

**Table S1.** Exceedance frequencies of stations based on AMS data at each station for each region

Region	Station ID	Data years	Return period (R.P.)/Exceedance probability (E.P.)					
			2-yr 0.50	5-yr 0.20	10-yr 0.10	25-yr 0.04	50-yr 0.02	100-yr 0.01
I	58012	51	0.490	0.216	0.098	0.078	0.020	0.020
	58013	51	0.510	0.157	0.118	0.078	0.039	0.020
	58026	51	0.529	0.196	0.118	0.039	0.020	0.020
	58027	51	0.510	0.196	0.118	0.039	0.020	0.020
	58035	51	0.490	0.216	0.137	0.020	0.020	0.020
	58036	51	0.529	0.196	0.118	0.039	0.020	0.000
	58130	51	0.510	0.196	0.137	0.059	0.020	0.020
	58131	51	0.569	0.255	0.137	0.039	0.020	0.000
	58132	51	0.549	0.255	0.118	0.039	0.020	0.000
	58135	51	0.490	0.216	0.137	0.078	0.020	0.000
II	58038	51	0.529	0.196	0.059	0.059	0.020	0.020
	58040	51	0.510	0.216	0.118	0.020	0.000	0.000
	58044	51	0.549	0.157	0.078	0.020	0.020	0.020
	58047	51	0.529	0.157	0.059	0.059	0.020	0.020
	58048	51	0.431	0.176	0.137	0.059	0.020	0.020
	58049	51	0.510	0.216	0.137	0.020	0.020	0.020
	58138	51	0.471	0.216	0.118	0.098	0.039	0.000
	58139	51	0.510	0.196	0.078	0.039	0.020	0.000
	58140	51	0.529	0.216	0.098	0.059	0.020	0.000
	58141	51	0.510	0.157	0.098	0.039	0.020	0.000
	58143	51	0.529	0.294	0.137	0.020	0.000	0.000
	58145	51	0.490	0.235	0.137	0.039	0.020	0.000
	58150	51	0.471	0.176	0.118	0.059	0.059	0.039
III	58146	51	0.471	0.216	0.118	0.039	0.020	0.020
	58147	51	0.510	0.216	0.118	0.020	0.020	0.020
	58148	51	0.471	0.176	0.118	0.039	0.020	0.000
	58154	51	0.529	0.196	0.078	0.020	0.020	0.000
	58158	51	0.490	0.216	0.176	0.078	0.020	0.020
	58241	51	0.510	0.176	0.157	0.059	0.020	0.000
	58243	51	0.490	0.196	0.098	0.059	0.020	0.000
	58251	51	0.529	0.216	0.098	0.039	0.020	0.020
IV	58235	51	0.549	0.255	0.059	0.039	0.020	0.020
	58237	51	0.490	0.275	0.157	0.059	0.020	0.020
	58238	51	0.529	0.255	0.098	0.020	0.020	0.000
	58242	51	0.490	0.176	0.098	0.078	0.059	0.059
	58244	51	0.471	0.196	0.118	0.039	0.020	0.000
	58245	51	0.490	0.216	0.098	0.059	0.020	0.020
	58246	51	0.490	0.216	0.157	0.020	0.020	0.000
	58247	51	0.471	0.176	0.098	0.059	0.039	0.039
	58339	51	0.549	0.196	0.078	0.039	0.039	0.000
	58340	51	0.529	0.196	0.098	0.020	0.000	0.000

	58341	51	0.471	0.196	0.098	0.059	0.039	0.020
	58342	51	0.471	0.275	0.118	0.039	0.020	0.000
	58344	51	0.490	0.196	0.078	0.039	0.020	0.020
	58345	51	0.588	0.235	0.078	0.020	0.000	0.000
	58346	51	0.549	0.196	0.078	0.020	0.000	0.000
V	58255	51	0.490	0.157	0.137	0.059	0.039	0.020
	58257	51	0.529	0.157	0.098	0.059	0.059	0.020
	58259	51	0.490	0.196	0.059	0.059	0.039	0.020
	58264	51	0.471	0.176	0.098	0.059	0.039	0.020
	58265	51	0.529	0.196	0.137	0.039	0.000	0.000
	58268	51	0.569	0.255	0.098	0.039	0.000	0.000
	58269	51	0.510	0.216	0.059	0.039	0.000	0.000
	58343	51	0.471	0.196	0.137	0.020	0.000	0.000
	58349	51	0.471	0.216	0.118	0.039	0.020	0.020
	58351	51	0.510	0.216	0.098	0.039	0.039	0.020
	58352	51	0.490	0.176	0.098	0.059	0.020	0.020
	58354	51	0.549	0.157	0.059	0.039	0.020	0.000
	58356	51	0.471	0.275	0.137	0.039	0.020	0.000
	58358	51	0.529	0.196	0.078	0.020	0.020	0.000
	58359	51	0.471	0.157	0.137	0.059	0.020	0.020
	58360	51	0.510	0.235	0.098	0.020	0.000	0.000
	58377	51	0.471	0.255	0.157	0.059	0.020	0.000

**Table S2.** Quantile estimates of extreme precipitation for a 1-day duration from 2-yr to 100-yr return periods in homogeneous region II, III, IV and V

Region	Station ID	Station Name	Quantile estimates based on AES data					
			2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
II	58038	Shuyang	111.3	141.4	165.1	197.6	223.3	249.9
	58040	Ganyu	117.1	148.7	173.6	207.9	234.9	262.9
	58044	Lianyungang	109.1	138.5	161.7	193.7	218.8	244.8
	58047	Guanyun	108.7	138.1	161.2	193.0	218.0	244.0
	58048	Guannan	104.1	132.1	154.2	184.7	208.7	233.5
	58049	Binhai	111.6	141.7	165.4	198.1	223.8	250.5
	58138	Xuyi	108.7	138.1	161.2	193.0	218.1	244.0
	58139	Hongze	99.5	126.6	150.8	189.0	223.3	262.7
	58140	Lianshui	113.3	143.9	168.0	201.1	227.2	254.3
	58141	Huai'an	105.6	134.1	156.5	187.4	211.8	237.0
	58143	Funing	111.5	141.6	165.3	198.0	223.7	250.3
	58145	Chuzhou	107.2	136.2	159.0	190.3	215.1	240.6
III	58150	Sheyang	106.9	135.8	158.5	189.8	214.4	239.9
	58146	Jianhu	98.0	124.5	145.3	174.0	196.6	220.0
	58147	Jinhu	99.3	126.1	147.2	176.3	199.1	222.8
	58148	Baoying	93.8	119.2	139.1	166.6	188.2	210.6
	58154	Yancheng	97.0	123.2	143.8	172.2	194.5	217.7
	58158	Dafeng	108.8	141.5	169.1	209.6	243.7	281.0
	58241	Gaoyou	98.6	128.3	153.3	190.0	221.0	254.8
	58243	Xinghua	98.8	128.5	153.6	190.3	221.3	255.2
	58251	Dongtai	100.9	131.3	156.8	194.4	226.0	260.7

IV	58235	Luhe	95.1	123.7	147.8	183.2	213.0	245.6
	58237	Pukou	109.5	142.8	168.4	202.9	229.5	256.4
	58238	Nanjing	103.3	134.8	159.0	191.6	216.7	242.1
	58242	Yizheng	100.5	130.8	156.2	193.6	225.1	259.7
	58244	Jiangdou	95.8	124.7	148.9	184.6	214.6	247.5
	58245	Yangzhou	98.4	128.0	152.9	189.5	220.4	254.2
	58246	Taizhou	91.8	119.4	142.6	176.8	205.6	237.1
	58247	Yangzhong	102.2	133.0	158.9	197.0	229.0	264.1
	58339	Gaochun	101.5	129.6	153.4	188.6	218.4	251.2
	58340	Lishui	93.8	122.3	144.3	173.9	196.6	219.7
	58341	Danyang	95.9	125.1	147.6	177.8	201.1	224.7
	58342	Jintan	101.4	132.3	156.1	188.0	212.6	237.6
	58344	Jurong	100.2	130.7	154.2	185.7	210.0	234.7
	58345	Liyang	86.1	110.0	130.2	160.1	185.4	213.3
	58346	Yixing	94.2	120.3	142.4	175.0	202.7	233.1
V	58255	Rugao	96.3	125.6	148.2	178.5	201.9	225.6
	58257	Jingjiang	96.2	125.5	148.0	178.4	201.7	225.4
	58259	Nantong	95.1	124.1	146.3	176.3	199.4	222.8
	58264	Rudong	98.3	128.2	151.2	182.2	206.1	230.3
	58265	Lusi	104.1	135.8	160.2	193.0	218.2	243.8
	58268	Tongzhou	98.9	129.0	152.1	183.3	207.3	231.6
	58269	Qidong	94.7	123.5	145.6	175.5	198.4	221.7
	58343	Changzhou	93.4	121.8	143.7	173.2	195.8	218.8
	58349	Wuzhong	86.8	110.9	131.3	161.4	186.9	214.9
	58351	Jiangyin	98.6	128.6	151.7	182.7	206.6	230.9
	58352	Changshu	92.0	117.5	139.1	171.0	198.0	227.7
	58354	Wuxi	94.9	121.2	143.5	176.4	204.3	235.0
	58356	Kunshan	95.2	121.6	144.0	177.0	204.9	235.7
	58358	Dongshan	83.7	106.9	126.5	155.5	180.1	207.1
	58359	Wujiang	84.1	107.5	127.2	156.4	181.1	208.3
	58360	Haimen	91.7	119.6	141.0	169.9	192.1	214.7
	58377	Taicang	101.4	129.5	153.3	188.5	218.2	251.0
Region	Station ID	Station Name	Quantile estimates based on AMS data and Chow's equation					
			2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
II	58038	Shuyang	109.3	140.4	164.7	197.9	223.9	250.4
	58040	Ganyu	117.5	150.8	176.9	212.6	240.5	269.1
	58044	Lianyungang	111.6	143.3	168.1	202.1	228.6	255.7
	58047	Guanyun	109.1	140.1	164.3	197.5	223.4	249.9
	58048	Guannan	106.5	136.8	160.5	192.8	218.2	244.0
	58049	Binhai	110.0	141.2	165.6	199.1	225.2	251.9
	58138	Xuyi	105.4	135.4	158.8	190.8	215.9	241.5
	58139	Hongze	100.6	129.2	151.6	182.2	206.1	230.5
	58140	Lianshui	113.4	145.6	170.7	205.2	232.2	259.7
	58141	Huai'an	106.7	137.0	160.8	193.2	218.6	244.5
	58143	Funing	111.7	143.4	168.2	202.2	228.7	255.8
	58145	Chuzhou	105.6	135.7	159.1	191.3	216.4	242.0
	58150	Sheyang	106.2	136.4	160.0	192.3	217.6	243.4
III	58146	Jianhu	95.2	117.4	136.0	164.4	189.5	218.2

	58147	Jinhu	97.3	120.0	139.0	168.1	193.8	223.1
	58148	Baoying	92.6	114.2	132.3	160.0	184.4	212.3
	58154	Yancheng	95.8	118.2	137.0	165.6	190.9	219.8
	58158	Dafeng	108.6	134.0	155.2	187.7	216.3	249.1
	58241	Gaoyou	98.8	121.9	141.2	170.7	196.8	226.7
	58243	Xinghua	100.1	123.4	143.0	172.9	199.4	229.6
	58251	Dongtai	104.2	128.6	149.0	180.1	207.6	239.1
IV	58235	Luhe	93.3	121.6	145.0	178.8	206.6	236.4
	58237	Pukou	107.7	140.5	167.5	206.5	238.6	273.0
	58238	Nanjing	101.9	132.9	158.5	195.4	225.8	258.3
	58242	Yizheng	96.7	126.1	150.3	185.3	214.1	245.0
	58244	Jiangdou	96.4	125.7	149.9	184.8	213.5	244.3
	58245	Yangzhou	97.5	127.1	151.5	186.8	215.9	247.0
	58246	Taizhou	89.1	116.2	138.5	170.8	197.3	225.8
	58247	Yangzhong	99.5	129.8	154.7	190.7	220.4	252.2
	58339	Gaochun	102.4	133.5	159.1	196.1	226.7	259.3
	58340	Lishui	90.8	118.4	141.2	174.1	201.2	230.1
	58341	Danyang	94.1	122.7	146.3	180.4	208.4	238.5
	58342	Jintan	97.0	126.5	150.8	185.9	214.9	245.8
	58344	Jurong	98.2	128.1	152.7	188.2	217.5	248.9
	58345	Liyang	86.6	112.9	134.6	166.0	191.8	219.5
	58346	Yixing	90.6	118.1	140.8	173.6	200.6	229.5
V	58255	Rugao	96.6	124.7	147.9	181.7	209.6	239.7
	58257	Jingjiang	94.2	121.6	144.4	177.3	204.6	233.9
	58259	Nantong	93.6	120.8	143.3	176.1	203.1	232.2
	58264	Rudong	97.1	125.3	148.7	182.7	210.8	240.9
	58265	Lusi	98.6	127.2	151.0	185.4	214.0	244.6
	58268	Tongzhou	96.4	124.5	147.7	181.4	209.4	239.3
	58269	Qidong	92.8	119.9	142.2	174.7	201.6	230.4
	58343	Changzhou	94.3	121.7	144.5	177.4	204.7	234.0
	58349	Wuzhong	88.3	114.0	135.3	166.2	191.7	219.2
	58351	Jiangyin	99.2	128.1	152.0	186.7	215.4	246.3
	58352	Changshu	90.3	116.6	138.3	169.9	196.0	224.1
	58354	Wuxi	94.7	122.2	145.0	178.1	205.5	235.0
	58356	Kunshan	92.9	119.9	142.3	174.7	201.6	230.5
	58358	Dongshan	85.7	110.7	131.3	161.3	186.1	212.8
	58359	Wujiang	87.1	112.5	133.5	164.0	189.2	216.3
	58360	Haimen	91.0	117.4	139.4	171.2	197.5	225.8
	58377	Taicang	101.3	130.8	155.2	190.7	220.0	251.5