Fact Sheet from the Center for Environmental Therapeutics at cet.org

How to Bring the Romance of Niagara Falls Into Your Bedroom

Do you want to recapture the mood of your honeymoon in your cramped fifth-floor walkup? Or feel less depressed without taking medication? Or just relax after a long, hard day at the office?

You can move closer to these goals of comfort and good feelings with negative air ions.

The Science of Negative Air Ions

Negative air ions are created when an electron--a tiny particle with a negative charge--piggybacks onto a big molecule of oxygen. The molecule of oxygen, which has no charge before this event, then carries a negative charge. The oxygen continues to carry a negative charge if microscopic drops of water surround it and its visitor, preventing the electron from leaving.

At Niagara Falls, beaches, and tropical rain forests, as well as anywhere there is a storm, the moisture in the air tends to keep an extra electron on zillions of oxygen molecules. These charged oxygen molecules turn into the equivalent of miniature vacuum cleaners by attracting dust, smoke, pollen, mold spores, and other unwanted particles with positive charges, since negative particles attract positive particles. When the charged oxygen molecules attracts positive particles, they form heavy clumps, which drop to the ground, leaving the air we breathe fresher and cleaner.

Negative air ions occur far more often in nature than in our homes and buildings, where heating systems and air conditioners remove moisture from the air, making it hard for electrons to stick to oxygen molecules. People can buy ionizing air cleaners to reverse this problem, but need to be sure the machines are

powerful enough to have an effect, since often only industrial-strength ionizers are effective.

Perhaps more important, negative air ions can relieve depression and enhance sleep quality if used properly as a treatment for these problems. For example, a clinical trial (experiment) at Columbia University found that the mood and sleeping problems of people who received high-density negative air ions improved just as much as they did in people who received bright light therapy, a treatment that had already been proven effective.

What remains a mystery about negative ions, however, is how they work. Scientists suspect the effects may be linked to the ease with which ionized air moves from the lungs throughout the body, oxygenating the blood.

Moving Niagara Falls Into Your Bedroom

How can you take advantage of negative air ions to improve mood? If you live in the country, or have a big backyard, you can build yourself a waterfall. Or you could move to a land with tropical rainforests, such as Saint Lucia.

However, for an everyday solution most of us can use, the Center for Environmental Therapeutics has developed a miniature Niagara-Falls-in-a-box using modern technology. This negative air ionizer works like a waterfall or tiny tropical rainforest by allowing charged oxygen particles to attract allergens and smoke, and then drop to the ground, making the air above--the air we breathe--purer. In addition, we believe that for reasons we have yet to understand, these negative air ions affect the central nervous system in a way similar to that of antidepressants. That makes us feel better.

To see a photograph of one of these ordinary-looking marvels, read a little more, or to buy a piece of Niagara Falls, look at CET's description of its air ionization system. You can also find out more about negative air ions by searching the Ask the Doctor feature on our home page, cet.org, and reading the questions our visitors have asked, and the answers provided by our experts.