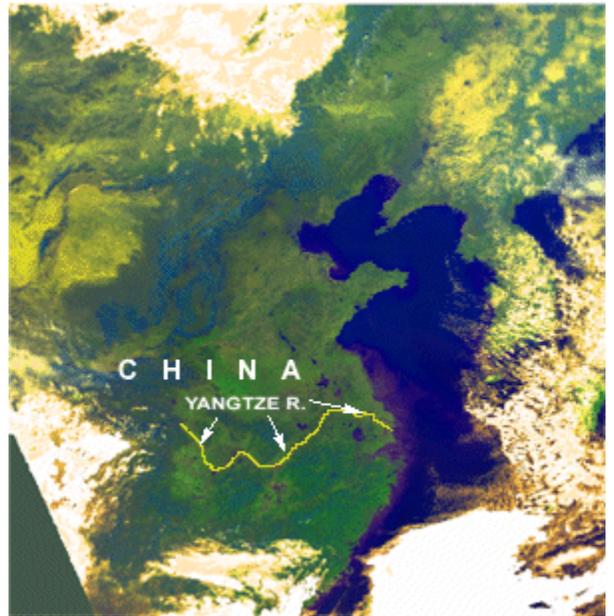


Flooding In China Summer 1998



Brief Summary (20 Nov 1998 Update)

China suffered massive flooding concentrated in three areas during the 1998 summer: Along the Yangtze River in south central China; across extreme southern China in the area around the Gulf of Tonkin; and across the north near the former USSR border. The heaviest rainfall was reported at Qinzhou, with an incredible 68.28 inches of rain during the June-July period. According to official Chinese government reports, 3656 people have been killed by the floods, the second worst to hit the country in more than 130 years. Many observers believe the death toll is higher, although it is unlikely the casualty rate will reach 1954's level of 30,000 dead. The floods have left 14 million people homeless, affected 240 million people, destroyed 5 million houses, damaged 12 million houses, flooded 25 million hectares of farmland, and caused over \$20 billion (\$US) in estimated damages.

See the links under Additional Resources for more information.

Images and Graphs

[Figure 1](#) is a 1 km resolution image of the Yangtze River Basin taken by the NOAA-14 Polar-orbiting Operational Environmental Satellite (POES) on August 14, 1998. The numbers annotated on the image are correlated to precipitation totals for the June-July 1998 (see [Table 1](#)) period in descending order. All stations are in southeast China (WMO Blocks 53, 54, 57, 58, and 59). The satellite image does not include other areas where flooding has been a major problem; specifically, around the Gulf of Tonkin in the south, and in the Manchuria area across the north. Additional data are available in [Tables 2, 3](#) and [4](#), which list rainfall data for southeast China during June 1998, July 1998, and the June-July 1998 period, respectively. [Table 5](#) (2 mb file) provides the daily data for these stations for June-July ([click here for a station ID list](#)).

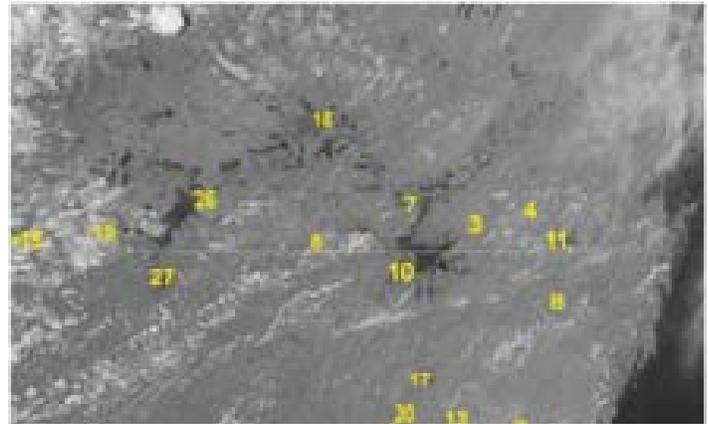


Figure 1

[Figure 2](#) is a graph of the daily precipitation recorded at Qinzhou, near the Gulf of Tonkin, for June-July 1998. The precipitation plot shows several extreme rainfall episodes during the two-month period. For example, the greatest June event occurred over a three-day period with a total of over 12.00 inches, and the greatest one-day amount was over 9.00 inches. In July, there was an eight-day stretch of rain between the 2nd and the 9th when 29.18 inches of rain was recorded. Two tropical systems, Nichole and 01W, affected the extreme southern part of China during the month of July and contributed to the extraordinary rainfall amounts.

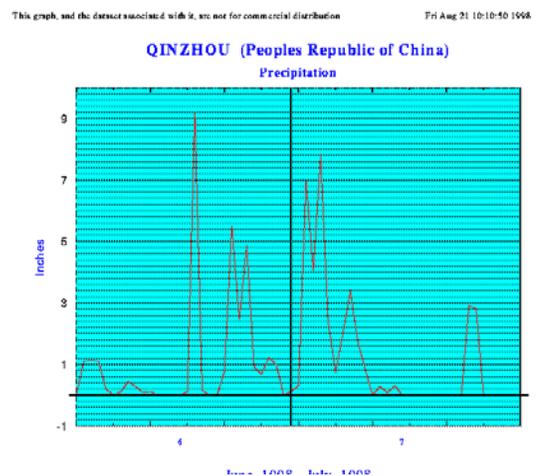


Figure 2

[Figure 3](#) is another plot of daily precipitation for the city with the most precipitation in the Yangtze River basin, Jingdezhen, which reported 51.25 inches of precipitation. This station had a one-day total over 9.00 inches in June 1998; in July 1998, there was a ten-day period between the 17th and the 26th when 16.07 inches of rain was recorded.

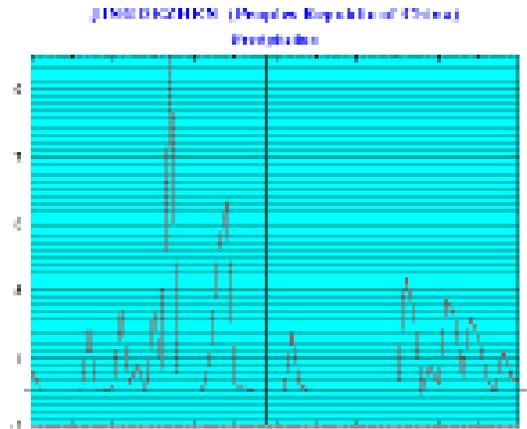


Figure 3

Extreme Precipitation Table

Top 30 stations' rainfall amounts in southeast China for June-July 1998, in inches and hundredths. 'Days' indicates number of days with rainfall data for the 2 months. Lat/lon are in degrees and minutes; 'elev' is the elevation in meters. Ranking by rainfall amount (1-30) follows station name; stations with an * indicate they are not plotted in Figure 1 since they're outside the map area.

STATION	PRECIP	DAYS	NAME	LAT	LON	ELEV(M)
596320	68.28	61	QINZHOU (1)*	2157N	10837E	0006
587300	52.01	61	ZHENGHE (2)	2722N	11851E	0456
585270	51.25	61	JINGDEZHEN (3)	2918N	11712E	0060
584370	47.19	61	HUANG SHAN (MTNS)(4)	3008N	11809E	1836
575980	46.45	61	XIUSHUI (5)	2902N	11435E	0147
590580	43.29	61	MENGSHAN (6)*	2412N	11031E	0145
585060	42.36	61	LU SHAN (MOUNTAIN)(7)	2935N	11559E	1165
587310	41.89	61	PUCHENG (8)	2755N	11832E	0275
579570	41.47	61	GUILIN (9)*	2520N	11018E	0166
586060	39.91	61	NANCHANG (10)	2836N	11555E	0050
586330	36.15	61	QU XIAN (11)	2858N	11852E	0071
590870	36.10	61	FOGANG (12)*	2352N	11332E	0068
587250	35.52	61	SHAOWU (13)	2720N	11726E	0192
594560	34.16	61	XINYI (14)*	2221N	11056E	0084
576550	34.07	61	YUANLING (15)	2828N	11024E	0143
592090	33.91	61	NAPO (16)	2318N	10557E	0794
587150	33.30	61	NANCHENG (17)	2735N	11639E	0082
574940	32.52	61	WUHAN/NANHU (18)	3037N	11408E	0023
576620	32.29	61	CHANGDE (19)	2903N	11141E	0035
596730	32.26	61	SHANGCHUAN ISLAND (20)*	2144N	11246E	0018
575540	31.64	61	SANGZHI (21)*	2924N	11010E	0322
596630	31.58	61	YANGJIANG (22)*	2152N	11158E	0022
592540	31.17	61	GUIPING (23)*	2324N	11005E	0044
590460	31.03	61	LIUZHOU (24)*	2421N	10924E	0097
574470	30.78	61	ENSHI (25)*	3017N	10928E	0458
575840	29.68	61	YUEYANG (26)	2923N	11305E	0052
576870	29.58	61	CHANGSHA (27)	2814N	11252E	0068
544970	29.18	61	DANDONG (28)	4003N	12420E	0014
594310	27.49	61	NANNING/WUXU (29)*	2249N	10821E	0073
588130	27.08	61	GUANGCHANG (30)	2651N	11620E	0142

Additional Resources

[NCDC Global Historical Climatology Network](#)

[NESDIS Operational Significant Event Imagery Homepage](#)

Citing the Article

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