An urban ecologist studies the relationship of living organisms with each other and their surroundings in an urban environment. I have focused my research on urban forests which are an important part of urban ecosystems in many cities and towns across the world.

Dr. Natalie S. van Doorn

Urban Ecologist

Ph.D., University of California, Berkeley

USDA Forest Service scientist

Dr. Natalie S. van Doorn

Important Scientist Characteristics:

I work on long-term studies. Long-term studies are important for finding trends in long-lived organisms, such as trees. Building long-term data sets requires good collaboration with other scientists and careful record-keeping.

Example of a simple research question I have tried to answer:

In an urban forest, how many trees die or are removed every year? How fast or slow have the surviving trees grown? Which species are likely to survive future changes in climate? How has drought affected urban forests in the West? To answer these questions, I track a set of trees through time to see which survive in different conditions and how they grow.

Technology or equipment used in research:

I estimate tree growth in two ways: 1) Take a diameter measurement of a tree trunk at the same spot at two time periods, or 2) Use an increment borer to extract a piece of wood. An increment borer enables me to measure the width of the tree rings, showing year-to-year growth of a tree.

Most Exciting Discovery

In New Hampshire, I investigated how forests respond to multiple disturbances, like insects, diseases, and windstorms. I found that the combination of severe ice storms and acid rain have increased the dominance of beech trees and reduced the dominance of sugar maple trees. More disturbances could cause a further loss of sugar maples.

When did you know you wanted to be a scientist?

I learned I had a love for the outdoors during a high school environmental stewardship program at a city park. During my undergraduate studies at the University of California, Berkeley, I fell in love with the mountains and forests while attending the Forestry Field Camp.

http://www.fs.fed.us/psw/programs/uesd/uep/