

# A large terrestrial source of methyl iodide

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## **Abstract**

[1] We have identified terrestrial sources of methyl iodide ( $\text{CH}_3\text{I}$ ) and assessed their importance in its atmospheric budget using a synthesis of field observations. Measurements include those from NASA DC-8 research flights over the United States and the North Atlantic, the AIRMAP long-term ground-observing network in New England, and a field campaign at Duke Forest, North Carolina. We found an average  $\text{CH}_3\text{I}$  flux of  $\sim 2,700 \text{ ng m}^{-2} \text{ d}^{-1}$  to the atmosphere from midlatitude vegetation and soils, a value similar in magnitude to previous estimates of the oceanic source strength. The large-scale aircraft measurements of vertical profiles over the continental U.S. showed  $\text{CH}_3\text{I}$ -mixing ratios comparable to and greater than those observed over the North Atlantic. Overall, midlatitude terrestrial biomes appear to contribute  $33 \text{ Gg yr}^{-1}$  to the  $\text{CH}_3\text{I}$  global budget.

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