

# A DIAMETER GROWTH MODEL FOR SINGLE-STEM GROWTH FORMS FOR THE INTERIOR WEST FOREST INVENTORY AND ANALYSIS'S REGION

---

Michael T. Thompson<sup>1</sup>

---

**Abstract**—The Interior West Forest Inventory and Analysis Unit (IWFIA) will soon transition from a regional system to a national FIA system for compiling estimates of forest growth, removals, and mortality. The national system requires regional diameter-growth models to estimate diameters on trees in situations where the initial or terminal diameter is not known at the beginning or end of a measurement interval. Examples of such trees are those classified as alive at the beginning of the measurement interval and subsequently died (mortality) or have been harvested (removal). Only single-stem growth forms measured at either diameter at breast height (dbh) or diameter at root collar (drc) were used to build the model. The annual diameter growth rate was selected as the response variable and several potential predictor variables were tested for significance. After testing several regression equation forms, a non-linear model was chosen and the predictor variable selected was previous diameter.

---

---

<sup>1</sup>Resource analyst, Rocky Mountain Research Station, Forest Inventory and Analysis, USDA Forest Service, 507 25th Street, Ogden, UT 84401. Call 801-625-5375 or email: mtthompson@fs.fed.us