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deadtrees.earth - A Database of Centimeter-Scale Aerial Imagery as Reference Data for Mapping Global Tree Mortality

Today, excessive tree mortality is a global concern. Accurate monitoring for ecological insights and environmental predictions is urgently required. Earth observation data, combined with supervised machine learning, offer a promising approach to map tree mortality over time.
However, global-scale machine learning requires broad training data covering a wide range of conditions and forest types. Drones provide a cost-effective solution by capturing high-resolution orthoimagery for this purpose. Here, we introduce deadtrees.earth, an open-access platform hosting a database of over 1,500 centimeter-resolution orthophotos annotated with standing deadwood labels. deadtrees.earth is a community-sourced and rigorously curated dataset that shall serve as a foundation for a global initiative to gather comprehensive reference data. The platform aims to enhance our understanding of tree mortality patterns from local to global scales by attracting contributions from underrepresented regions. The dynamic nature of this database together with the collective effort of the community is meant to continuously increase our capacity to detect and understand tree mortality patterns.

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