RESEARCH SEMINAR SERIES

Influence of the MPB infestation on the water balance of a lodgepole pine stand

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Collaborators: Mat Brown and Andy Black, UBC, Vancouver, and Vanessa Foord, Prince George.

Abstract

The forest canopy has a major impact on the forest water balance through the interception of precipitation, tree transpiration, below-canopy evaporation and snow melt. Evaporation and carbon fluxes from a mature lodgepole pine stand near MacKenzie have been monitored through four years of attack using eddy correlation. Solar radiation transmissivity and view factors were obtained from annual hemispherical photography, and the fraction of live and dead leaf area from above canopy photos. A water balance model was used to separate the influences of the inter-annual variability in the weather from changes in canopy characteristics on evaporation, interception and snow melt. By the end of 2009 only 21% of the canopy was alive, transmissivity of solar radiation had increased by 15% and evaporation from the forest was reduced from 50 to 40% of the mean annual precipitation. The increase in energy below the canopy resulted in a 20% increase in the rate of snow melt, and an increase in soil surface evaporation and understory transpiration.

Bio

Dr. Dave Spittlehouse is a professional Agrologist who has over 30 years experience in forest climatology, hydrology and climate change. He has represented the Ministry of Forests and Range at the provincial and national level on climate related issues. His current research interests include: development of spatial climate data bases for use in climate change studies, and assessing the influence of forest canopies and their disturbance on the forest hydrologic and carbon balances.

When: Tuesday, November 16, 2010. 1:30 pm to 2:30 pm
Location: Victoria: Room 502, 727 Fisgard Street

Conference call: 1-877-353-9184 Conference ID: 7190434

Common meeting rooms have been reserved in the following locations:
Kamloops: Juniper room, Southern Interior Regional MFR Office
Prince George: Heritage Room, Northern Interior Regional MFR Office
Smithers: Driftwood Room, Skeena-Stikine Forest District Office
Nanaimo: Birch Room at 2100 Labieux Rd.

A PowerPoint presentation will be available at http://www.for.gov.bc.ca/hre/research_seminars on the day of the presentation.
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