**Plots, planes, and pixels:comparing and integrating datasets to improve forest mortality detection and attribution**

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In the past several years, large-scale forest mortality events have highlighted the difficulty in gaining comprehensive and reliable information about biological forest disturbances. While many diverse datasets are available, they differ in important aspects that affect both the ways in which they can be used and the conclusions they generate. These aspects include data spatial resolution and extent, temporal resolution, disturbance agent attribution, and severity and impact assessment. Here we aim to systematically compare three of the most common data sources on forest disturbance and mortality, and build a workflow for integrating them to improve estimates of forest disturbance extent, severity, and vulnerability. Using plot-based data from the USDA Forest Service Forest Inventory and Analysis (FIA) program, aerial classification of disturbed patches from the Forest Health Monitoring Aerial Detection Survey (ADS) program, and remotely-sensed satellite time series imagery, we build a composite modeled mortality data product for two case-study mortality events. The first case study is a mountain pine beetle (*Dendrococtus* *sdlkfjsldkfj*) outbreak on the Fremont-Winema National Forest in southern Oregon between 2000 and 2016, providing an example of an easily-detected and attributed mortality event. The second case study is the 2022 “Firmageddon” true fir (*Abies* spp.) mortality event in southern Oregon, providing an example of a diffuse mortality event that is difficult to detect and attribute. Our goal is to provide a practical data workflow and product that leverages the best aspects of each available dataset to gain a cohesive and contextualized picture of large-scale forest biological disturbances.