

### BRAZIL - Floods

Date: May-August 1983 (FY 83)

Location: Southern states of Santa Catarina, Rio Grande do Sul, and Parana

No. Dead: 75

No. Affected: 330,000 were reported homeless; thousands more out of work and without basic services

Damage: Santa Catarina: The entire state was declared a "public calamity" area; many towns were under water, without phones, water, or electricity; 7,000 of the state's 11,000 industrial establishments were damaged and out of production; 80-90% of agricultural land was affected.

Rio Grande do Sul: Of the state's 244 cities, 102 were declared in a state of emergency; roads were impassable in the Urugai River area and towns were almost completely covered with water.

Parana: Agricultural production was extensively damaged, with 78,000 tons of wheat crop at risk of loss; six municipalities were declared "public calamity" areas.

#### The Disaster

Torrential rains beginning in May combined with a stationary cold front to cause widespread flooding in the southern Brazilian states of Rio Grande do Sul, Santa Catarina, and Parana, especially along the banks of the Urugai and Itajai rivers. The weather service recorded 440 mm of rainfall in only 11 days, whereas normal precipitation for the entire month of June is 90 mm. In some areas the rain continued unabated for 60 days.

Santa Catarina was the most affected, with severe flooding in the northern highlands and the Peixe, Urugai, and Itajai river valleys. The Itajai River rose 15 meters above normal, overflowed its banks, and flooded the valley, including the city of Blumenau. The entire state was declared a "public calamity", as were six municipalities in Parana.

In Rio Grande do Sul, the cities of Sao Norja and Itaqui suffered the most damage and were declared a "public calamity", and almost half of the state's cities were designated a state of emergency. Two other major problem areas in the state were the Dos Patos Lagoon and the Uruguai River. Unable to contain the volume of water flowing into it from five different rivers, the lagoon subsequently overflowed; the Uruguai river also overflowed its banks, nearly covering towns on the banks and washing out roads in the area.

By the middle of July, thousands had been forced to leave their damaged or destroyed homes. Many municipalities were isolated and could be reached only by air. Efforts to supply these areas by boat were hampered by very fast river currents, leaving those stranded by flood waters without food or potable water for as long as three days.

Sunshine, warmer weather, and generally subsiding river levels in most areas allowed relief efforts to begin around July 14. Many displaced persons returned home to begin the cleanup, but many more remained homeless. After a brief break in the bad weather, a resumption of rain in Parana caused the Iguacu River to rise 10 m above normal. Passage by road remained difficult, but by July 18 it appeared that supplies were reaching all affected areas.

In municipalities phones, water, and electricity were out and homes and personal property destroyed; industrial plants were damaged, and resulting unemployment was feared. In agricultural areas, future problems were also expected, not only because of crop loss (1.1 million tons of grains were estimated lost in Santa Catarina alone), but because flood waters stripped much good topsoil from farmland.

#### Action Taken by the Government of Brazil (GOB) and Non-Governmental Organizations

The Brazilian Civil Defense, military forces and the Brazilian Red Cross (BRC) were well organized and had enough food and clothing on hand to begin distributing supplies when the flooding began. The BRC forwarded water purification tablets, clothing, and financial assistance to its local chapters, which worked with local civil defense units to distribute the supplies. Army trucks, air force helicopters, and navy and civilian aircraft delivered food and other supplies to the affected areas.

On July 18, the Brazilian Air Force provided transportation for U.S. Embassy and Consulate officials to Florianapolis, the capital of Rio Grande do Sul, to meet with air force and civil defense authorities to assess damage and relief needs. They determined that local warehouses were well stocked for the short term, and more supplies were available from Rio de Janeiro and Sao Paulo if necessary. Local relief efforts and the outpouring of help from neighboring states were impressive, leaving the military police gymnasium and airport hangars overflowing with donations in Santa Catarina. By July 19, 15,000 tons of food had been

donated from the Sao Paulo region; airlines ran round-the-clock "air bridge" services, supplemented by truck deliveries; and civilian volunteers joined the civil defense and military forces in loading, transporting, and distributing supplies.

By the last week of July, many of the displaced had returned to their homes, but civil defense authorities estimated that they were still feeding over 100,000 displaced persons in Santa Catarina alone. The National Security Council was given responsibility for planning and coordinating longer term reconstruction and federal assistance.

Assistance Provided by the United States Government (USG)

On July 13, the U.S. Deputy Chief of Mission, Harry Kopp, determined that the flood disaster warranted USG assistance and obligated \$25,000 for the local purchase of food, medicine, and clothing. Of this, \$20,000 went to Santa Catarina through the Liga de Apoio ao Desenvolvimento do Estado de Santa Catarina, a private voluntary organization; and \$2,500 each went to Parana and Rio Grande do Sul.....\$25,000

In the state capitals of Florianapolis and Porto Alegre, GOB military and state civil defense authorities gave U.S. Embassy and Consulate officials complete briefings on the disaster situation, and they jointly assessed the needs of the displaced persons. The Office of U.S. Foreign Disaster Assistance (OFDA) allotted funds for the local purchase of 19,000 blankets, totalling \$141,608. Consulate officials accompanied the delivery of 2,000 of these blankets to Uruguay River towns.....\$141,608

Under an existing contract with the Office of Emergency Services of the State of Virginia, OFDA paid travel expenses for Dr. David D. Shields to initiate an oral rehydration therapy program in Santa Catarina.....3,420

TOTAL \$170,028

Assistance Provided by U.S. Voluntary Agencies and Other Non-Governmental Organizations

Church World Service (CWS) - donated 1,000 blankets, 40,000 water purification tablets, 20 bales of children's clothing, and 10 bales of layettes; value not reported. The Executive Director of CWS sent \$5,000 from the Emergency Fund and issued an appeal for \$100,000.

Salvation Army - sent assessment teams to Parana and Santa Catarina.

The Commonwealth of Virginia's Office of Emergency Services - sent two doctors to Santa Catarina to establish an oral rehydration therapy program, partially funded under a contract with OFDA (see assistance provided by USG).

World Vision International - gave \$5,000 in cash for food, clothes, and medicine through a local committee of churches.

TOTAL	\$10,000
-------	----------

Assistance Provided by the International Community

Germany, Federal Republic of - donated 20,000 blankets, value not reported.

World Food Program - gave 200 MT of non-fat dry milk from its inventories in Belem, value not reported.