

Drought discussion group Jan 13, 2012

Participants: Eric Gustafson, Elaine Qualtiere, Jane Foster, Fugui Wang

Reasons for participant interest:

Gustafson – building a drought extension for LANDIS-II

Qualtiere – modeling drought-killed aspen in Saskatchewan. Drought kills 100% of biomass and stands do not re-sprout. Regeneration is by seed. Mortality seems to be growth-reduction related.

Foster – effects of drought on growth rate. Studying climate and weather effects on growth in the Superior NF (Minnesota).

Wang – linking drought to the Century succession extension. Interested in an integrated weather-generator extension. Studying succession in low N and drought-prone glacial outwash systems.

Discussed need for an integrated weather extension to coordinate climate effects within a timestep across LANDSI extensions. Would provide the weather variables at appropriate temporal resolution, as requested by each extension.

Others who may be doing relevant research: Jian Yang – studying drought and aspen mortality in Nevada; Ted Hogg (Canadian FS) – has aspen mortality data.

Conclusions: 1) predicting drought-induced reductions in growth is desirable. 2) using growth reductions to predict mortality may be a good mechanistic way to model drought-induced mortality in the process-based LANDIS model. 3) a drought extension may also be able to modify ANNP and Pest at each timestep.