

FLOODS IN

Throughout its history, China has been subject to severe flooding and the need for flood precautions has in turn shaped its history. The economic dislocation brought about by flooding on the major rivers, particularly the Yellow River and the Yangtze, hastened the downfall of several dynasties. The importance of flooding continues into this century. From 1949 to 1988 about one million people died as the direct result of flooding. Fortunately, losses on this scale are no longer observed because of the enormous efforts that have been made by the Chinese people in recent decades to prevent the major catastrophes caused by collapse of dykes in times of flood. However, despite these efforts the death toll and damage caused by floods are still very high.

The year 1996 was the worst for flooding for several decades with over 3,000 deaths, more than 2 million evacuated, 5 million homeless, 100,000 km² of farmland under water, enormous damage to crops and total losses estimated at US\$ 20 billion. The flooding started in June with heavy rain lasting several weeks over the middle reaches of the Yangtze River. Three typhoons, Gloria, Herb and Kirk, then brought even more rain with some regions recording up to 300 mm



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in a single day, producing floods up to 6 m above normal river levels. The floods did not recede until August.

In China, as in many other countries, settlements tend to be built along rivers, where they are subject to flooding. However, in China the scale of the problem is much greater than elsewhere. Three hundred and fifty million people live along the banks of the Yangtze and a further 100 million along the Yellow River. These two rivers are affected by floods nearly every year, and the severity of the floods is increasing. Because of population pressure more and more land is being developed for agriculture: forests are being cleared, swamps and other wetlands drained and flood plains developed to provide living space and farmland. These developments all increase runoff and flooding. Wuhan, at the confluence of the Han with the Yangtze shows this trend. Flooding becomes critical in Wuhan when the water level reaches 27 m. This level was reached six times in the 100 years prior to 1965. In the following 21 years to 1986 the flood exceeded 27 m on three occasions and in the last ten years (1987 to 1996) a further seven times. In the face of this increasing frequency and severity of floods the reductions in the death toll achieved are highly praiseworthy.



Road became water ways.

Anhui

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This list was extracted from United Nations Department of Humanitarian Affairs situation reports and disaster assessment team reports for the first six months of 1997. DHA reports on disasters only if the government requests assistance from the United Nations system, so this list concerns mainly developing countries. Even so, the list of eleven flood incidents in just six months gives a graphic account of the frequency with which floods strike. The reports are prepared during the event when reliable information is still hard to come by and very patchy, but they report that about 300 people died from floods and 4.3 million were affected by them.

Malawi, January-February 1997

Flooding following heavy rains in the Lower Shire Valley. 102,500 people in need of immediate food assistance. This storm also appears to have struck Mozambique, see next entry.

Mozambique, January-February 1997

Heavy rain from mid-January caused severe floods in central and north-western Mozambique. 35 deaths, 400,000 affected. Appeal for food, medicine, seeds and funds for transport of emergency items and rehabilitation of roads and bridges.

Bolivia, February 1997

Torrential rains affected a large part of the country with several rivers above bank level, damaging houses, roads, crops and cattle. 80,000 people affected. Food and medicine requested.

Ecuador, March 1997

Abnormal rains causing serious flooding in a large part of the country. 80 per cent of Guayaquil (pop. 2 million) flooded to depths of 0.6 m to 1.5 m. Sixteen dead and 11 missing, 136 houses destroyed. Approx. 100 km of road damaged, 1,000 ha of crops damaged.

Afghanistan, April & May 1997

Flooding in the Northern Region, 300 km north-east of Kabul, with several rivers over their banks. World Food Programme provided 500 t of wheat and other food.

Bangladesh, May 1997

Tropical cyclone with winds up to 200 km/h. The storm surge hit at low tide, which reduced the damage. Many lives saved by use of cyclone shelters. Preliminary estimates of damage: 95 dead, over 2 million affected, 500,000 houses damaged.

China, May 1997

Heavy rainfall (500-year return period) on 8 and 9 May in Guangdong Province. 110 deaths, 21 missing, 77,000 people evacuated, 19,000 houses destroyed. Total direct economic loss US\$ 160 million.

Armenia, June 1997

Flash flood in Southern Armenia, near the border with Azerbaijan. 82 mm of rain fell on Goris town between 19:45 and 21:15 on 22 June, the highest fall in the 70-year record. Goris is in a narrow valley surrounded by mountains and the local flood channel overflowed through the town flooding houses and depositing considerable quantities of mud. Roads washed out, water supply and sewerage systems disrupted, risk of water-borne diseases. Fortunately only four deaths recorded, damage US\$ 8 million.

Azerbaijan, June 1997

Heavy rains starting 5 June caused severe flooding throughout Azerbaijan. Estimated US\$ 25 million damages including 25 bridges, 1,750 houses and other buildings, power lines and water supplies damaged. Large areas of crops submerged or destroyed by hail.

Benin, June 1997

Following heavy rains in last two weeks of June flooding occurred in the two principal towns, Cotonou and Porto Novo.

Chile, June 1997

Unusually heavy rainfall over a ten-day period. In two northern cities where annual average rainfall is 12 mm and 80 mm, rainfall on one day (23 June) was 68 and 105 mm respectively. 65,800 people affected, 22 deaths, 684 houses destroyed and 17,000 damaged.

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