

Water from the Air: Cloud Forests

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There's a special kind of forest in the Americas, Asia, and Africa. It's rare, beautiful, and incredibly important to the animals and plants living there, and the humans who live nearby.

It's called the cloud forest. Cloud forests are found in the clouds on the slopes of mountains. Because they are often covered in warm mist, cloud forests are very humid and wet places. But that's what makes these forests so valuable.

Like rainforests, cloud forests experience rainfall. But they also take in water straight from the air. Water condenses on the leaves of the plants and drips through the canopy, or the top layer of a forest. The water makes its way to the forest floor. If you stand in a cloud forest, you'll hear the constant drip of water, even if it's not raining. The water is pure and clean. It flows through the ground into streams and then rivers.

Cloud forests are very important for providing water to nearby villages and cities. In the capital of Honduras, four out of 10 people get their water from a cloud forest. That's about 340,000 people drinking cloud forest water! And there are a lot of other big cities that get some of their water from cloud forests. These cities include Quito in Ecuador and Mexico City in Mexico.

In Guatemala, most of the water comes from cloud forests. More than 60 steady streams flow from the forest downhill to villages and cities. People drink the water, use it for cooking, and water their farm fields with it. In Kenya, people rely on the water from cloud forests on nearby

Mount Kenya to provide electricity. They harness the energy of rivers that flow from Mount Kenya to produce electricity. To harness means to bring under control and make ready for use.

But it's not just humans who rely on cloud forests. While cloud forests only make up 2.5 percent of the world's forests, they are home to an impressive variety of animals and plants. There are more kinds of hummingbirds in cloud forests than anywhere else in the world. Colorful birds, lizards, moss, and ferns live here. Special plants that grow on trees live there as well. There's even a bear found in cloud forests that has marks on its face that look like glasses. It's the only bear that lives in South America. There are only a few thousand remaining because of habitat destruction and hunting.

We don't even know all of the plants, animals, and insects that live in cloud forests. We keep discovering new ones. In the 1990s, scientists discovered two kinds of birds that only live in cloud forests. One lives in Ecuador in a small area of cloud forest. Another was discovered in Peru living on just one mountain. Scientists also discovered a new type of cow and deer in the cloud forests of Asia.

As you can see, cloud forests are extremely special places. But they are also very fragile, meaning they are delicate and can be easily damaged. They face many different threats. Local poor people clear, or cut down trees and plants in the forest so that they can grow crops for food. They also hunt endangered and threatened animals for meat, and cut down trees to heat their homes and cook. Farmers turn the land into fields so that they can grow fruits, vegetables, and coffee beans. Cloud forests are cleared and turned into grassy lands for sheep and cows to eat. Building roads and mines also severely damages the cloud forests.

Once cloud forests are cleared, the damage can be irreversible, or impossible to undo. The cloud cover, which is so essential to the growth of these forests, goes away. The soil breaks down and erodes, washing down the mountain side. Many animals and plants important to the ecosystem die off. The dry, dusty land on the mountain left behind can't be used for farming and is unable to support animals, plants, or even people.

Cloud forests are surrounded by other types of forests and habitats on all sides. Many species are unable to leave one area of forest to travel to another. Once one area is completely cleared, many species of plants and animals can die off, without ever being seen or studied by people like us. Some of the plant species lost could have been a new medicine or plant we could eat.

Scientists estimate that each year, 1.1 percent of the world's total cloud forest land is cleared as people cut down trees to collect their wood. But even more worrying is the threat of climate change. Cloud forests form at very specific heights above the ground. They rely on cooler temperatures to thrive. If world temperatures rise, cloud forests would have to move up to a higher level where the temperatures are cooler. Some cloud forests are already at the tops of mountains. So they would not be able to move any higher if they needed to. Climate change could also lessen cloud cover, which cloud forests rely on to grow. Because of this, we could lose cloud forests twice as quickly as we're losing them now.

As you can see, cloud forests are essential, providing water, food, and medicine to the people living in, around, and near them. So why would local people destroy them? To understand why, you have to put yourself in the shoes of a poor local farmer. Imagine that you have no electricity or gas to heat your home or cook your meals. You do not have an oven or stove, so you get wood from the forest to build a fire. You also need food, and you cannot find a job that pays enough to buy any. There might not be a grocery store anywhere nearby, either. You have to clear some forest next to your home so that you can plant fruits, vegetables, and grains. You also hunt local animals to eat. You would probably be excited to have a road built through the forest to your village, so you can easily go to a nearby city. A road would also help you reach a hospital if you or someone in your family has an emergency.

If only a few people did these things, it might not be a problem. But the population is growing fast. And when thousands of people clear the forest and hunt animals, it can cause a disaster for cloud forests. Scientists fear we might end up losing these cloud forests. We would also lose the water and other things they provide.

To help fight the problem, some governments have set aside certain stretches of cloud forest to be protected. It's illegal to cut down these protected forests. This can help preserve cloud forests against mining companies and large commercial farmers. But it can be hard to make sure local people follow these rules. It would be more effective to help these people find other ways to get food and energy so that they leave the cloud forest alone.

It is also effective to teach the local people about how cloud forests provide fresh water and what happens when they are cleared. For example, once the people of a native community in Ecuador understood that the cloud forest is necessary to provide water for farms in lower areas they worked together successfully to protect it.

Cloud forests are so valuable we cannot afford to lose them. We might be able to save them and the living things they support. We may be able to save them before it's too late by passing laws to protect them and providing education and economic support to local people.