

The world's great rivers

The world's greatest rivers often play a very important part in the history and development of the countries where they are found. They have a huge impact on the people, the economy and the landscape, which continues to the present day. Many of these rivers provide excellent case study material, and they still have the standard features of the upper, lower and middle courses.

Case study

The mighty Mississippi, USA

The Mississippi is North America's longest river. At its source, at a height of 446 metres above sea level at Lake Itasca in Minnesota (map B), it is just over a metre wide and half a metre deep. It flows through a series of lakes, and passes over a number of important rapids, before dropping 20 metres at the Falls of St Anthony in Minneapolis. The falls were originally a large waterfall, but they have now been straightened and smoothed by engineers, and a channel with locks has been added to help boats continue up the river (photos C).

Many tributaries, such as the Missouri, Illinois, Wisconsin and Rock, add water to the river, vastly increasing the amount of load it can carry. Different types of rock mean that in some sections the river is channelled through 60-metre deep gorges while in others it meanders out over a wide flood plain (photo D).

Historically the economic opportunities provided by the river have influenced the development of the USA. The silt deposits formed on the huge flood plains have made the areas around the river amongst the most fertile regions of the USA. Sugar cane, rice, tobacco and cotton plantations became widespread in the 19th century with the river providing the main transport routes for export around the world. Even today over 100 million tonnes of commodities are transported down the river each year including 56 per cent of the nation's corn and 41 per cent of the USA's soybean exports.

- The total area covered by the river and its tributaries (called the **river basin**) is the fifth largest in the world (map B).
- At 3800 km it is the second longest river in the USA (after the Missouri).
- The river releases almost 600 million tonnes of load each year – along its course and into the sea.
- The flood plain is 200 km wide at its widest point.
- The Mississippi flows through 10 states.
- The river carries 13 per cent of all freight traffic in the USA.

A Mississippi river facts



B The course of the Mississippi river

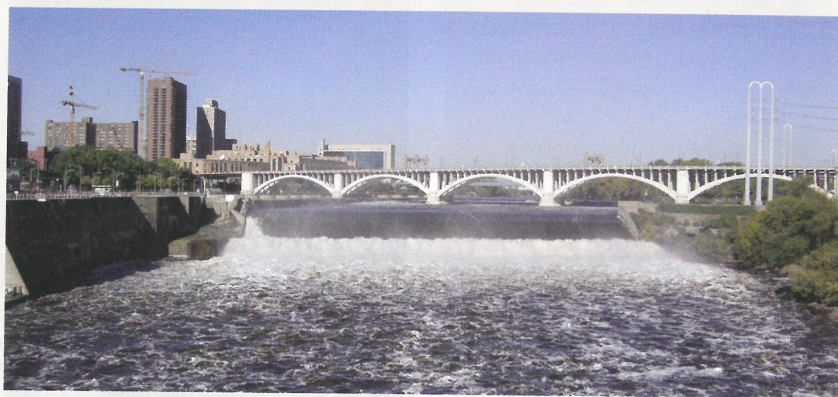
The Mississippi also provides huge recreational opportunities with more than 11 million tourist visitors each year. In the upper reaches of the river alone, this is worth US\$1.2 billion to the economy each year; sport fishing and waterfowl hunting bringing in US\$100 million and US\$58 million respectively. Other economic benefits in the upper reaches come from the 29 power plants that provide energy to a vast array of factories and homes. The river is used for cooling purposes in 80 per cent of these energy production facilities.

Flooding on the Mississippi

At various points along its course the Mississippi has built up its bed so that it flows above the level of its flood plain. Huge deposits have

created natural levees and these have been artificially strengthened to stop the river overflowing its banks. Other flood prevention measures have also been put into place, such as the building of dams and channels to take water out of the main course. Despite these efforts there have been several major floods over the last fifty years. Following particularly severe floods in 1993, many scientists and engineers argued that floods were a natural part of the river's life and that prevention measures should be abandoned. However, it is difficult to do this when so many people live along the river's flood plain.

One of the worst areas for flooding is the point where the river finally enters its delta at the Gulf of Mexico and spreads out through a number of distributaries. Very careful management is needed here in order to stop the build-up of sediment causing even more floods.



C The Falls of St Anthony 150 years ago (left) and today (right)



D The meandering Mississippi

Topic link



Look at Topic 2.5 on page 113 to see how Hurricane Katrina made landfall close to the the Mississippi Delta.

Skills link



It is important that you can identify river features on maps as the basis for answering questions on how these features are formed. For more information on how to do this check out Topic 4.1 pages 200–01.

Fantastic fact



In 2002, the Slovenian endurance swimmer Martin Strel swam the whole length of the Mississippi in 68 days.