

Canadian Forestry Service
Pacific Forest Research Centre
506 West Burnside Road
Victoria, B.C.

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SUPPLEMENT B.C.-6 TO THE CANADIAN FOREST FIRE BEHAVIOUR SYSTEM

ADJUSTED FINE FUEL MOISTURE CODE AND FIRE WEATHER INDEX FOR TIMES THROUGHOUT
THE DAY

Routine fire weather observations at noon (local standard time) are used with the Fire Weather Index Tables to calculate a daily index of conditions during the peak mid-afternoon fire danger period, normally around 3 to 4 p.m. Knowledge of the Fine Fuel Moisture Code (FFMC) and Fire Weather Index (FWI) during other periods of the day can aid fire management decisions with respect to slash burning and wildfire control.

The following table makes it possible to calculate FFMC and FWI for other times of day, in the absence of rain.

The effect of incomplete overnight recovery of relative humidity is accounted for in the Table. FFMC's for morning times following nights with much less than 100% RH will be higher than FFMC's calculated after full recovery. These higher FFMC's correspond to the lower fine fuel moisture contents generally associated with reduced overnight recovery. Note that the effect of low overnight humidity is assumed to have disappeared by mid-afternoon, so FFMC's for afternoon times do not require an RH measurement, except for the standard noon measurement.

1. To calculate FFMC at some time other than noon, enter the table with:
 - a) the latest noon calculation of FFMC;
 - b) the time of day (T) for which FFMC is desired;
 - c) the RH as measured or estimated for that time if the calculation is for the following morning.

EXAMPLE: To obtain FFMC for today at 0800 hours when, yesterday's noon FFMC was 92 and today's 8 a.m. RH is 70%. Find 0800 and appropriate RH class on left side of table; find noon FFMC of 92 across the top of table. Value of 80 is obtained at the intersection.

2. To calculate FWI for other times of day:
 - a) measure or estimate wind velocity at time of interest;
 - b) use this wind with the above estimate of FFMC to get the current ISI (Initial Spread Index) from Table 4, Fire Weather Index Tables;
 - c) Use this ISI and the latest noon value of ADMC (Adjusted Duff Moisture Code or Build up Index) to determine current FWI from Table 6, Fire Weather Index Tables.

EXAMPLE: To obtain FWI for today at 0800 hours. FFMC for 0800 is 80 as calculated above; today's 0800 wind is 5; yesterday's noon ADMC was 50. Today's 0800 ISI from Table 4 is then 2 and the 0800 FWI from Table 6 is 6.

REFERENCES:

- Muraro, S.J., R.N. Russell and B.D. Lawson. 1969. Development of diurnal adjustment table for the Fine Fuel Moisture Code. Can. For. Serv., Pacific Forest Res. Centre, Inform. Rep. BC-X-35.
- Van Wagner, C.E. 1972. A table of diurnal variation in the Fine Fuel Moisture Code. Can. Forest Serv. Petawawa F.E.S., Inform. Rep. PS-X-38.

HOURLY ADJUSTED FFMC TABLE

Time* "T"	Relative Humidity (percent) at time "T"	Noon FFMC*																										
		50	55	60	65	70	75	78	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
1200	-	42	46	50	53	56	63	66	69	70	72	74	76	79	81	83	85	87	88	89	90	91	92	93	94	95	96	97
1400	-	46	50	54	59	64	70	74	76	77	79	81	82	83	84	85	86	88	89	90	91	92	93	94	95	96	97	98
1600	-	50	55	60	65	70	75	78	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
1800	-	52	58	63	67	71	75	78	80	81	82	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
2000	-	54	59	63	67	70	74	76	78	79	80	81	82	82	83	84	85	86	87	88	89	90	91	92	92	93	94	95
0600	<68	58	59	60	61	62	65	67	69	70	71	72	72	73	74	75	76	78	80	81	82	83	84	85	87	88	90	92
	68-87	51	52	54	56	59	63	64	66	67	68	69	70	70	71	72	73	75	76	77	79	80	81	82	83	84	85	87
	>87	45	47	49	52	55	59	61	63	64	65	66	67	68	69	70	71	72	74	75	76	77	79	80	81	82	83	85
0800	<48	63	64	65	66	68	71	72	74	74	75	76	76	77	78	79	80	82	83	84	85	86	87	88	89	90	92	93
	48-67	53	55	57	59	62	66	68	70	71	72	73	74	75	76	77	78	79	80	82	83	84	85	86	87	88	89	91
	>67	47	48	50	53	56	60	63	66	67	68	69	70	71	72	73	74	76	77	79	80	81	82	83	84	85	87	89
1000	<38	73	74	74	75	76	79	80	82	82	82	83	84	84	85	85	86	87	88	89	90	91	92	92	93	94	95	96
	38-57	65	67	69	71	73	75	76	78	79	80	80	81	82	82	83	84	85	86	87	88	89	90	91	92	92	93	94
	>57	60	62	64	66	68	70	72	74	74	75	76	77	77	78	79	80	81	82	83	84	84	85	86	87	88	89	90

Times are Local Standard Time. Add **One**

Hour for Daylight Saving Time.