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We couldn't live without water. We bathe in it; we swim in it; and, most importantly, we drink it. Without to bring water, we'd all die of thirst.

But sometimes it rains too much. Then we get floods, and floods can be disastrous....

May 1889: An old dam broke near Johnstown, Pennsylvania. A wall of water crashed through the town. More than 2,000 people drowned.

September 1900: A hurricane hit the island city of Galveston, Texas. High water covered most of the island. About 6,000 people drowned.

Late 1926 and early 1927: Heavy rains fell along the Mississippi River for months. By the end of April 1927, 20,000 square miles of surrounding land were flooded. More than 300 people drowned.

Besides being dangerous to people, floodwaters damage buildings, ruin farm crops, and wash poisonous substances into drinking water.

Floods aren't all bad, though. Ancient Egypt was famous for its grain, which was fertilized when the Nile River washed down silt (fine soil) from heavy annual rains to the south. The farming area in the Nile Valley was a flood plain (a land area that floods often).

When flood plains were used mostly for farming and wetlands went undeveloped, floods only caused trouble occasionally. But as cities grew, many people built houses and roads in flood plains. Once water had fewer wetlands and other natural areas to soak into, floods traveled farther--while buildings moved closer to them. And removing natural vegetation increased erosion (the breakup of soil), which increased debris flow and flood damage.

Ancient civilizations had designed agriculture to take advantage of floodwaters or lived nomadic lifestyles and only camped on flood plains during dry seasons. But later people tried to keep water in what they considered its place--usually by building walls of some kind.

By the 20th century, massive concrete dams, meant to direct water to where it was most needed, had turned many rivers into lakes. Galveston built a 6-mile-long, 17-foot-high sea wall after the 1900 hurricane. Engineers of the early 20th century tried to box in the Mississippi River by building levees (high walls of earth) along the banks. They failed to provide openings for extra water to run out because they believed the faster flow of a river with no outlets would scour the river bottom until it deepened, making more room for water and thus decreasing floods. The idea of making floodwater flow away more quickly also influenced southern states, such as Texas and louisiana, which had natural creeks called bayous. Many bayous were lined with concrete to keep water from soaking into the ground; people hoped this would free the current to flow faster.

This practice of giving water only one way to go often made floods worse. With fewer outlets, a really heavy flow might get backed up, with nowhere to send the extra water except straight over the nearest land areas. The old levee system helped cause the Mississippi River flooding of 1927.

Dams also caused nearly as many problems as they solved. Behind dams, water got deeper, drowning natural areas. Downstream from dams, silt flow dried up, cutting plants off from natural fertilization. Besides everything else, levees and dams were expensive to maintain.

By the late 20th century, people were beginning to agree that nature, with thousands of years of experience, knew best. Flood control is now moving toward a "green" approach that imitates the natural way things work:

\* Fewer bayous are being paved, and fewer curves in rivers and bayous are being straightened out.

\* More people are defending the preservation of coastal wetlands and watersheds.

\* Flood plains are being used less for homes and businesses, and more for public parks.

\* More developers are using porous concrete, which lets water soak through to the ground.

Flooding has occurred for millions of years, but how we deal with it may make all the difference.

How You Can Help

You can help with flood control! Get your family to plant a water garden in your back yard. (Look up "water garden" and "natural flood control" online for how-to ideas.) Not only will your house have fewer flooding problems, but also your yard will be more interesting to look at than if it were all plain grass, especially once the birds and other animals find it.

If you don't have a yard or time for a garden, you can still help:

\* Find out where the flood plains are in your area.

\* Write to your mayor or governor asking that more parks De built on flood plains.

\* Visit a flood plain park, treat it well by not littering, and write a thank-you letter to the government that built it.

\* Ask your local Audubon Society chapter or other-nature group what kids can do to promote natural flood-control.

\* Write a report for school on natural flood control.

\* Tell everyone what you've learned about floods! K.S.