

Deposition and ecosystem processing of atmospheric mercury

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ABSTRACT

Between December 1992 and December 1995, total Hg concentrations in precipitation ranged from 0.1 to 1.6 ng/m³, with the highest concentrations occurring during winter (2.0 ng/m³, with a mean of 0.5 ng/m³) and the lowest during summer (0.1 ng/m³, with a mean of 0.2 ng/m³). Between December 1995 and December 1996, total Hg concentrations in precipitation ranged from 0.1 to 1.2 ng/m³, with the highest concentrations occurring during winter (0.8 ng/m³, with a mean of 0.2 ng/m³) and the lowest during summer (0.1 ng/m³, with a mean of 0.1 ng/m³). During 1995, total Hg concentrations in stream-water continued to be monitored in Nettle Brook, a small stream in the Green Mountains of Vermont. Total Hg concentrations in stream-water ranged from 0.01 to 0.03 ng/m³. Between December 1995 and December 1996, total Hg concentrations in stream-water ranged from 0.01 to 0.02 ng/m³.

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During 1995, total Hg concentrations in stream-water continued to be monitored in Nettle Brook.

COOPERATORS

University of Vermont: Joanne Cummings, Carl Waite, Rinda Gordon

**Mercury Deposition Network
VMC Air Quality Site at PMRC**

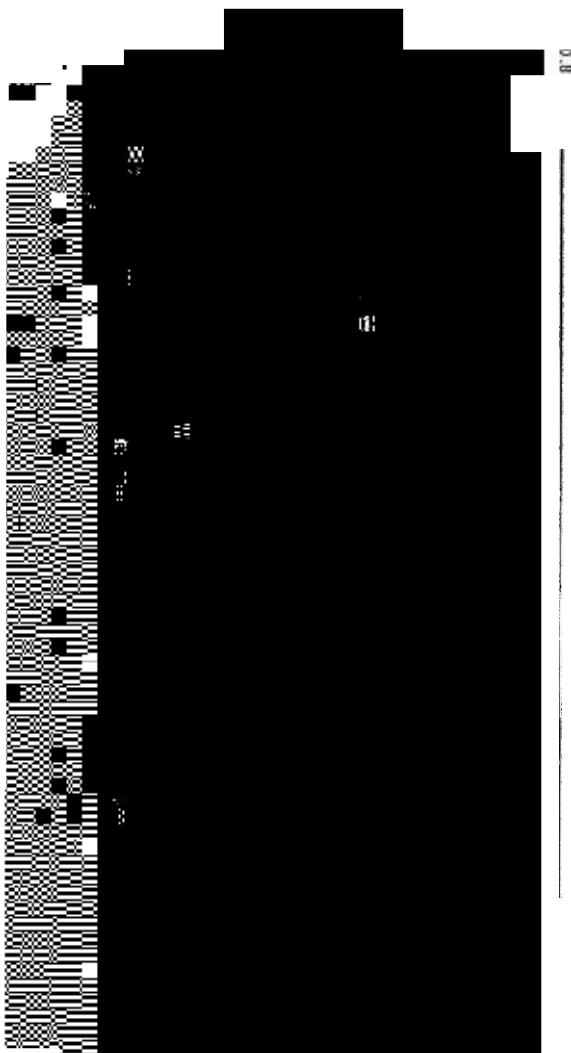
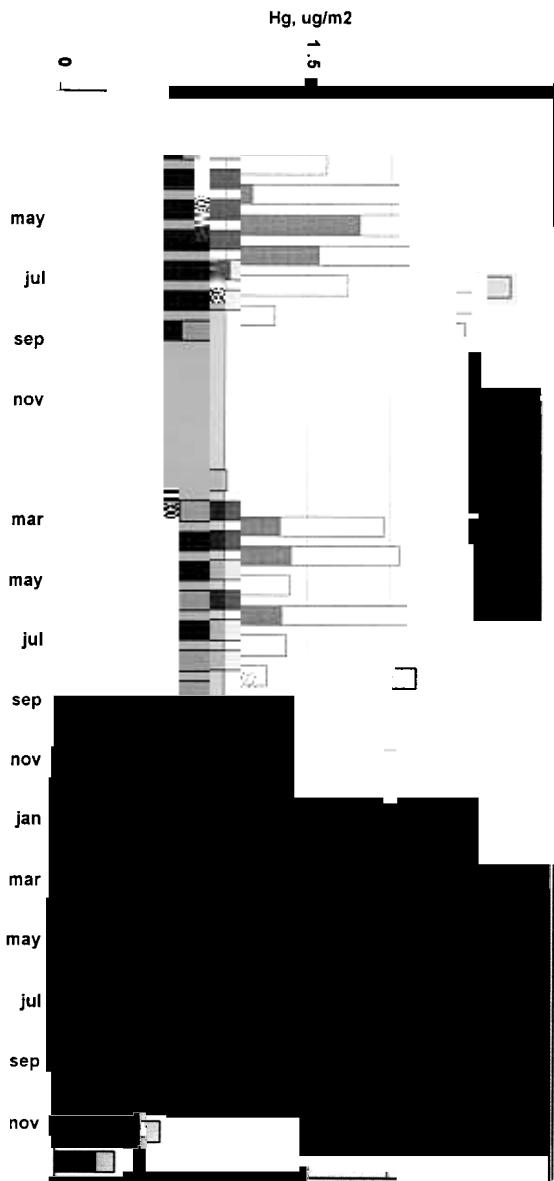


Figure 3 Monthly total wet and estimated dry (vapor) deposition, 1992 - 1995.

Estimated Total Mercury Deposition
Underhill Center, VT
1992-95



Mercury Vapor Concentration 1992-1995

7

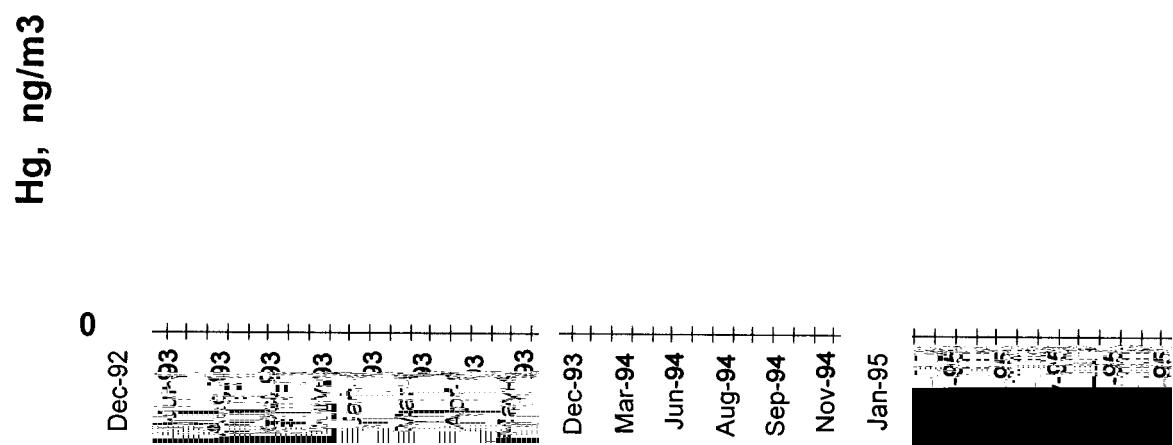
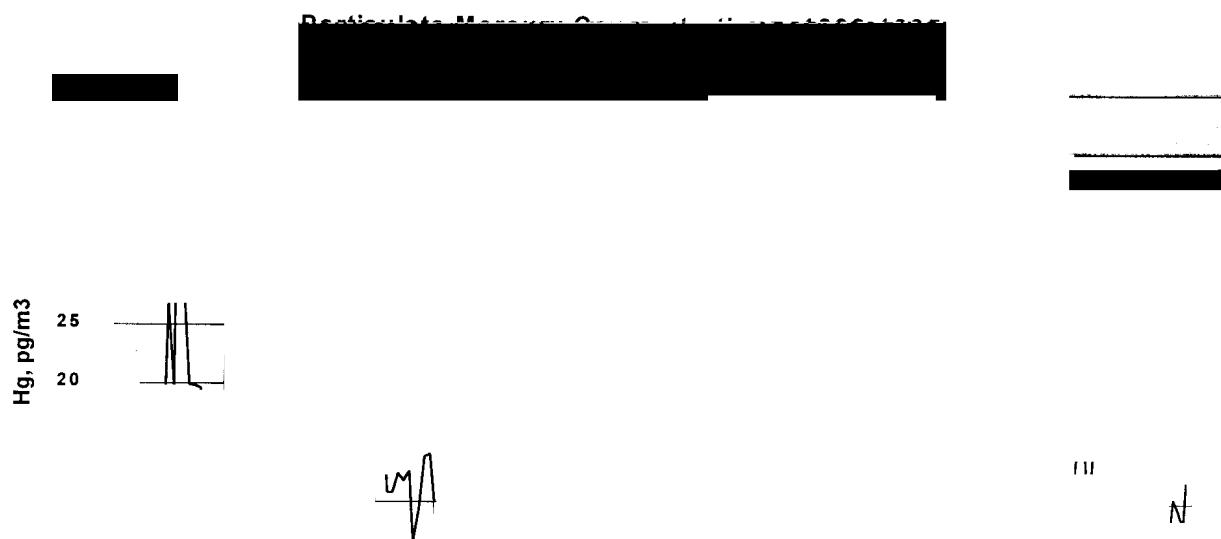


Figure 4. Weekly vapor Hg concentrations, 1992 - 1995.



Annual Total Hg Flux Nettle Brook: 1994-95



Fig. 6. Cumulative stream export Hg from Nettle Brook catchment stream gauge [redacted]

[redacted] Nettle Brook

280 mg/ha
134
146

Stream Export, 1994-95:

1994:
1995:

[redacted]

Net Retention in Catchment 1994-95:

1994:	236 mg/ha (84%) (76%)
1995:	132 (91%)

IN THE FOREST CANOPY

Carl Waite and Tim Scherbatskov

