

Forest odors, also ~~called known as~~ phytoncides, ~~have provide~~ a relaxing effect on humans and/or show a sterilizing effect on microorganisms, depending on ~~the~~ type. ~~In the M~~meanwhile, ~~it is indicated possible there are indications~~ that ~~forest odor~~ substances ~~emitting forest odors~~ are also involved in producing ~~in~~ atmospheric ozone, and ~~promot~~promoting global warming. ~~It is known that S~~Such forest odors are ~~known to be~~ released from the above-ground parts of trees including leaves and trunks, ~~but there is limited knowledge regarding~~whereas it is little known how much ~~forest odor~~ substances ~~emitting forest odors that are contained exist~~ in the underground parts of trees, including ~~the~~ soils. ~~In particular, limited information is present regarding forest odors from black spruce forests, which are widely distributed in the North American subarctic area~~ Forest odor information has been barely available from, above all, black spruce forests that are widely distributed in the North American subarctic area and ~~are~~ likely to be susceptible to ~~the~~ effects of ~~global~~the warming.

Therefore, this study ~~focused on measuring~~observed the concentrations of ~~substances emitting forest odors substances~~ contained in the atmosphere ~~of in~~ a black spruce forest and its soil ~~from spring to autumn~~ in the inland ~~region~~area of Alaska ~~from spring to autumn~~. ~~These findings showed that As a result,~~ forest odor concentrations were ~~several hundred times higher revealed to be higher~~ in the ~~forest~~ soil ~~than in the forest atmosphere than in the forest by several hundred times,~~ and ~~with the highest concentrations observed 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 ~~emitting forest odor was is~~  $\alpha$ -pinene<sup>(Note)</sup> which is ~~also~~ 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 root ~~lets~~s of black spruce, ~~which act as underground reserves of forest odor substances.~~

~~that reserve forest odor substances underground.~~

**Comment [Editor1]:** Level 5

[Conciseness] [Language]  
Sentence was rephrased and shortened for conciseness

**Comment [Editor2]:** Level 5

[Clarity and Readability]  
Sentence was rephrased for better clarity and readability

**Comment [Editor3]:** Level 5

[Article] [Grammar]  
Definite article needed at this instance. The definite article (the) is used before a noun to indicate that the identity of the noun is known to the reader.

**Comment [Editor4]:** Level 5

[Preposition] [Grammar]  
Accurate preposition used for grammatical accuracy.

**Comment [Editor5]:** Level 5

[Tense] [Grammar]  
Past tense would be the appropriate tense at this instance.