



## **Fire-induced tree mortality from a global meta-analysis**

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Open vegetation fires are widespread disturbances in natural and managed forest and woodland ecosystems and have important consequences in forest stand structure, carbon dynamics and biophysical properties. To incorporate fire impacts on global vegetation dynamics, carbon cycle and climate, prognostic fire models are included in an increasing number of global dynamic vegetation models (DGVMs) and Earth system models (ESMs). Despite the inclusion of simulated fire-induced tree mortality in various details and different complexities, there is a lack of systematic observation-based tree mortality data sets for proper model parameterization and benchmarking. Here we make an initial attempt to compile a fire-induced tree mortality data set from field observations. Our compiled data set includes dominant fire types of deforestation fire, escape fires, prescribed fires and naturally occurring unplanned fires. The vegetation types subject to fire include tropical wet forest, tropical seasonal woodlands, temperate forests, boreal forests and shrublands. Information on fire-induced tree mortality for different diameter classes, change in forest basal area, related fire intensity, wood bark thickness has been collected. Information on different mortality types including whole plant and stem mortalities, when available, has also been collected. Our collected data set can form an overview picture on fire-induced tree mortality revealed by field observations and can be useful for fire modeling community.