Soil and Dead Organic Matter Carbon Accounting in Forest Ecosystems: The Canadian Approach. (S07-kurz123043-Oral)

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Abstract:

Understanding the dynamics of dead organic matter (DOM) pools, including litter, fine and coarse woody debris, humus and soil C, is a pre-requisite to accounting for forest C. DOM dynamics are closely coupled with forest biomass dynamics and respond to perturbations from natural disturbances and human activities. Quantifying DOM pool changes for Canada's forests involves detailed forest inventory information and statistics on natural disturbances and forest management actions. The Carbon Budget Model of the Canadian Forest Sector (CBM-CFS2) captures stand and landscape-level C dynamics. It simulates the coupled dynamics of vegetation and DOM, the impacts of variations in climate, and the legacy of past disturbances and management actions on DOM pool size, composition, and dynamics. Feedback from a recent review workshop is guiding the revision of pools simulated in the model to more closely correspond to those observed in the field, to add snag and black C pools, and to refine the representation of disturbance impacts on DOM. Regional databases on DOM pools and their dynamics are being compiled and results of ongoing long-term decomposition experiments being incorporated in the revised model.

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Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 9:15 am

Keywords:

Kyoto Protocol, Forest Management, Natural Disturbances, Land-use Change