U.S. Forest Service
Forest Inventory and Analysis

FIA
NATIONAL BIOMASS PROJECT: ACCOMPLISHMENTS AND STATUS

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FIA BIOMASS STUDY - RECAP

- Cooperators/Technical assistance
  - University of Maine
  - Virginia Tech
  - Oregon State University
  - Michigan State University
  - University of Montana
  - University of Georgia
  - N. Arizona University
  - Industry: NCASI, Rayonier, Potlatch, Weyerhaeuser
  - Wood Properties: SRS RWU-4704, Forest Products Lab
  - Forest Management Service Center

FIA BIOMASS STUDY

- Trees felled and measured thru 2016
  - U Georgia 781
  - Oregon SU 279
  - Michigan SU 248
  - Virginia Tech 709
  - U Maine 189
  - U Montana 178
  - **Total 2384**

FIA BIOMASS STUDY

- Legacytreedata.org

- Leverage existing FS, industrial, and university data to better capture spatial gradients in allometry and wood density.
  - Taper data
  - Biomass studies
  - Density measures

STATUS

- Ongoing data collection
  - Western species data effort
  - Spatial and tree size gaps
- Research accomplishments
  - 36 publications (28 peer-reviewed journal)
  - 52 presentations
  - Full list at legacytreedata.org
- 2017 FIA Stakeholder Science Meeting Session

FUTURE

- Continue development and evaluation of modeling framework(s) that meets FIA and clients needs.
  - Evaluate pro/cons and performance
  - Narrow the field of options
  - Pursue completion of biomass prediction system for national FIA implementation (~2020)

Task		Timeline							
		2017			2018			2019	2020
		Spring	Summer	Fall	Spring	Summer	Fall		
Field data collection		X	X	X	X	X?			
Modeling methods	Taper	X	X	X					
	Comparison	X	X	X					
	Finalizing				X	X	X	X	
Model impact assessment								X	
Tech Transfer to FIA									X

GOALS

- Tree-level models that give consistent transition
  - Size thresholds
  - Geographic region
  - Similar species
- Biomass but not volume in some situations, e.g., saplings, some woodland spp., etc.
- Additive components – break out the total AGB into components

GOALS

- Component calculation flexibility, e.g., tops, stumps.
- Quantifiable tree-level model (stem volume or biomass) accuracy, e.g., RMSE is X% of the mean with negligible bias.
- Transparent and documented

LINGERING QUESTIONS

- Current vs new volume models?
- Predict biomass – convert to volume?
- Urban tree biomass study?