

**Avatar: Stream Deposition****Slide 1**

After their journey from the mountains, rivers eventually come to an end in areas of lower elevation. Because the velocity of the water slows, sediments begin to fall out of the water and settle to the ground. Coarse-grained sediments, like sand and gravel, settle out first, followed by finer-grained sediments, like clay particles. Many rivers empty into the ocean. When a river empties into the ocean it creates a landscape feature known as a delta. A delta is a fan-shaped feature that is built up by all the sediment that a river deposits. A famous example of a delta is the Mississippi River delta that has formed in the Gulf of Mexico, where the Mississippi River comes to an end.

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Not all rivers empty into the ocean. A river may also enter into a dry basin, such as when it is exiting a canyon in a desert environment. The accumulation of sediment from one of these rivers is called an alluvial fan. Alluvial fans are spread out, fan-shaped and flat. Alluvial fans are commonly deposited in arid desert environments after periodic flash floods that send unusually high amounts of water running through a canyon.

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Rivers also deposit some sediment as they make their journey. A floodplain is a flat area around a river covered with a thick layer of sediments from periodic river floods. Floodplains have very fertile soil and are important for agricultural production, as long as they are not too wet. They are most often associated with rivers that exist on gentle slopes and relatively flat areas. In this picture you see muddy flood waters covering a floodplain area. After the flood water recedes, the sediment that made it look so muddy is left behind.

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Sometimes, the deposits left behind after a flood accumulate to the point that the river's banks are built up over the level of the rest of the floodplain. The resulting ridges are called natural levees. Natural levees have a wedge shape and they build up on both sides of a river. If a natural levee makes a floodplain lower than the river, then a backswamp develops. Backswamps are made up of deposits of fine silt and clay and lie behind the river's natural levees.

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A river meanders. One common deposition feature is a point bar. A point bar is an accumulation of sediment that builds up on the inside of a river's curve. As the river flows, a mixture of sediment is carried and swept toward the inside of the curves, forming the point bar deposits, like the ones you see in this image.