Tracking tree mortality across sites with repeat LiDAR data

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Repeat airborne LiDAR data provides a unique opportunity to study tree mortality at the landscape scale. We use maps of canopy height derived from repeat LiDAR (two or more scans collected a few years apart) to detect changes in forest structure. Visually, the most obvious changes are caused by large treefall events, which are difficult to study using field plots due to their rarity. While repeat LiDAR data provides exciting new possibilities, validation is a challenge, since we cannot easily determine how many trees have died and we may miss trees which are dead but still standing. I will discuss our progress so far, studying large-tree mortality rates across multiple countries and forest types.