

Flooding

Are Floods Always Bad?

Flooding is a natural part of every river. Flooding creates the floodplains and wetlands that are vital components of a healthy river ecosystem. Damming rivers and building levees to prevent flooding can destroy wetlands and limit the ecological function of floodplains.

Wetlands are areas that are seasonally or permanently saturated with water and often have standing water. If we protect wetlands, they can be a natural defense against flooding of other areas and homes. Like a sponge, wetlands can soak up extra water during flood times because they are able to hold hundreds of thousands of gallons of water when saturated. Without a wetland to soak up the floodwaters, water may quickly flow across land and flood homes. Wetlands allow the slow release of floodwaters into the river system after the torrent of the flood is over. Wetlands also filter and cleanse water, contain many nutrients, and are habitats for thousands of different species of plants and wildlife. Marshes and swamps are both types of wetlands. Wetlands are home to aquatic species such as water lilies, frogs, and turtles. They are also important feeding areas for many migratory birds. When wetlands are destroyed, it takes away these and many other benefits.

Floodplains are areas near rivers that are occasionally or periodically flooded and have sediment deposited onto them by the flooded rivers. The sediments deposited make floodplains rich in nutrients and can support diverse ecosystems. Floodplains link rivers, wetlands, and lakes and are an important part in keeping all of these ecosystems functioning. In order for floodplains to function properly, they need to flood occasionally. Cutting floodplains off from rivers and lakes by levees can be destructive for the river and the floodplain. Due to the rich soil deposited by floods, floodplains have been used extensively for agriculture. It is important however that they are still managed properly in order to maintain the health and diversity of the floodplain.

Activity – How Does Flooding Change the Landscape?

In 2007, there was record-breaking rainfall in central Oklahoma that caused significant flooding along many of the rivers in Oklahoma. On the next page you see pictures of the same reach of the Canadian River in 2005 and 2008, before and after this season of excessive rainfall. These pictures are an excellent illustration of the environmental change after a flooding event. Examine the pictures and write a paragraph describing the changes you see.

Questions for Discussion

1. What happened to the river channel after the floods?
2. Why is there more sand exposed in 2008?
3. Is this a good thing for the wildlife? (*hint - read the section on the least tern*)
4. Would you like to live in the neighborhood in the upper right corner of the picture? Why or why not?
5. Would you like to have a farm on the floodplain? Why or why not?
6. What do you think the river looked like during the floods?

Imagine standing on the river bank during the flood!



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Activity – How Does Flooding Change the Landscape?

Canadian River near Norman, OK in 2005



Canadian River near Norman, OK in 2008

