RAINFALL AND THROUGHFALL CHEMISTRY IN THE ATLANTIC FOREST: A COMPARISON BETWEEN URBAN AND NATURAL AREAS (SÃO PAULO STATE, BRAZIL).

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RESUMO

Two areas in the Atlantic Forest (São Paulo State, Brazil) with contrasting environments in respect of human occupations, were monitored from 1999 to 2001. One area named PEFI (23° 38' 08'' – 23º 40'18'' S and 46º 36' 48'' – 46º38' 00'' W) at an altitude of 798 m a.s.l., 526 ha in area and about 50 km from the sea, lies in State Park within largest metropolis of South America – São Paulo. The other area, named CUNHA (between 23º 13' 18'' – 23º 16' 10'' S and 45º 02' 53'' – 45º 05' 15'' W) about 1050 m a.s.l. with an area of 2854 ha and about 15 km from the sea, is also within a State Park in the Atlantic Forest, but is surrounded by rural areas and small villages. For each area, the rainfall and throughfall chemistry were examined and pH and Na^+, K^+, Mg^{2+}, Ca^{2+}, NH_4^-, Cl^-, NO_3^- and SO_4^{2-} as well as trace metals were determined.
Compared with PEFI, CUNHA is characterised by low chemical fluxes and largest differences are for the ions such Ca^{2+}, H^+ , NO_3^- and SO_4^{2-} which are mainly anthropogenic origen. Differences in throughfall chemical fluxes are linked to the nutritional status of the trees.