

Forest odors, also called phytoncides, ~~have provide~~ a relaxing effect on humans and/or show a sterilizing effect on microorganisms, depending on type. ~~In the~~ ~~Meanwhile, it is indicated possible there are indications that~~ forest odor substances are also involved in production of atmospheric ozone, and promote global warming. Such forest odors are known to be released from the above-ground part of trees including leaves and trunks, whereas it is little known how much forest odor substances exist in the underground parts ~~of trees~~, including soils. Forest odor information has been barely available from, above all, black spruce forests that are widely distributed in the North American subarctic area and likely to be susceptible ~~to effects of global~~ the warming.

Therefore, this study ~~focused in measuring~~ ~~observed~~ concentrations of forest odor substances contained in the atmosphere in a black spruce forest and its soil in the inland area of Alaska from spring to autumn. As a result, forest odor concentrations were revealed to be higher in the soil than in the forest by several hundred times, ~~and with the highest concentrations being in the layer of organic matter deposited on the forest floor up to 10-30 cm deep~~ ~~higher in the layer of organic matters deposited as thick as 10-30 cm~~. The study also showed ~~It was also revealed~~ that the major forest odor substance is  $\alpha$ -pinene<sup>Note)</sup> which is contained in cedar ~~and other trees, etc. as well~~. The organic matter layer ~~on the forest floor~~ ~~consists is composed of forest floor~~ mosses, ~~and lichens, as well as~~ fallen leaves and ~~rootlets~~ of black spruce, ~~which act as underground reserves of forest odor substances.~~ ~~that reserve forest odor substances underground.~~

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**Comment 1 [Checker]:** Level 2

[Word Choice]

“have” would be more appropriate at this instance

**Comment 2 [Checker]:** Level 2

[Clarity and Readability]

Clarity was greatly lacking in the original sentence. Sentence was rephrased for enhancing clarity.

**Comment 3 [Checker]:** Level 2

[Omission]

Omission issue rectified to accurately convey intended meaning of the source

**Comment 4 [Checker]:** Level 2

[Mistranslation]

Mistranslation issue rectified

**Comment 5 [Checker]:** Level 2

[Technical Word Choice] [SME]

More accurate technical word choice used