

Fire Danger Tools					
Name	Inputs	Outputs	Description	Application	Map Link
Energy Release Component	Fuel model (esp. loading) Dead fuel moisture (esp. 100 & 1000 HR) Live fuel moisture (esp. woody)	open ended scale, no upper limit	A measure of the potential available energy released per unit area at the head of a fire	Good for monitoring seasonal trend Used as an indicator of fire season severity and when fire activity may start to increase	
Burning index	Spread component (how fast fire burns) Energy release component (how hot fire burns)	0-30 Most prescribed burns are conducted in this range 30-40 Generally represents the limit of control for direct attack methods 40-60 Machine methods usually necessary or indirect attack should be used 60-80 Direct control by any means are poor above this intensity	A rating of potential worst case fire containment difficulties due to fire behavior factors only	The BI divided by 10 gives approx. flame length at the head of a fire	
Ignition Component	Probability of ignition (FFM + fuel temp) Spread component	0 to 100% IC of 25 short range spotting likely to occur	A rating of the probability that a generic fire brand will cause a spreading fire that requires management response.	Can be used as an indicator of spotting potential, higher the number the more likely spotting will occur	
Spread Component	Fuel model Live fuel moistures Dead fuel moistures Wind Speed Slope factor Climate Class	open ended scale, no upper limit	A number that represents the rate that the flaming front advances across a fuel bed. Loosely translates to forward rate of spread expressed in feet per minute or chains per hour	To assess the potential forward rate of spread of an initiating fire	
Buildup Index	Air temperature, humidity, 24 hr precipitation, herbaceous stage	0 - 15 (low) 16 - 40 (moderate) 41 - 80 (high) 81 - 200 (very high) 201 - 250 (extreme)	Reflects the dryness or wetness of the top surface fuels (in inches) at ground level that can have a pronounced effect on fire behavior.	Fire prevention and fire suppression.	
Keetch-Byram Drought Index (KBDI)	Maximum temperature, 24 hr precipitation, long-term annual mean rainfall	0 (wet) - 800 (maximum drought)	An indicator of cumulative drying of the forest fuels. Higher values are associated with extensive mop-up. Critical values vary by season and physiographic province	To assess Mop-up concerns and fire potential as well as fire ignition and growth potential	