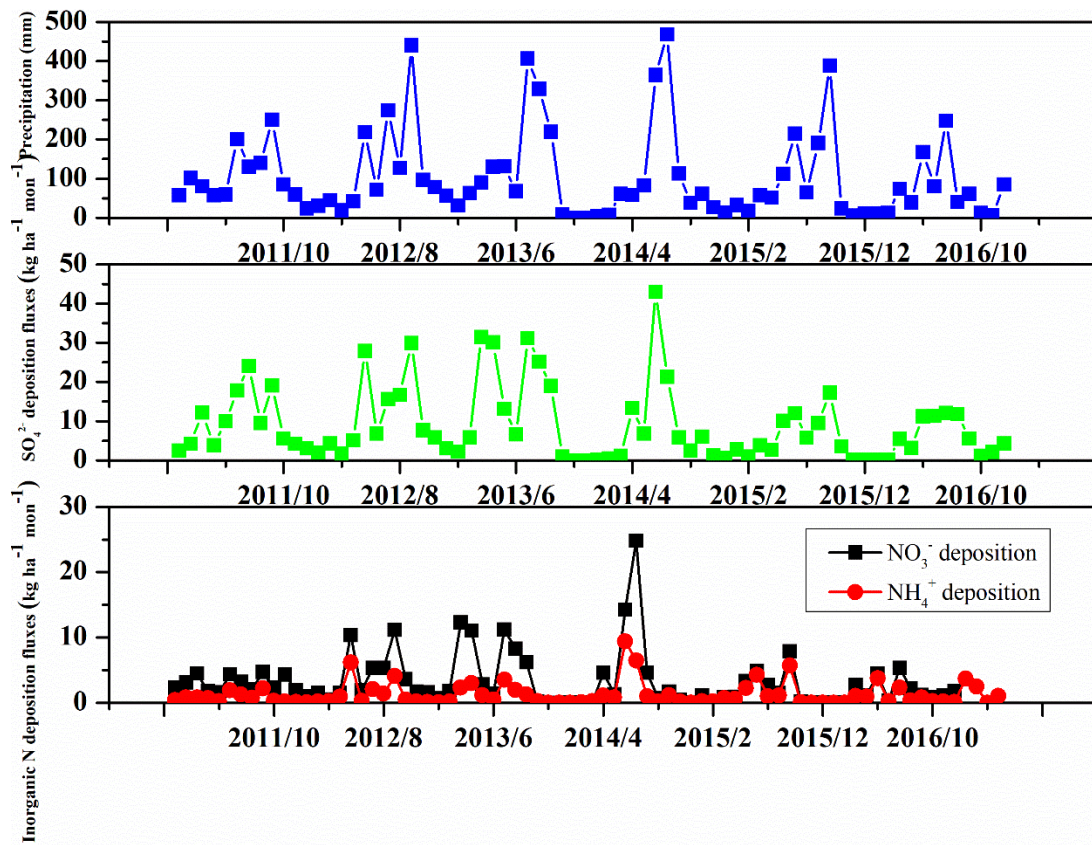


**Fig. S109** The precipitation and wet deposition fluxes of secondary ions in Maoming

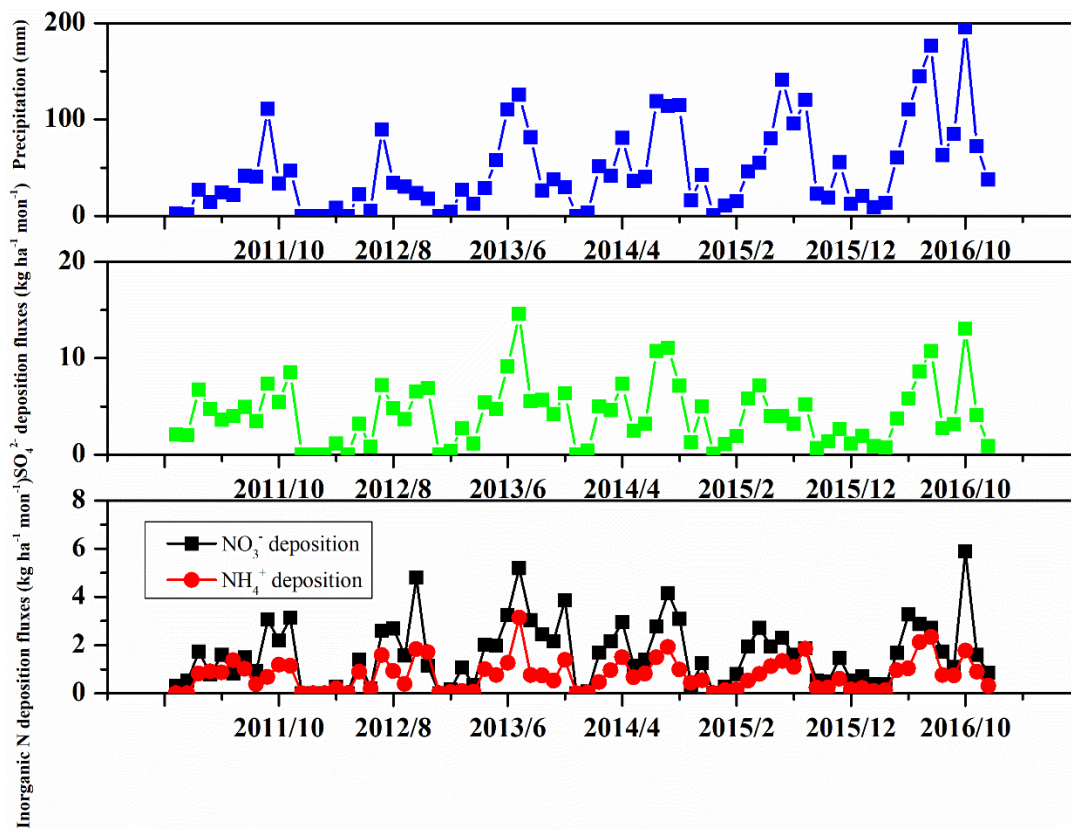




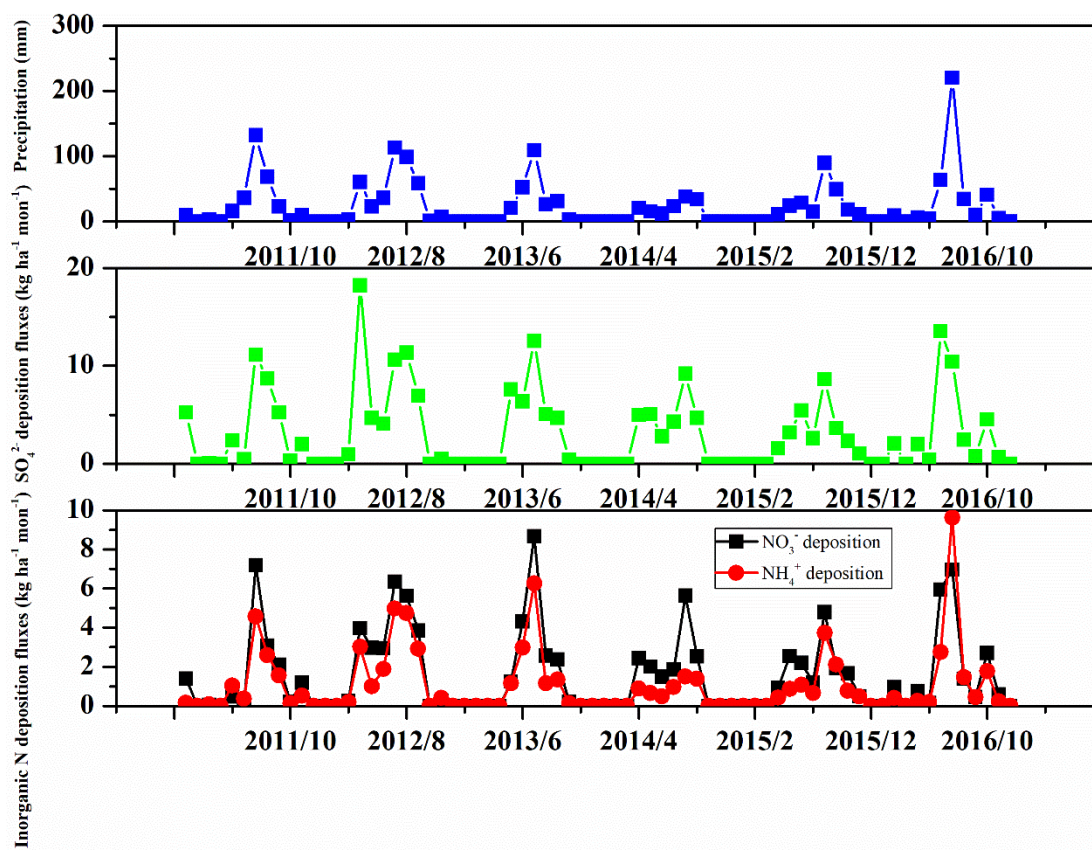
**Fig. S110** The precipitation and wet deposition fluxes of secondary ions in Mianyang



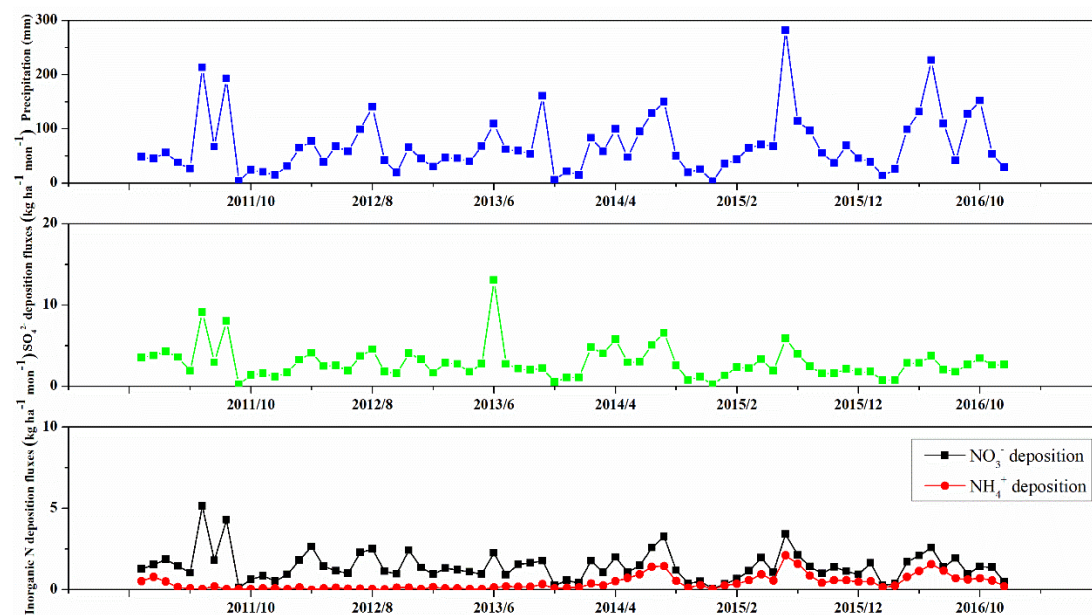
**Fig. S111** The precipitation and wet deposition fluxes of secondary ions in Sanmenxia



**Fig. S112** The precipitation and wet deposition fluxes of secondary ions in Shijiazhuang



**Fig. S113** The precipitation and wet deposition fluxes of secondary ions in Suzhou



**Fig. S114** The precipitation and wet deposition fluxes of secondary ions in Tianjin

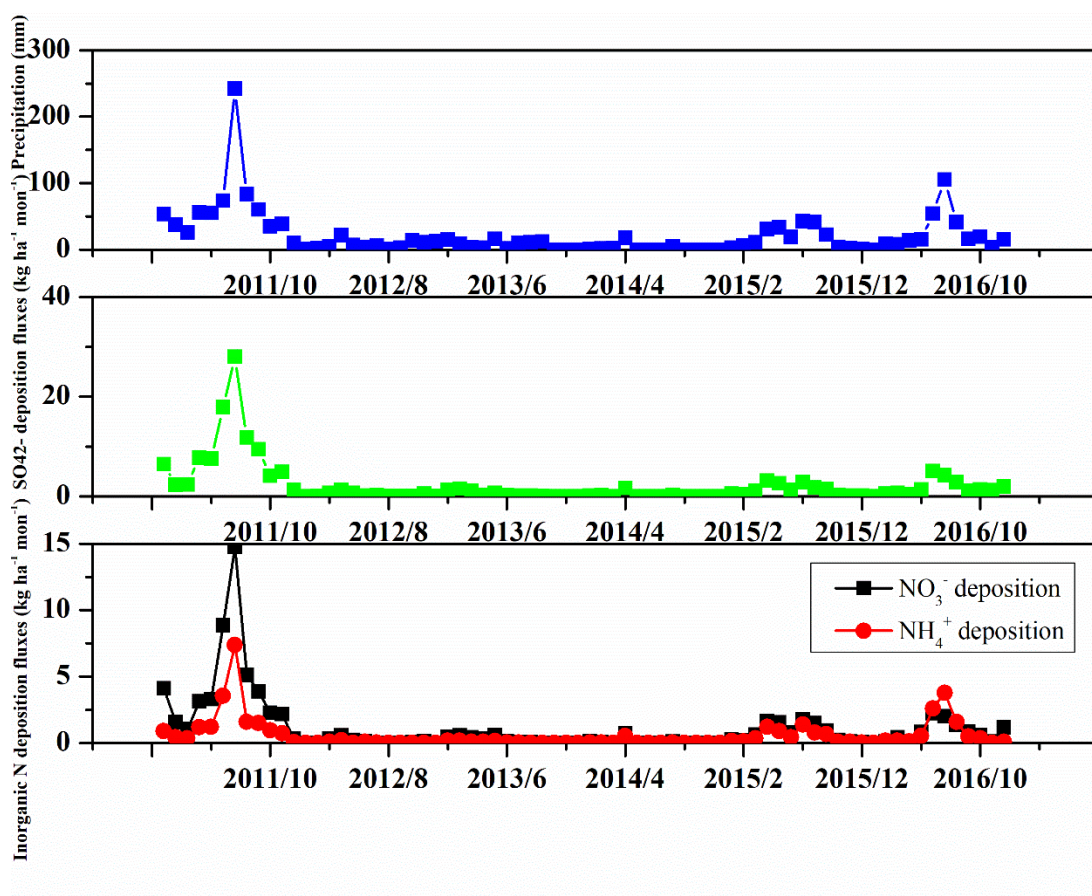


Fig. S115 The precipitation and wet deposition fluxes of secondary ions in Tieling

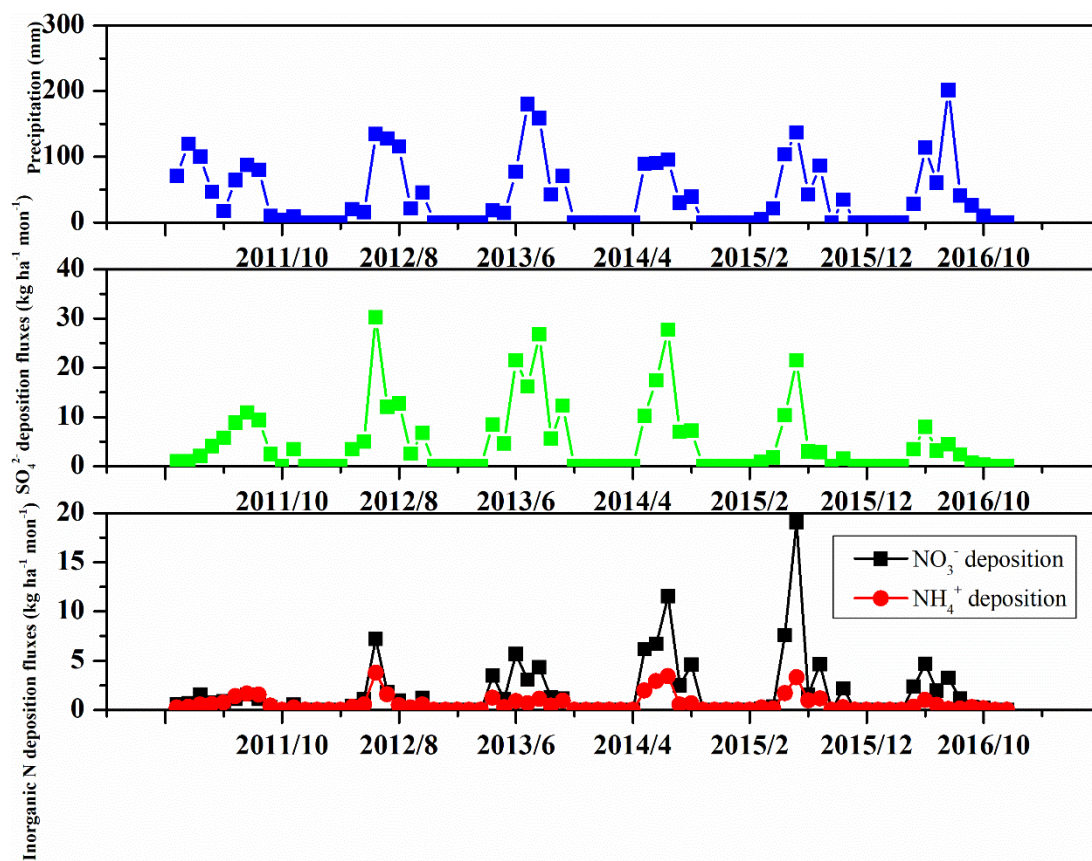


Fig. S116 The precipitation and wet deposition fluxes of secondary ions in Urumqi

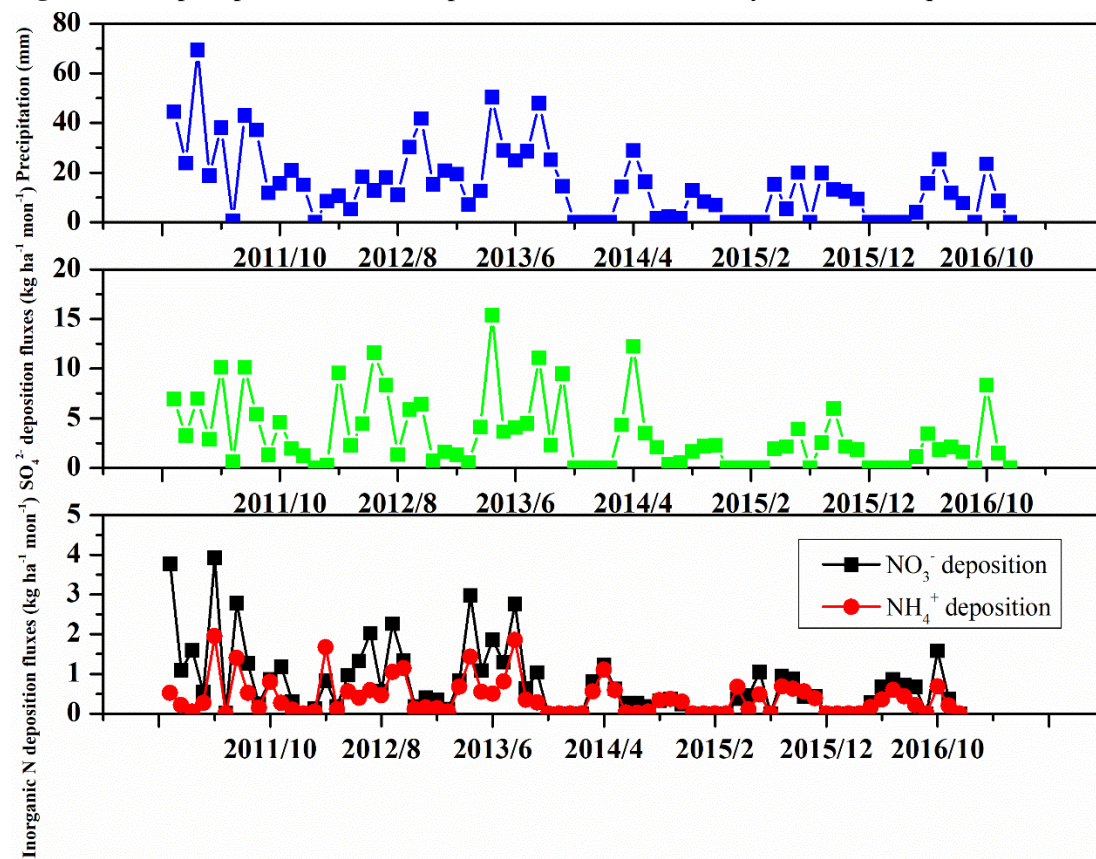
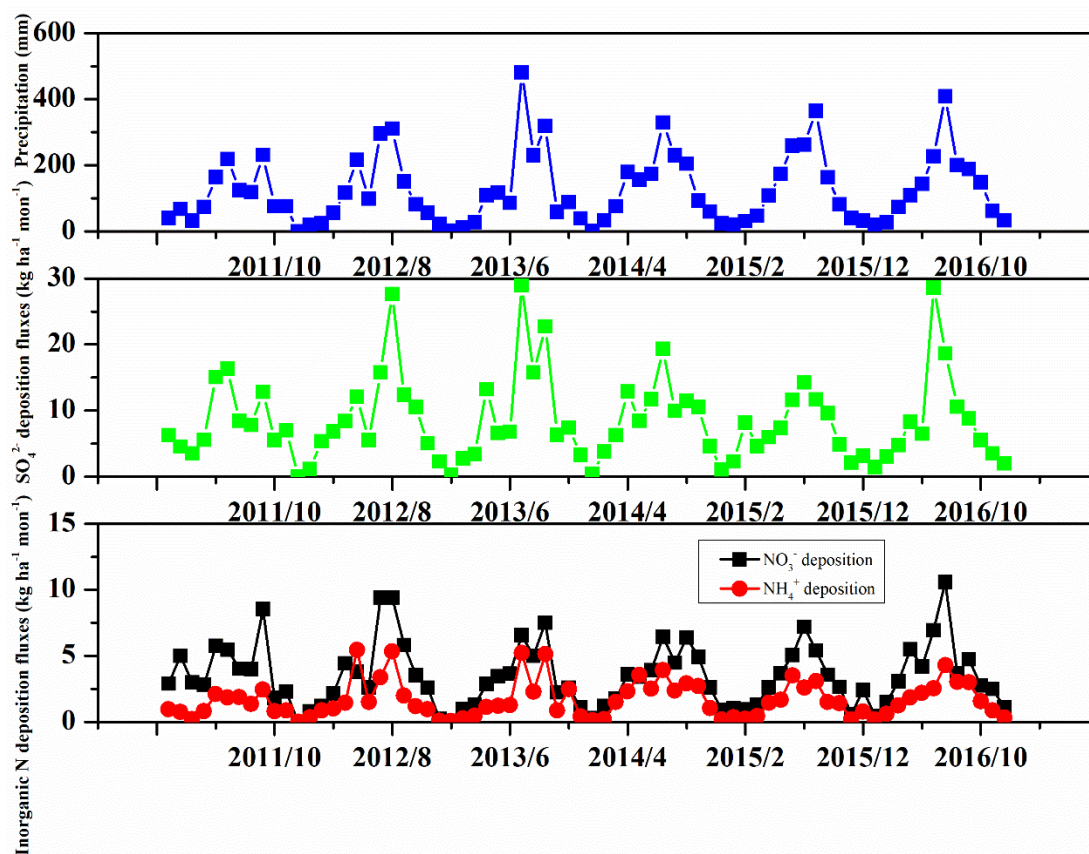


Fig. S117 The precipitation and wet deposition fluxes of secondary ions in Wuxi





**Fig. S118** The precipitation and wet deposition fluxes of secondary ions in Xinyang

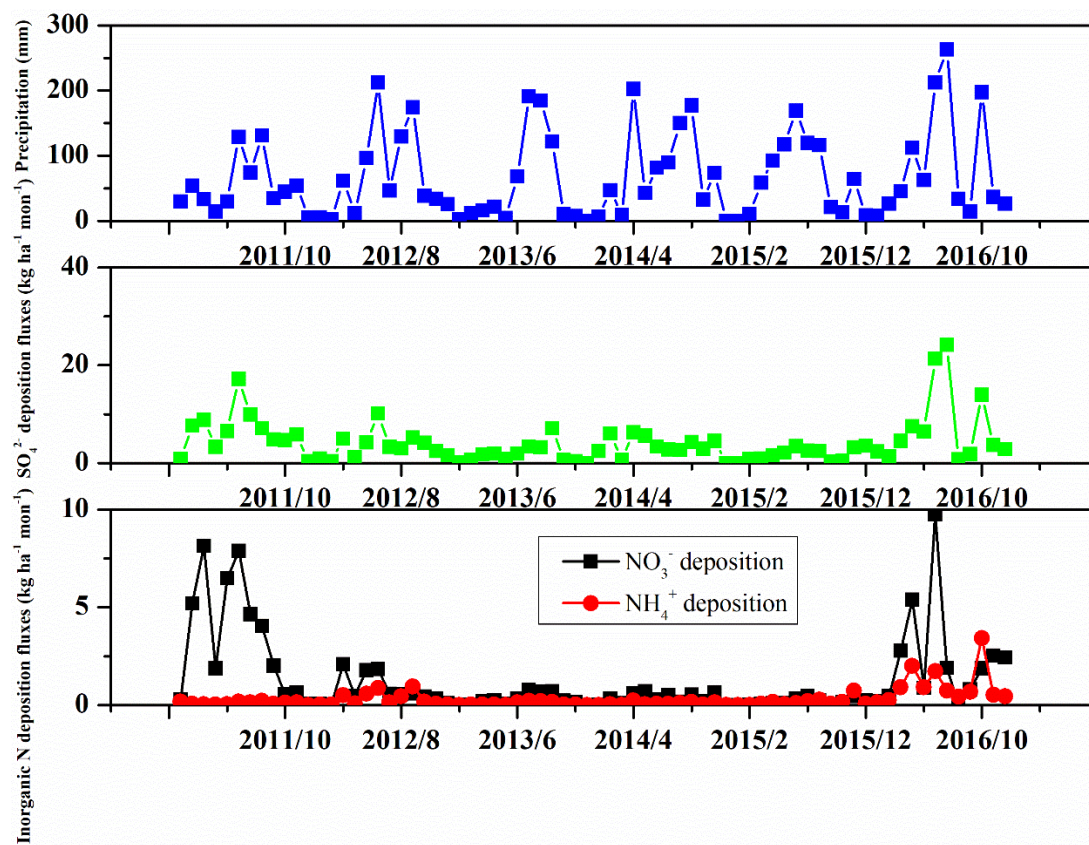


Fig. S119 The precipitation and wet deposition fluxes of secondary ions in Xingtai

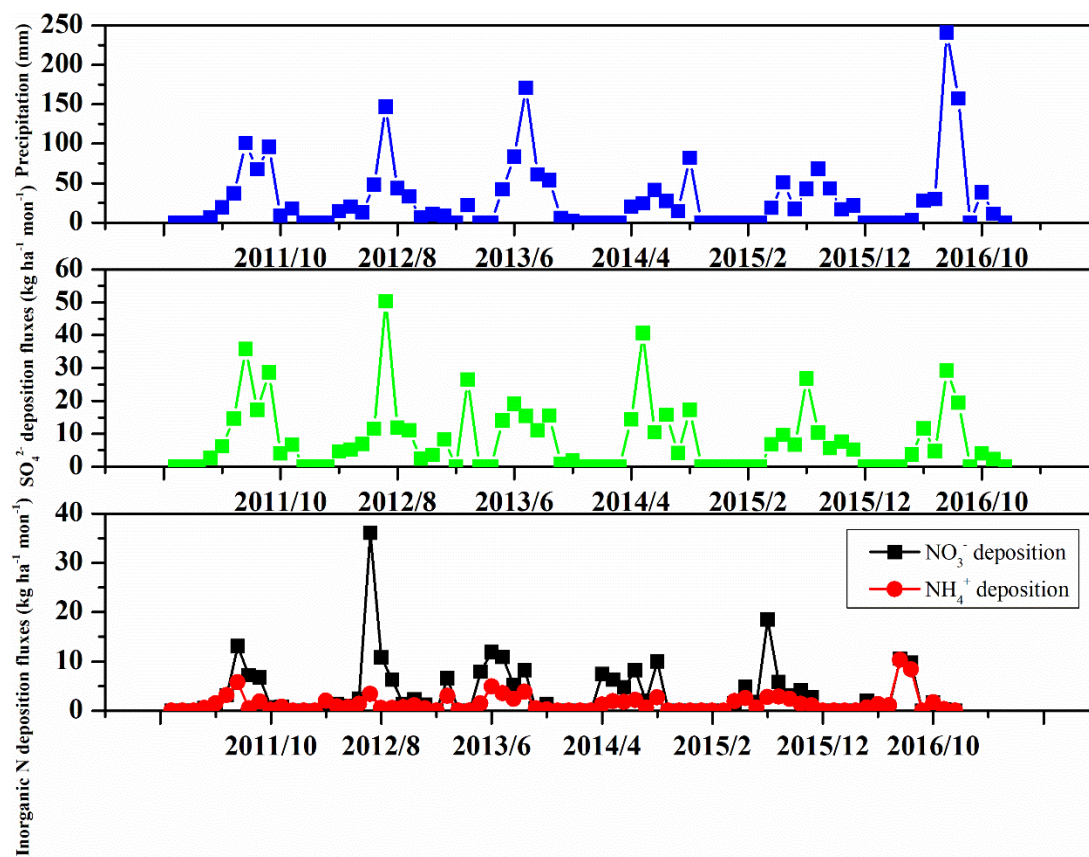
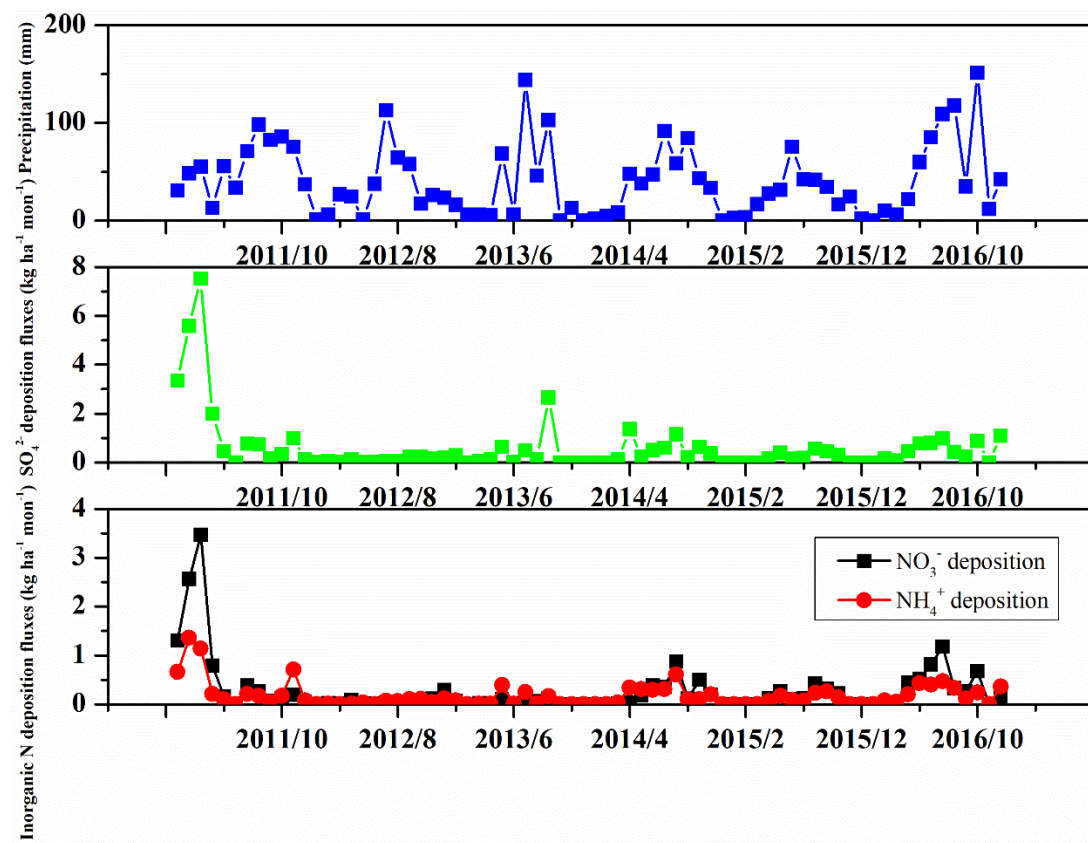


Fig. S120 The precipitation and wet deposition fluxes of secondary ions in Xuzhou



**Fig. S121** The precipitation and wet deposition fluxes of secondary ions in Xuancheng

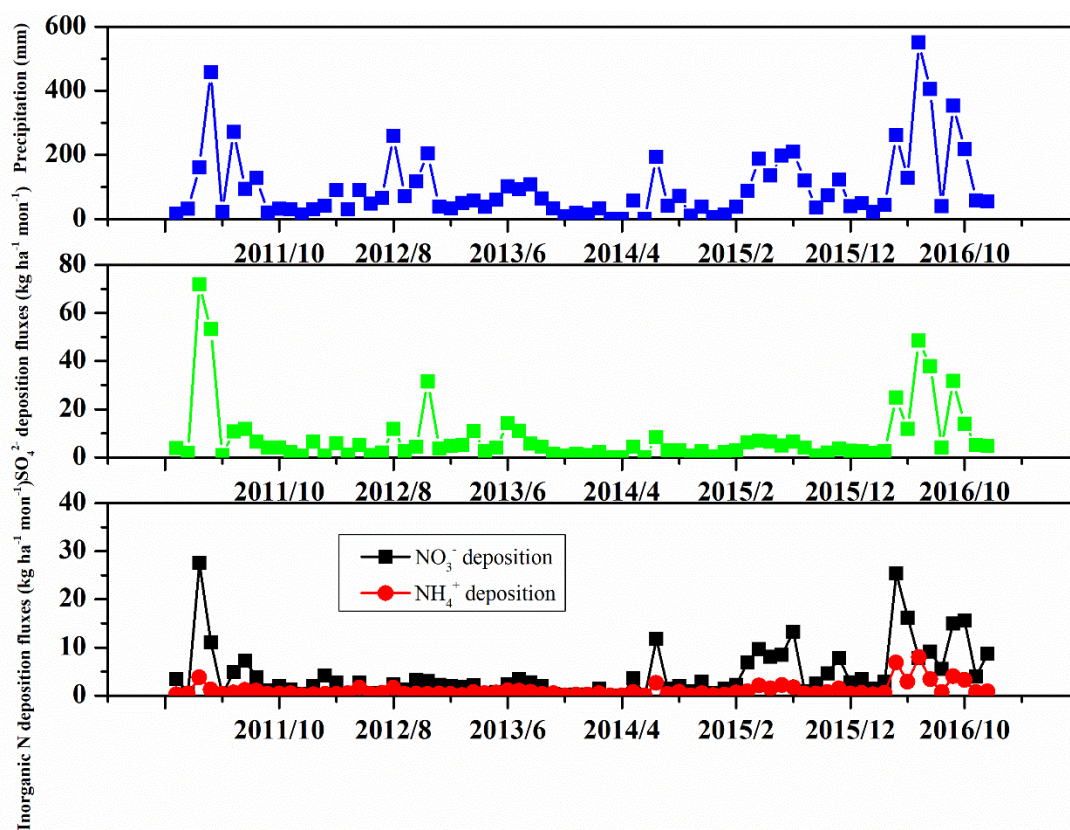
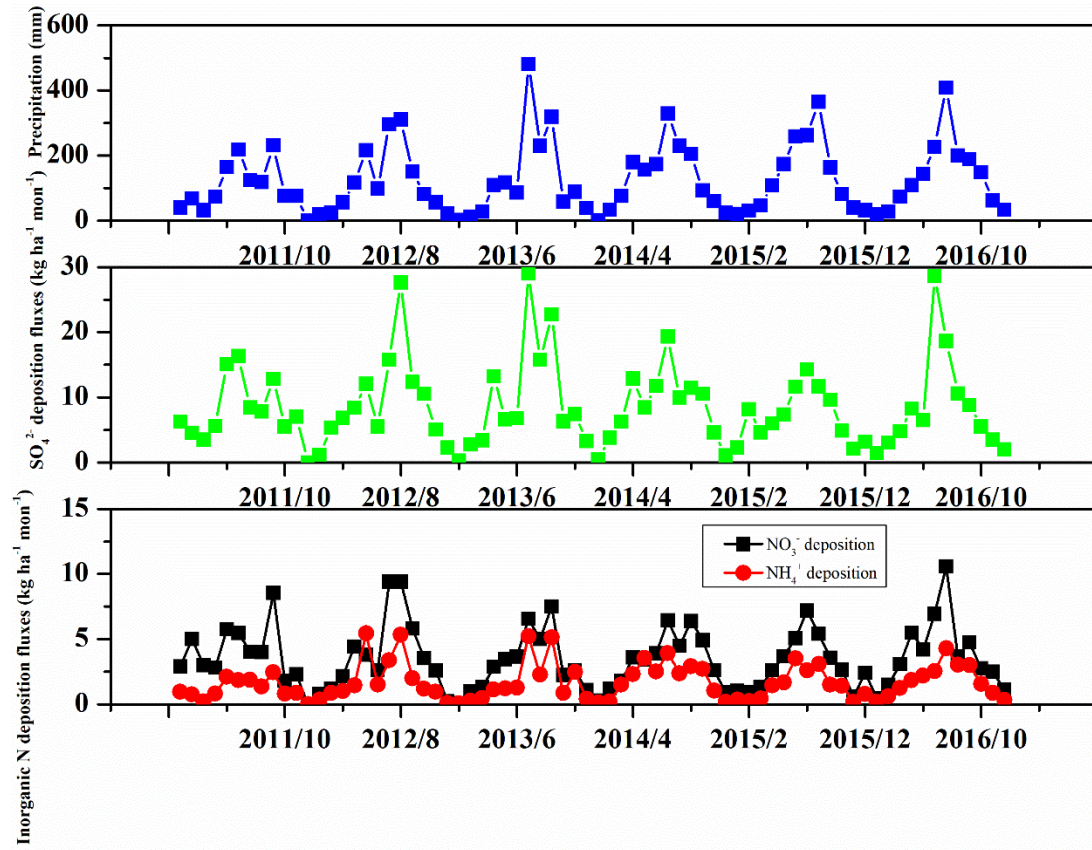


Fig. S122 The precipitation and wet deposition fluxes of secondary ions in Ya'an



**Fig. S123** The precipitation and wet deposition fluxes of secondary ions in Yancheng

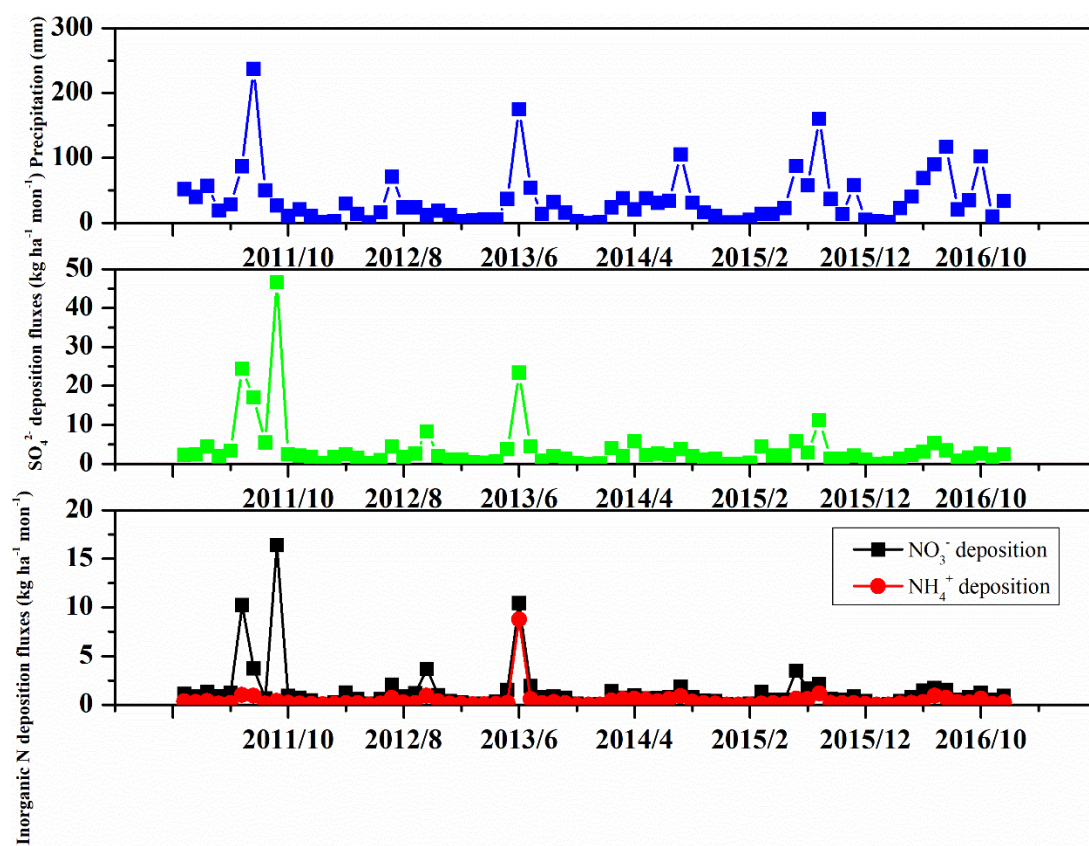


Fig. S124 The precipitation and wet deposition fluxes of secondary ions in Yangzhou

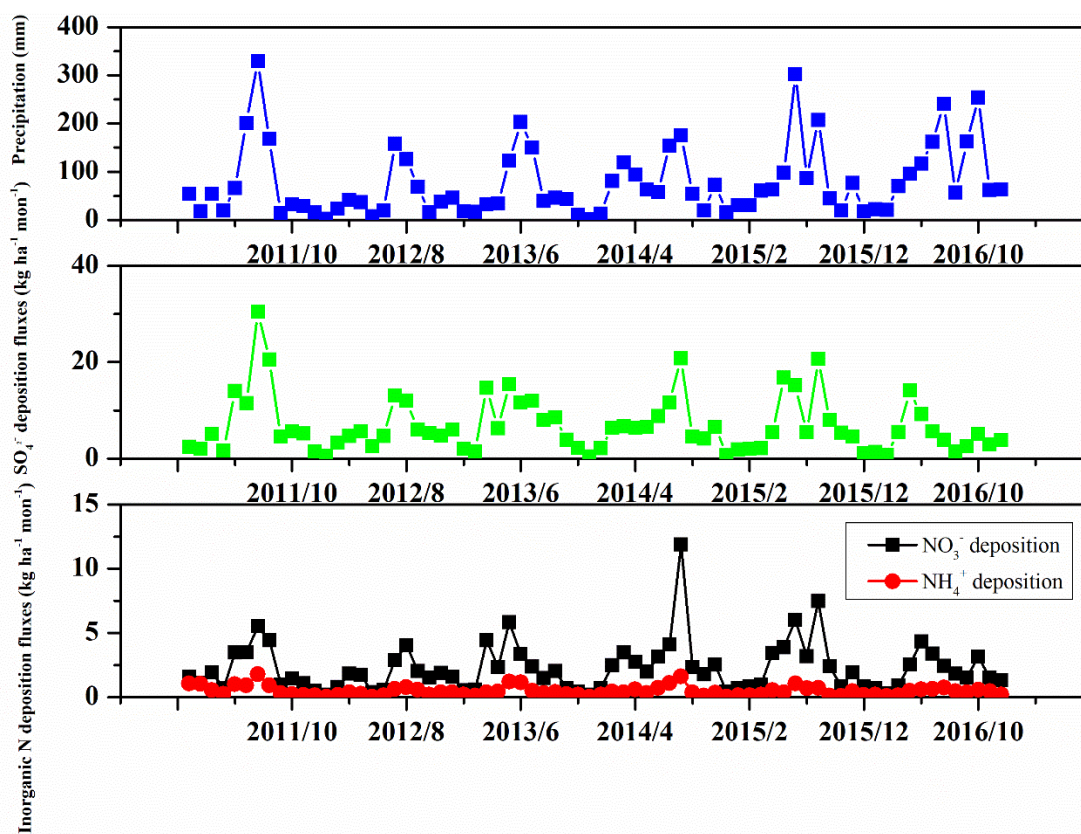
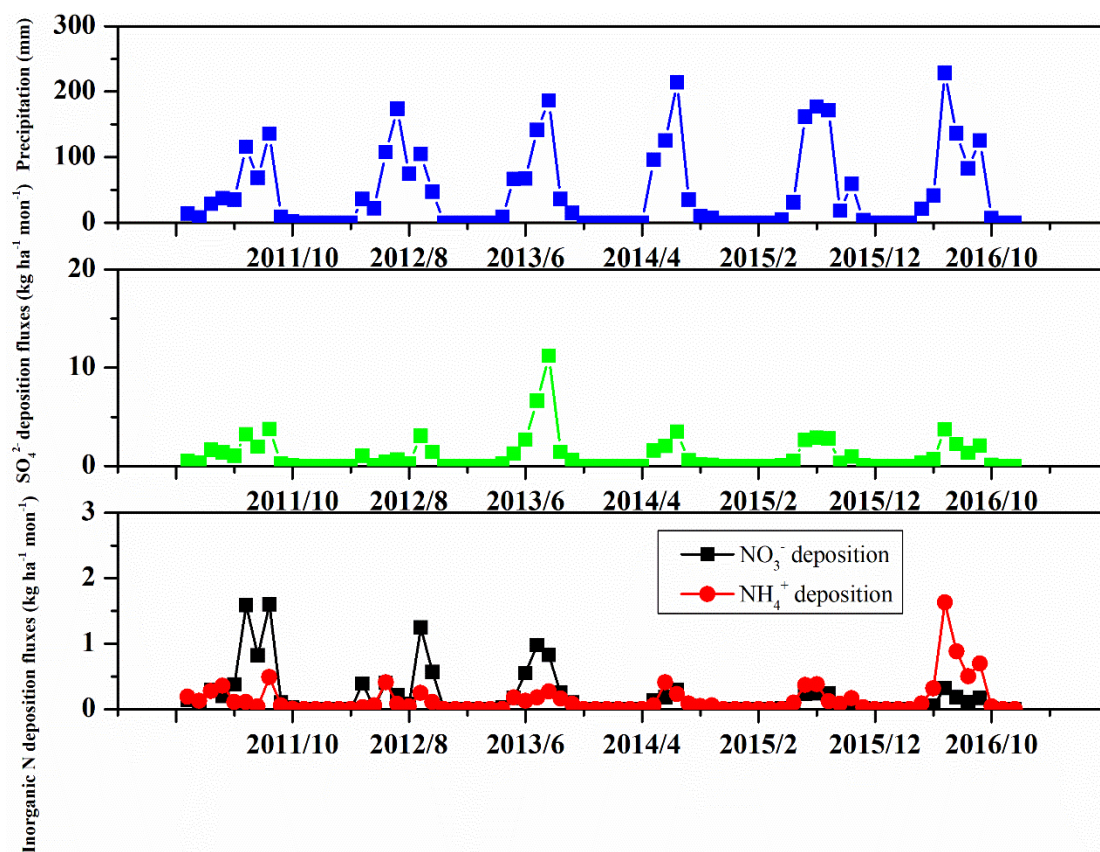


Fig. S125 The precipitation and wet deposition fluxes of secondary ions in Yichun





**Fig. S126** The precipitation and wet deposition fluxes of secondary ions in Yili

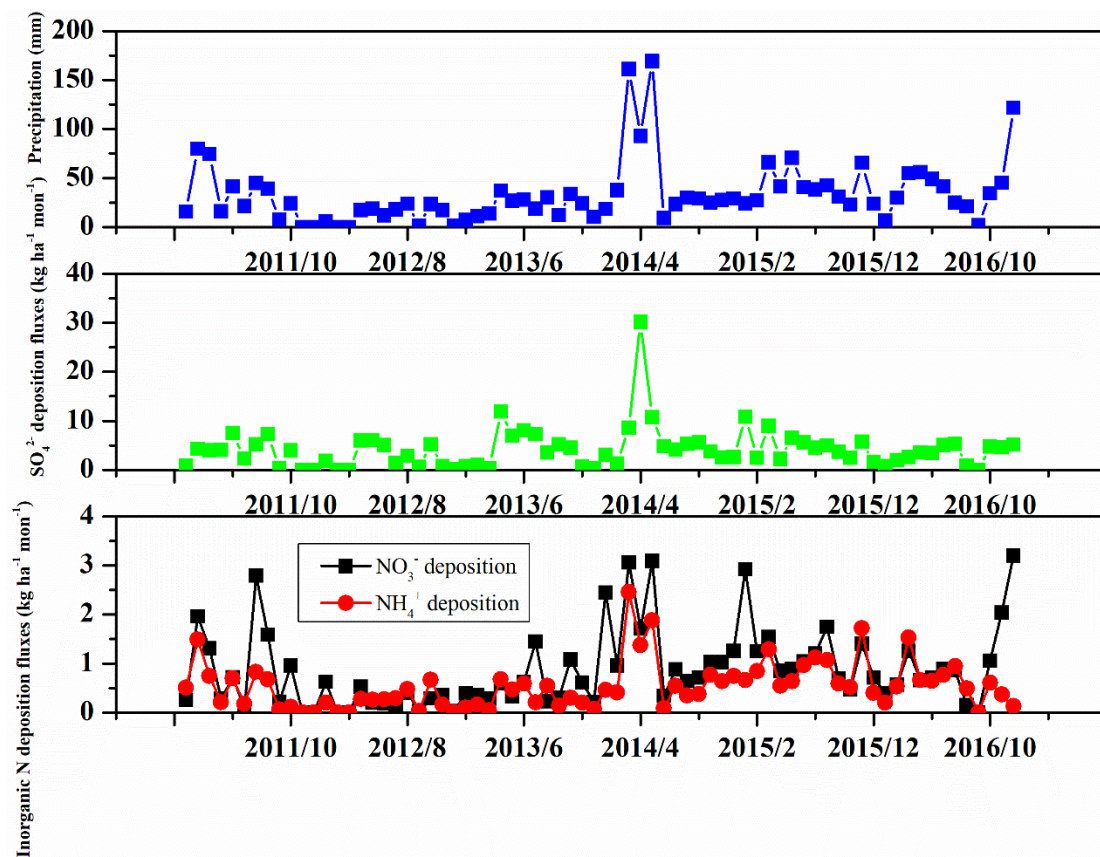


Fig. S127 The precipitation and wet deposition fluxes of secondary ions in Yibin

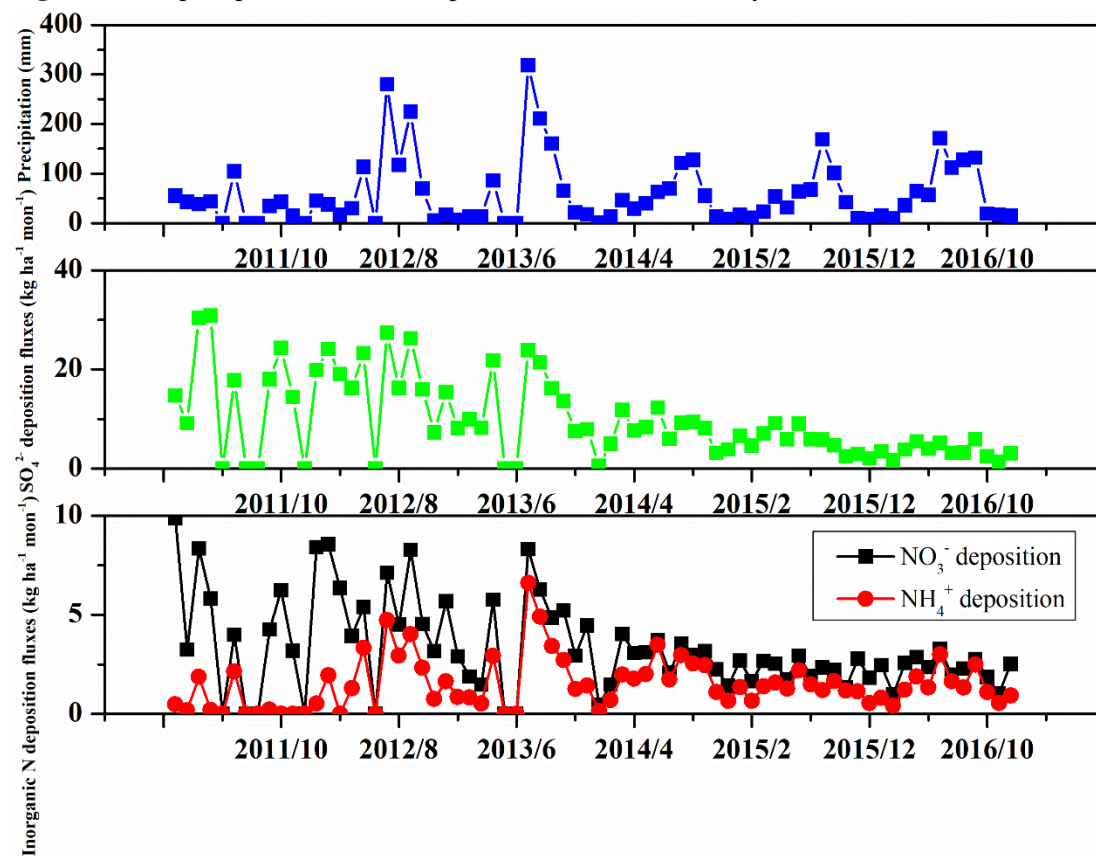


Fig. S128 The precipitation and wet deposition fluxes of secondary ions in Yuncheng

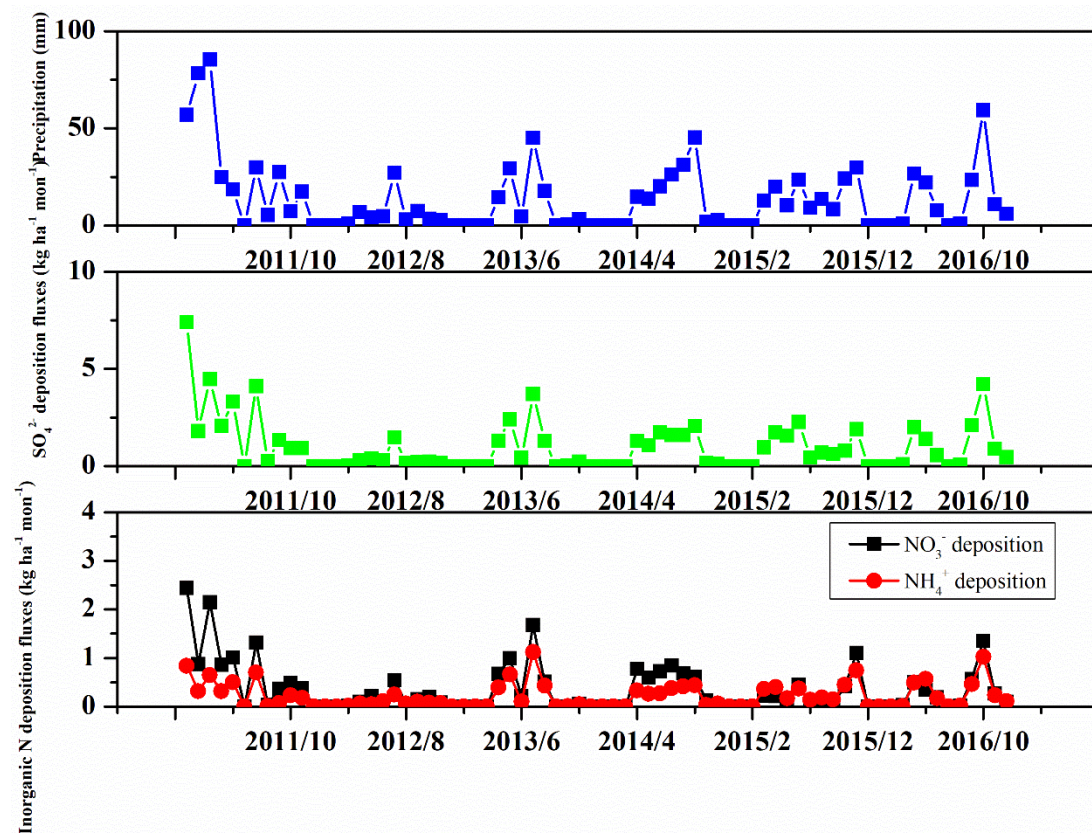
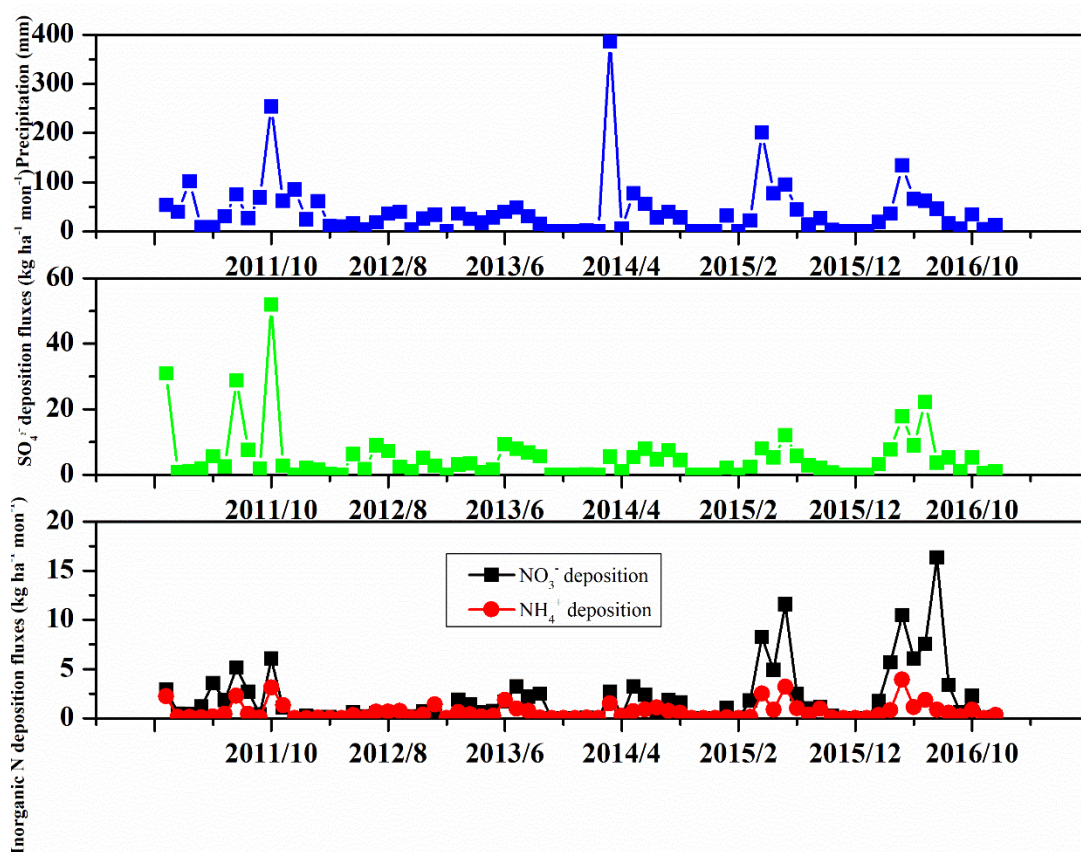


Fig. S129 The precipitation and wet deposition fluxes of secondary ions in Zhangjiakou



**Fig. S130** The precipitation and wet deposition fluxes of secondary ions in Changzhi

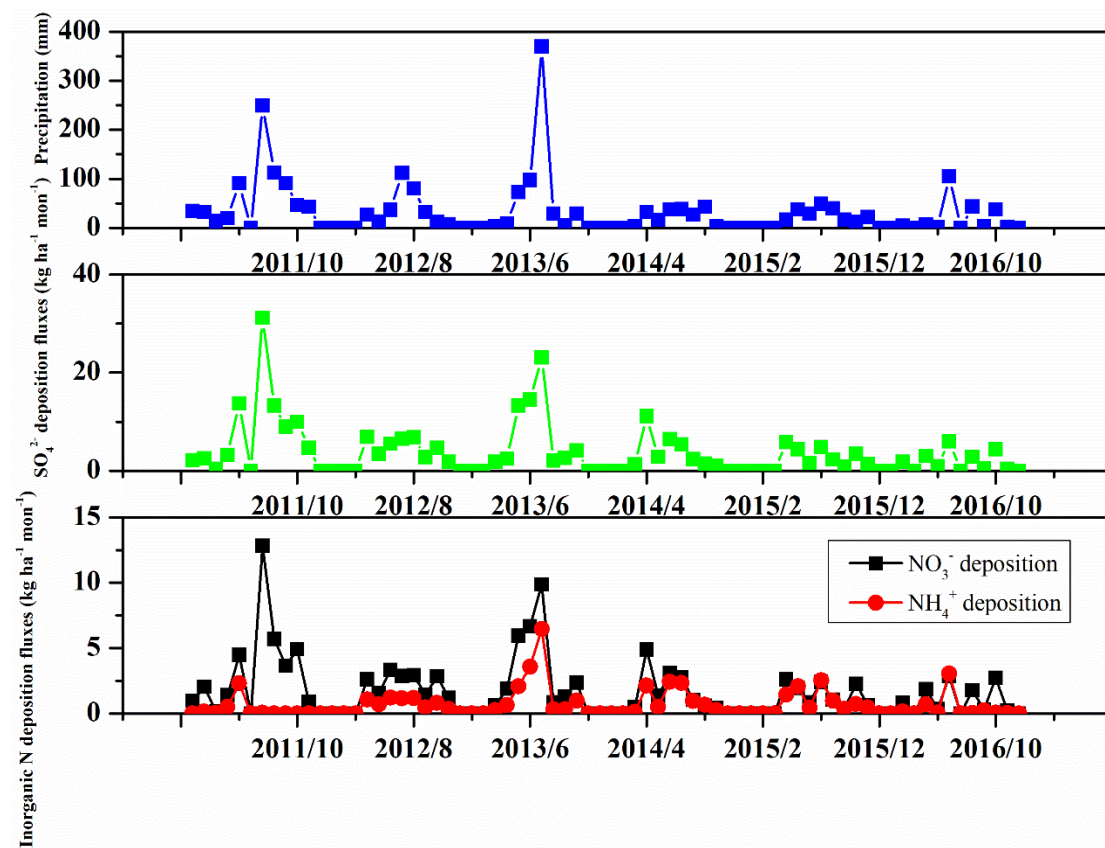
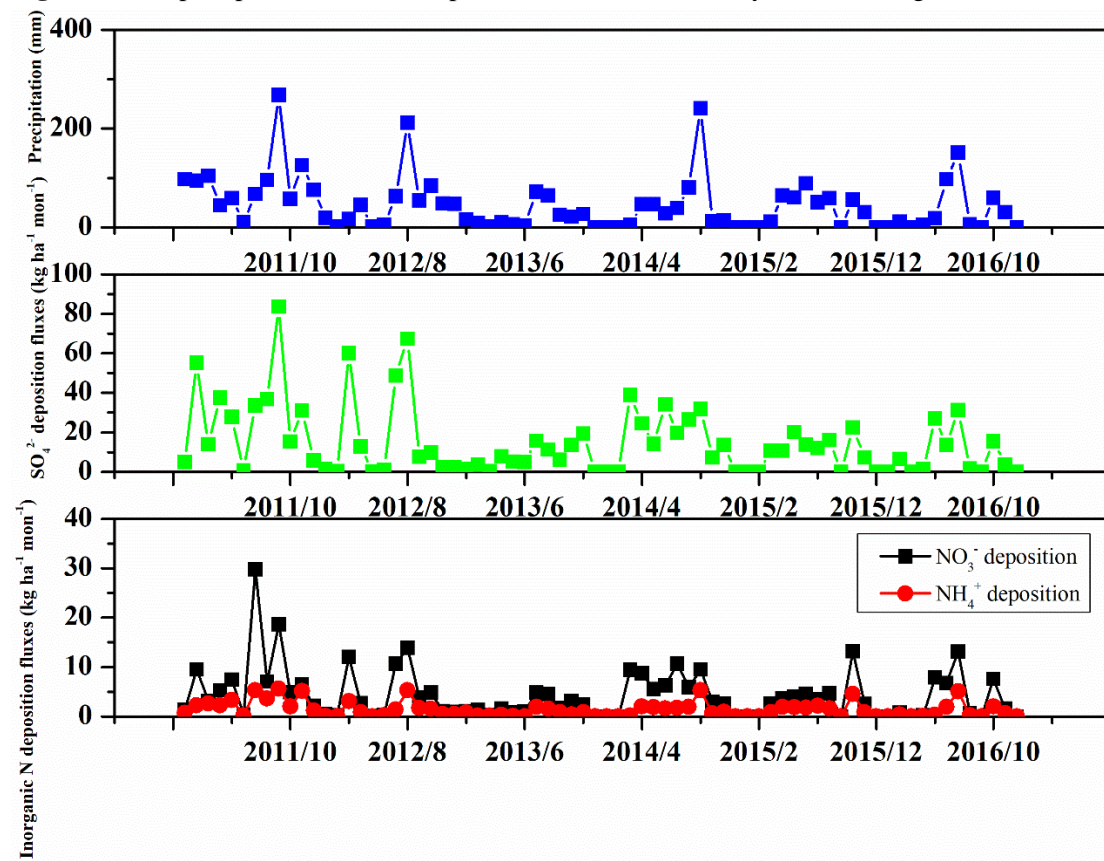
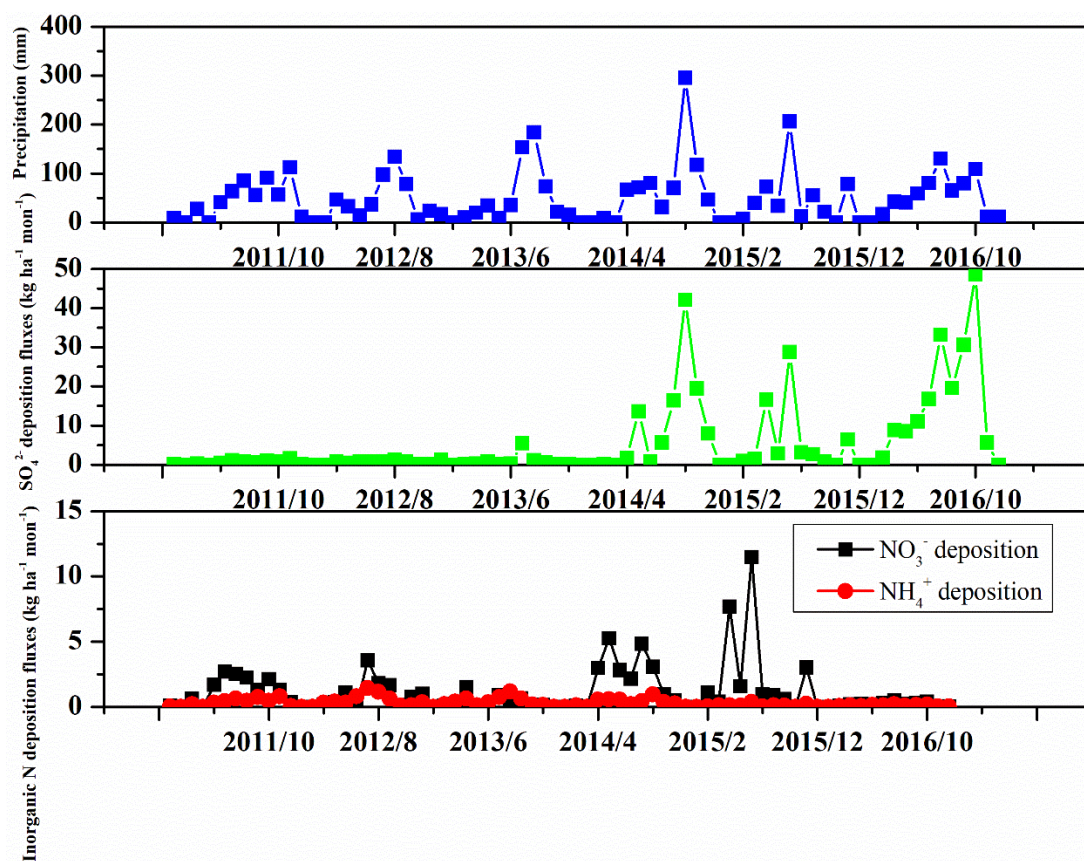


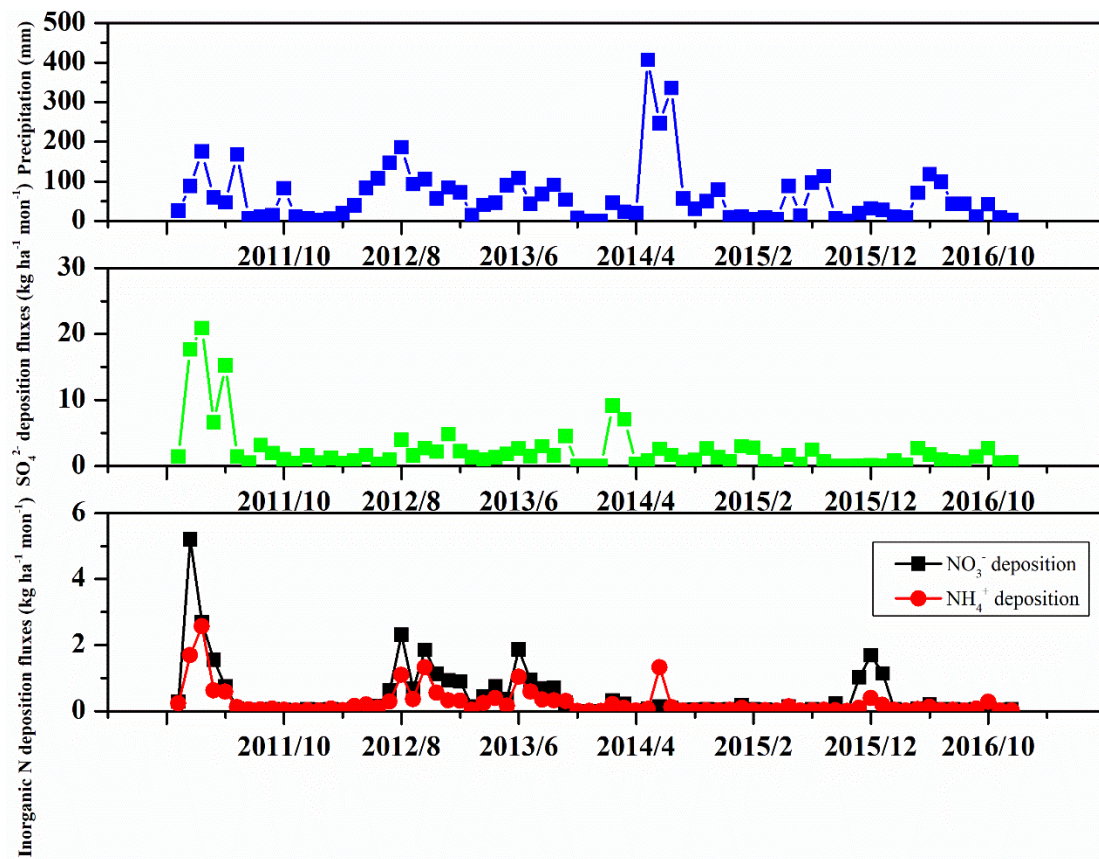
Fig. S131 The precipitation and wet deposition fluxes of secondary ions in Zhengzhou



**Fig. S132** The precipitation and wet deposition fluxes of secondary ions in Zhumadian



**Fig. S133** The precipitation and wet deposition fluxes of secondary ions in Zunyi





**Fig. S134** The precipitation and wet deposition fluxes of secondary ions in Taizhou

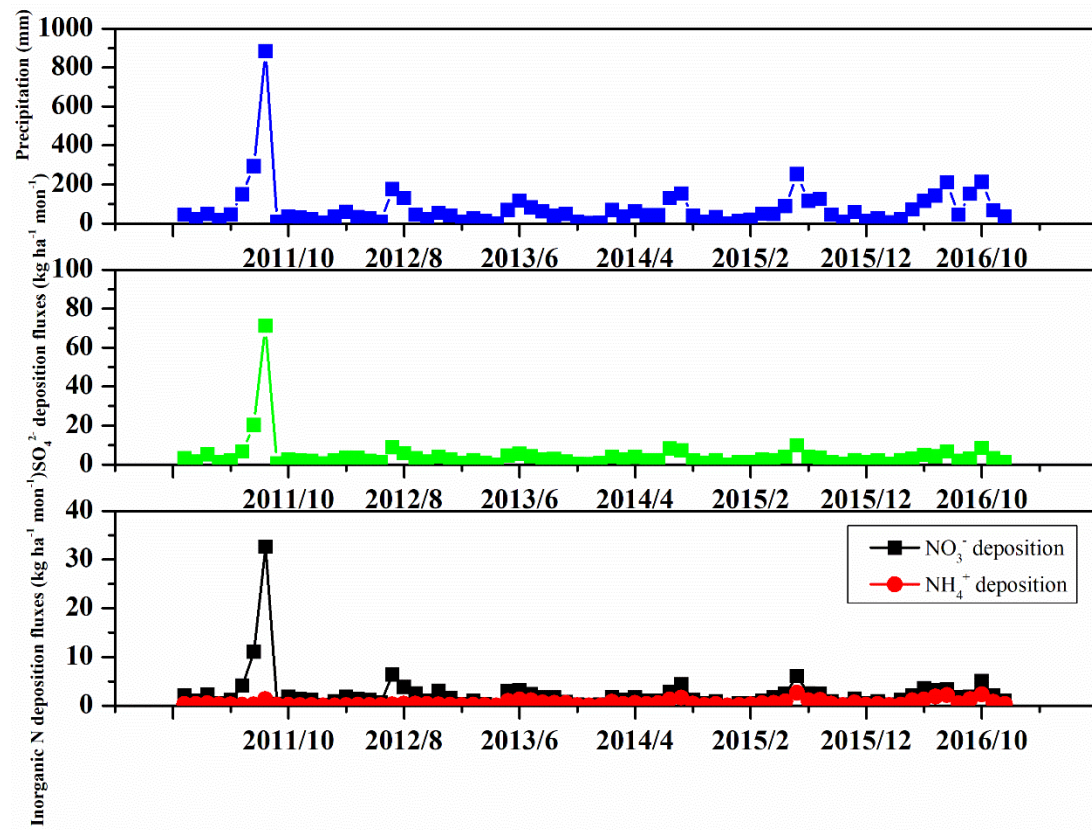
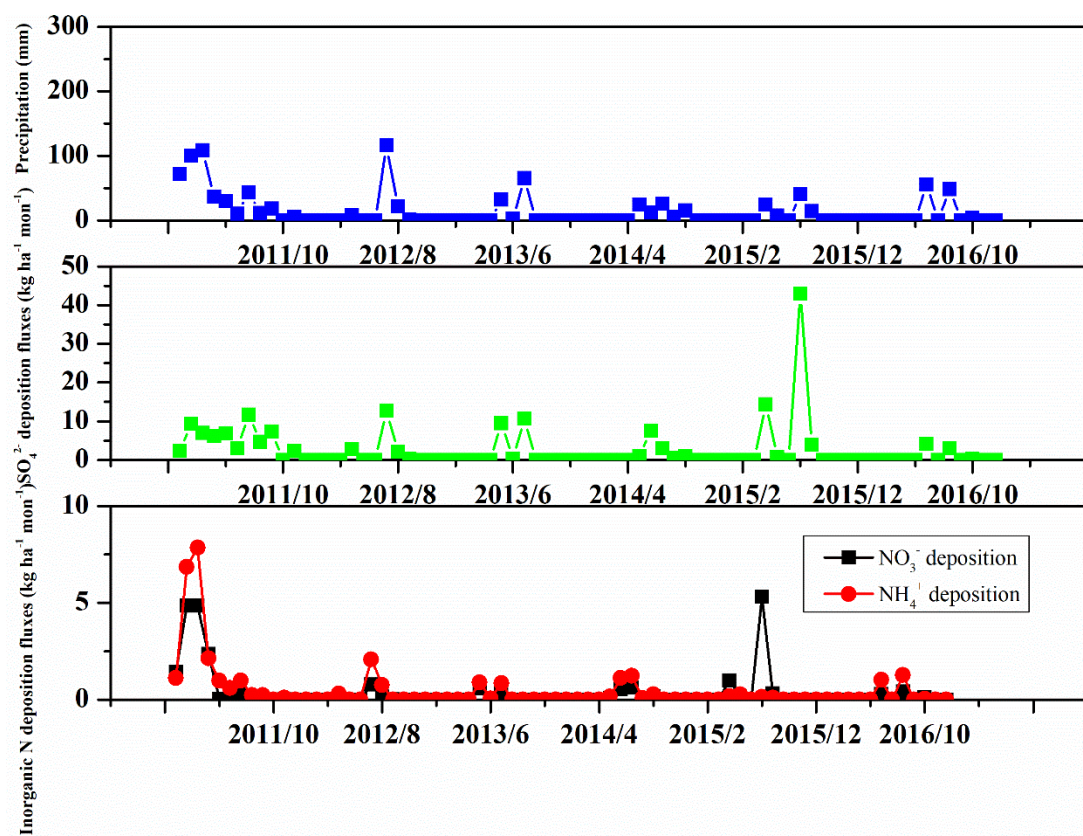


Fig. S135 The precipitation and wet deposition fluxes of secondary ions in Taian



**Fig. S136** The precipitation and wet deposition fluxes of secondary ions in Xilinguole

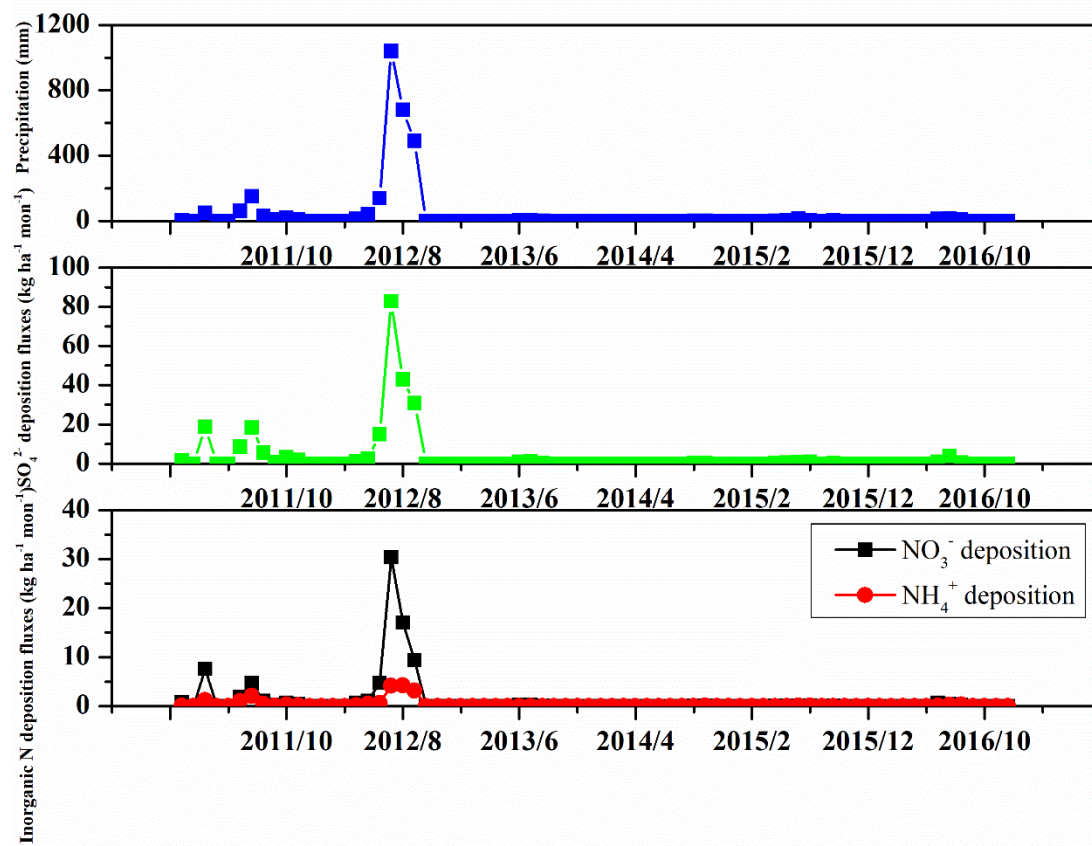
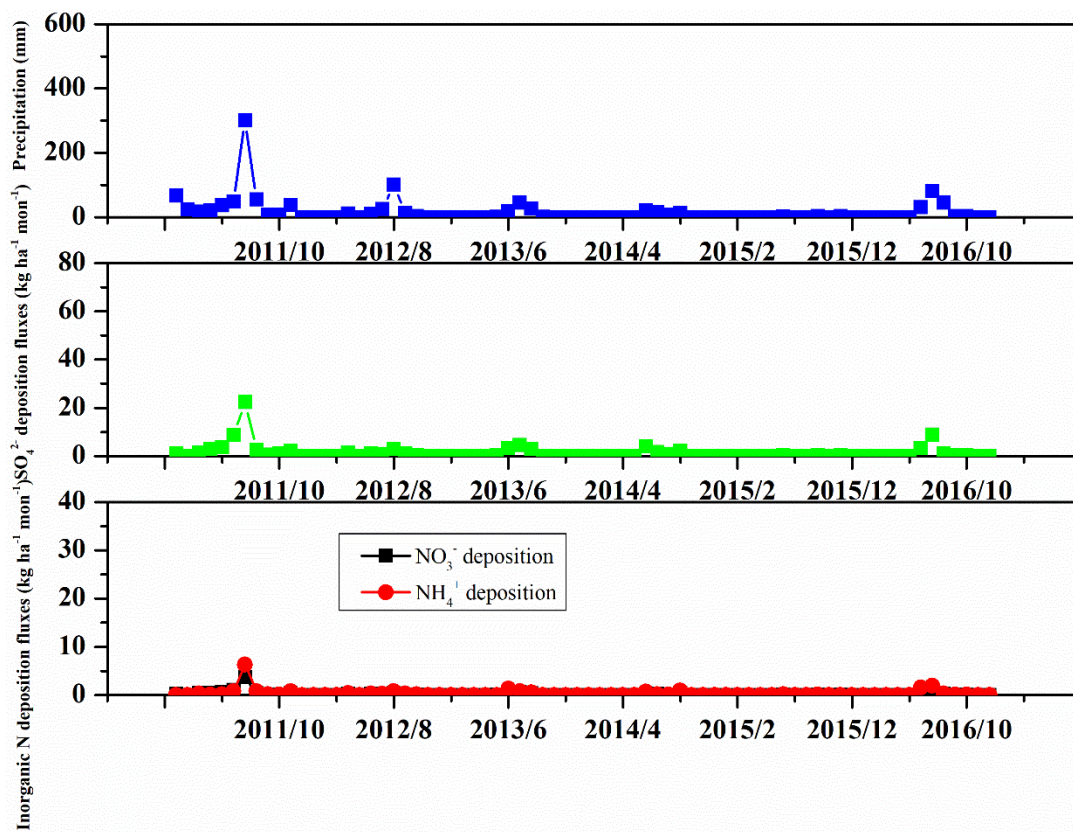


Fig. S137 The precipitation and wet deposition fluxes of secondary ions in Qinhuangdao



**Fig. S138** The precipitation and wet deposition fluxes of secondary ions in Baotou

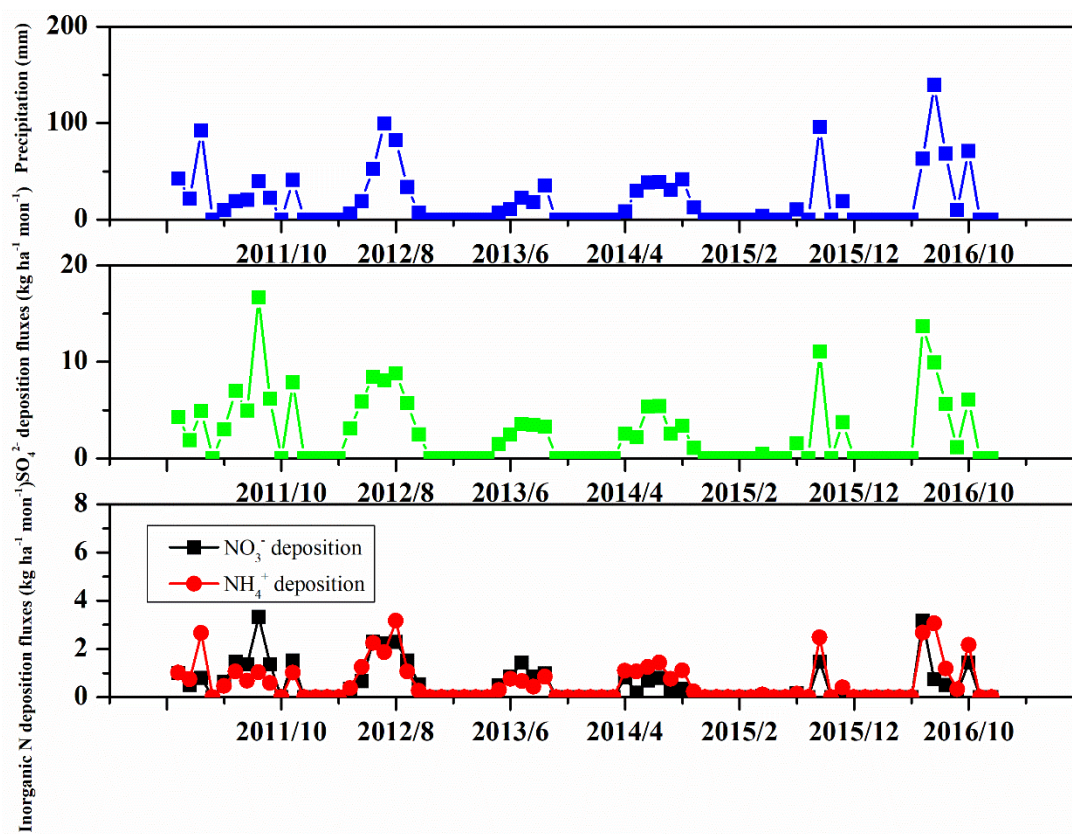


Fig. S139 The precipitation and wet deposition fluxes of secondary ions in Qingdao

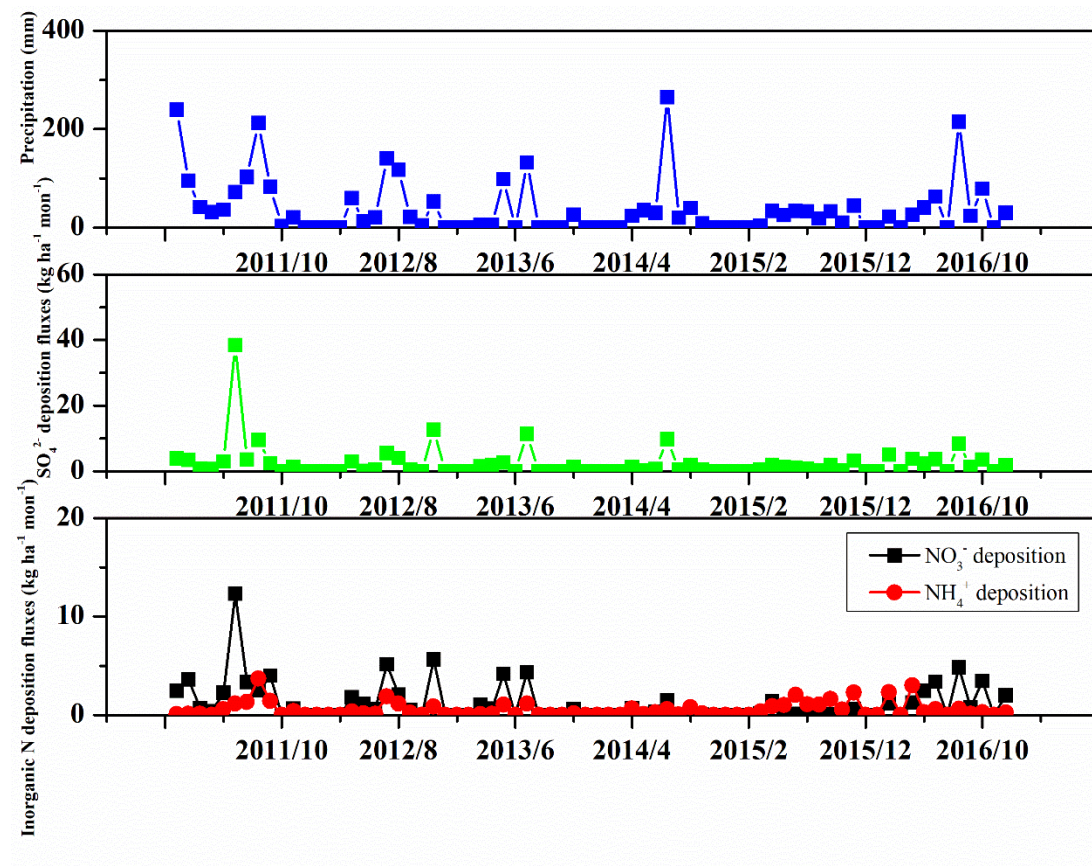


Fig. S140 The precipitation and wet deposition fluxes of secondary ions in Ziyang

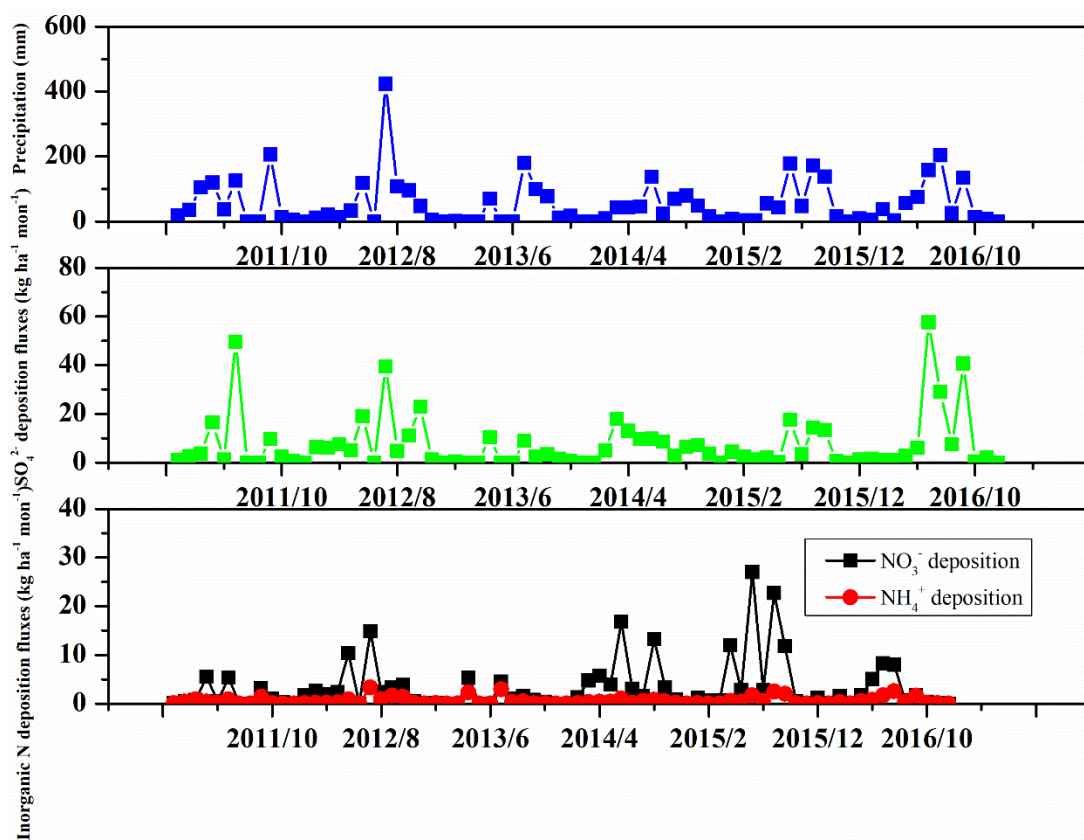


Fig. S141 The precipitation and wet deposition fluxes of secondary ions in Lincang

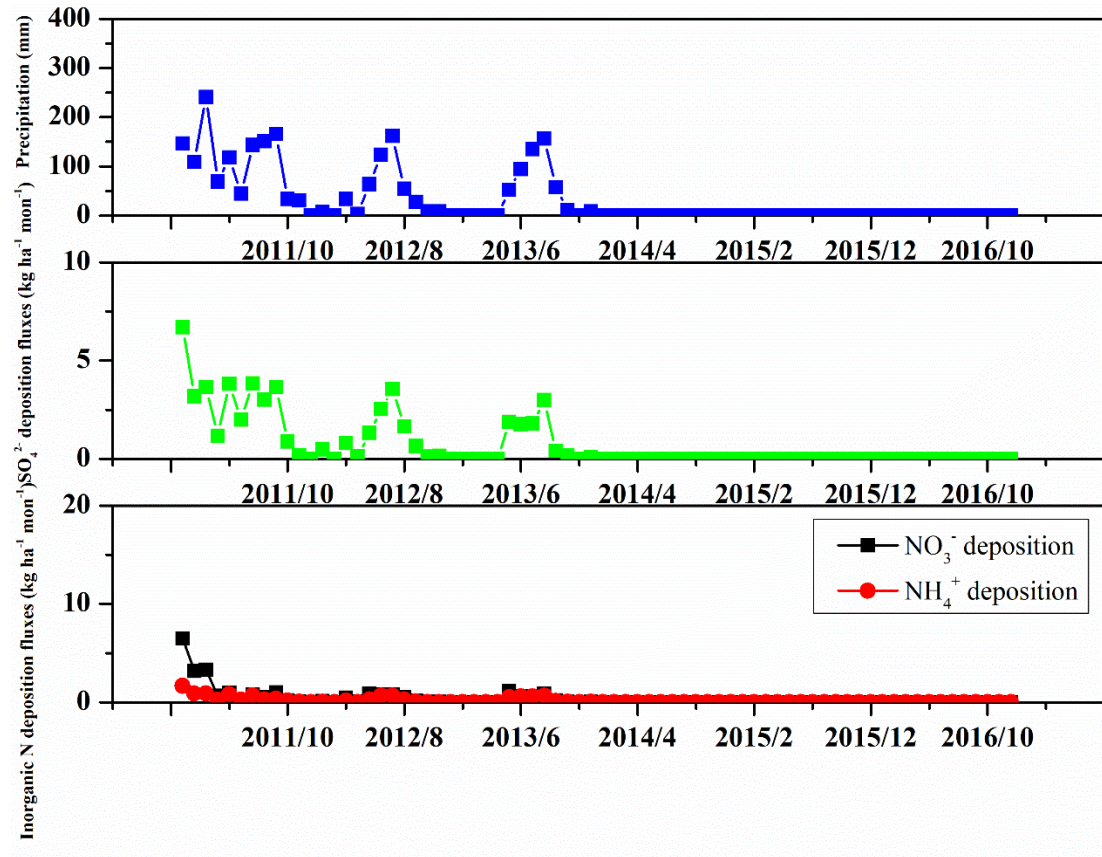
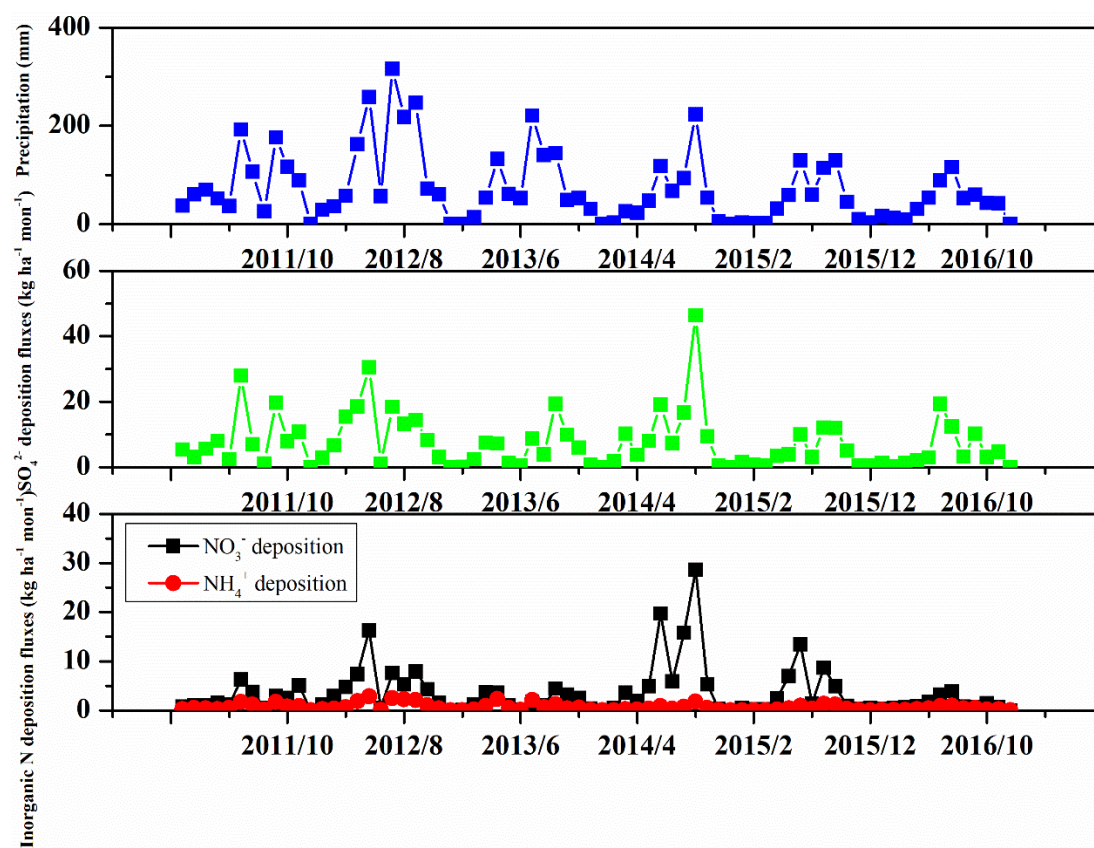
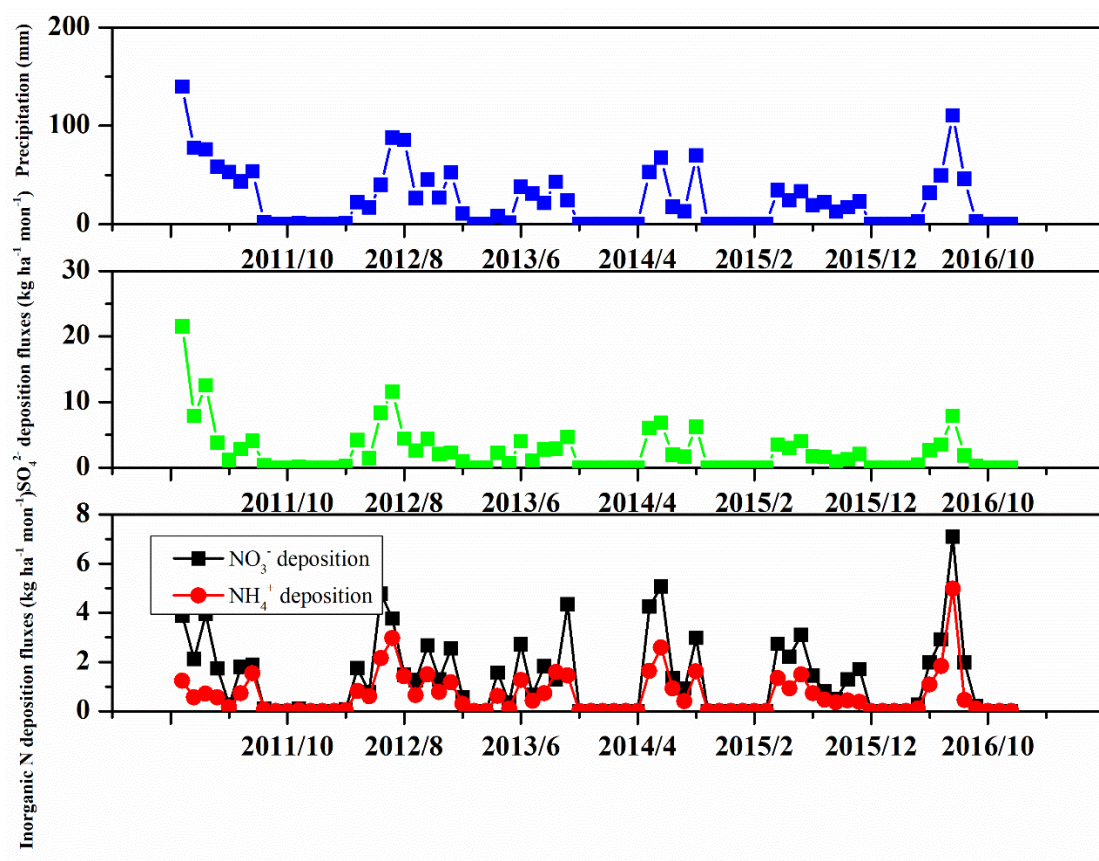




Fig. S142 The precipitation and wet deposition fluxes of secondary ions in Guangan



**Fig. S143** The precipitation and wet deposition fluxes of secondary ions in Huludao



**Fig. S144** The precipitation and wet deposition fluxes of secondary ions in Panjin

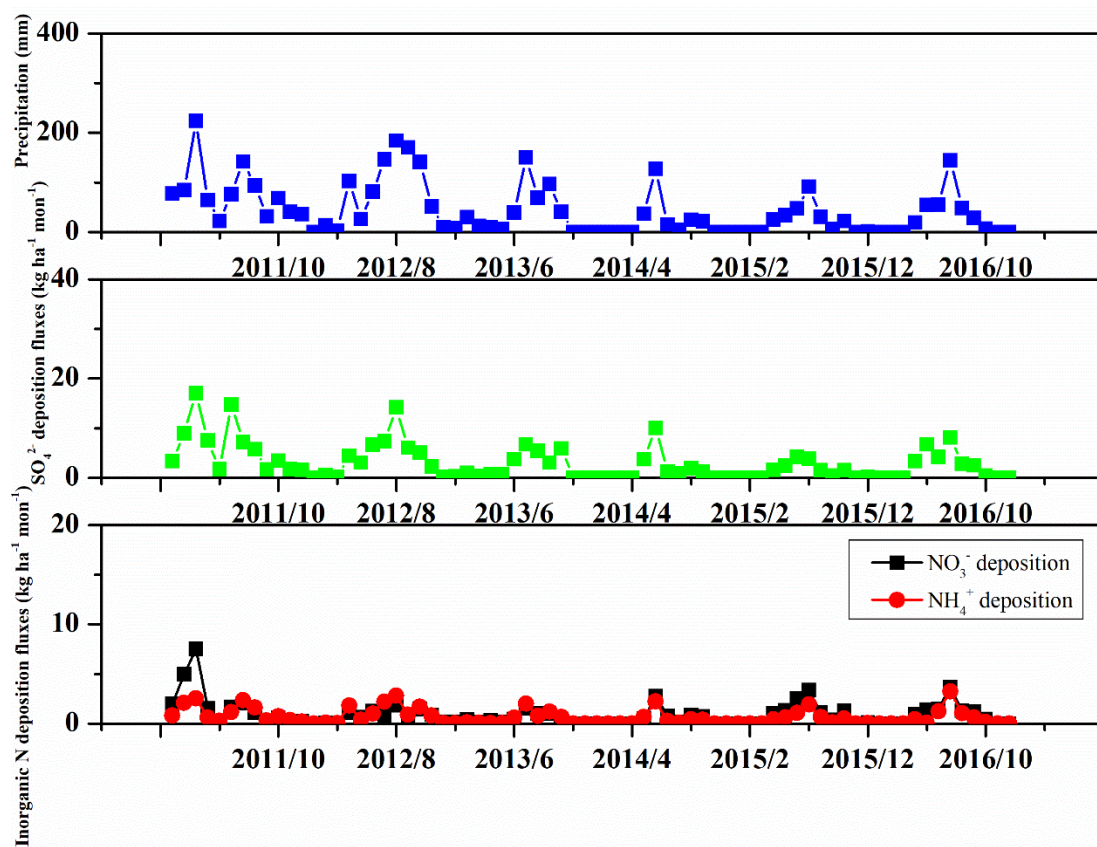


Fig. S145 The precipitation and wet deposition fluxes of secondary ions in Luohe

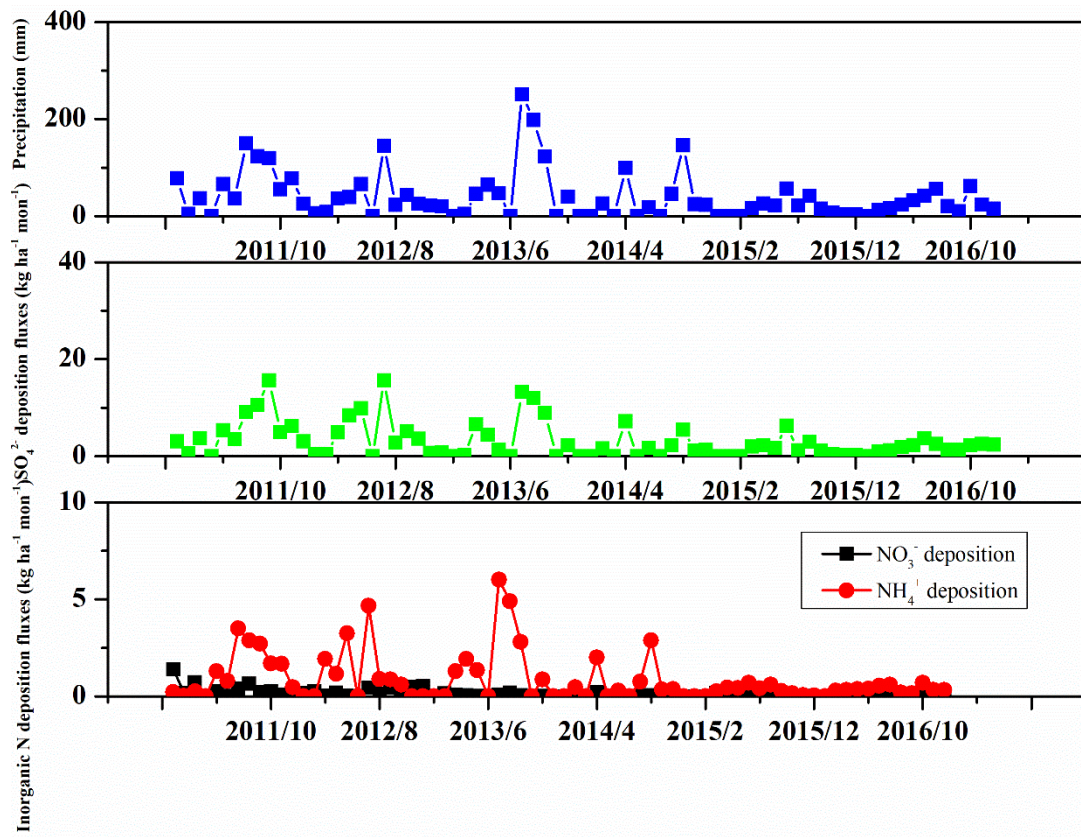
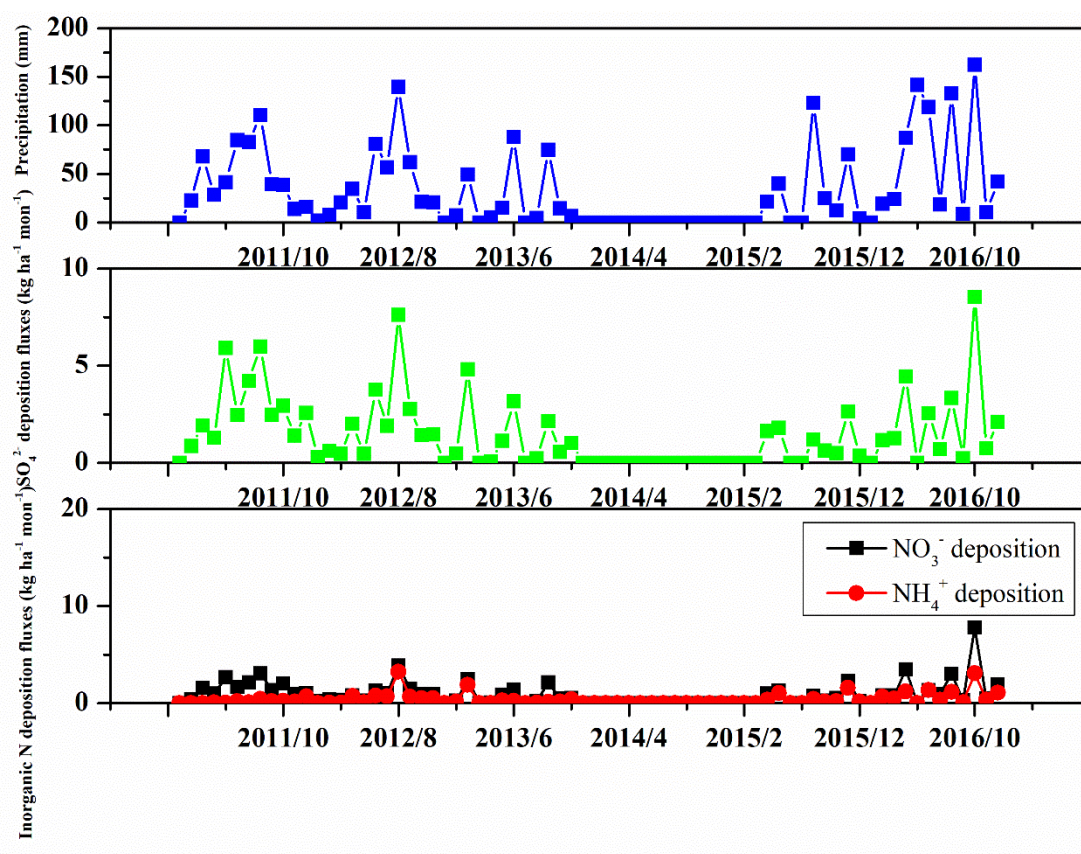
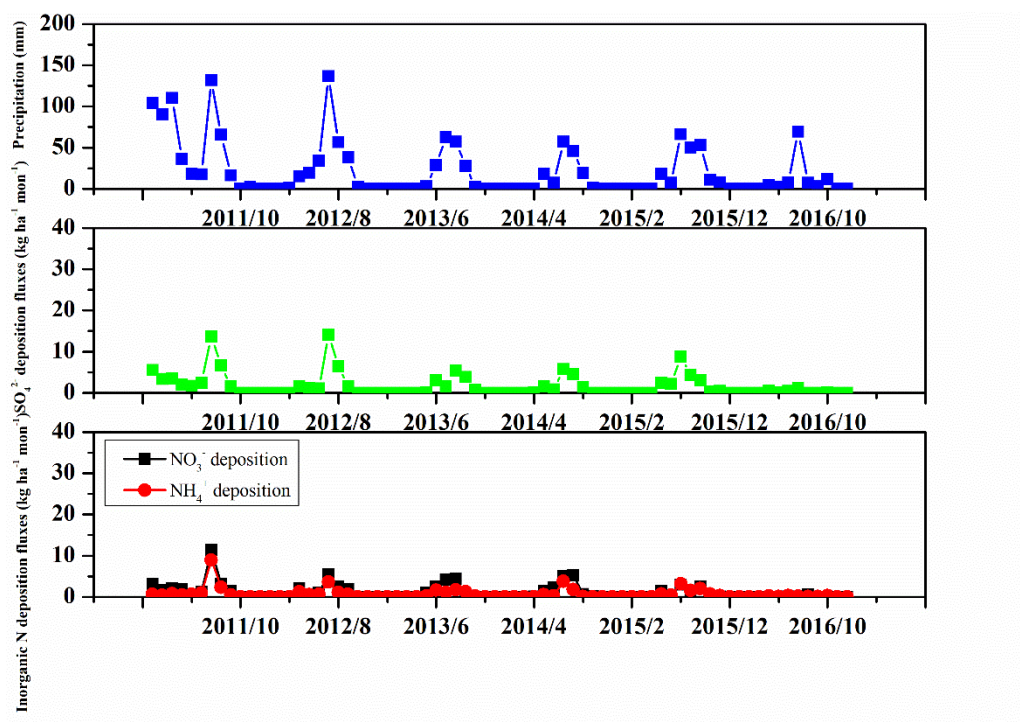


Fig. S146 The precipitation and wet deposition fluxes of secondary ions in Huainan



**Fig. S147** The precipitation and wet deposition fluxes of secondary ions in Baoding



**Fig. S148** The precipitation and wet deposition fluxes of secondary ions in Nanping

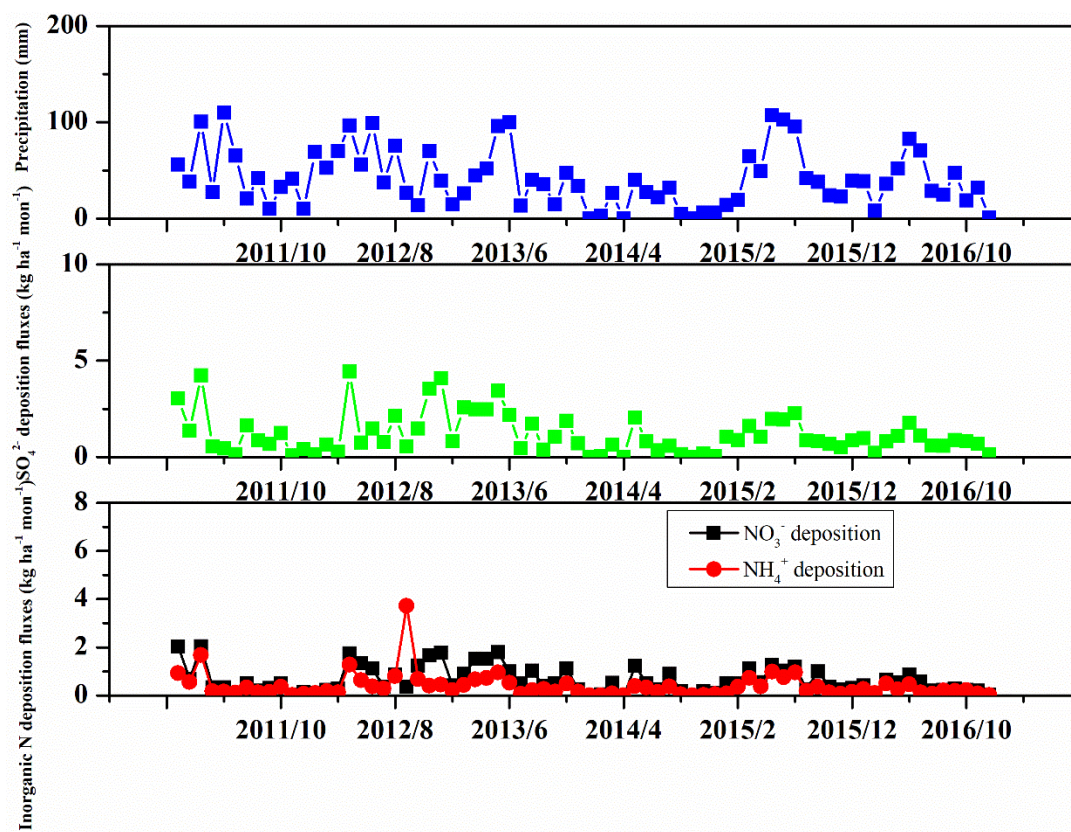


Fig. S149 The precipitation and wet deposition fluxes of secondary ions in Bazhong

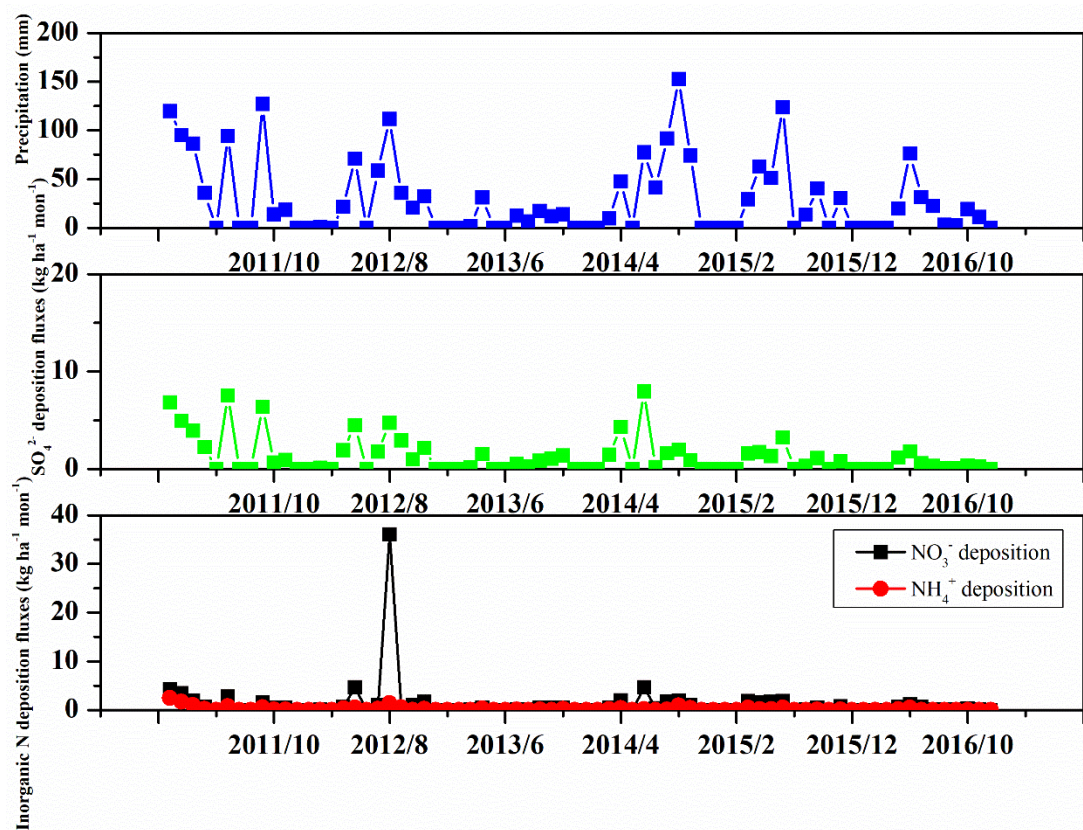
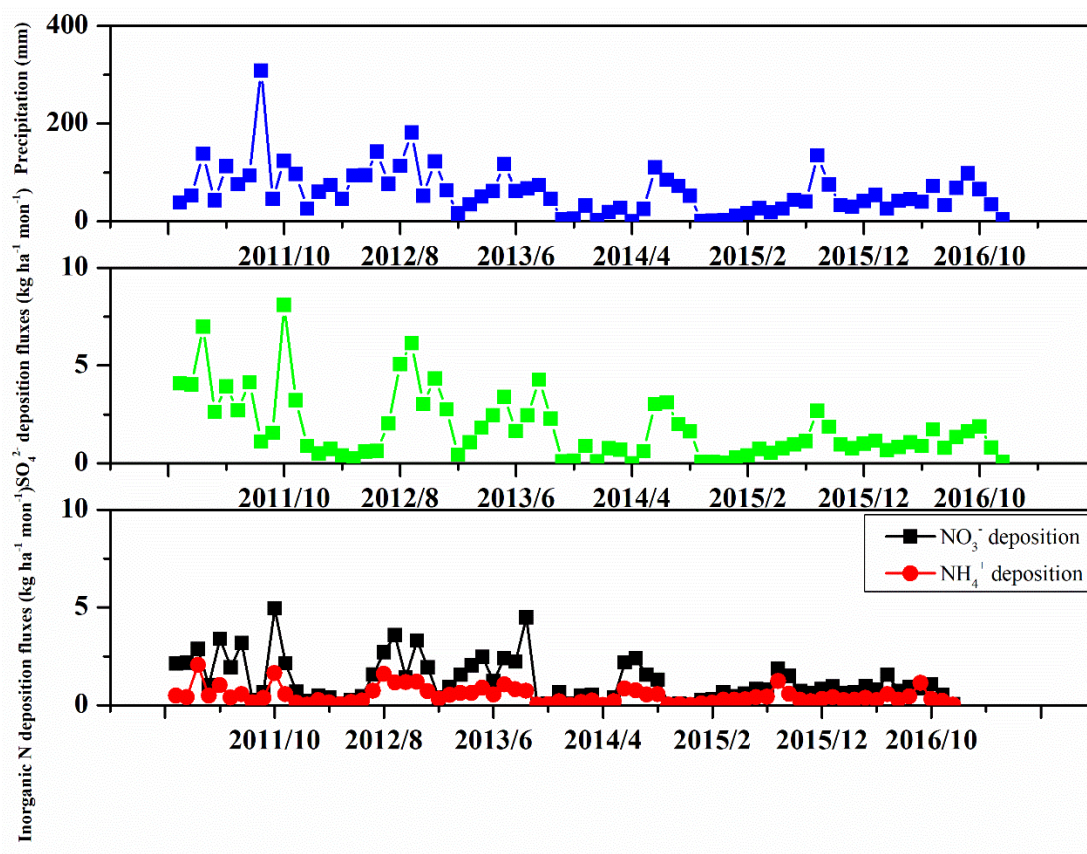




Fig. S150 The precipitation and wet deposition fluxes of secondary ions in Ningde



**Fig. S151** The precipitation and wet deposition fluxes of secondary ions in Putian

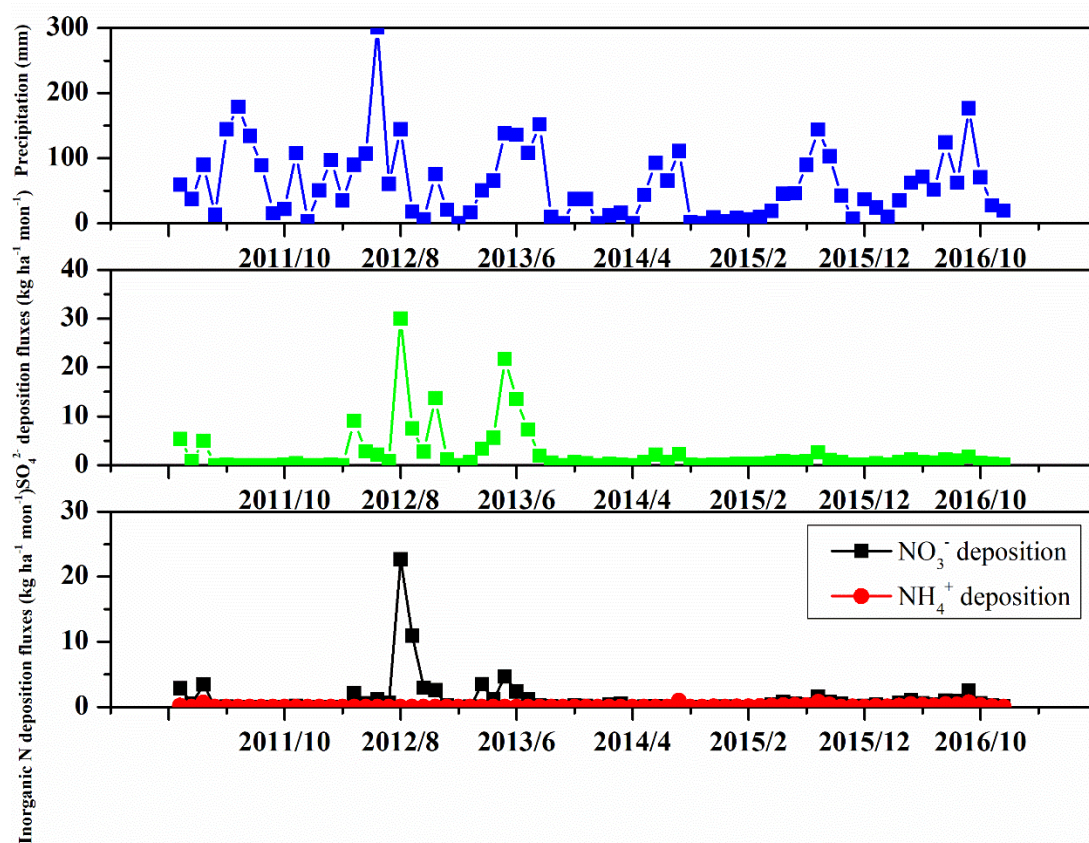
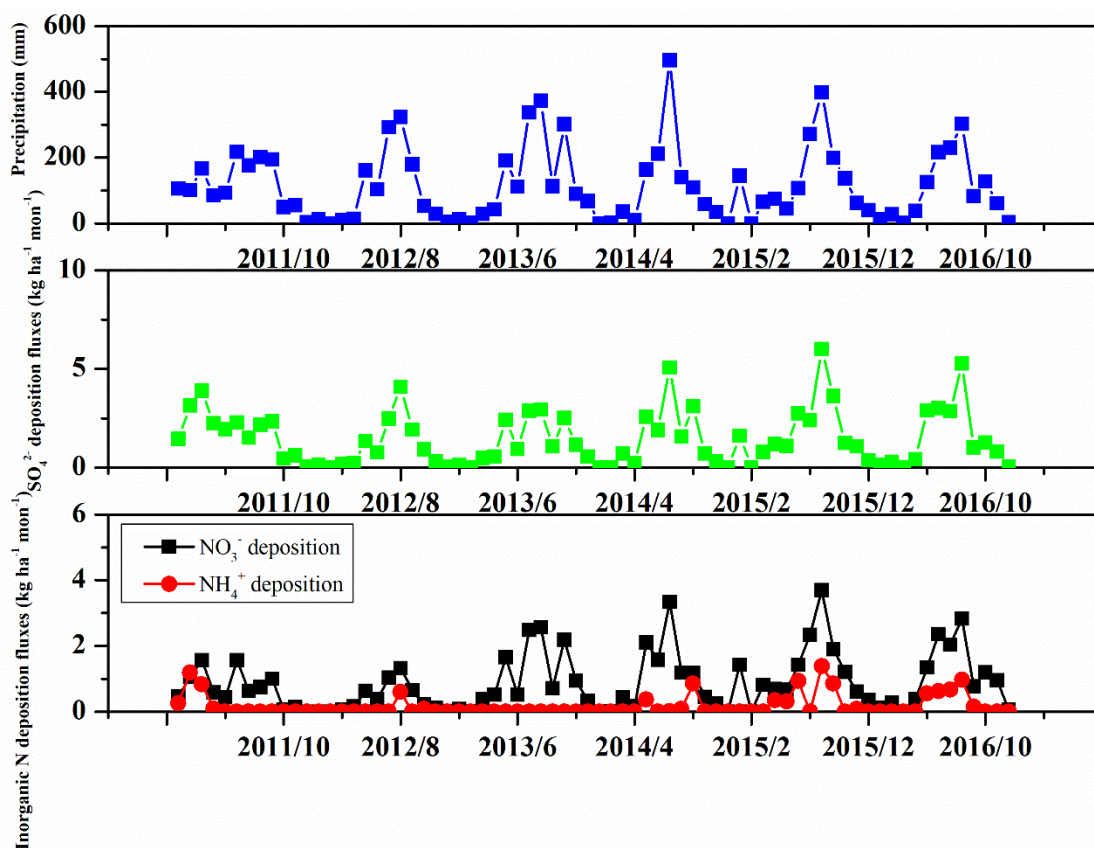


Fig. S152 The precipitation and wet deposition fluxes of secondary ions in Puer



**Fig. S153** The precipitation and wet deposition fluxes of secondary ions in Hebi

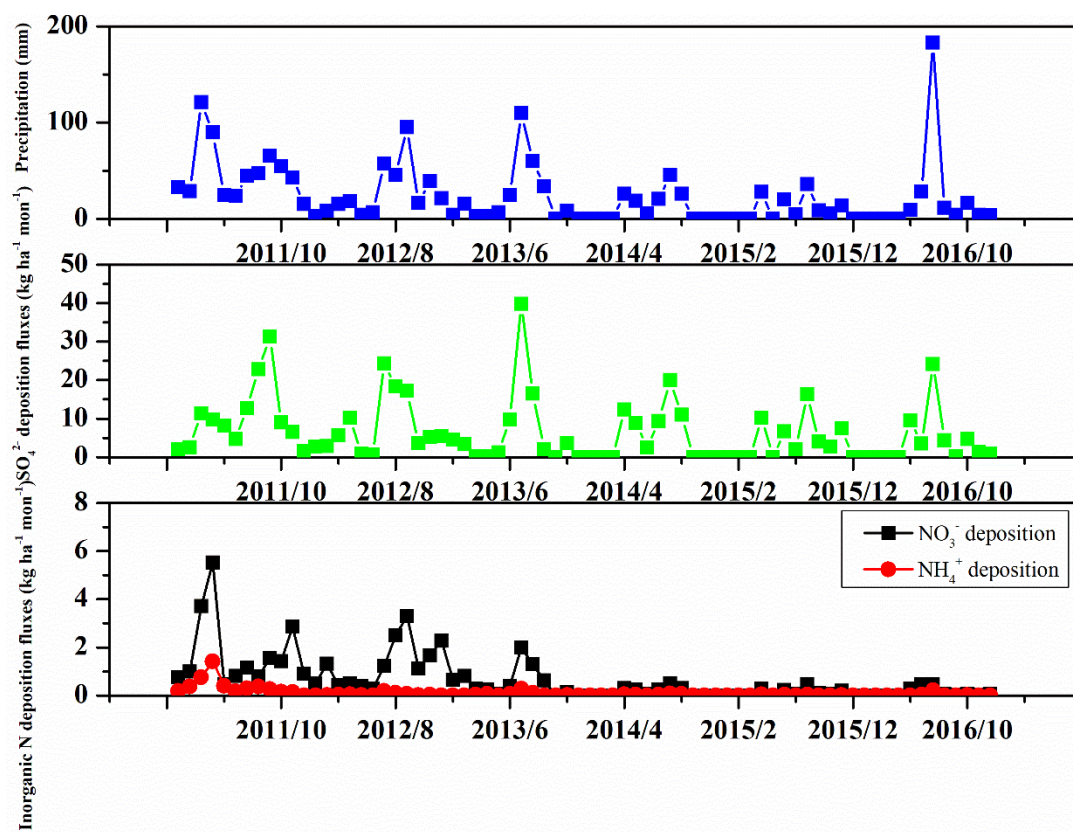
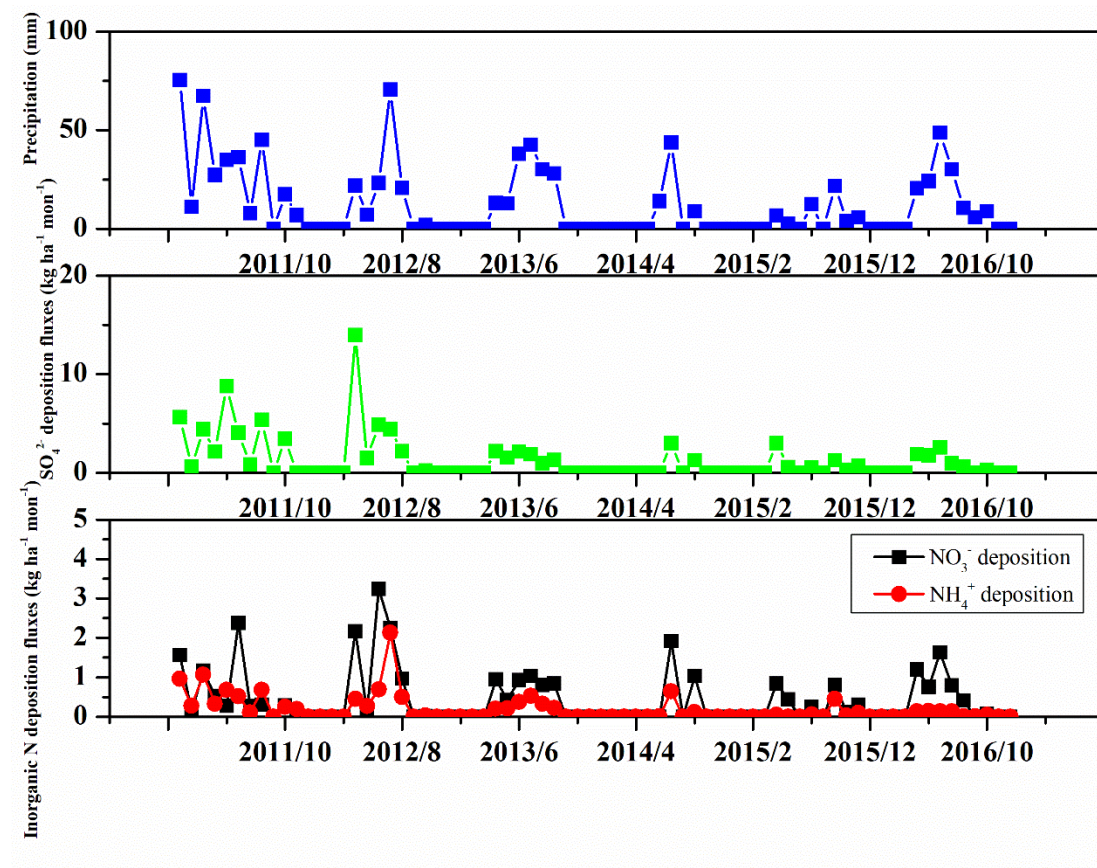


Fig. S154 The precipitation and wet deposition fluxes of secondary ions in Karamay



**Fig. S155** The precipitation and wet deposition fluxes of secondary ions in Hami

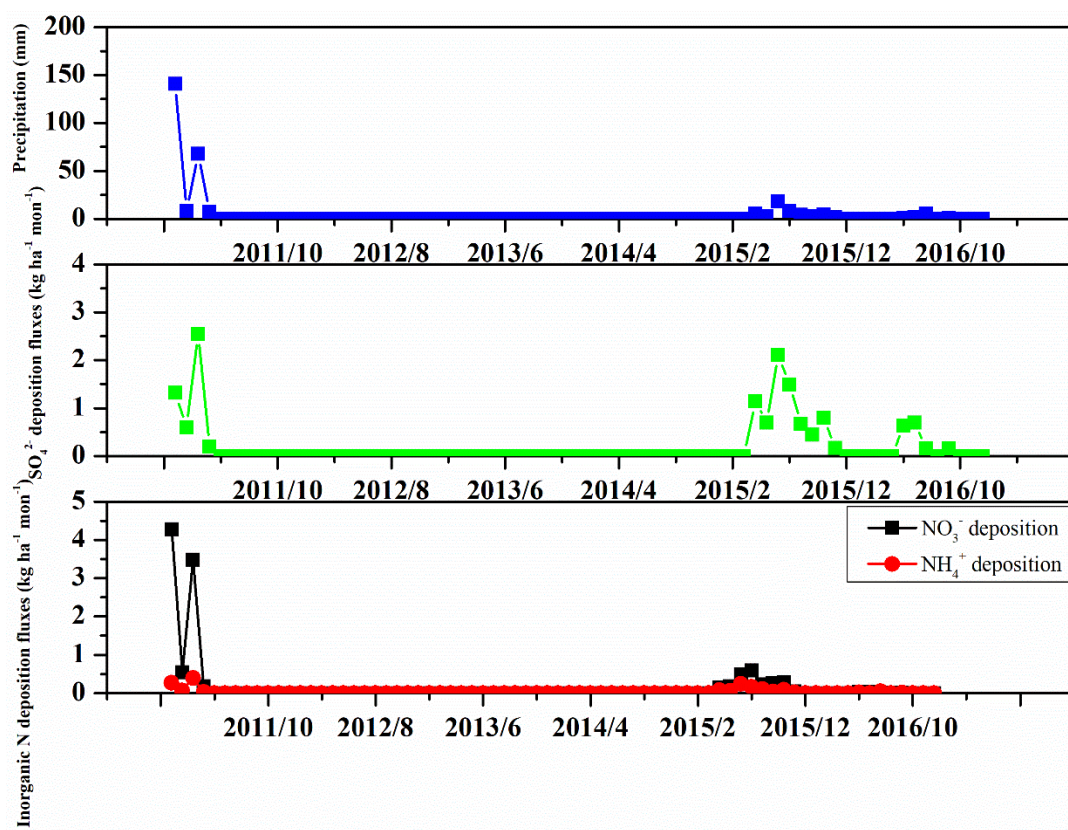


Fig. S156 The precipitation and wet deposition fluxes of secondary ions in Weihai

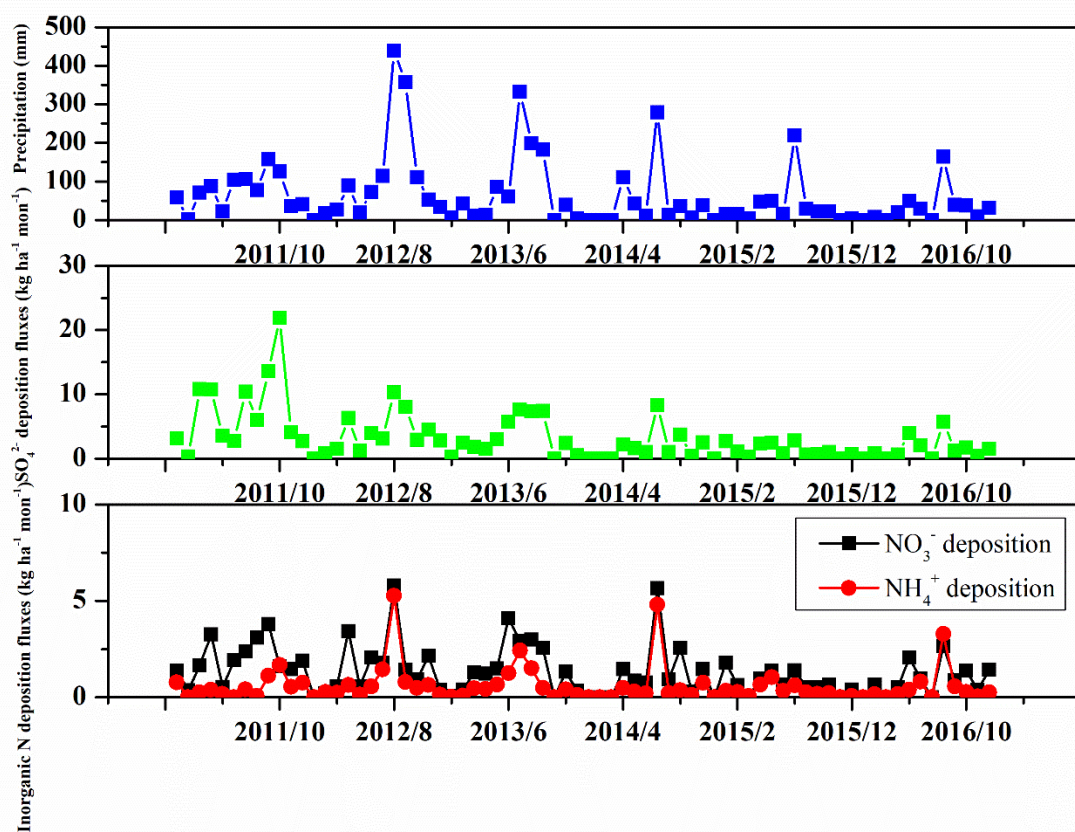


Fig. S157 The precipitation and wet deposition fluxes of secondary ions in Lhasa

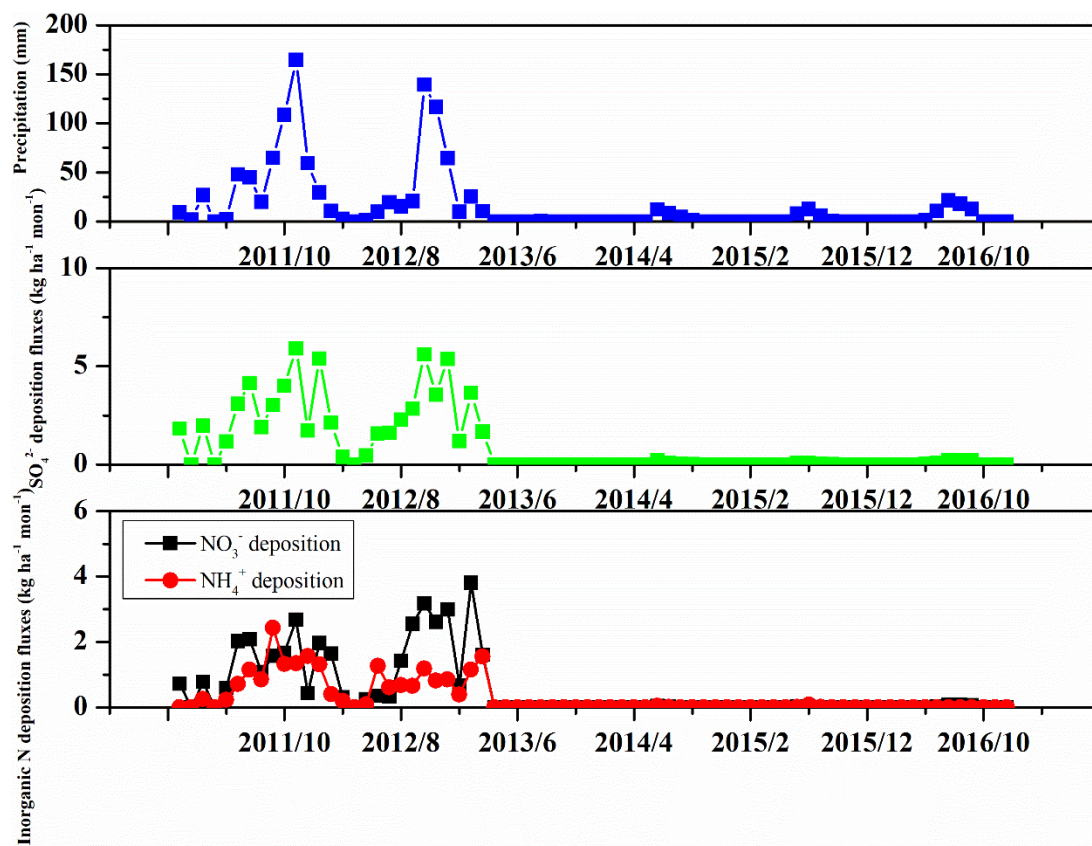




Fig. S158 The precipitation and wet deposition fluxes of secondary ions in Qujing

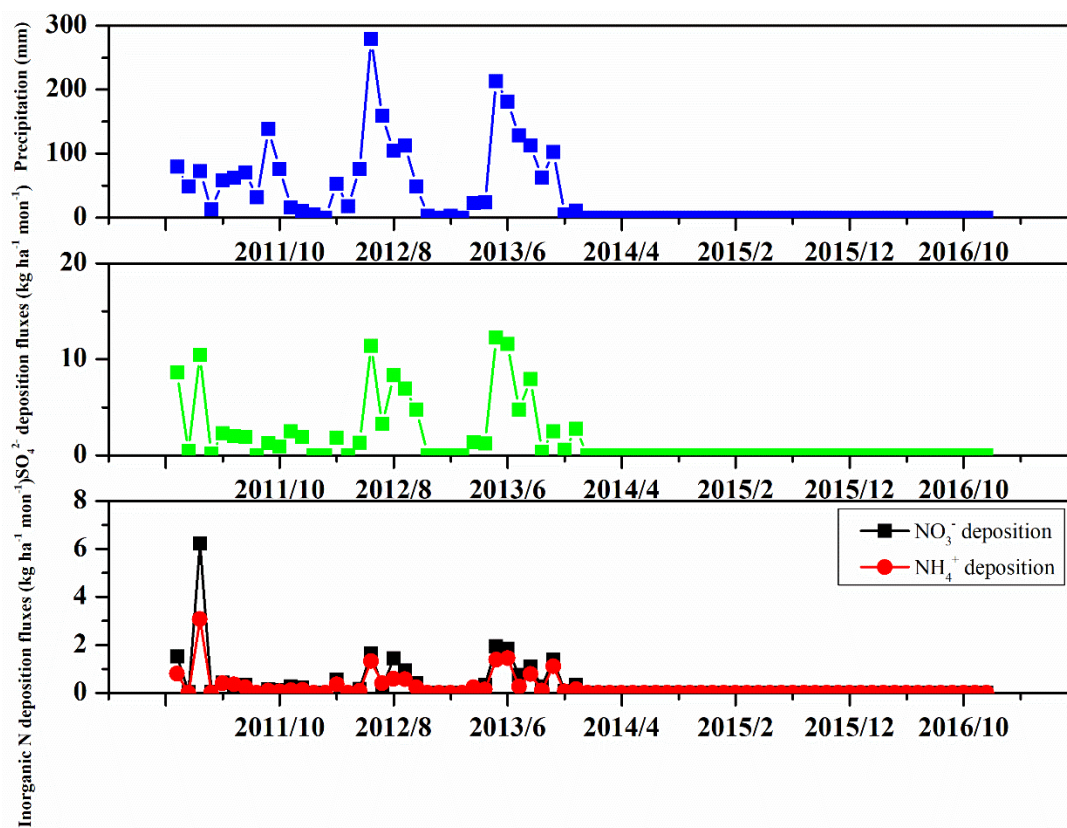
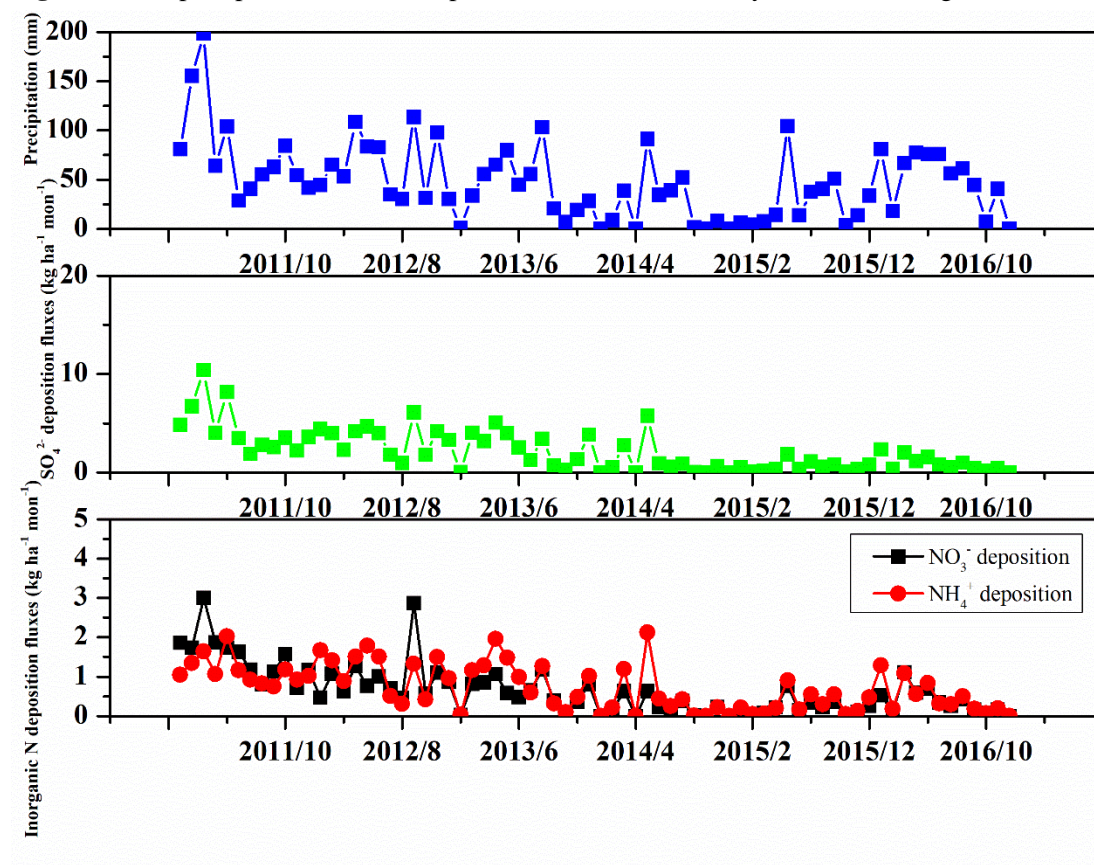
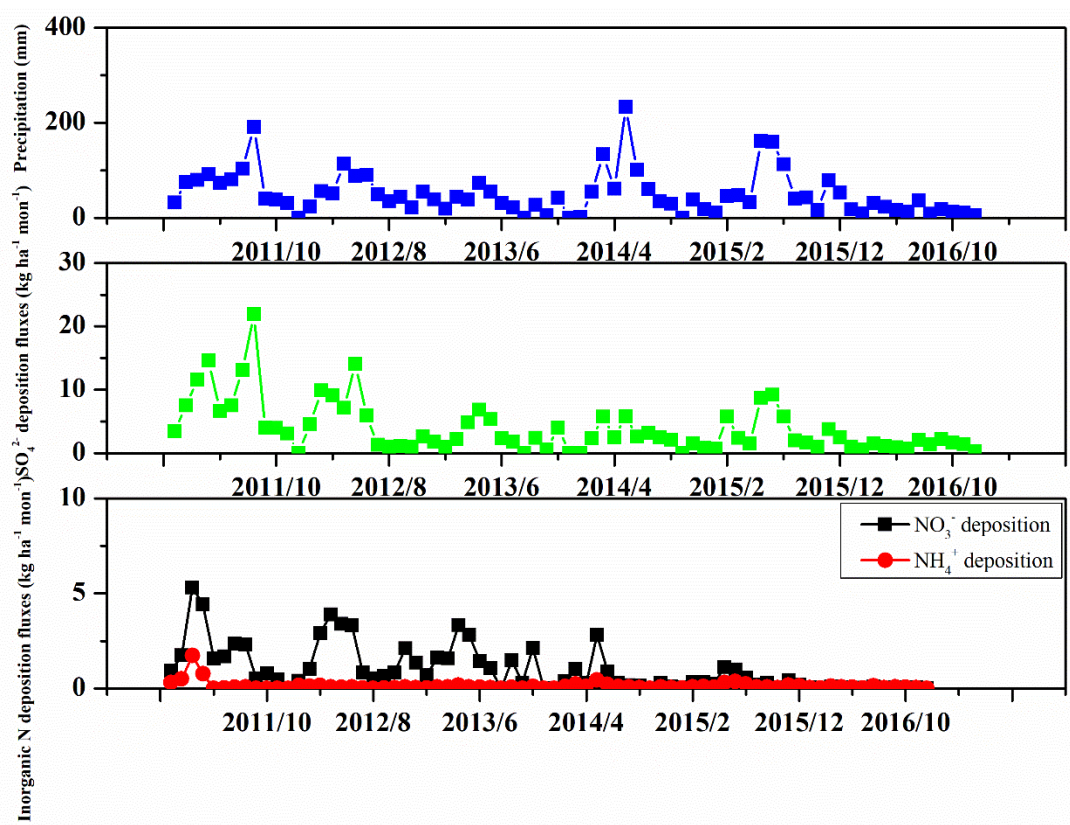


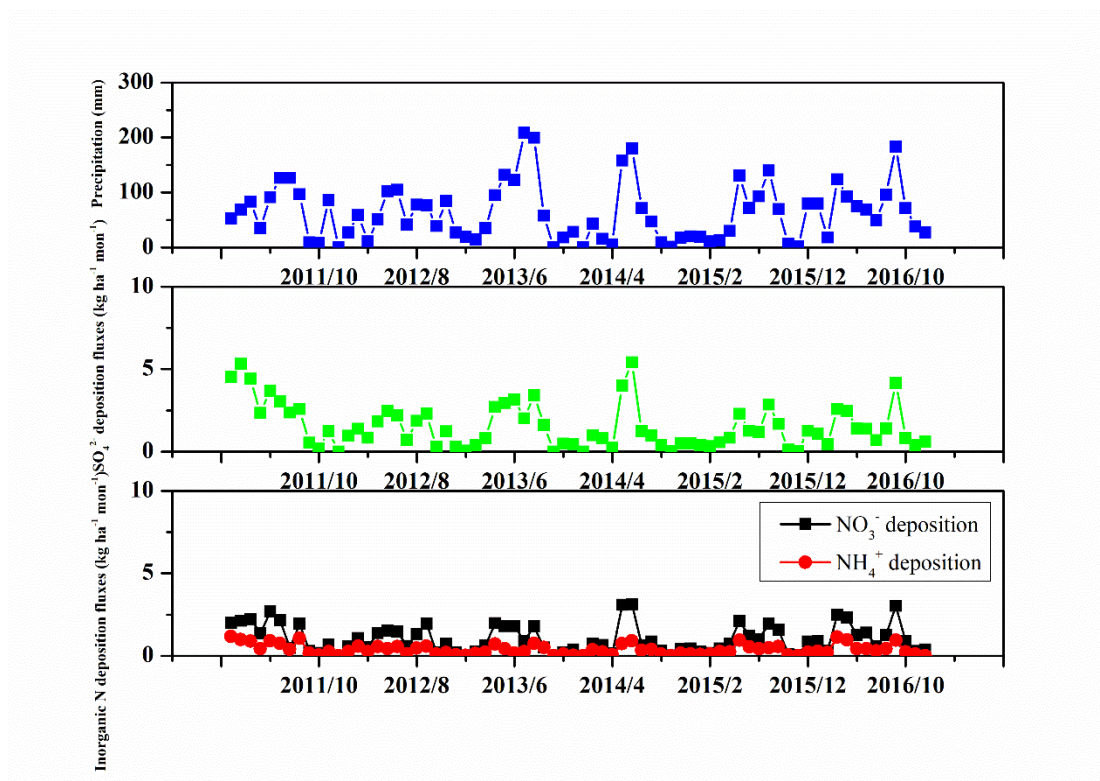
Fig. S159 The precipitation and wet deposition fluxes of secondary ions in Sanming



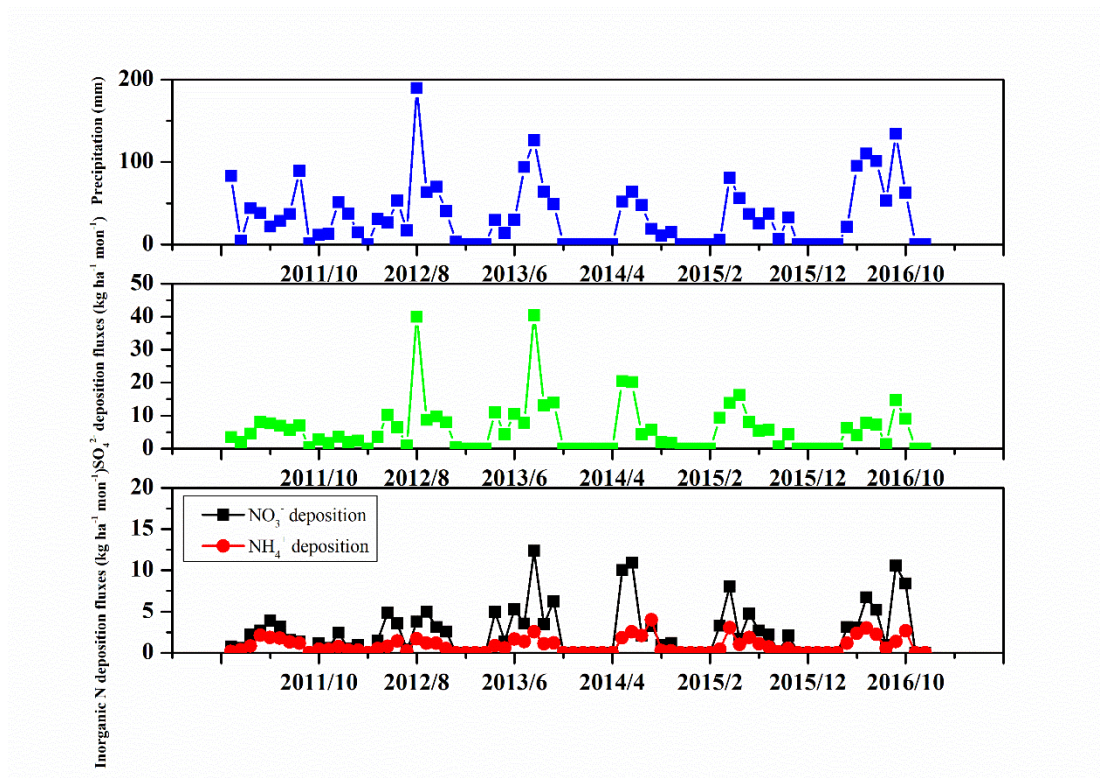
**Fig. S160** The precipitation and wet deposition fluxes of secondary ions in Yichun



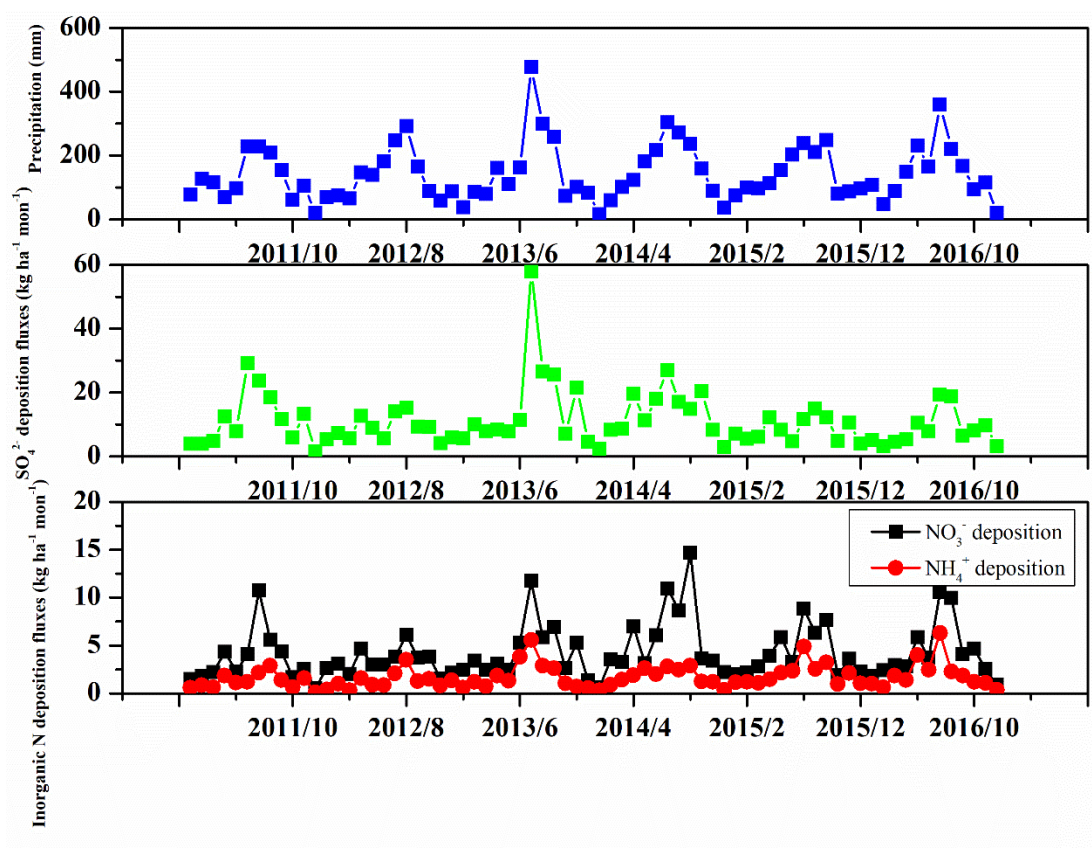
**Fig. S161** The precipitation and wet deposition fluxes of secondary ions in Xiamen



**Fig. S162** The precipitation and wet deposition fluxes of secondary ions in Shenyang



**Fig. S163** The precipitation and wet deposition fluxes of secondary ions in Deyang



**Fig. S164** The precipitation and wet deposition fluxes of secondary ions in Jinan

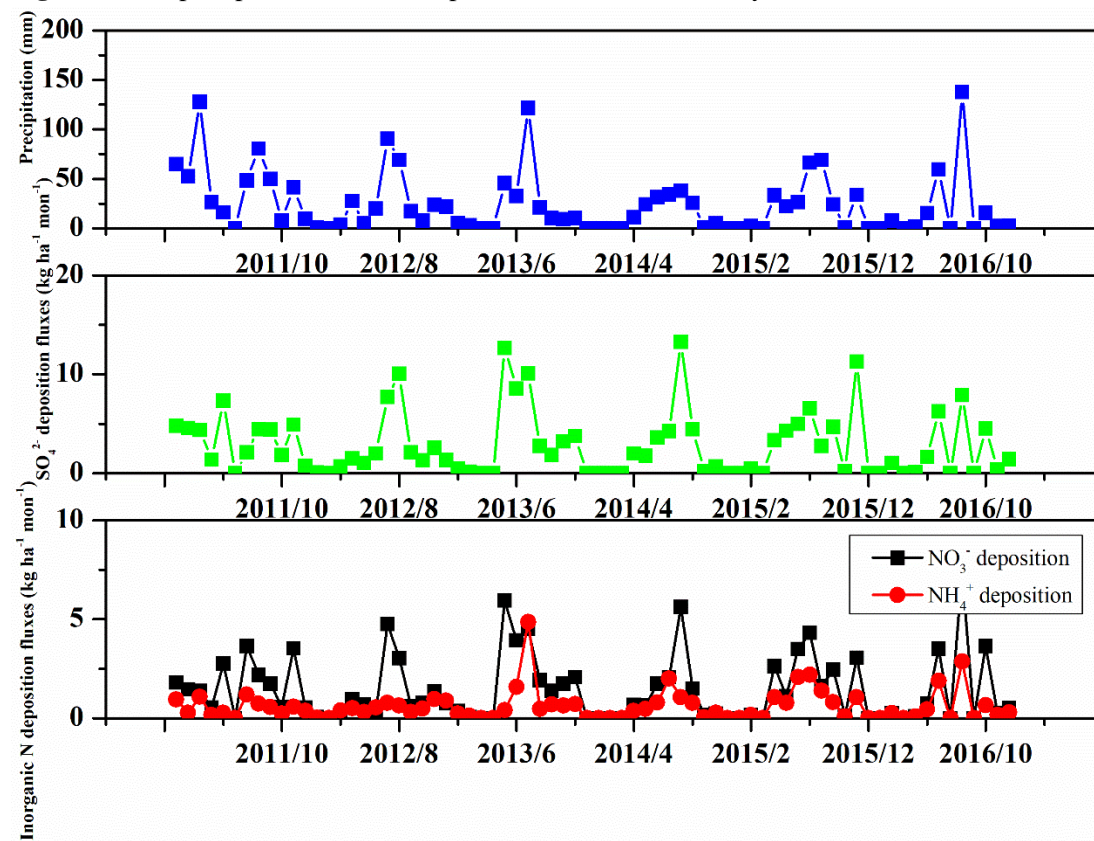


Fig. S165 The precipitation and wet deposition fluxes of secondary ions in Zhoukou

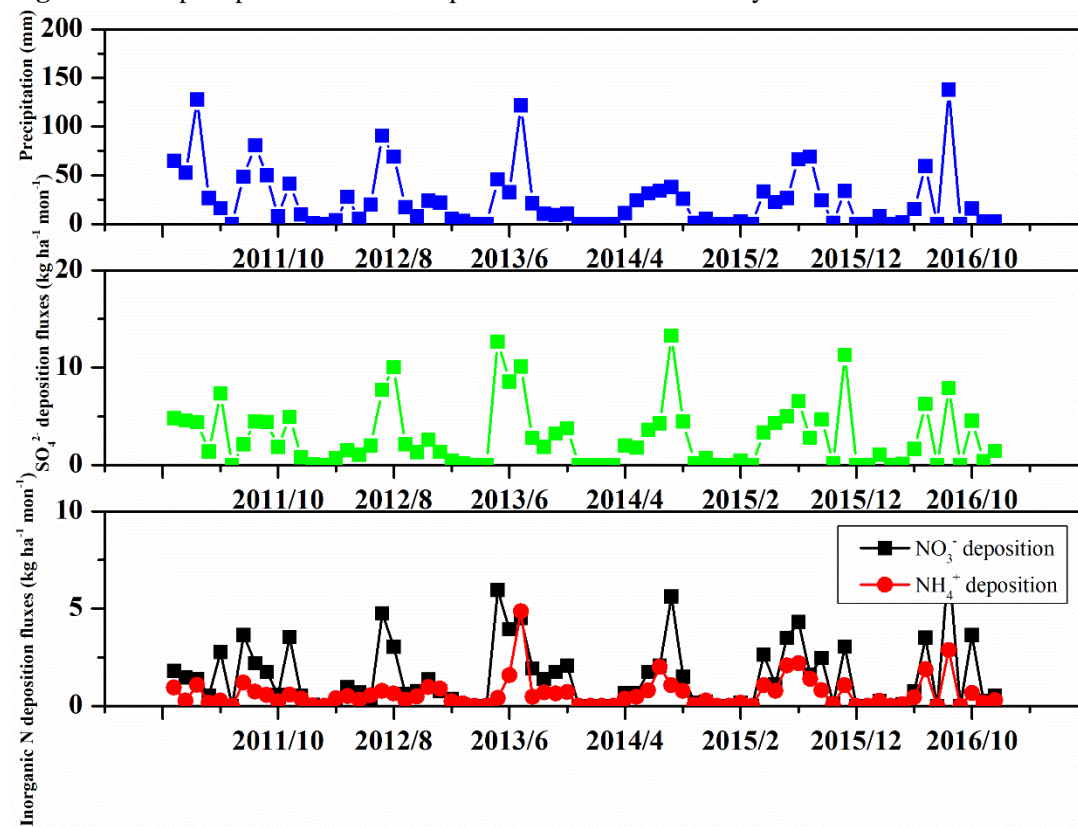




Fig. S166 The precipitation and wet deposition fluxes of secondary ions in Zaozhuang

