

The Changing Delta

In the previous lesson, we learned about what causes a delta to form at the end of a river and grow bigger. In this lesson we are focused on what causes a delta to shrink or disappear. Read this short story and study the images closely.

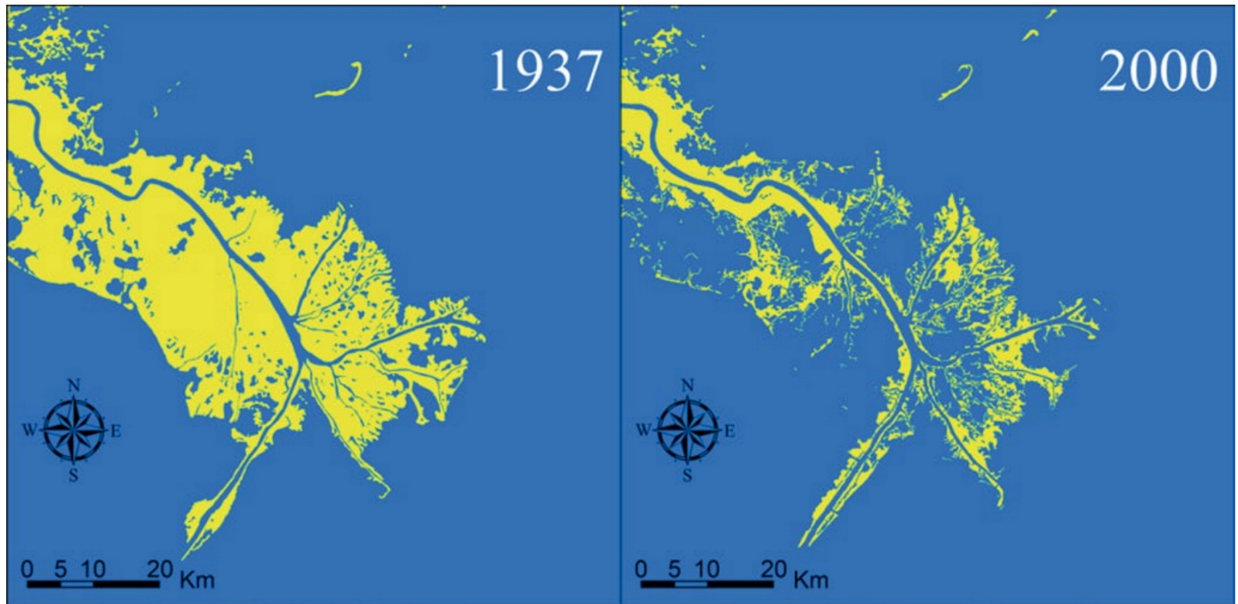
Today the Mississippi River is important for shipping goods in the United States. Large boats travel up and down the river, carrying goods to different ports. The river has many towns and cities along the banks. But it hasn't always been this way.

In the 1700s and 1800s, many settlers moved west across North America. They began to build towns along the Mississippi River and use the river to ship goods. It was faster to use ships than wagons over the land.

The Mississippi River can flood and disrupt the flow of ship traffic or flood the towns along the river. Starting in 1869, people built a series of dams and levees to control flooding on the river. Levees are built along the riverbed to prevent overflow. Dams are solid structures built across rivers. They control how much water flows downstream. People can release water from dams to produce hydroelectric power.

Stop and think: What benefits do dams have?

In recent decades, the Mississippi delta has started to shrink. It is estimated that the Louisiana coast loses about one football field of delta land per hour! Study the following maps:



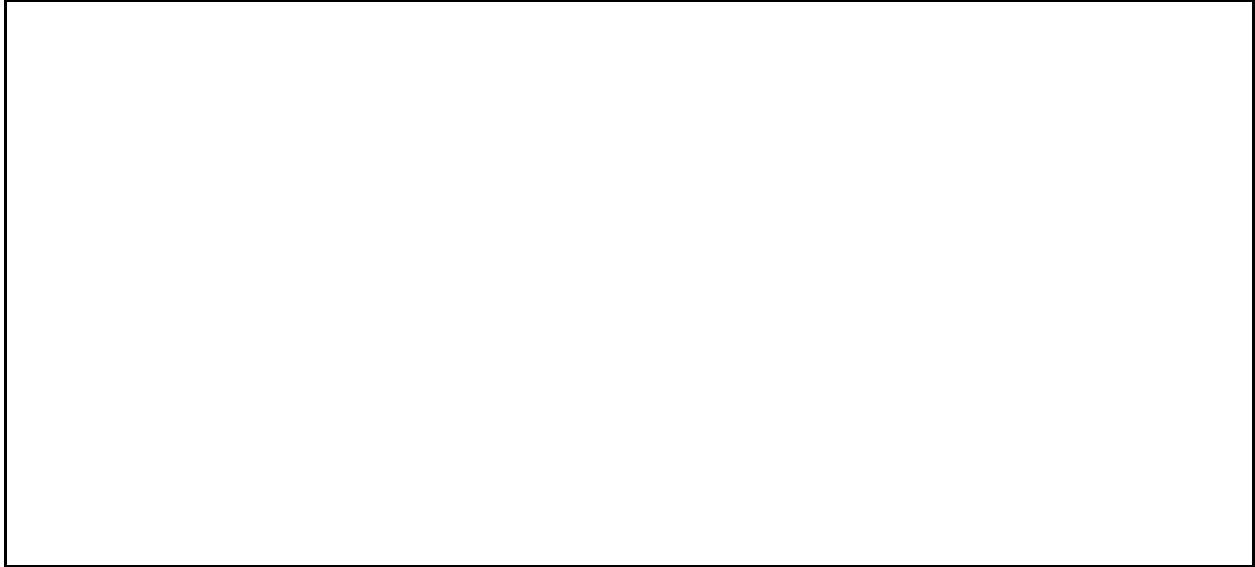
Data from Couvillion et al. (2011), after Kemp et al. (2014).

Stop and think: What might cause the delta to shrink?

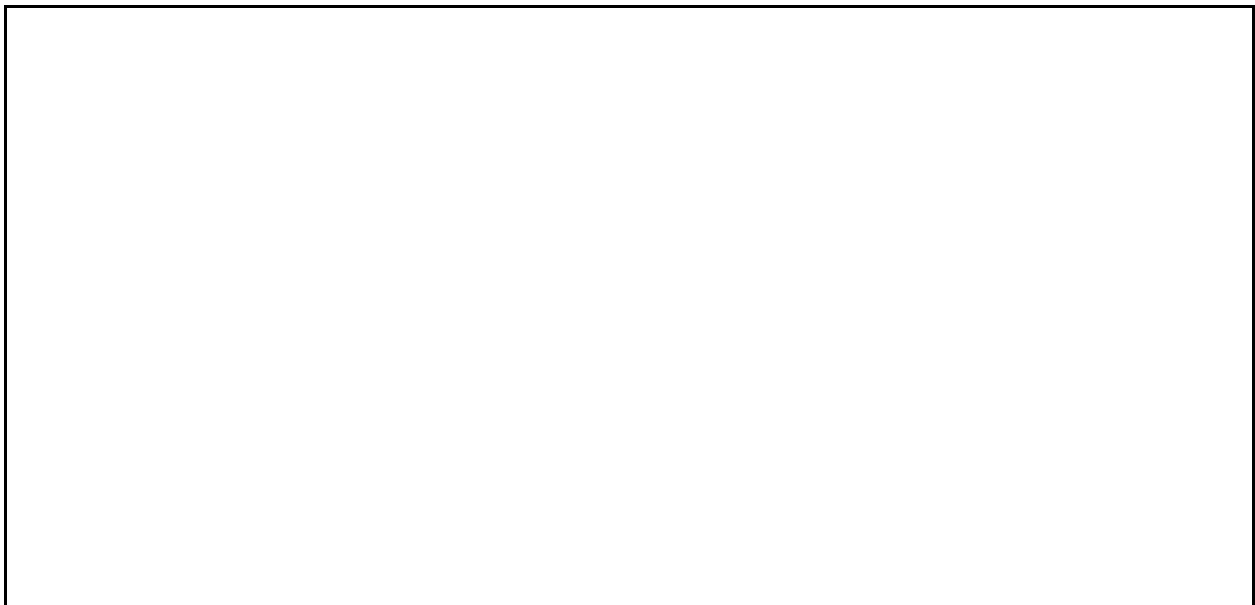
Dams and Rivers

Using a stream table, let's test what happens when a dam is built on a river.

1. **Prediction:** If we build a dam on our stream table, what do you think will happen to the flow of water and sediment? You can draw your thinking in words and pictures in the box below.



2. **Observations:** Study closely what is happening with the flow of water and sediment on the stream table. Use words and pictures to draw your observations.



3. How might dams be related to a delta getting smaller?

4. **Positive and Negative Effects:** What are the positive effects (benefits) of dams being built on rivers? What are the negative effects (disadvantages)?

Positive effects	Negative effects