

Atmospheric Science: Cause/Effect – Answer Key

Directions: According to Ranger Jonathan Mace, what four natural processes work together to give the Great Smoky Mountains their a blue, smoky appearance? Explain each. (See *Thief in the Park*, page 82.)

2. Rainfall

The Park has a high amount of rainfall, about 55 inches in the valleys and over 85 inches on some peaks. Rainfall is normally so high that the Smoky Mountains are considered a temperate rainforest.

1. Humidity

The high amount of rainfall combines with the naturally warm temperatures to produce high humidity. Humidity means the amount of moisture in the air.

3. Decomposition

The high humidity and warm temperatures assist in the continual decomposition of leaves and debris on the forest floor. Decomposition is the natural process of dead plant (or animal) tissue being rotted or broken down into its smaller molecules.

4. Tree Transpiration

Transpiration is the process by which moisture is carried through plants from roots to small pores on the underside of the leaves. There it changes to vapor and is released into the air. One large tree may transpire 50 to 75 gallons of water a day.

The Great Smoky Mountains often have a blue, smoky look.