Volatile Organic Compounds in Soils across North Carolina

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Abstract:

Volatile Organic Compounds are a group of xenobiotic chemicals that create ground level smog. Their occurrence in soil and water tables is a wide occurrence across the United States, and is poorly regulated because of the fact that thousands of chemicals make up the Volatile Organic Compounds group. Although awareness of the issue is popular, most citizens do not realize that a simple change in their actions could cumulatively reduce the content of these soil and groundwater impurities.

In order to further analyze this problem within North Carolina, extensive samples will be taken from across the state using the soil-gas method of Passive Sampling. This procedure involves a charcoal sample that is put into the soil for up to three months, and then collected and analyzed in a lab. For the purposes of this experiment, samples will be tested for the content of Benzene and Methyl-tertiary butyl ethyl. These two chemicals are often leaked onto the ground from storage and gasoline tanks, making them popular Volatile Organic Compounds. They are also rumored to be carcinogenic to humans, although no tests have officially confirmed that.

The intent of this paper is not to discuss conclusions from a pre-conducted experiment. Rather, it is a preliminary report that is acting as a precursor to further research intended to map out the levels of Volatile Organic Compound content within soil and water tables across the state.