

PLANET



EARTH

RIVERS AND LAKES





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The Energy and Resources Institute

A note from Dr R K Pachauri

We live on a truly unique and wonderful planet. It nurtures life, is home to an amazing variety of flora and fauna, and has a breathtaking variety of landscapes. However, in our quest for industrialization and urbanization, we have polluted our air and poisoned our waters, cut down trees to make way for human habitation, and have even caused the melting of polar ice caps.

Protecting our planet and preserving it for future generations in the face of rampant resource depletion is crucial. One way to effect this change is to allow children to appreciate the earth's unique features—vast oceans, hot and cold deserts, lush green forests teeming with life, rivers and lakes that have been our lifeline since ancient times, lofty mountains, and the two extensive icy poles.

This series, while offering a glimpse of our beautiful yet fragile planet to young minds, seeks to both entertain and enrich their thought processes. These books inform readers about the dangers facing landforms and oceans and their inhabitants, and I hope that they will inspire the future custodians of our planet to safeguard it.



R K Pachauri
Director-General, TERI
Chairman, Intergovernmental Panel on Climate Change

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What are rivers and lakes?

Rivers are bodies of fresh water that flow towards an ocean, lake, sea or another river. Rivers are found in all continents of the world except Antarctica. A body of water that does not flow is called a lake. Rivers and lakes cover 3 per cent of the earth. They carry trillions of gallons of water.

Fresh flows the water...

Rivers and lakes are storehouses of fresh water, that is, water with little or no salt dissolved in it. They provide fresh water to nearly 75 per cent of the world's population. Unlike salty sea water, fresh water is used by humans for drinking, cleaning, and for growing crops. Humans cannot live without fresh water.

Lifelines from ancient times

Rivers and lakes have been lifelines since early times. Apart from water, they have provided fish, and have been used as waterways for transport and trade for thousands of years. It is no surprise that ancient civilizations like the Egyptian, Mesopotamian, and Indus Valley civilizations grew near rivers. Today, rivers are also used to generate electricity called hydropower.



◀ **Rivers are not only natural wonders and storehouses of fresh water, they offer a chance to explore some of the most beautiful landscapes!**

Mississippi-Missouri →

Rio Grande →

Amazon →

Parana →



Save them!

Rivers and lakes are important habitats for fishes, birds, and mammals. Many of the world's great cities are situated on river banks. We use our rivers in many ways. We also use them for dumping waste. Waste and dirty water from our homes and industries are discharged into our rivers and lakes. This harms animals, plants, and humans who depend on the water.

- The amount of water flowing in the Amazon river is greater than the water in the next ten largest rivers of the world!

What can we find in a river?

A river flows in channels, where the bottom is called the bed, and the sides are called banks. A river has branches, or tributaries, and a large area called a river basin from which it collects water. The end of the river where it flows into the sea is called its mouth.

River basin

The Amazon basin, the Congo basin, and the Mississippi basin are the three largest river basins in the world. Rivers grow larger as they receive water from many tributaries and streams in the river basin. Rivers grow larger as they receive water from many tributaries and streams in the river basin. A tributary can be small or as large as the river itself. The Missouri, a tributary of the Mississippi river is 3,767 kilometres long. That's comparable to the length of the Mississippi!

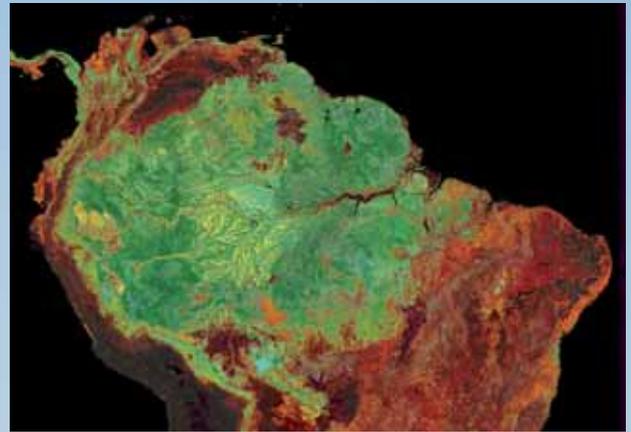
River banks

River banks are fertile and rich in silt. In ancient Egypt, the Nile regularly flooded its banks from June to September. When the water receded, it left behind fertile soil that was ideal for growing crops. Even today, farmers grow crops in the rich soil left on the banks by the flooding of rivers.





▲ When a river approaches the sea, its fresh water flows into and mixes with salt water of the ocean in shallow, protected bays.



▲ The mighty Amazon basin is spread over nearly half the continent of South America.

Estuary and delta

The mouth of a river can be an estuary or delta. An estuary is a wide mouth of the river, where fresh water from the river mixes with salty water of the ocean or sea. A river carries a lot of sediment on the way from its source to its mouth. Sometimes, a river forms a flat plain of alluvial deposits and branches into several channels before falling into the sea. Roughly triangular in shape, this is called a delta. The delta of the Ganga in India and Bangladesh is the largest in the world.

◀ River banks are important for river transport and tourism.



▶ The area has the largest mangrove forest in the world, and is home to rare and endangered animals, including the famous Royal Bengal tiger.

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