37.11-P: Availability of Nutrients in Solutions in a Gallery Forest of Cerrado Biome

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Gallery forests represents 5% of the Cerrado biome (savannas of Central Brazil) but contains 1/3 of its biodiversity. They protect water quality, control soil erosion and are important corridors for the fauna. In Central Brazil, gallery forests are characterized by a high heterogeneity particularly due to topographic variations that determine important variations of the soils conditions. Our objective was to characterize the fluxes of nutrients in solutions in a gallery forest (atmospheric deposition, throughfall, litter leachate and soil solution). The experiment was established in a plot of 100 x 100 m in the Gallery Forest of the Corrego Pitoco, in the Reserva Ecologica do IBGE, DF (15°56'41''S and 47°56'07 ' 'W). Three sampling lines were established, parallel to the stream and 45 m apart to each other. The lines represent the wet community (near the stream), intermediate community and dry community (adjacent to a typical Cerrado area). The mean fluxes of NO_3^-, TOC, K^+, Ca_2^+, Mg_2^+ and Cl^- in throughfall were greater than in the atmospheric deposition, indicating that these elements are being leached from canopy. On the other hand, the fluxes of N_{total}, NH_4^+, $N_{organic}$, P_{total}, Na^+ and SO_4^{2-} were lower in throughfall than in the atmospheric deposition, indicating that these nutrients are being retained in the canopy. The $C_{organic}$, N_{total}, NO_3^-, NH_4^+, $N_{organic}$, K_+, Ca_2^+, Mg_2^+ and Cl^- fluxes in litter leachate were greater than in throughfall while P_{total}, SO_4^{2-} and Na^+ fluxes were lower, indicating that these nutrients are being retained in the litter. The fluxes in throughfall and litter leachate were in the order: $C_{organic} > K^+ > Ca_2^+ > Cl^- > Mg_2^+ > N_{total} > SO_4^{2-} > Na^+ > P_{total}$.