

# Calculated Solar Radiation

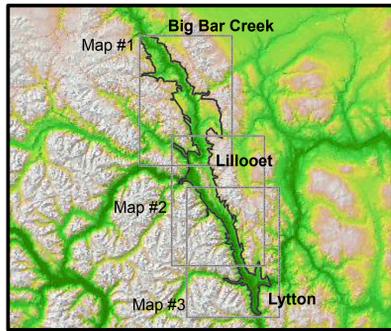
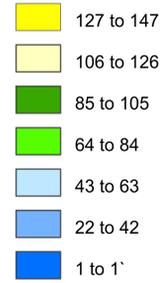
## Big Bar-Lillooet-Lytton

### Map 1 of 3

Big Bar Creek

#### September

(kWh/m<sup>2</sup>)



#### Supplementary iButton\* Data

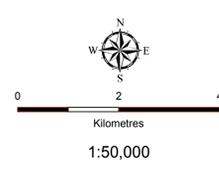
iButton Number	Elevation (m)	Extreme Minimum Winter Temperature (°C)				Growing Degree Days (Base 10°C) <sup>1</sup>			Frost Free Period (FFP) <sup>3</sup>								
		2007	2008	2009	2010	2008	2009	2010	FFP (# Days >0°C)			Last Day of Spring Frost					
		2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010				
7	309	-17.8	-26.3	-22.4	-18.1	1403	1682	1381	171	178	189	Apr 23	Apr 11	Oct 11	Oct 10	Oct 17	
8	424	-21.4	-29.0	-23.8	-20.1	1244	1550	1261	158	158	160	May 04	May 05	May 09	Oct 09	Oct 10	Oct 16
9	340	-17.7	-26.5	-22.4	-17.5	1320	1621	1310	169	169	190	Apr 23	Apr 24	Apr 10	Oct 09	Oct 10	Oct 17
28	375	-22.5	-29.1	-22.5	-22.9	1141	1423	1135	160	159	160	May 02	Apr 29	May 09	Oct 09	Oct 05	Oct 16
29	385	-21.9	-28.6	-22.1	M	1131	1442	1124	159	160	160	May 02	Apr 28	May 09	Oct 08	Oct 05	Oct 16
72	407	-19.8	-28.0	-23.6	-19.5	1318	1554	1256	169	169	189	Apr 23	Apr 24	Apr 11	Oct 09	Oct 10	Oct 17
73	572	-20.2	-29.1	-25.6	-22.1	1085	1356	1017	162	162	163	Apr 30	Apr 26	May 06	Oct 09	Oct 05	Oct 16
74	400	-21.1	-30.1	-26.0	-19.2	1397	1656	1380	171	189	190	Apr 23	Apr 04	Apr 10	Oct 11	Oct 10	Oct 17
75	285	-19.9	-29.1	-24.9	-17.6	1468	1729	1503	171	169	190	Apr 23	Apr 24	Apr 10	Oct 11	Oct 10	Oct 17
76	490	-20.3	-31.4	-26.9	-19.7	1361	1570	1314	171	164	166	Apr 23	Apr 24	May 04	Oct 11	Oct 05	Oct 17
77	510	-22.6	-30.3	-27.2	-20.7	1312	1544	1255	171	178	166	Apr 23	Apr 15	May 04	Oct 11	Oct 10	Oct 17
78	465	-20.8	-31.1	-27.1	-19.7	1383	1577	1353	171	177	189	Apr 23	Apr 15	Apr 11	Oct 11	Oct 09	Oct 17
79	428	-21.7	-30.4	-27.3	-19.3	1393	1646	1359	171	169	166	Apr 23	Apr 24	May 04	Oct 11	Oct 10	Oct 17
83	445	-19.4	-21.5	-24.9	-19.2	1304	1524	1254	171	M	190	Apr 23	M	Apr 10	Oct 11	Oct 10	Oct 17

Notes:  
 \*The table contain data based on annual summaries while the maps are based on monthly data.  
 \*iButtons are portable data loggers designed to withstand harsh environments  
 M = Missing due to incomplete data  
 1 Growing degree days (GDD) are calculated as total GDD and may include GDD units outside the period April 1st to October 31st. GDD are not available for 2007  
 2 Growing degree days for 2010 were calculated using the average hourly temperature over a 24-hour period instead of the daily mean temperature  
 3 Frost free period is calculated as the difference between the Julian date of first Fall Frost and the Julian date of the last Spring frost. FFP is not available for 2007

This series of maps was produced by Dave Whiting and Associates pro bono using the Solar Analyst module within the Spatial Analyst Extension of ArcGIS 9.2. This modelling tool calculates the potential radiation in Killowatt Hours per Square Metre (kWh/m<sup>2</sup>). The topography of the landscape was incorporated using a Digital Elevation Model at a 25 metre resolution. This map shows potential solar radiation that has been calculated by the model and aggregated for a month. Atmospheric conditions such as cloud and smoke were excluded in the calculations. This map is one of 36 map sheets. (Three map sheets are required to show the geographical extent of the area between Lytton and Big Bar at a 1:50,000 scale; map sheets are available for each month).

These maps products can support a variety of planning and assessment processes associated with agricultural development, solar energy utilization, forestry, environmental assessment and ecological research. They have been produced in support of developing a "Climate and Feasibility Assessment of Growing Wine Grapes in the Lillooet-Lytton Area, British Columbia" - a research partnership that includes the British Columbia Grape Growers' Association, local property owners, Investment Agriculture Foundation of BC, provincial and provincial and federal agencies. Further information on this project including additional long-term climate data, progress reports, specific grape trial information can be found at [www.grapegrowers.bc.ca](http://www.grapegrowers.bc.ca) Other web sites that host reports on this project are:  
 o [www.lillooetbc.com/business.aspx](http://www.lillooetbc.com/business.aspx)  
 o [www.lytton.ca/siteengine/activepage?PageID=78](http://www.lytton.ca/siteengine/activepage?PageID=78)  
 o [www.al.gov.bc.ca/grape/ftsheets/htm](http://www.al.gov.bc.ca/grape/ftsheets/htm)  
 o [www.fraserbasin.bc.ca/publications/fbc.reports.html](http://www.fraserbasin.bc.ca/publications/fbc.reports.html)

The solar radiation maps have been produced by Dave Whiting and Associates. Information on the solar radiation map team and access to free downloadable PDF files of the maps can be found at <http://www.solarradiationmapping.ca> Special thanks to Steve Losso for providing iButton climate data and John Vielvoje, P.Ag. for his invaluable input and expertise.



Date: July 10 2011  
 Projection: BC Albers  
 Datum: NAD 83  
 British Columbia Grapegrowers' Association  
<http://www.grapegrowers.bc.ca>  
 Dave Whiting and Associates  
<http://www.solarradiationmapping.ca>

Fountain