



Turbulence Measurements in a Tropical Zoo Hall

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The Masoala rainforest hall of the Zurich Zoo, Switzerland, covers a ground surface area of 10,856 m² and reaches 30 m in height. With its transparent ETFE foiled roof it provides a tropical climate for a large diversity of plants and animals. In combination with an effort to estimate dry deposition of elemental mercury, we made an attempt to measure turbulent transfer velocity with an ultrasonic anemometer inside the hall. Not surprising, the largest turbulence elements were on the order of the hall dimension. Although the dimensions of the hall seem to be small (200,000 m³) for eddy covariance flux measurements and the air circulation inside the hall was extremely weak, the spectra of wind velocity components and virtual (sonic) temperature obeyed the general statistical description expected under unconstrained outdoor measurement conditions. We will present results from a two-week measurement campaign in the Masoala rainforest hall and make a suggestion for the deposition velocity to be used to estimate dry deposition of atmospheric components to the tropical vegetation surface.