

In this Issue:

WEATHER

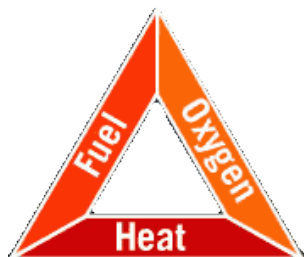
Fire Weather Reporting System

Today At Coastal

See detailed weather forecast page 2



Forecasting Weather



The three components necessary for a fire to occur are represented as a triangle – if any of the components are missing, fire cannot occur and if any of the three components is reduced, fire activity will lessen. Given this, there are few things that affect fire more than weather, so it is important that anyone who fights fire understands weather's influences.

At the Coastal Fire Centre, a daily fire weather forecast is produced that contains four main pieces of information to assist fire-fighting efforts:

Synopsis—this portion of the weather fore-

cast speaks of today and tomorrow only. It is usually the most concise. The data will describe the large scale atmospheric features and their affect on the weather.

Outlook—this is a look forward to the next three to five days.

Long Term Trend—this forecast covers a period of six to nine days.

Confidence—this section is a forecaster's professional take on what they see. For example, they may see an overarching trend or the data may be in conflict with other sources. Any misgivings or alternative thoughts may be noted here.

Understanding some of the basics of weather is important and included in the S-100 course taken by all fireline personnel.

What you should know about Wind!

Wind is of particular concern when fighting fires in the Coastal Fire Centre as unique wind conditions, particularly on the coast of British Columbia, affect how fires are fought. Fire behaviour is affected by the action of wind and firefighting operations must take into account wind direction, speed, nature of the air flow and whether the topography may cause the wind to eddy.

Winds that flow off the ocean onto land usually carry moisture, whereas winds that flows from land to water is usually dry. Taking marine winds into account is particularly important in Coastal.

According to the Fire Weather Module in the Fire Crew Training Standard:

Heat: The wind fans the flames, driving heat against adjacent fuels, preheating them in advance of the fire which, in turn, increases the rate of fire spread.

Oxygen: The wind facilitates the replenishment of oxygen to the layer of air surrounding the fuel, which is important in the post-ignition stage when the fire is small.

Water Vapour: The wind causes air circulations that dissipate excessive concentrations of moisture on or surrounding forest fuels; that is, winds accelerate the fuel drying rate.

A prevailing wind pattern may dominate a fire for a period of time but then a shift may occur which may help turn a fire back on itself, may spread the fire in another direction, may cause the fire to eddy or, depending on topography, may cause a fire to burn upslope such as the Pitt Lake fire in 2009. Funnelling may also occur if air is forced through narrow ravines or passages. This causes the wind to increase speed as it enters these narrow passages and slow as it exits.



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Fire Weather Reporting System													
COASTAL FIRE CENTRE - PARKSVILLE, BC													
Selected Daily Weather Station Reports for													
Readings as of 1300 PDT Thursday 18 August 2011													
STATION NAME / Zone	STATUS	TEMP °C	RH %	WINDS DRCTSPEED degrees kph	24 Hour RAIN mm	FFMC	DMC	DC	ISI	BUI	FWI	DANGER CLASS	
<i>Fraser Zone</i>													
HAIG CAMP	actual	21.5	47	311 12	0.0	88.3	48.1	305	6.2	69	18.7	4	
ANDERSON CREEK	actual	21.7	37	253 11	0.0	90.5	89.8	530	7.8	126	29.5	4	
BIG SILVER 2	actual	22.6	37	213 10	0.0	89.8	49.5	374	6.9	74	20.9	4	
ALLISON PASS	actual	19.6	32	269 12	0.0	92.4	127.5	456	11.3	150	39.7	4	
NAHATLATCH	actual	23.8	32	209 7	0.0	91.4	86.0	496	7.3	120	27.5	3	
UBC RESEARCH	actual	20.7	55	154 6	0.0	88.3	44.0	280	4.6	63	14.1	3	
COQUITLAM (GVRD)	actual	22.5	48	227 3	0.0	89.8	48.2	191	4.9	59	14.4	3	
HONNA	actual	19.4	67	144 9	0.0	83.1	13.2	324	2.6	24	4.7	2	
<i>Pemberton Zone</i>													
PEMBERTON BASE	actual	22.8	39	283 3	0.0	89.5	69.2	492	4.8	102	19.0	3	
D'ARCY	actual	24.5	30	178 10	0.0	92.2	95.0	638	9.5	138	34.6	4	
BLACKCOMB BASE (EC)	actual	20.0	35	180 7	0.0	89.9	63.4	476	6.2	95	22.0	4	
CALLAGHAN VALLEY (EC)	actual	18.0	44	200 7	0.0	86.9	36.9	257	4.0	54	11.7	3	
MEAGER CREEK	actual	20.6	39	160 8	0.0	89.1	62.8	416	5.6	91	20.2	3	
SQUAMISH AP (EC)	actual	21.0	49	170 15	0.0	88.6	57.5	508	7.5	90	24.5	4	
<i>Sunshine Coast</i>													
SECHLT (EC)	actual	18.0	68	150 9	0.0	85.8	56.8	508	3.8	89	14.7	4	
POWELL RIVER (EC)	actual	18.0	69	280 11	0.0	85.5	37.8	359	4.0	60	12.2	3	
TS MAURELLE	actual	21.3	54	190 8	0.0	86.7	35.9	265	4.1	54	11.7	3	
TS THEODOSIA	actual	22.8	58	259 6	0.0	85.7	22.9	297	3.2	38	7.8	3	
TS MCNABB	actual	21.1	58	135 5	0.0	87.1	41.0	204	3.5	55	10.5	3	
SCAR CREEK	actual	24.2	40	215 6	0.0	88.8	38.2	421	4.9	62	14.7	3	
TOBA CAMP	actual	23.4	37	191 5	0.0	89.5	45.2	299	5.0	66	15.4	3	
<i>North Island / Mid-coast</i>													
HAGENSBORG 2	actual	20.9	48	285 15	0.0	84.8	18.2	372	4.3	32	9.2	3	
TALCHAKO	actual	21.2	43	76 4	0.0	88.0	40.9	338	4.0	63	12.6	2	
MACHMELL	actual	21.7	39	277 7	0.4	83.3	13.0	314	2.4	23	4.3	2	
MENZIES CAMP	actual	23.0	42	67 5	0.0	88.8	54.3	410	4.7	82	16.7	4	
WOSS CAMP	actual	20.1	55	335 5	0.0	87.4	27.4	323	3.8	45	10.0	3	
PORT HARDY AP (EC)	actual	14.0	84	0 0	0.0	64.7	7.0	224	0.5	13	0.4	1	
TS ARTLISH	actual	21.7	49	178 5	0.0	87.2	21.0	186	3.6	33	7.9	3	
TS NAKA CREEK	actual	17.9	62	327 12	0.0	85.0	18.9	308	3.9	33	8.4	3	
QUINSAM BASE FWX	actual	22.4	56	146 6	0.0	88.4	63.1	461	4.5	94	17.3	4	
<i>Mid Island</i>													
BEAVER CREEK	actual	23.9	42	192 7	0.0	90.7	83.2	430	6.8	112	25.5	4	
TOFINO AP (EC)	actual	15.0	91	210 9	0.0	79.7	20.1	360	1.8	35	4.1	2	
TS EFFINGHAM	actual	18.4	69	202 12	0.0	83.7	15.3	146	3.2	24	5.8	2	
BOWSER	actual	21.1	56	55 8	0.0	88.3	62.1	447	4.9	92	18.3	4	
QUALICUM AP (EC)	actual	18.0	61	0 7	0.0	86.9	58.7	498	4.0	91	15.6	4	
CEDAR	actual	21.2	56	76 8	0.0	87.5	76.6	507	4.5	111	18.9	4	
<i>South Island</i>													
MESACHIE 2	actual	23.3	44	54 5	0.0	90.9	95.4	543	6.2	133	25.6	5	
SALTSPRING 2	actual	19.9	68	102 13	0.0	86.0	69.2	530	4.6	104	18.6	4	
SATURNA (EC)	actual	16.0	67	200 9	0.0	85.4	47.8	483	3.6	77	13.0	4	
NORTH COWICHAN (EC)	actual	22.0	46	20 2	0.0	88.7	112.8	556	3.9	150	19.3	5	
VICTORIA AP (EC)	actual	19.0	59	110 13	0.0	87.2	90.0	563	5.6	129	23.5	5	
RITHET CREEK FWX (CRD)	actual	22.2	47	170 6	0.0	90.6	135.7	593	6.4	173	28.1	5	
TS SAN JUAN	actual	17.5	72	348 10	0.0	85.1	36.0	367	3.6	58	11.0	3	
SUMMIT	actual	17.7	82	175 7	0.0	82.7	15.9	289	2.2	28	4.4	2	



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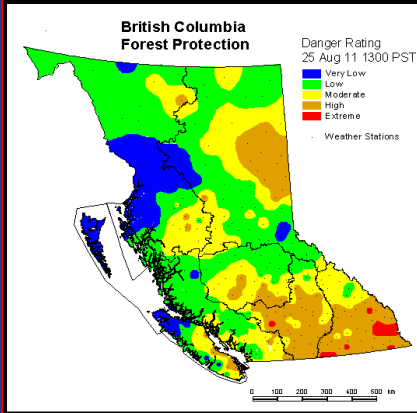
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Reading the Fire Weather Report

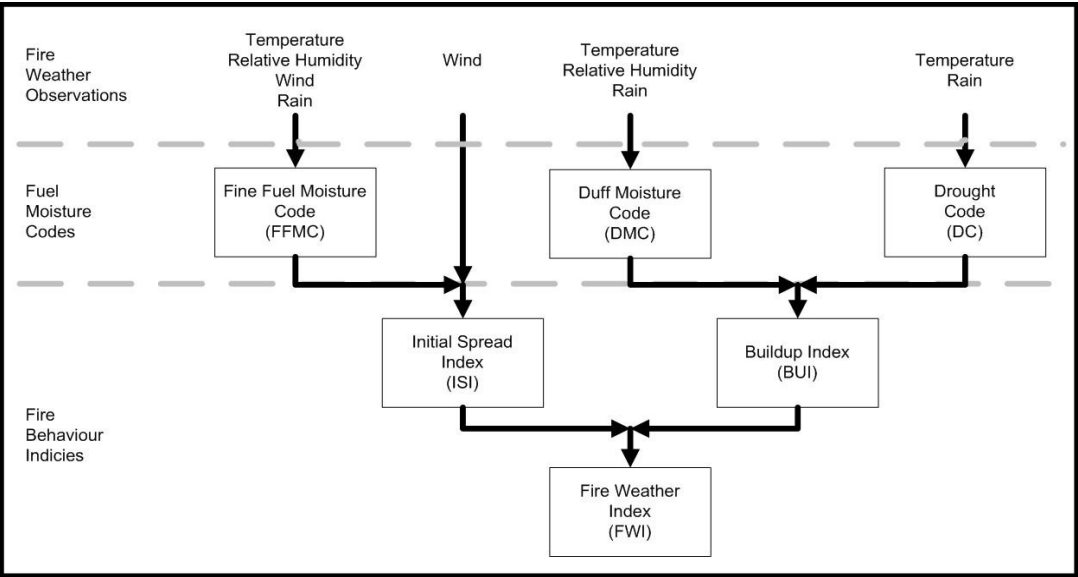
The Fire Weather Reporting System produced daily for the Coastal Fire Centre by weather technicians is an integral part of firefighting. Some of this data is displayed on our website at www.bcwildfire.ca under 'fire weather'.

Knowing the type of weather expected, including wind speeds, amount of recent precipitation and current temperatures, are only a fraction of what is included in this daily report.

Status	This will read actual, estimate or forecast. An actual reading is when the fire weather station is contributing data, when the fire weather station is late or not uploading the weather technician will provide an estimate based on the surrounding stations and previous knowledge, forecast is projecting based on actual and/or estimated.
Temperature	Temperature measured in degrees Celsius at 1 pm daily.
Relative Humidity	The amount of water vapour in the air at any given time is usually less than that required to saturate the air. The relative humidity is the percent of saturation humidity, generally calculated in relation to saturated vapour density. The higher the relative humidity is, the more moisture there is in the air and at higher RH's the moisture is transferred back into the forest fuels.
Wind Speed	The speed of the wind measured in km/hr.
24 Hour Rain	The amount of rain in the previous 24 hour period at that weather station.
Fine Fuel Moisture Code	The Fine Fuel Moisture Code (FFMC) is representative of the amount of surface litter. It is a numerical rating of the moisture content of litter and other cured fine fuels that lies on top of the surface soil. The FFMC is an indicator of the relative ease of ignition and flammability of fine fuel.
Duff Moisture Code	The Duff Moisture Code (DMC) is representative of the organic layer that lies directly below the fine fuels. The thickness of this layer is dependent on the amount of organic material available. Long hot days, rain and relative humidity are factors that most affect this layer.
Drought Code	A measurement of the largest surface fuels and deep duff layers (approximately 10+ cm). This code is a useful indicator of seasonal drought effects on forest fuels, and the amount of smouldering in deep duff layers and large logs.
Initial Spread Index	A relative measure of how quickly a fire can be expected to spread. It combines the effects of FFMC and wind speed.
Build Up Index	A relative measure of the amount of fuel available for combustion. Derived from the DMC and the DC. It is an important in assessing the difficulty in extinguishing the fire and determining how much mop up will be necessary.
Fire Weather Index	A relative measure of potential fire intensity – or energy available to be released. The FWI is a good indicator of overall fire danger. Derived from the BUI and ISI.
Danger Class	The Danger Class or Fire Danger Rating is derived by combining the FWI and the BUI. Range is Very Low (1), Low (2), Moderate (3), High (4) and Extreme (5).



How the Weather Numbers are Calculated



To Date in Coastal

Fires to Date

Person Caused	62
Lighting Caused	59
Total Number of Fires	3
Hectares burnt	26
Number of Incidents Responded to	728

Fire Danger Rating

**North—Very Low to Low
Mid and South Coastal—Low to Moderate with pockets of High**

See detailed weather forecast—page 2

The information provided on pages two and three shows how the different ratings are calculated by combining a variety of factors.

Throughout the process, however, the experience and skill of weather technicians is paramount as they examine the readings and make adjustments to what may not be captured by the data alone.

Weather

SYNOPSIS: A weak upper ridge maintains warm, dry, and mainly sunny conditions across most zones today with a few bands of mid level system cloud dissipating as they drift eastward across the region. On Saturday, the leading edge of a weakening system will bring cloudier skies and cooler temperatures to the Mid Coast and Haida Gwaii while the south remains warm and sunny. Expect light winds again today, increasing somewhat across the north on Saturday.

OUTLOOK: Expect one more warm, dry, and sunny day across the southern half of the region on Sunday while winds increase as an upper trough over the Gulf of Alaska begins to advance southwards across the region bringing cooler temperatures, cloudy skies, and moderate winds to the North Island/Mid Coast. The upper trough and associated cool surface airmass should bring significantly cooler temperatures and partly cloudy skies on Monday in the wake of a dry

cold front that should pass southeastwards over the region late Sunday night or early Monday morning. On Tuesday, an upper disturbance rotating around a large upper trough over BC/ Alberta could produce a few showers and a risk of thundershowers over the mainland south of Bute Inlet.

6 TO 10 DAY: As Tuesday's trough weakens, the longer range models have gone back to showing a Pacific ridge drifting towards southwestern BC by the weekend suggesting a return to above average temperatures for the beginning of September. One thing that has remained fairly consistent among the computer weather models over the last few days is a lack of precipitation across the south through the 6 to 10 day period.

CONFIDENCE: Fair to good through Sunday, becoming fair Sunday night onwards. Some debate regarding precipitation amounts over Haida Gwaii on Sunday as an area of heavy rain (more than 10mm) passes just north of the area.