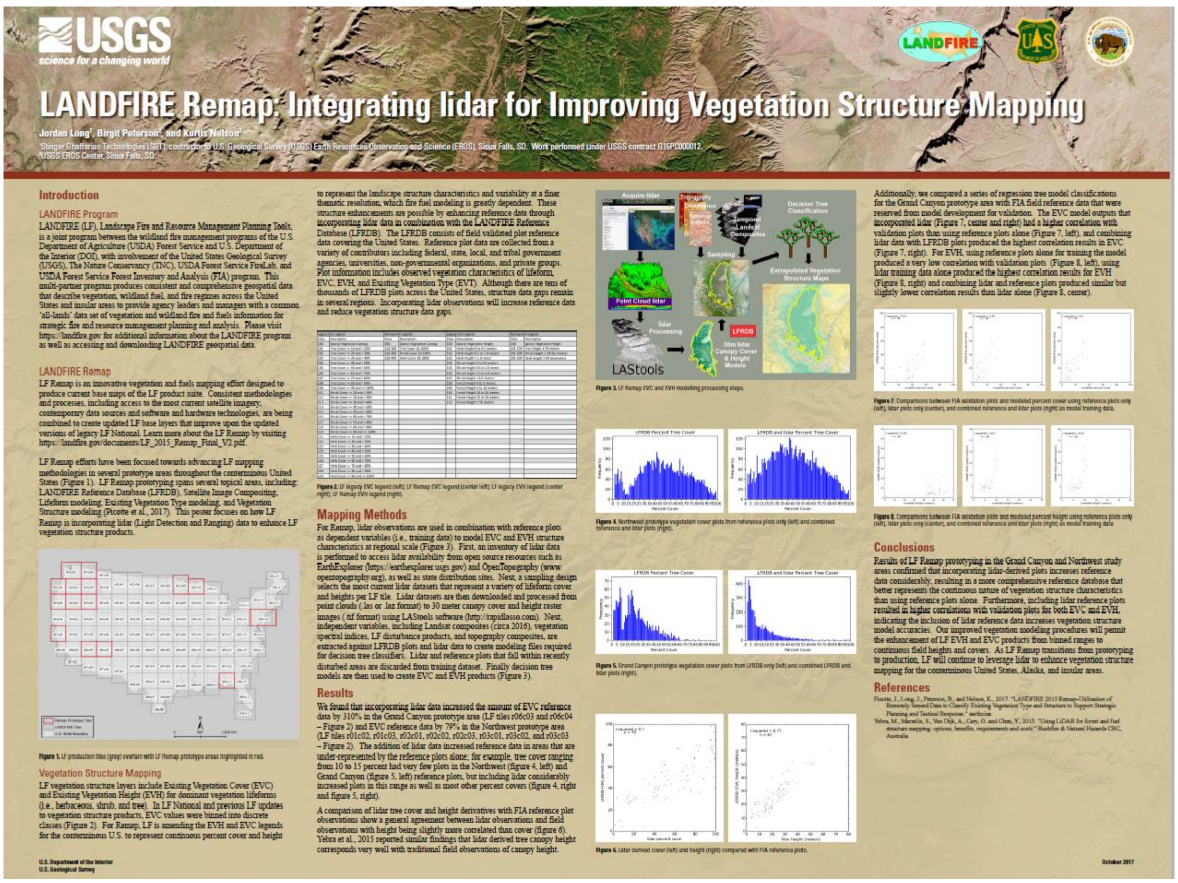
LANDFIRE Remap:
Integrating lidar to improve vegetation structure mapping

LF Remap is an innovative vegetation and fuels mapping effort to produce current base maps of the LF product suite. Remap is focusing on advancing LF mapping methodologies spanning several topical areas. Lidar data is being integrated with the LANDFIRE Reference Database to improve the vegetation structure mapping.



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Remap is amending Existing Vegetation Height and Existing Vegetation Cover legends to represent continuous percent cover and height to represent the landscape structure characteristics and variability at a finer thematic resolution on which fire fuel modeling is greatly dependent.

Remap has focused efforts towards advancing LF mapping methodologies spanning several topical areas. These areas include LF Reference Database (LFRDB), Satellite Image Compositing, Lifeform modeling, Existing Vegetation Type (EVT) modeling, and Vegetation Structure modeling.

For Remap, LF is amending the Existing Vegetation Height (EVH) and Existing Vegetation Cover (EVC) legends to represent continuous percent cover and height to represent the landscape structure characteristics and variability at a finer thematic resolution, on which fire fuel modeling is greatly dependent. Continuous structure products are possible by enhancing reference data through incorporating lidar data in combination with the LFRDB. Although there are tens of thousands of LFRDB plots across the United States, structure data gaps remain in several regions. Incorporating lidar observations will increase reference data and reduce vegetation structure data gaps. LF is aware that lidar data are not available everywhere and is building a modeling process that attempts to mitigate this issue.

What LF found was that incorporating lidar data in the two prototype areas (Grand Canyon and Northwest) increased the amount of EVC reference data by 310% in the Grand Canyon area and by 79% in the Northwest area. Further results of LF Remap prototyping in the two study areas confirmed that incorporating lidar-derived plots increases reference data considerably, resulting in a more comprehensive reference database that better represents the continuous nature of vegetation structure characteristics than using reference plots alone. Including lidar reference plots has shown higher correlations with validation plots for both EVC and EVH, indicating the inclusion of lidar reference data increases vegetation structure model accuracies.

For more information, please review the poster: *LANDFIRE Remap: Integrating lidar for Improving Vegetation Structure Mapping*