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Simulation of Abiotic Hurricane Effects on Lotic Meiofauna Abundance and Composition

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Abstract

Freshwater meiofauna are essential in our understanding of freshwater biomes. Their previous lack of attention in literature have sparked many to undergo research about their overall composition and distribution relative to many of the factors on which they depend. While more of these investigations have surfaced, few have looked at community adaptability or lack thereof when confronted with drastic changes to their environment. Therefore, this study observed what kinds of possible changes that can take place in these populations after the lingering effects of an enormous natural disaster. It is the objective of this study to identify the most influential and impactful variables to effect lotic Meiofauna abundance and spatial distribution post Hurricane disturbance. It is hypothesized that the meiofauna composition should change significantly due to the alterations in light, organic matter and sediment. To analyze these relationships, correlations between these factors and their effect on the communities in post- and pre- hurricane settings were observed using several statistical analyses. ANOSIM and Ordination test were used to procure results which exhibited significant differences between treatments and how the different treatments effected certain populations over time. These results indicate that residual disturbance effects caused by hurricanes can impact meiofauna communities.

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