

Photo Series for Estimating Post-Hurricane Fuels in Forests of the Southeast United States



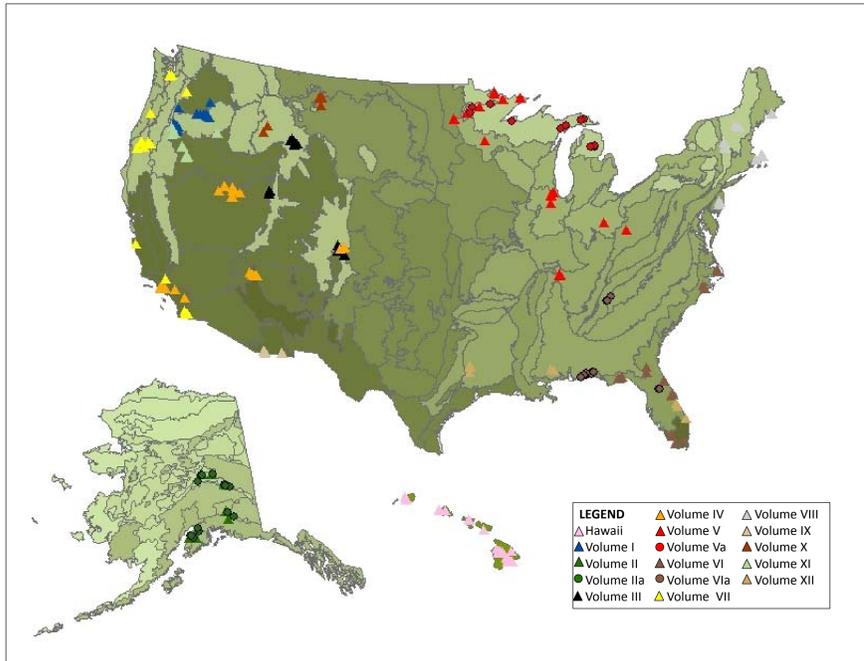
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Introduction

Photo series are useful tools for quickly and inexpensively evaluating vegetation and fuel conditions in the field. The natural fuels photo series is a collection of data and photographs that collectively display a range of natural conditions and fuel loadings in a wide variety of ecosystem types throughout the Americas from central Alaska to central Brazil



Sites photographed for the series in this volume (Volume XII) were selected to show a range of fuel conditions following hurricanes in forests in the southeast United States. The sites, representing a range of forested stand conditions and blowdown damage, were inventoried 1 month to 2.5 years post-hurricane.

Why Is the Photo Series Needed?

The sequence of single and stereo photographs with accompanying vegetation and fuels characterization data is intended primarily for managers but is applicable to several branches of natural resource science and management.

- Make quick, easy, and inexpensive approximations of fuel quantities and stand conditions when less precise estimates are acceptable
- Data is useful for predicting fuel consumption, smoke production, fire behavior, and fire effects during wildfires and prescribed fires
- Used as inputs for evaluating animal and insect habitat, nutrient cycling, etc.
- Serve as a reference across the hurricane-prone areas and in other forest types where blowdowns occur



Hurricane Ike makes landfall (NASA, 2008)

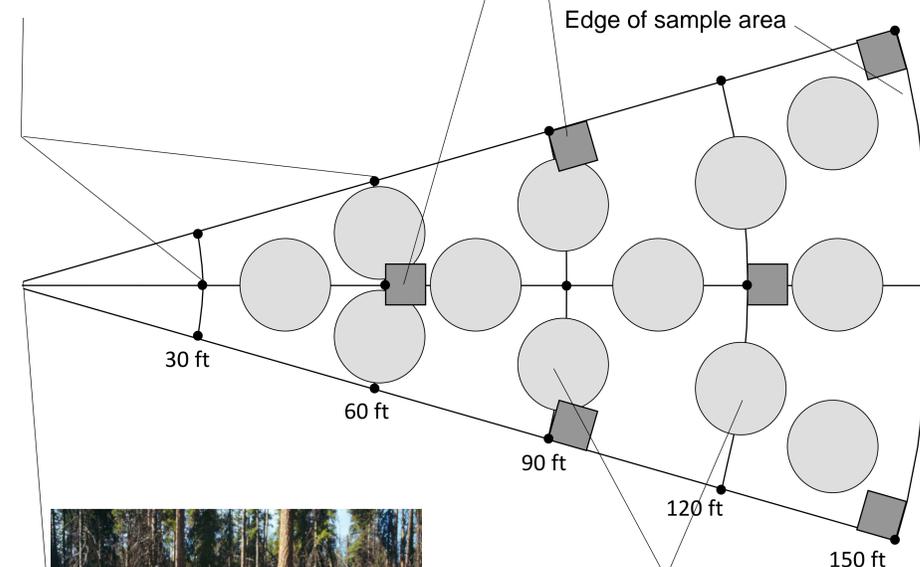
Photo Series Sample Area Layout



Line intercept, vegetation height, and canopy closure measurement locations



Clipped vegetation plots



Camera point 32° field of view



Seedling count plots

Twenty-one random azimuth line transects (one at each point on the 60-, 120- and 150-foot arcs, and two at each point on the 30- and 90-foot arcs) and 3 to 6 clipped vegetation plots were located within the sample area. Trees were inventoried in the entire sample area and seedlings were inventoried on 6 to 12 systematically located sample plots.



Results

Sites are divided geographically into two series, one dominated by mixed forest species and the other by a heavy shrub understory.

Sites Ordered by Total Woody Loading (tons/acre):

Gulf Coast (n=13)



Low: 7.76



Mean: 51.21



High: 86.59

Atlantic Coast (n=7)



Low: 8.95



Mean: 26.78



High: 46.44

Each site is arranged to occupy two facing pages .

- The upper page contains the wide-angle (50mm) photograph and general site, stand, and forest floor information
- The lower page includes stereo-pair photographs, overstory, understory, and downed woody material information.

- The publication is designed for use in the field and will be incorporated into the online digital photo series <http://depts.washington.edu/nwfire/dps/>

Reference

Vihnanek, R.E.; Balog, C.S.; Wright, C.S.; Ottmar, R.D.; Kelly, J.W. 2009. Stereo photo series for quantifying natural fuels. Volume XII: Post-hurricane fuels in forests of the Southeast United States. Gen. Tech. Rep. PNW-GTR-803. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 53 p.

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