

## Reading Passage

The Mississippi River is the largest river system in North America. About 2,320 miles (3,730 km) long, the river originates at Lake Itasca, Minnesota, and flows slowly southwards in sweeping meanders, terminating 95 miles (153 km) by river below New Orleans, where it begins to flow to the Gulf of Mexico. Along with its major tributary, the Missouri River, the river drains all or parts of 31 U.S. states stretching from the Rocky Mountains in the west to the Appalachian Mountains in the east to the Canada–US border on the north, including most of the Great Plains, and is the fourth longest river in the world and the tenth most powerful river in the world.

The river serves as partial boundaries for ten states, and most of its course can easily be seen on a political map. The Mississippi has also been known for great flooding events, especially in the 20th century which experienced up to four 100-year floods. This has led to the construction of hundreds of miles of levees along nearly the entire course of the river, although they have not always succeeded in preventing the greatest floods.

How does the information in the listening passage supplement the information in the reading passage?

## Lecture

### How the River Was Formed

The Mississippi River, like all rivers, is in a constant state of change. Various forms of the Mississippi River have flowed through our area for more than a million years, but the Upper Mississippi River Valley as we know it was primarily shaped during the most recent glacial stage of the Great Ice Age, The Wisconsin period.

The Wisconsin glaciation period started about 75, 000 years ago and ended about 12,000 years ago when the North American climate began to warm.

The melting of those enormous ice sheets that, at their maximum, were 5,000 to 10,000 feet thick and covered hundreds of thousands of square miles, released tremendous amounts of water, forming huge glacial lakes. The largest of the glacial lakes, Lake Agassiz, covered northwest Minnesota, parts of North Dakota and the Canadian provinces of Manitoba, Saskatchewan and Ontario. The southern discharge outlet to this lake was called Glacial River Warren, which eventually excavated the valley now occupied by the Minnesota River. (The Mississippi River flows into the valley carved by the River Warren at St. Anthony Falls in Minneapolis.)

The St. Croix River which drained Lake Duluth, a glacial lake that covered the western Lake Superior basin, joined the River Warren about 30 miles downstream from the present confluence of the Mississippi and Minnesota Rivers. In Wisconsin, another glacial lake drained first into what is now the Black River and later the Wisconsin River, both of which emptied into the River Warren. During the 3,000 years that River Warren carried water from these and other smaller glacial lakes, the Mississippi River valley was carved bluff to bluff and the resulting valley was approximately 250 feet deeper than it is today.

However, there is also evidence that the main valley is much older than the River Warren and underwent several cycles of cutting and filling during the Great Ice Age. Even though the Coulee country escaped the land-leveling effect of the ice mass, the glaciers left their mark by carving the spectacular Mississippi River that cuts through the heart of this area with the torrents of water draining from the melting ice mass.

With the demise of the glacial lakes, the tremendous flow of water was diminished and the Mississippi River became the most important stream in the area. The many tributaries continued to bring in sand and gravel (sediment) into the wide deep valley of the Mississippi that the river could no longer carry away. Consequently, the sediment began to fill in the recently scoured river valley. At each point where major tributaries joined the Mississippi River, natural sediment dams eventually built up to pond the upstream portion of the river, forming a natural river lake. The largest is Lake Pepin which at one time extended all the way up to St. Paul.

Sample Reading Notes; Facts about the river	Sample Listening Notes: How it was formed
<p>Miss Riv = largest river system in North America (2,320) miles (3,730 km) long</p> <p>Orig = Lake Itasca, Minnesota</p> <p>River moves slowly southwards in sweeping meanders, ending 95 miles (153 km) below New Orleans At the end, the river flows into the Gulf of Mexico</p> <p>Along with its major tributary, the Missouri River, the river drains all or parts of 31 U.S. States:</p> <p>The fourth longest river in the world and the tenth most powerful river in the world.</p> <p>The river serves as partial boundaries for ten states</p> <p>The Mississippi has also been known for great flooding events, especially in the 20th century</p> <p>Built hundred of miles of levees to prevent future floods (didn't always work)</p>	<p>Upper Mississippi River Valley was primarily shaped during the most recent glacial stage of the Great Ice Age; the Wisconsin glaciation period: started 75, 000 years ago and ended 12,000 years ago.</p> <p>The melting of those enormous ice sheets released tremendous amounts of water, forming huge glacial lakes: Lake Agassiz, Glacial River Warren, Lake Duluth....</p> <p>River Warren (for 3000 years) carried water from these and other smaller glacial lakes,</p> <p>Thus, the Miss Riv valley was carved bluff to bluff and the resulting valley was approximately 250 feet deeper than it is today.</p> <p>However, evidence that the main valley is much older than the River Warren and went through several cycles of cutting and filling during the Great Ice Age.</p> <p>The glaciers left their mark by carving the spectacular Mississippi River that cuts through the heart of this area with the torrents of water draining from the melting ice mass.</p> <p>Glacial lakes disappeared and their tremendous flow of water was diminished, and the Mississippi River became the most important stream in the area.</p> <p>The many tributaries continued to bring in sand and gravel (sediment) into the wide deep valley of the Mississippi that the river could no longer carry away. Consequently, the sediment began to fill in the recently scoured river valley.</p> <p>At each point where major tributaries joined the Mississippi River, natural sediment dams eventually built up to pond the upstream portion of the river, forming a natural river lake. The largest is Lake Pepin which at one time extended all the way up to St. Paul.</p>

