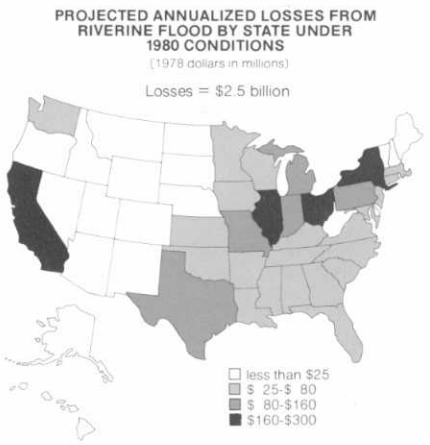
RIVERINE FLOOD



An unfortunate by-product of the fact that man has traditionally chosen to settle by rivers is the enormous toll taken each year by riverine flood: On the basis of annualized averages, overflowing waterways destroy or damage approximately 410,000 buildings across the nation in a typical year, under 1970 conditions, with an aggregate cost of over 3 billion 1978 dollars.

Riverine flood is America's most devastating natural hazard, historically wreaking more havoc in more states than any other. Although nine widely separated states suffer over 50 percent of the building damage from such floods, 35 experience more than $20 million in building losses during an average year.

Losses Will Drop

Government's concern over the magnitude of this problem has triggered stepped-up flood loss reduction efforts in recent years to a point where it appears the year-to-year surge in the cost of buildings damaged by flood might be at least temporarily reversed. Computer models indicate the earlier cited losses will drop about 2 percent each year because of this between 1970 and 1980. But, unless the current rate of flood loss reduction efforts is accelerated, losses will start climbing again as the turn of the century approaches, increasing almost 15 percent between 1990 and 2000.

Many feel, however, that the projected drop, followed by an approximately 15 percent rise, will prove overly optimistic if the current rate of urban growth on the flood plains continues unabated.

It was impossible to factor this into the computer model when projecting losses through 2000 or predicting potential mitigation savings, since the duration and dimensions of the current trends cannot be accurately assessed.

Without taking this factor into consideration, the model reveals that if 25 typical cities per year required more rigid building siting and construction control, beginning in 1980, it would be possible to save $850 million annually by the year 2000. The 20 percent loss reduction would partially result from zero occupancy growth on the 50-year flood plain during this 20-year period. The remainder of the saving would largely be derived from the protection provided by a 100 percent increase over the present rate of dam, levee and flood wall construction.

$2.5 Billion Reduction

Another mitigation envisions the same level of protective public works activity as we have today; 25 cities per year, beginning in 1980, adding building siting and construction controls; and a requirement that all new buildings on the 50-year flood plain be elevated by four feet. This, the computer predicts, would reduce annual building losses from flood down to about $2.5 billion by 2000, a reduction of $500 million a year. Only 294,000 buildings a year would be destroyed or damaged by floods after 2000, in contrast to 410,000 today, and those which were affected would probably be damaged less.