

# Measuring Earth's Changes



**The global environment changes our local environment. And, the local environment changes the global environment.**

## **Observation is the Key.**

One of the best ways to figure out what kind of changes Earth is experiencing is a simple one: Look! Earth keeps a record of what its environment does. By observing clues in the world around us, we can learn about the way Earth changes.

Collecting data is only the first step. Next, scientists study what they find to uncover patterns and trends. Understanding what happened in the past prepares us for what the future may bring.

## **Want to be a Citizen Scientist?**

Citizen Science programs are exactly what they sound like: A chance for regular people to help scientists, usually by collecting data. They exist all across the country (and the world). Some count ladybugs, some monitor mountain goats, others gauge nighttime light pollution. Google "citizen science" to find opportunities.



*CoCoRAHS is a grassroots volunteer network of backyard weather observers of all ages working together to measure and map precipitation (rain, hail, and snow) in their local communities.*



*A 2009 U.S. Forest Service study found major tree species, including the Yellow Birch shown here, are migrating north. Trees don't actually move, of course. Saplings take root where climate conditions are right. More and more, conditions are right farther north.*



*Scientists drill cylinders of ice called "ice cores" to learn about past climates. Gas, sediment, dust, and ash are trapped in the ancient ice.*