

Banner

June 1, 1999

Snow
Survey
Measureme

[Coastal Basin Snow Survey Measurements](#)

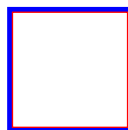
SOUTH COASTAL AND VANCOUVER ISLAND

Cooler than normal weather during May has resulted in a delay of two or three weeks in initiation of significant melt of the record snowpacks throughout the area. Precipitation was above normal for the month. Regional runoff as represented by inflow to Upper Campbell Lake on Vancouver Island was near normal for the month of May.

On the south coast, the last two weeks of May has seen a decline in snowpack snow water equivalents at an approximately normal rate. However, snowpacks are still at record levels for this date due to the delay in onset of significant melting. The regional snow water index indicates that only about 7% of the high elevation snowpack has melted during the past month.

The melting pattern on Vancouver Island has been similar. Sno-Bird Lake (3B16), which has a 29-year record for June 1, reports a 21% greater water equivalent than its previous highest reading for this date, and actually gained new snow in the last two weeks.

Those living in flood prone areas and adjacent to snowmelt-fed creeks should be aware that any warm weather will bring streams up very rapidly as the snowpack density is very high. While peak spring flows, when they finally occur, will likely be higher and of longer duration than a normal freshet, it is unlikely that flows will exceed the extreme peaks of fall rainstorm events.



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Banner

June 1, 1999

Columbia
Basin
Snow

[Columbia Basin Snow Survey Measurements](#)

UPPER AND LOWER COLUMBIA

Valley-bottom precipitation during May is reported to be 20% below normal, but the total precipitation since November remains well above normal. Temperatures during May were below normal. Due to the cooler weather snowmelt has been delayed by two or three weeks.

In the upper Columbia, all of the province's snow pillows at the mid to upper elevation range of the Selkirk Mountains indicate increases in the record snowpack through the last two weeks of May. In the lower Columbia, limited data indicates that mid elevation (900 to 1700 m) snowpacks have declined by approximately 50%. The two higher elevation pillows (2B08P St Leon Creek and 2D06P East Creek) have changed little in the last two weeks.

Rivers rose briefly in response to warmth over the May long weekend, but due to the cooler weather have since dropped back to below normal levels. Any extended period of hot weather during the next month will bring a rapid melt of the snowpack. Many of the main rivers in this basin are controlled by hydro-electric dams and should not be subject to damaging flooding. However, uncontrolled streams and rivers, particularly in the western parts of the basin, could still see quite high water levels if there is a rapid melt.

Data
Graphs

[Data Graph](#)

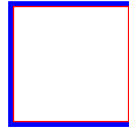
EAST AND WEST KOOTENAY

Precipitation in the Kootenays has been near normal over the month of May, however cumulative November to May totals are still above normal. Temperatures in May were below normal, and this has resulted in slower than normal snowmelt.

The regional snow water index indicates that, for the Kootenays as a whole, approximately 27% of the mid to upper elevation snowpack has melted in the last month. As expected, from the record snowpacks reported for the West Kootenays in April and May, significantly more snow remains in the West Kootenays than in the East.

River flows, which rose in response to warmer temperatures over the May long weekend, have since fallen back to below normal levels. As noted above, many of the main rivers in this basin are controlled by hydro-electric dams and

should not be subject to damaging flooding. However, uncontrolled streams and rivers, particularly in the western parts of the basin, could still see high water levels if there is a rapid melt. A rapid melt could occur if temperatures rise to summer conditions for any extended period of time during the next two or three weeks.



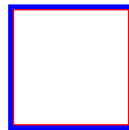
[Data Graphs](#)

OKANAGAN, KETTLE AND SIMILKAMEEN

Precipitation above normal and mean temperatures almost 2 °C below normal have delayed the melt throughout the region. The warm weather experienced over the May 24 long weekend, however, allowed a substantial volume of snow to melt in all areas.

The remaining high elevation snow pack is well above normal which is largely a measure of the lateness of the melt. Another prolonged warm spell could bring the Similkameen and Kettle Rivers to higher levels than have occurred to date this year, but extreme levels now appear to be unlikely.

Okanagan lake is currently about half a metre below its full elevation and rising steadily. Unless there is substantial precipitation, it is expected that the lake will peak around the end of the month at close to its normal peak elevation.



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June 1, 1999

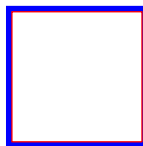
Snow
Survey
Measuremen

[Northern Basins Snow Survey Measurements](#)

NORTHEASTERN

The snowpack in the Peace River basin, based on the few courses sampled, is well above normal for this date. A delayed snowmelt has caused the near normal snowpack reported on May 1 to remain much longer than usual. Higher elevation snow pillows, (4A02P Pine Pass and 4A27P Kwadacha River), have actually shown a slight increase in snow water equivalent during the month of May. A prolonged warm spell in June could cause snowmelt-fed rivers to rise rapidly.

There is insufficient data to accurately assess the snowpack in the Liard basin. The single snow pillow, (4C09P Deadwood River) shows a higher than normal melt rate for the last two weeks of May, however delay of the start of melt has left a higher than normal amount of snow for this date. No data is available for the Yukon basin.



[Data Graphs](#)

NORTHWESTERN

While lower elevation snow is melting, the slightly higher than normal snowpacks reported on May 1 in the Skeena basin have shown very little melt at the mid to upper elevations. Temperatures have been cooler than normal for May, with higher than normal precipitation. The Stikine-Taku basins appear to have had a near normal rate of melt during the last two weeks of May, however the delay in start of the melt has left a higher than normal snowpack for this date.

Water levels in the Skeena River rose to above normal in response to rain on the long weekend, but have since dropped back to below normal for the last week of May. Warmer weather and a more rapid melt of the snowpack could increase flows quickly, but damaging levels seem unlikely on the main rivers.

FRASER

June 1, 1999

Snow Survey Measurements

Drainage Basin and Snow Course	Station Number	Elev m	Date of Survey	Snow Depth cm	WATER EQUIVALENT (mm)						No. Years Record
					1999	1998	1997	Max.	Min.	Normal	
UPPER FRASER											
PACIFIC LAKE	1A11	770	26	71	347	0	348	348	0	70*	25
BIRD CREEK	1A23	1180	Not Available			0	0Z	0	0	-	5
BARKERVILLE	1A03	1520	29	48	254	0	-	417	0	145	47
BARKERVILLE	1A03P	1520	01	-	236	0	0	291	0	120	15
MC BRIDE (UPPER)	1A02	1580	26	77	377	0	129	592	0	266	31
KNUDSEN LAKE	1A15	1580	26	179	945	0	787	1039	0	762	24
NARROW LAKE	1A21	1650	27	248	1270	116	1007	1339	116	855	25
REVOLUTION CREEK	1A17P	1690	01	-	723	0	508	820	0	514	14
LONGWORTH (UPPER)	1A05	1740	26	188	940	0	956	1194	0	630	42
DOME MOUNTAIN	1A19	1820	26	197	1047	0	785	1062	0	760	27
YELLOWHEAD	1A01P	1860	01	-	857	0	233	233	0	117*	2
HOLMES RIVER	1A18	1900	26	180	897	84	766	1029	84	748	28
NECHAKO											
SKINS LAKE	1B05	880	04	No Snow		0	0Z	0	0	-	10
TAHTSA LAKE	1B02	1300	04	247	1391	551	1133B	1651	535	971	24
TAHTSA LAKE	1B02P	1300	01	-	1576	652	1140	1140	277	768*	6
KIDPRICE LAKE	4B01	1370	04	156	913	0	805Z	1209	0	680	24
MOUNT PONDOSY	1B08P	1400	01	-	689	0	424	424	0	176*	6
MOUNT WELLS	1B01	1490	04	59	270	0	479B	488	0	238	22

MOUNT WELLS	1B01P	1490	01	-	369	0	418	463	0	298	7
NUTLI LAKE	1B07	1490	04	72	361	0	418B	594	0	186*	8
MOUNT SWANNELL	1B06	1620	04	64	287	0	350Z	350Z	0	79*	10
MIDDLE FRASER											
BOSS MOUNTAIN MINE	1C20P	1460	01	-	431	0	116	435	0	248	5
BRENDA MINE	2F18P	1460	Not Measured			0	0	0	0	-	6
BARKERVILLE	1A03	1520	29	48	254	0	-	417	0	145	47
BARKERVILLE	1A03P	1520	01	-	236	0	0	291	0	120	15
MOUNT TIMOTHY	1C17	1660	26	72	332	0	0	325	0	56*	31
YANKS PEAK EAST	1C41P	1670	01	-	1016	-	555	555	555	555*	1
PENFOLD CREEK	1C23	1680	27	254	1354	460	972	1179	353	849	28
GREEN MOUNTAIN	1C12P	1780	01	-	1183	229	753	887	229	532*	5
MISSION RIDGE	1C18P	1850	01	-	573	0	70	314	0	151	11
LOWER FRASER											
DISAPPOINTMENT LAKE	1D18P	1040	Not Available			-	-	1087	1087	1087*	1
CALLAGHAN CREEK	3A20	1040	30	219	1228	48	78	1128	0	424	15
DOG MOUNTAIN	3A10	1080	02	452	2480	518	885	1115	56	999	12
BEAVER PASS	WA12	1120	27	249	1270	180	714	714	0	260*	5
STAVE LAKE	1D08	1210	30	563	3150A	-	-	2367	635	1509*	5
WAHLEACH LAKE	1D09P	1400	01	-	1359	488	1006	1006	0	399*	6
NAHATLATCH RIVER	1D10	1520	30	450	2560A	-	-	2416	706	1184	8
CHILLIWACK RIVER	1D17P	1600	Not Measured			841	-	1099	237	905	4
GREAT BEAR	1D15P	1660	01	-	2378	1226	2007	2007	908	1179	7
TENQUILLE LAKE	1D06	1680	30	311	1790	595	1100	1654	365	1030	43
NORTH THOMPSON											
COOK FORKS	1E06	1390	31	178	943	0	554	1026	0	458	36

BOSS MOUNTAIN MINE	1C20P	1460	01	-	431	0	116	435	0	248	5
MOUNT COOK	1E02A	1580	31	319	1744	619	1231	1575	377	1125	25
AZURE RIVER	1E08P	1620	01	-	1778	530	1283	1283	530	907*	2
ADAMS RIVER	1E07	1720	26	231	1155	290	659	1123	0	645	29
KOSTAL LAKE	1E10P	1770	01	-	1377	408	914	1113	155	753	14
NORTH CLEMINA CREEK	1E13	1860	26	222	1135	393	862	1058	318	725*	10
SOUTH THOMPSON											
ADAMS RIVER	1E07	1720	26	231	1155	290	659	1123	0	645	29
SILVER STAR MOUNTAIN	2F10	1840	27	176	908	250	631	980	0	409	40
PARK MOUNTAIN	1F03P	1890	01	-	1269	296	1152	1228	296	811	13
ENDERBY	1F04	1900	31	279	1410	549	1157	1422	430	985	35
A - SAMPLING PROBLEMS WERE ENCOUNTERED											
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E - ESTIMATED BASED ON AREAL AVERAGE											
* - PERIOD OF RECORD AVERAGE											

COLUMBIA

June 1, 1999

Snow Survey Measurements

Drainage Basin and Snow Course	Station Number	Elev m	Date of Survey	Snow Depth cm	WATER EQUIVALENT (mm)						No. Years Record
					1999	1998	1997	Max.	Min.	Normal	
UPPER COLUMBIA											
AZURE RIVER	1E08P	1620	01	-	1778	530	1283	1283	530	907*	2
MOUNT REVELSTOKE	2A06P	1830	01	-	2063	562	1200	1631	240	995	6
NORTH CLEMINA CREEK	1E13	1860	26	222	1135	393	862	1058	318	725*	10
MOLSON CREEK	2A21P	1980	01	-	1512	249	928	1026	98	796	15
BOW SUMMIT II	AL07A	2080	28	69	325	0	254	414	0	157*	17
LOWER COLUMBIA											
FERGUSON	2D02	880	31	61	322	-	-	266	0	63*	14
FARRON	2B02A	1220	27	4	19	-	5	19	0	2*	16
BARNES CREEK	2B06P	1620	01	-	383	0	255	529	0	131*	6
ST. LEON CREEK	2B08P	1800	01	-	1580	398	930	930	225	647	5
RECORD MOUNTAIN	2B09	1890	31	202	1089	230A	827	916	0	526	24
EAST CREEK	2D08P	2030	01	-	1256	333	806	1238	111	673	16
EAST KOOTENAY											

SULLIVAN MINE	2C04	1550	27	9	44	0	52	137	0	21*	16
MORRISSEY RIDGE	2C09Q	1800	01	-	404	26	-	767	0	325	14
RED MOUNTAIN	MT04	1830	26	64	325	0	190	559	0	133*	35
MOYIE MOUNTAIN	2C10P	1930	01	-	214	0	-	438	0	75*	13
FLOE LAKE	2C14P	2090	01	-	979	98	724	975	98	342	4
HIGHWOOD SUMMIT (BUSH)	AL02	2210	26	122	531	89	485	660	89	357*	18
SUNSHINE VILLAGE	AL05	2230	28	149	706	107	612	902	107	490*	14
WEST KOOTENAY											
FERGUSON	2D02	880	31	61	322	-	-	266	0	63*	14
NELSON	2D04	930	01	No Snow		-	8	8	0	1*	16
CHAR CREEK	2D06	1310	Not Available			-	327	327	0	58*	29
GRAY CREEK (LOWER)	2D05	1550	26	102	523	-	393	551	0	200	49
GRAY CREEK (UPPER)	2D10	1910	26	194	1041	-	696	1120	0	555	29
EAST CREEK	2D08P	2030	01	-	1256	333	806	1238	111	673	16
KETTLE											
FARRON	2B02A	1220	27	4	19	-	5	19	0	2*	16
BIG WHITE MOUNTAIN	2E03	1680	30	89	438	5A	274	658	0	194	33
GRANO CREEK	2E07P	1860	01	-	754	11	-	11	11	11*	1
OKANAGAN											
SUMMERLAND RESERVOIR	2F02	1280	25	No Snow		-	0	25	0	6*	7
VASEUX CREEK	2F20	1400	31	No Snow		-	-	0	0	-	7
ESPERON CR (MIDDLE)	2F14	1430	31	14	64	-	-	127	0	18*	8

BRENDA MINE	2F18P	1460	Not Measured			0	0	0	0	-	6
GREYBACK RESERVOIR	2F08	1550	31	No Snow		-	-	155	0B	19*	23
ESPERON CR (UPPER)	2F13	1650	31	69	374	-	-	490	0	92	8
ISINTOK LAKE	2F11	1680	26	No Snow		-	0	211	0	33*	15
MISSION CREEK	2F05P	1780	01	-	641	0	-	615	0	209	27
MOUNT KOBAN	2F12	1810	30	97	437	102	128	488	0	128	33
WHITEROCKS MOUNTAIN	2F09	1830	31	130	653	0	118	848	0	167	27
SILVER STAR MOUNTAIN	2F10	1840	27	176	908	250	631	980	0	409	40
SIMILKAMEEN											
FREEZEOUT CREEK TRAIL	WA11	1070	28	36	152	0	15	15	0	3*	6
ISINTOK LAKE	2F11	1680	26	No Snow		-	0	211	0	33*	15
LOST HORSE MOUNTAIN	2G04	1920	02	27	104	-	60E	330	0	97	29
BLACKWALL PEAK	2G03P	1940	01	-	1058	180	713	1253	0	607	31
HARTS PASS	WA09	1980	26	297	1737	582	1323	1323	406	907*	7
A - SAMPLING PROBLEMS WERE ENCOUNTERED											
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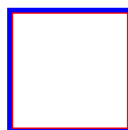
Banner

June 1, 1999Fraser
Basin
Snow[Fraser Basin Snow Survey Measurements](#)**UPPER FRASER AND NECHAKO**

Precipitation during May was above normal throughout the basin and this, allied with mean temperatures at least a degree below normal, has delayed the normal melt by at least two weeks.

The snowpack is still above normal for this date and any sustained warm weather during the remainder of the month will probably result in peaks higher than those which have occurred so far this year. Whether these peaks reach damaging levels will depend on how rapid the melt is and how late in the year it is.

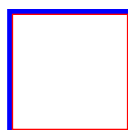
The mean flow in the Fraser at Marguerite for May was only just above normal.

[Data Graphs](#)**MIDDLE AND LOWER FRASER**

Precipitation in both the middle and lower Fraser was well above average during May and the accumulated precipitation since November is about 20% above normal.

In the middle Fraser, while much of the plateau is now clear of snow, the high elevation snowpack, particularly on the east side of the basin, remains well above normal for this date. In the lower Fraser, the high level snowpack remains at record levels for the beginning of June.

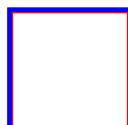
The Fraser at Hope peaked at about 8,000 m³/s on May 30. This is as high as the river gets in low runoff years. A higher peak will almost certainly occur if there is any sustained warmth before the end of the month. The height to which the river rises will largely be a function of the rapidity of the melt and how late in the season the warmth arrives.

[Data Graphs](#)

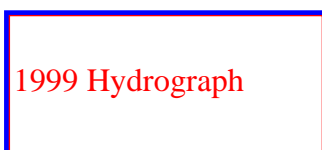
NORTH AND SOUTH THOMPSON

The relatively wet, cool weather during May has resulted in very little change in the upper-level snowpack in both the North and South Thompson River basins. Although relatively few courses are measured at this time, most are reporting record or near-record water equivalents. For example, Adams River, which has a 29-year history of June 1 readings, reports a new record high reading, a little greater than the 1974 measurement and 79% greater than normal for this date.

Although the snowline is gradually rising, there is still the potential for damaging flooding in the Thompson basin should there be a sustained hot spell before the end of the month. The peak levels attained will largely depend on the speed at which the melt occurs. The mean flow in the Thompson River near Spences Bridge was about 16% above normal for the month of May.



[Data Graphs](#)



1999 Hydrograph

[Fraser River at Hope Hydrograph](#)

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COASTAL

June 1, 1999

Snow Survey Measurements

Drainage Basin and Snow Course	Station Number	Elev m	Date of Survey	Snow Depth cm	WATER EQUIVALENT (mm)						No. Years Record
					1999	1998	1997	Max.	Min.	Normal	
SOUTH COASTAL											
PALISADE LAKE	3A09P	880	Not Available		-	-	-	-	-	-	0
CALLAGHAN CREEK	3A20	1040	30	219	1228	48	78	1128	0	424	15
DOG MOUNTAIN	3A10	1080	02	452	2480	518	885	1115	56	999	12
ORCHID LAKE	3A19	1190	02	613	3648A	1182	1598	2190A	174	1593	20
ORCHID LAKE	3A19P	1190	Not Available		-	-	2463	124	1536*	11	
UPPER SQUAMISH RIVER	3A25P	1340	Not Measured		1058	1358	1485	634	1246	9	
NOSTETUKO RIVER	3A22P	1500	01	-	530	-	0	67	0	17*	8
UPPER MOSELY CREEK	3A24P	1650	01	-	146	0	0	204	0	20*	10
VANCOUVER ISLAND											
TENNENT LAKE	3B22	950	Not Available		-	572Z	712	0	232*	10	
JUMP CREEK	3B23P	1160	Not Measured		131	701	701	0	277*	3	

SNO-BIRD LAKE	3B16	1400	28	561	2970A	-	1300	2438A	0	1091	30
WOLF RIVER (UPPER)	3B17P	1490	01	-	2465	1329	1030	1329	305	1119	11
NORTH COASTAL											
TAHTSA LAKE	1B02	1300	Not Available			551	1133B	1651	535	971	24
TAHTSA LAKE	1B02P	1300	01	-	1576	652	1140	1140	277	768*	6
BURNT BRIDGE CREEK	3C08P	1330	01	-	686	0	-	0	0	-	1
SKAGIT											
FREEZEOUT CREEK TRAIL	WA11	1070	28	36	152	0	15	15	0	3*	6
BEAVER PASS	WA12	1120	27	249	1270	180	714	714	0	260*	5
HARTS PASS	WA09	1980	26	297	1737	582	1323	1323	406	907*	7
A - SAMPLING PROBLEMS WERE ENCOUNTERED											
B - EARLY OR LATE SAMPLING											
C - EARLY OR LATE SAMPLING WITH PROBLEMS ENCOUNTERED											
E - ESTIMATED BASED ON AREAL AVERAGE											
* - PERIOD OF RECORD AVERAGE											

NORTH

June 1, 1999

Snow Survey Measurements

Drainage Basin and Snow Course	Station Number	Elev m	Date of Survey	Snow Depth cm	WATER EQUIVALENT (mm)						No. Years Record
					1999	1998	1997	Max.	Min.	Normal	
PEACE											
PACIFIC LAKE	1A11	770	26	71	347	0	348	348	0	70*	25
AIKEN LAKE	4A30P	1040	01	No Snow	0	0	0	0	0	-	12
PULPIT LAKE	4A09P	1310	01	-	119	0	0	146	0	18*	8
PINE PASS	4A02P	1400	01	-	1152	183	997	997	183	871	6
KWADACHA RIVER	4A27P	1620	01	-	458	-	208	409	0	211	11
SKEENA/ NASS											
LU LAKE	4B15P	1310	01	-	26	0	-	0	0	-	1
TSAI CREEK	4B17P	1360	01	-	1388	371	-	371	371	371*	1
KIDPRICE LAKE	4B01	1370	04	156	913	0	805Z	1209	0	680	24
HUDSON BAY MTN.	4B03A	1480	28	102	443	-	380Z	729	0	323	26
SHEDIN CREEK	4B16P	1480	01	-	720	98	536	945	98	526*	3
LIARD											
DEADWOOD RIVER	4C09P	1300	01	-	31	0	0	0	0	-	5

STIKINE/ TAKU											
SPEEL RIVER	AK03	80	27	119	612	0	0	884	0	186*	15
FORREST- KERR CREEK	4D08P	560	01	-	24	0	0	135	0	17*	8
KINASKAN LAKE	4D11P	1020	01	No Snow		0	0	83	0	10*	8
TUMEKA CREEK	4D10P	1220	01	-	219	0	0	488	0	89	9
WADE LAKE	4D14P	1370	01	-	189	0	-	204	0	90	7
UPPER STIKINE	4D13P	1450	Not Measured			0	12	424	0	128*	9

YUKON

A - SAMPLING PROBLEMS WERE ENCOUNTERED

B - EARLY OR LATE SAMPLING

C - EARLY OR LATE SAMPLING WITH PROBLEMS ENCOUNTERED

E - ESTIMATED BASED ON AREAL AVERAGE

* - PERIOD OF RECORD AVERAGE