Integration of a slope-based lateral soil water algorithm into a dynamic vegetation model

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CLASS-CTEM (v3.6.2/2.1)

Diagram of CLASS-CTEM



Figure 1: Major processes simulated by CLASS-CTEM^{N+}

Taken from Windeler (2015)

Interflow Diagram

Interflow Algorithm by Soulis et al. (2000). Calibrated using DDS algorithm from Tolson and Shoemaker (2007). IWF: Flag Governing Interflow



Location of FLUXNET Sites



Preliminary Results*

*:Unpublished

Precipitation and Interflow (2003 at TP4)



Liquid Water Content Change (30 mins)





Change in Soil Water Content

Site	Years	R ² (Default)	R^2 (IWF)
	(<i>n</i>)		
CA-TP4	11	0.401	0.402
CA-Ca1	9	0.381	0.383
CA-Obs	7	0.341	0.356
CA-Let	6	0.278	0.279
US-Ha1	7	0.324	0.331
US-MMS	7	0.372	0.368

Sample NEP and LE Changes (Daily)





Change in Daily NEP





Scatter of Monthly NEP Values



Change in Monthly Water-Use Efficiency

Assuming that: WUE=-NEP/LE



Future/On-Going Research

MESH Structure



Diagram from Bruce Davison (wiki.usask.ca/display/MESH)



Big Creek Watershed



Bibliography I

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Questions?