

## Snow Survey and Water Supply Bulletin – March 1<sup>st</sup>, 2016

The March 1<sup>st</sup> snow survey is now complete. Data from 140 snow courses and 60 automated snow stations around the province and climate data from Environment Canada have been used to form the basis for the following report<sup>1</sup>.

### Weather

Temperatures across British Columbia continued to be well above normal through the month of February, with daily temperatures being 1-3 °C above normal through southern BC, and 3-5 °C above normal through the Kootenays, central, and northern BC. These warm temperatures have persisted throughout the 2015-16 winter (December, January, February), with temperature departures being 1-4 °C above normal across the province over the three month period.

February was generally a wet month, with a few heavier storm cycles mixed with drier and unsettled periods with lighter precipitation. Precipitation was above normal, with typical precipitation amounts in the range of 130-200% of normal across most of the province.

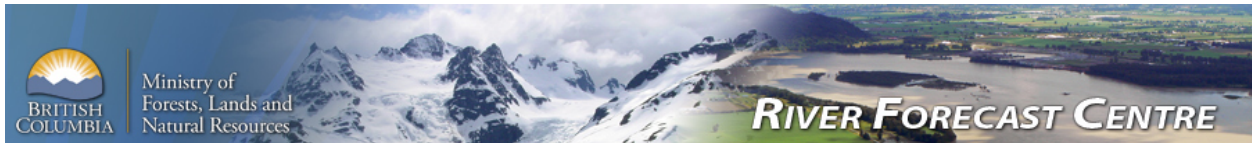
### Snowpack

Wet weather through February led to increased snow packs across the province, and most regions of the province experienced an upswing of 5% to 10% in snow basin index values since last month. Snow basin indices range from a low of 55% in the Liard to a high of 123% in the Okanagan (Table 1). In general, most of the province has near normal or slightly below normal (80-110%) snow packs for March 1<sup>st</sup>, 2016, with a provincial average of 93% from all survey locations. A south to north gradient still exists across the province, however very low snow packs observed earlier in the season in northern BC have generally moderated. Below normal snow packs (65-80%) are present in the Upper Fraser East, Nechako, Central Coast, Skagit, Skeena-Nass, Stikine, and North-west, and well below normal (<65%) in the Liard. Above normal snow pack (>110%) is present in the Okanagan and Boundary.

**Table 1: BC Snow Basin Indices – March 1, 2016**

Basin	% of Normal	Basin	% of Normal
Upper Fraser West	85	Boundary	115
Upper Fraser East	77	Similkameen	100
Nechako	73	South Coast	99
Middle Fraser	105	Vancouver Island	86
Lower Fraser	97	Central Coast	78
North Thompson	115	Skagit	67
South Thompson	111	Peace	81
Upper Columbia	104	Skeena-Nass	73
West Kootenay	106	Stikine	72
East Kootenay	98	Liard	55
Okanagan	123	Northwest	74

1. Every effort is made to ensure that data reported on these pages are accurate. However, in order to update the graphs and indices as quickly as possible, some data may have been estimated. Please note that data provided on these pages are preliminary and subject to revision upon review.



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In low and mid-elevations, warm temperatures through the winter led to an increase in the proportion of precipitation falling as rain rather than snow as well as mid-season snow melt. While melt does not typically occur until April, a few survey locations experienced a decrease in snow water equivalent values since the February survey. While the average for all snow survey locations across the province is 93% of normal, the average for locations below 1000 m elevation is just 67% of normal. Since the majority of the surveys taken across the province are higher elevation sites, diminished snow packs at low to mid-elevation may not be well reflected in the snow basin index values.

### Streamflow

With warm temperatures, mid-season melt, and precipitation as rain, most rivers across British Columbia have experienced well above normal runoff (150% to 200% of median value) over the past one to two months. Snow melt runoff that typically flows later in the season has already passed through their watersheds. This advance in runoff timing may lead to an earlier freshet this season, both in terms of timing of peak flows and the recession to the low-flow season.

### Outlook

Strong El Niño conditions that developed over the equatorial Pacific regions over the past few months peaked earlier in the winter and are expected to continue to decline into the spring. The Climate Prediction Centre (CPC) at the U.S. National Weather Service/NOAA is forecasting a high likelihood of El Niño conditions persisting through until late-spring or early summer 2016.

In general, BC experiences warmer than normal winter and early-spring temperatures during strong El Niño events. Precipitation during historic El Niño events has been highly variable, with no strong trends across BC. Snow packs during El Niño events tend to be slightly below normal across BC. However there has been significant historic variability and regional variation to this general trend. Snow and weather conditions so far this season have been typical for an El Niño year, with the exception of northern BC, which is experiencing lower snow pack than is typical. In southern BC, snow packs are much better developed than the extremely low conditions that were experienced last year.

Seasonal forecasts from Environment Canada are indicating a high likelihood of above-normal temperatures across British Columbia over the March to May period, and an increased chance of warmer than normal temperatures through the extended forecast period into the summer months.

Seasonal volume runoff forecasts (see table below) are near normal for most basins across the province. Above normal seasonal runoff is forecast for the Nicola River, Similkameen and Okanagan. Below normal seasonal runoff is forecast in the Cowichan River and Bulkley River systems.

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By early March, 80% of the annual BC snowpack has typically accumulated, with another one to two months remaining in the snow accumulation season. High snow pack in the Okanagan basin is an early indication of the potential for elevated seasonal flood risk in the region. Below normal snow pack, particularly in the Liard, and to a lesser extent the Upper Fraser, Nechako, Central Coast, Skeena-Nass, Stikine and Northwest, indicate an increased potential for low flows in the late-spring and summer.

The forecast of warmer weather through the spring, combined with warm temperatures already experienced this winter, is likely to be an important factor in this year's freshet season. With the advanced melt of some low to mid-elevation snow that has already occurred, continued warmer than normal temperatures would bring an earlier shift in the timing of the rise, peak and recession to summer flows of this year's freshet. While snow conditions were much different last year, late winter warm weather contributed to a 2 to 4 week advance in the timing of freshet flows in 2015.

For both spring flood risk and summer low flows, snow pack is just one of the important elements that determine whether or not extreme conditions will emerge. Weather, through the remaining portion of the snow accumulation season, the melt season, and into the summer, is also a key driver on whether or not flooding or low stream flows will occur.

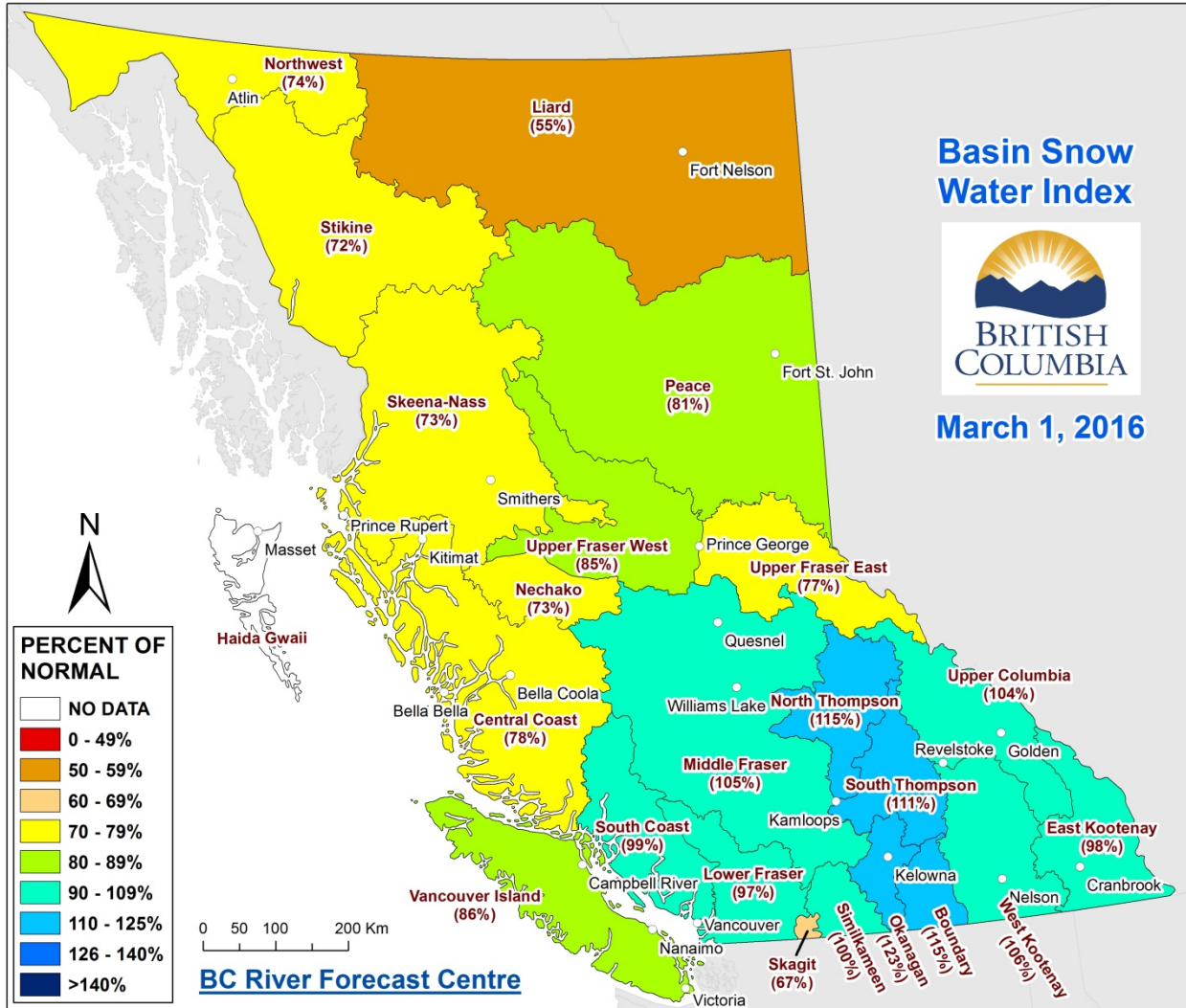
The River Forecast Centre will continue to monitor snow pack conditions and will provide an updated seasonal flood risk and stream flow forecast in the April 1<sup>st</sup> 2016 bulletin, which is scheduled for release on April 7<sup>th</sup>.

BC River Forecast Centre  
March 8, 2016



# Snow Survey and Water Supply Bulletin – March 1<sup>st</sup>, 2016

Figure 1: Basin Snow Water Index – March 1<sup>st</sup>, 2016



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2016 Automated Snow Pillow/Manual Snow Survey Data				March					Historic Snow Water Equivalent (mm)					
Station ID	Name	Basin	Elevation (masl)	Survey Date YYYY-MM-DD	SD (cm)	SWE (mm)	Code	SWE % 1981-2010 Normal	2015 SWE (mm)	2014 SWE (mm)	Minimum (mm)	Maximum (mm)	1981-2010 Normal (mm)	Years of Record
1A01P	YELLOWHEAD LAKE	Upper Fraser East	1860	2016-03-01	122	398		89%	428	347	266	720	445	19
1A02P	MC BRIDE UPPER	Upper Fraser East	1580	2016-03-01	131	338		91%	414	311	257	562	372	24
1A03P	BARKERVILLE	Upper Fraser East	1520	2016-03-01	84	218		75%	274	287	150	479	292	41
1A05	LONGWORTH (UPPER)	Upper Fraser East	1693	N	N	N	N		858	804	307	1104	676	62
1A06A	HANSARD	Upper Fraser East	622	2016-02-26	23	64		38%	218	357	44	396	170	43
1A10	PRINCE GEORGE A	Upper Fraser East	684	2016-02-25	30	83		71%	124	140	0	296	117	54
1A11	PACIFIC LAKE	Upper Fraser East	756	2016-03-02	94	321		59%	392	732	277	866	546	53
1A12	KAZA LAKE	Upper Fraser West	1247	2016-02-29	106	257		87%	299	308	186	478	295	52
1A12P	KAZA LAKE	Upper Fraser East	1248	2016-03-01	1	257								0
1A14P	HEDRICK LAKE	Upper Fraser East	1100	2016-03-01	156	366		56%	526	971	386	1066	654	16
1A15	KNUDSEN LAKE	Upper Fraser East	1598	2016-03-02	170	531		77%	627	735	404	1098	692	46
1A16	BURNS LAKE	Upper Fraser West	820	2016-02-26	37	98		75%	194	110	60	250	130	46
1A17P	REVOLUTION CREEK	Upper Fraser East	1690	2016-03-01	231	621		92%	608	804	336	1133	674	31
1A19P	DOMM MOUNTAIN	Upper Fraser East	1820	2016-03-01	159	502		82%	615	643	450	912	611	10
1A23	BIRD CREEK	Upper Fraser West	1196	2016-03-01	57	126		96%	231	160	72	232	131	26
1B01	MOUNT WELLS	Nechako	1489	2016-02-29	114	323		71%	533	354	244	954	452	64
1B01P	MOUNT WELLS	Nechako	1490	2016-03-01	NA	362		77%	585	341	244	739	470	24
1B02	TAHTSA LAKE	Nechako	1319	2016-02-29	232	866		84%	1017	875	571	1777	1034	64
1B02P	TAHTSA LAKE	Nechako	1300	2016-03-01	NA	960		87%	999	776	661	1725	1108	24
1B05	SKINS LAKE	Nechako	877	2016-02-29	38	88		85%		92	54	226	103	51
1B06	MOUNT SWANNELL	Nechako	1596	N	N	N	N		359	231	132	446	252	27
1B07	NUTLI LAKE	Nechako	1502	2016-03-01	116	342		74%	439	317	229	779	460	25
1B08P	MOUNT PONDOSY	Nechako	1400	2016-03-01	NA	593		86%	798	442	363	995	686	24
1C01	BROOKMERE	Middle Fraser	994	2016-03-02	49	148		89%	135	172	53	351	167	71
1C05	MCGILLIVRAY PASS	Middle Fraser	1715	2016-02-24	137	406		83%	320		222	1016	492	64
1C06	PAVILION	Middle Fraser	1209	2016-02-29	19	60		103%		66	0	168	58	59
1C08	NAZKO	Middle Fraser	1029	2016-03-02	26	63		98%	132	75	0	142	64	41
1C09A	HIGHLAND VALLEY	Middle Fraser	1547	2016-03-03	36	106		138%	86	108	25	229	77	49
1C12P	GREEN MOUNTAIN	Middle Fraser	1780	2016-03-01	NA	758		101%	591	527	445	1265	751	22
1C13A	HORSEFLY MOUNTAIN	Middle Fraser	1612	2016-02-29	153	444		104%	412	534	238	624	428	45
1C14	BRALORNE	Middle Fraser	1382	2016-02-24	55	80		54%	54	158	0	363	149	52
1C17	MOUNT TIMOTHY	Middle Fraser	1632	2016-03-01	124	360		135%	201	285	141	468	266	55
1C18P	MISSION RIDGE	Middle Fraser	1850	2016-03-01	NA	375		79%	316	383	160	866	475	46
1C19	GNAWED MOUNTAIN	Middle Fraser	1617	2016-03-03	23	111		116%	90	122	15	259	96	48
1C20P	BOSS MOUNTAIN MINE	Middle Fraser	1460	2016-03-01	181	572		117%	456	475	308	739	487	22
1C21	BIG CREEK	Middle Fraser	1130	2016-02-28	20	46		96%	74	54	0	112	48	45
1C22	PUNTZI MOUNTAIN	Middle Fraser	939	2016-02-28	19	44		80%	84	60	0	128	55	46
1C23	PENFOLD CREEK	Middle Fraser	1687	2016-02-25	228	778		96%	674		453	1132	807	41
1C25	LAC LE JEUNE (UPPER)	Middle Fraser	1471	2016-02-29	62	178		148%	110	147	13	213	120	43



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1C28	DUFFEY LAKE	Middle Fraser	1253	2016-03-01	124	434		101%	273	390	194	762	428	38
1C29	SHOVELNOSE MOUNTAIN	Middle Fraser	1456	2016-02-27	57	188		87%	121	197	100	398	216	35
1C32	DEADMAN RIVER	Middle Fraser	1463	2016-03-01	57	170		170%	110	150	44	220	100	32
1C33A	GRANITE MOUNTAIN	Middle Fraser	1175	2016-02-26	56	154		89%	156	181	132	211	173	10
1C37	BRALORNE(UPPER)	Middle Fraser	1980	2016-02-24	157	560		103%	448		268	944	543	21
1C38	DOWNTON LAKE (UPPER)	Middle Fraser	1884	2016-02-24	207	782		106%	690		302	1250	737	21
1C38P	DOWNTON / LAJOIE UPPER	Middle Fraser	1829	2016-03-01	NA	685								0
1C39	BRIDGE GLACIER (LOWER)	Middle Fraser	1393	2016-02-24	174	584		115%	412	430	146	954	508	21
1C40	TYAUGHTON CREEK (NORTH)	Middle Fraser	1946	N	N	N	N		300	138	138	916	399	21
1C40P	NORTH TYAUGHTON	Middle Fraser	1969	2016-03-01	NA	267								0
1C41P	YANKS PEAK, EAST	Middle Fraser	1670	2016-03-01	185	661		101%	684	728	406	904	655	19
1C42	CAVERHILL LAKE NEW	Middle Fraser	1400	2016-02-29	91	246			184	60	60	270		11
1D06P	TENQUILLE LAKE	Lower Fraser	1680	2016-03-01	276	945		117%	727	727	518	1227	810	15
1D08	STAVE LAKE	Lower Fraser	1211	2016-02-24	235	1026		87%	120		120	2500	1178	49
1D09	WAHLEACH LAKE	Lower Fraser	1395	2016-02-24	104	374		80%	37	652	37	1072	468	49
1D09P	WAHLEACH LAKE	Lower Fraser	1400	2016-03-01	NA	565		67%	251	812	251	1320	846	24
1D10	NAHATLATCH RIVER	Lower Fraser	1530	2016-02-24	247	1028		94%	426		400	2380	1092	47
1D16	DICKSON LAKE	Lower Fraser	1147	2016-02-24	207	824		69%	22	1810	22	1814	1186	25
1D17P	CHILLIWACK RIVER	Lower Fraser	1600	2016-03-01	275	1307		108%	607	1422	506	2353	1208	24
1D18	DISAPPOINTMENT LAKE	Lower Fraser	1050	N	N	N	N							
1D19P	SPUZZUM CREEK	Lower Fraser	1180	2016-03-01	222	1106		84%	265	1583	265	2615	1312	17
1E01B	BLUE RIVER	North Thompson	673	2016-02-28	80	284		101%	267	252	179	411	280	32
1E02P	MOUNT COOK	North Thompson	1550	2016-03-01	341	1260		123%	988	1012	821	1319	1028	16
1E03A	TROPHY MOUNTAIN	North Thompson	1907	2016-02-27	152	442		98%	273	432	216	778	452	42
1E05	KNOUFF LAKE	North Thompson	1189	2016-02-26	48	126		102%	121	150	36	284	124	59
1E07	ADAMS RIVER	North Thompson	1769	2016-02-28	205	728		130%	504	570	262	892	560	45
1E08P	AZURE RIVER	North Thompson	1620	2016-03-01	241	931		100%	982	999	548	1339	934	19
1E10P	KOSTAL LAKE	North Thompson	1770	2016-03-01	288	755		106%	654	710	477	1023	712	31
1E14P	COOK CREEK	North Thompson	1280	2016-03-01	147	0								0
1F01A	ABERDEEN LAKE	South Thompson	1262	2016-02-24	58	171		129%	160	140	51	231	133	59
1F02	ANGLEMONT	South Thompson	1168	2016-03-01	72	299		93%		304	160	635	323	58
1F03P	PARK MOUNTAIN	North Thompson	1890	2016-03-01	221	729		102%	646	756	383	1021	714	31
1F04	ENDERBY	South Thompson	1948	2016-02-28	268	957		114%	806	1030	440	1200	840	49
1F06P	CELISTA MOUNTAIN	North Thompson	1551	2016-03-01	249	908		123%	699	782	596	923	739	11
2A01A	CANOE RIVER	Upper Columbia	866	2016-02-29	41	132		148%	120	132	19	251	89	75
2A02	GLACIER	Upper Columbia	1249	2016-02-27	162	578		99%	490	542	251	952	585	78
2A03A	FIELD	Upper Columbia	1310	2016-02-25	62	162		110%	157	82	53	248	147	76
2A06P	MOUNT REVELSTOKE	Upper Columbia	1830	2016-03-01	NA	1059		107%	851	985	537	1487	992	23
2A07	KICKING HORSE	Upper Columbia	1648	2016-02-26	98	296		106%	218	241	140	462	279	69

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2A11	BEAVERFOOT	Upper Columbia	1924	2016-02-26	73	194		116%	150	156	80	333	167	67
2A14	MOUNT ABBOT	Upper Columbia	2031	2016-02-25	248	882		88%	784	960	508	1448	1000	57
2A16	GOLDSTREAM	Upper Columbia	1914	2016-02-25	263	920		96%	937	1006	553	1351	954	53
2A17	FIDELITY MOUNTAIN	Upper Columbia	1852	2016-02-24	271	976		94%	877	963	534	1703	1043	53
2A18	KEYSTONE CREEK	Upper Columbia	1839	2016-02-25	189	679		101%	630	720	357	1277	671	50
2A18P	KEYSTONE CREEK	Upper Columbia	1850	2016-03-01	NA	779								0
2A19	VERMONT CREEK	Upper Columbia	1533	2016-02-26	135	434		122%	266	360	152	643	356	50
2A21P	MOLSON CREEK	Upper Columbia	1980	2016-03-01	NA	800		90%	773	851	437	1215	887	35
2A22	SUNBEAM LAKE	Upper Columbia	2066	2016-02-26	200	683		91%	699	814	389	1117	751	49
2A23	BUSH RIVER	Upper Columbia	1982	2016-02-26	192	684		100%	624		281	1078	682	48
2A25	KIRBYVILLE LAKE	Upper Columbia	1739	2016-02-25	292	1072		108%	965	1138	526	1476	990	44
2A27	DOWNIE SLIDE (LOWER)	Upper Columbia	964	2016-02-25	190	626		101%		620	378	1018	618	39
2A29	DOWNIE SLIDE (UPPER)	Upper Columbia	1628	2016-02-25	310	1108		97%	938	1240	614	2120	1146	38
2A30P	COLPITTI CREEK	Upper Columbia	2131	2016-03-01	NA	651								0
2A31P	CARIBOU CREEK UPPER	Upper Columbia	2201	2016-03-01	NA	779								0
2A32P	WILDCAT CREEK	Upper Columbia	2122	2016-03-01	NA	446								0
2B02A	FARRON	West Kootenay	1229	2016-02-23	100	320		116%	166	253	79	450	276	43
2B05	WHATSHAN (UPPER)	West Kootenay	1476	2016-02-24	180	558		98%	460	516	285	918	570	55
2B06P	BARNES CREEK	Lower Columbia	1620	2016-03-01	NA	513		117%	393	439	229	690	437	23
2B07	KOCH CREEK	West Kootenay	1813	2016-02-24	208	704		117%	488	714	269	996	601	55
2B08P	ST. LEON CREEK	Lower Columbia	1800	2016-03-01	NA	960		107%	858	864	416	1392	900	23
2B09	RECORD MOUNTAIN	West Kootenay	1906	2016-03-02	236	845		141%	416	745	147	1136	601	41
2C01	SINCLAIR PASS	East Kootenay	1374	2016-02-26	46	114		111%	80	60	44	262	103	68
2C04	SULLIVAN MINE	East Kootenay	1580	2016-02-26	77	206		88%	138	214	53	465	235	70
2C07	FERNIE EAST	East Kootenay	1213	2016-02-27	59	192		71%	120	225	61	584	270	65
2C09Q	MORRISSEY RIDGE	East Kootenay	1800	2016-03-01	NA	574	E	101%	372	488	233	1074	571	36
2C10P	MOYIE MOUNTAIN	East Kootenay	1930	2016-03-01	97	357		107%	216	299	149	653	333	37
2C14P	FLOE LAKE	East Kootenay	2090	2016-03-01	NA	529		91%	553	589	257	889	581	23
2C15	MOUNT ASSINIBOINE	East Kootenay	2230	2016-02-28	130	401		95%			185	680	421	47
2C16	MOUNT JOFFRE	East Kootenay	1763	2016-02-28	100	283	A	97%	292	363	122	551	291	47
2C17	THUNDER CREEK	East Kootenay	2062	2016-02-28	90	266		124%	165	274	91	378	214	47
2C20	VERMILLION RIVER NO. 3	East Kootenay	1612	NS	NS	NS	NS				142	493	243	17
2D02	FERGUSON	West Kootenay	929	2016-03-04	164	612		122%	488	470	283	796	502	62
2D03	SANDON	West Kootenay	1072	N	N	N	N		245	265	196	475	319	36
2D04	NELSON	West Kootenay	952	2016-02-29	54	197		60%	118	194	118	558	328	76
2D05	GRAY CREEK (LOWER)	West Kootenay	1558	2016-02-25	126	385		102%	258	368	201	663	378	67
2D06	CHAR CREEK	West Kootenay	1290	2016-02-24	126	400		89%	258	425	231	754	447	50
2D07A	DUNCAN LAKE NO. 2	West Kootenay	662	2016-02-24	22	82		57%	148	52	52	322	144	24
2D08P	EAST CREEK	West Kootenay	2030	2016-03-01	NA	865		118%	694	768	312	1167	732	35

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2D09	MOUNT TEMPLEMAN	West Kootenay	1879	N	N	N	N		806		490	1534	859	49
2D10	GRAY CREEK (UPPER)	West Kootenay	1926	2016-02-25	271	645		106%	511	659	343	955	607	47
2D14P	REDFISH CREEK	West Kootenay	2104	2016-03-01	305	1296		136%	1162	1067	772	1256	954	14
2E01	MONASHEE PASS	Boundary	1387	2016-02-24	101	300		106%	251	285	149	442	282	57
2E02	CARMI	Boundary	1254	2016-02-29	44	120		92%	68	132	56	274	130	53
2E03	BIG WHITE MOUNTAIN	Boundary	1672	2016-02-29	159	495		123%	305	428	213	676	402	50
2E07P	GRANO CREEK	Kettle	1860	2016-03-01	148	524		127%	323	387	206	679	411	18
2F01A	TROUT CREEK (WEST)	Okanagan	1430	2016-02-25	62	211		108%	139	169	139	229	196	5
2F02	SUMMERLAND RESERVOIR	Okanagan	1304	2016-02-29	83	235		124%	207	181	97	381	190	55
2F03	MC CULLOCH	Okanagan	1266	2016-03-01	76	224		153%	108	179	71	249	146	76
2F04	GRAYSTOKE LAKE	Okanagan	1818	2016-03-01	120	336		118%		290	128	605	285	33
2F05P	MISSION CREEK	Okanagan	1780	2016-03-01	146	486		124%	332	458	208	608	392	46
2F07	POSTILL LAKE	Okanagan	1358	2016-02-29	67	190		110%	133	169	98	274	173	66
2F08	GRAYBACK RESERVOIR	Okanagan	1548	2016-02-25	92	265		141%	186	218	91	312	188	52
2F09	WHITEROCKS MOUNTAIN	Okanagan	1789	2016-02-28	186	677		150%	355	487	180	809	450	61
2F10P	SILVER STAR MOUNTAIN	Okanagan	1839	2016-03-01	0	622								0
2F11	ISINTOK LAKE	Okanagan	1651	2016-02-25	60	131		99%	145	151	53	358	132	51
2F12	MOUNT KOBAN	Okanagan	1817	2016-02-28	184	333		132%	194	447	61	488	253	50
2F13	ESPERON CR (UPPER)	Okanagan	1634	2016-02-27	120	398		121%	218	354	157	635	330	47
2F14	ESPERON CR (MIDDLE)	Okanagan	1440	NS	NS	NS	NS				132	513	287	24
2F18P	BRENDA MINE	Okanagan	1460	2016-03-01	NA	373		118%	243	258	184	431	315	23
2F19	OYAMA LAKE	Okanagan	1365	2016-02-29	67	174		121%	76	110	73	241	144	47
2F20	VASEUX CREEK	Okanagan	1403	2016-02-27	54	132		117%	88	114	52	284	113	44
2F21	BOULEAU LAKE	Okanagan	1405	2016-02-27	100	288		108%	202	276	165	432	267	45
2F23	MACDONALD LAKE	Okanagan	1742	2016-02-26	143	475		129%	305	323	170	583	368	39
2F24	ISLAHT LAKE	Okanagan	1492	2016-02-29	126	305		107%	207	286	161	497	285	34
2F25	POSTILL LAKE (UPPER)	Okanagan	1500	2016-02-29	82	242			112	217	112	217		6
2G03P	BLACKWALL PEAK	Similkameen	1940	2016-03-01	205	736		111%	542	593	228	1323	665	48
2G04	LOST HORSE MOUNTAIN	Similkameen	1988	2016-02-26	82	220		124%	205	218	92	508	178	56
2G05	MISSEZULA MOUNTAIN	Similkameen	1602	2016-02-26	67	178		98%	142	142	76	363	182	55
2G06	HAMILTON HILL	Similkameen	1477	2016-02-25	66	190		71%	167	211	102	676	267	54
3A01	GROUSE MOUNTAIN	South Coast	1126	2016-02-24	205	920		95%	0	1640	0	2320	966	66
3A02	POWELL RIVER (UPPER)	South Coast	1002	NS	NS	NS	NS				868	868	868	1
3A05	POWELL RIVER (LOWER)	South Coast	882	NS	NS	NS	NS				588	588	588	1
3A09	PALISADE LAKE	South Coast	898	N	N	N	N		0	1455	0	3150	1106	64
3A10	DOG MOUNTAIN	South Coast	1007	2016-02-24	174	792		83%	0	1440	0	2146	952	32
3A19	ORCHID LAKE	South Coast	1178	N	N	N	N		190	1770	190	2960	1467	42
3A20	CALLAGHAN CREEK	South Coast	1009	2016-02-28	195	772		110%	40	734	40	1260	702	39
3A22P	NOSTETUKO RIVER	South Coast	1500	2016-03-01	106	475		103%	268	354	165	876	462	27

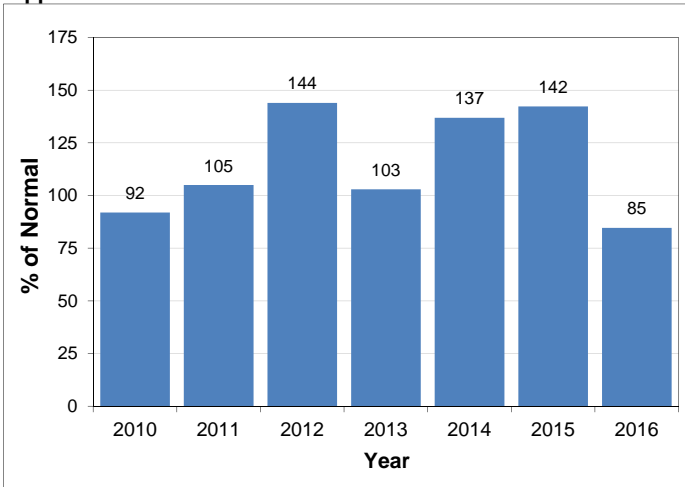


2016 Automated Snow Pillow/Manual Snow Survey Data				March					Historic Snow Water Equivalent (mm)					
Station ID	Name	Basin	Elevation (masl)	Survey Date YYYY-MM-DD	SD (cm)	SWE (mm)	Code	SWE % 1981-2010 Normal	2015 SWE (mm)	2014 SWE (mm)	Minimum (mm)	Maximum (mm)	1981-2010 Normal (mm)	Years of Record
3A24P	UPPER MOSLEY CREEK	South Coast	1650	2016-03-01	67	204		77%	268	127	98	555	266	27
3A25P	UPPER SQUAMISH RIVER	South Coast	1340	2016-03-01	NA	1337		103%	558	1353	558	2301	1303	26
3B01	FORBIDDEN PLATEAU	Vancouver Island	1110	2016-02-26	264	1168		97%	119	1417	101	2730	1203	61
3B02A	MT. COKELY	Vancouver Island	1267	N	N	N	N		14		14	1034	662	33
3B04	ELK RIVER	Vancouver Island	270	2016-02-26	0	0		0%	0	0	0	546	58	60
3B10	UPPER THELWOOD LAKE	Vancouver Island	1014	2016-02-26	215	880		78%	0	1588	0	2440	1128	58
3B17P	WOLF RIVER	Vancouver Island	1490	2016-03-01	NA	1022		94%	358	1070	195	2085	1085	34
3B18	WOLF RIVER (MIDDLE)	Vancouver Island	1050	2016-02-26	90	342		67%	0	696	0	1344	509	46
3B19	WOLF RIVER (LOWER)	Vancouver Island	615	2016-02-26	42	178		59%	0	438	0	1064	301	46
3B23P	JUMP CREEK	Vancouver Island	1160	2016-03-01	151	564		66%	20	1243	20	2228	849	20
3B24P	HEATHER MOUNTAIN UPPER	Vancouver Island	1190	2016-03-01	187	1062								0
3C07	WEDEENE RIVER SOUTH	Central Coast	196	2016-02-25	82	288		69%	330	417	45	945	418	29
3C08P	BURNT BRIDGE CREEK	North Coast	1330	2016-03-01	155	598		87%	737	583	282	1245	691	18
3D01C	SUMALLO RIVER WEST	Skagit	801	2016-02-24	20	63		29%	0	246	0	442	218	24
3D02	LIGHTNING LAKE	Skagit	1254	2016-02-24	93	296		118%	200	244	36	497	250	43
3D03A	KLESILKWA	Skagit	1134	2016-02-24	33	124		54%	0	268	0	759	228	68
4A02P	PINE PASS	Peace	1400	2016-03-01	2	773		88%	705	878	600	1485	880	27
4A03	WARE (UPPER)	Peace	1563	2016-02-27	64	138		63%	202	247	114	360	220	55
4A04	WARE (LOWER)	Peace	969	N	N	N	N		188	171	97	246	167	55
4A05	GERMANSEN (UPPER)	Peace	1489	2016-02-29	101	259		88%	310	274	174	520	293	55
4A06	TUTIZZI LAKE	Peace	1043	2016-02-29	81	176		77%	232	229	140	386	230	52
4A07	LADY LAURIER LAKE	Peace	1446	2016-02-26	117	329		73%	407	379	255	662	452	53
4A09	PULPIT LAKE	Peace	1331	2016-02-27	115	308		83%	344	426	233	531	372	52
4A09P	PULPIT LAKE	Peace	1310	2016-03-01	1	268		70%	331	388	271	471	381	26
4A10	FREDRICKSON LAKE	Peace	1323	2016-02-27	72	156		73%	239	189	129	315	213	52
4A11	TRYGVE LAKE	Peace	1409	2016-02-27	86	230		72%	306	312	211	453	319	52
4A12	TSAYDAYCHI LAKE	Peace	1173	2016-02-29	113	307		90%	341	322	166	540	340	52
4A13	PHILIP LAKE	Peace	1013	2016-02-29	89	226		93%	235	244	138	400	242	52
4A16	MORFEE MOUNTAIN	Peace	1427	2016-03-01	174	572		79%	685	696	312	1166	725	48
4A18	MOUNT SHEBA	Peace	1480	2016-03-02	180	601		84%	687		394	1123	712	47
4A20	MONKMAN CREEK	Peace	1566	N	N	N	N		455	539	211	925	472	41
4A21	MOUNT STEARNS	Peace	1514	2016-02-26	33	40	A	32%	143	136	56	227	124	42
4A25	FORT ST. JOHN AIRPORT	Peace	692	2016-03-07	49	79		80%	131	129	38	191	99	41
4A30P	AIKEN LAKE	Peace	1040	2016-03-01	67	181		78%	217	180	150	363	232	31
4A31P	CRYING GIRL PRAIRIE	Peace	1358	2016-03-01	NA	124								0
4A33P	MUSKWA-KECHIKA	Peace	1196	2016-03-01	NA	33								0
4B01	KIDPRICE LAKE	Skeena-Nass	1415	2016-02-29	159	528		65%	800	636	429	1320	817	64
4B02	JOHANSON LAKE	Skeena-Nass	1480	2016-02-29	97	227		90%	256	237	148	368	253	52
4B03A	HUDSON BAY MTN	Skeena-Nass	1452	2016-02-24	107	308		70%	490	356	287	719	443	44

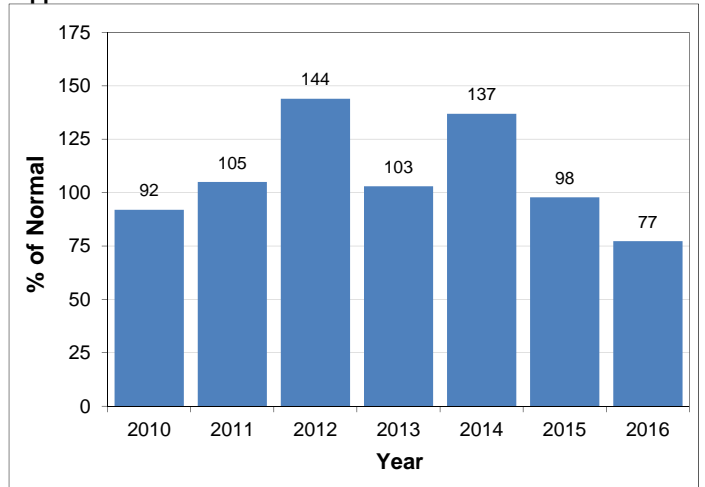


## Snow Basin Index Graphs - March 1, 2016

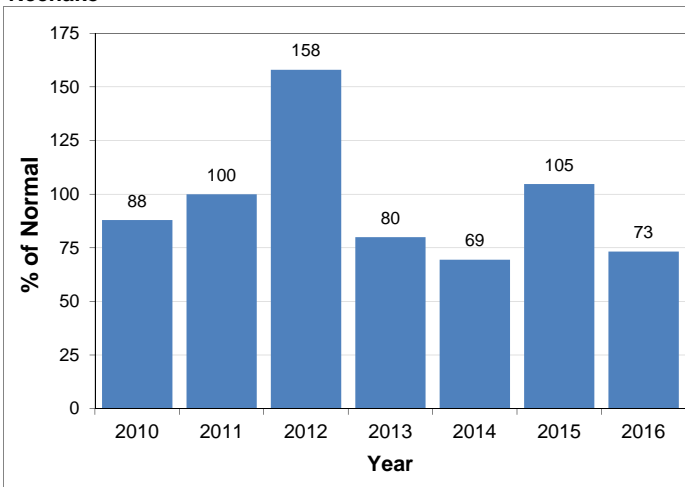
### Upper Fraser West



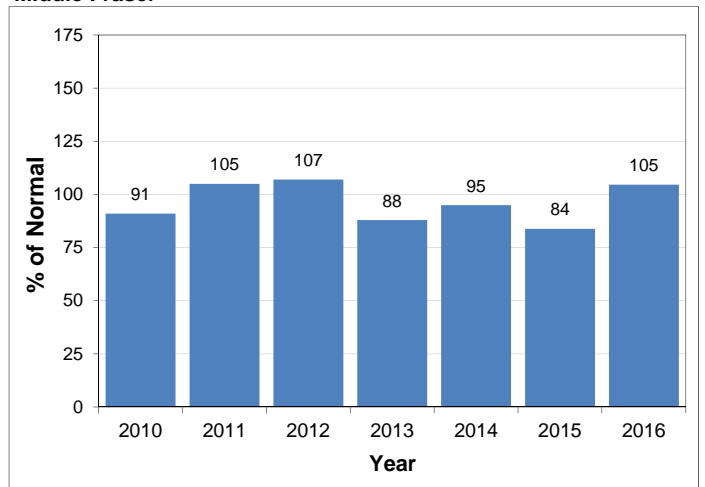
### Upper Fraser East



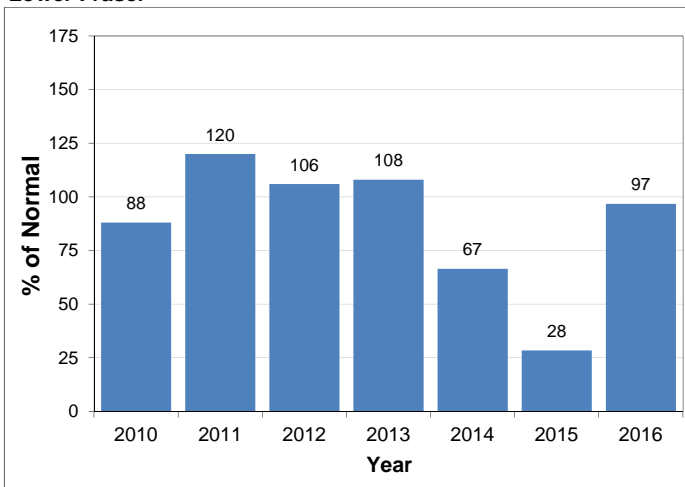
### Nechako



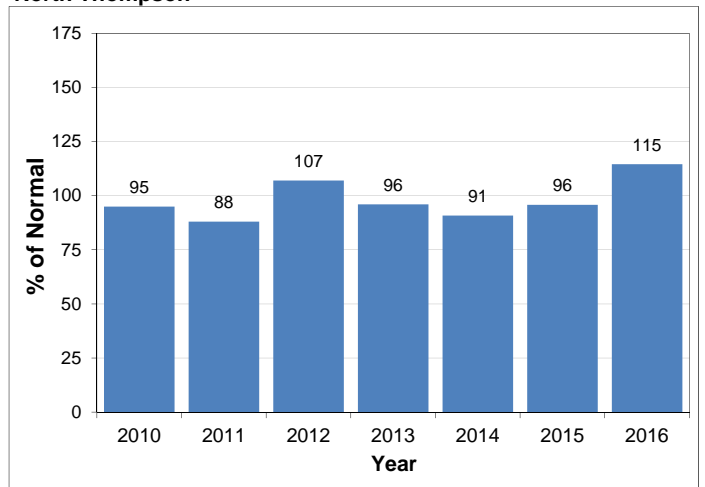
### Middle Fraser



### Lower Fraser

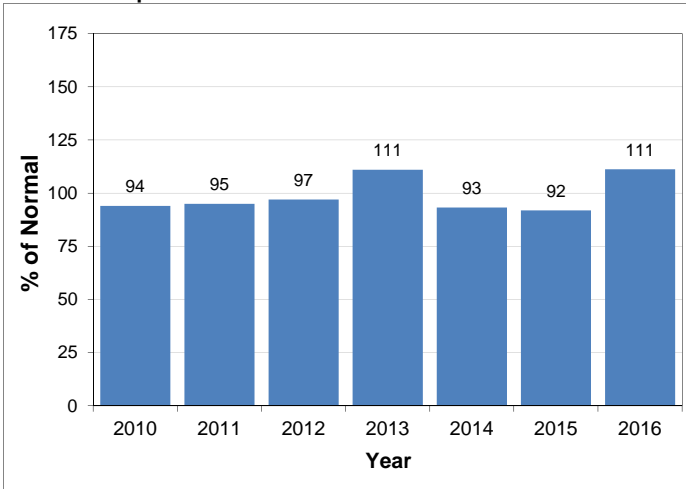


### North Thompson

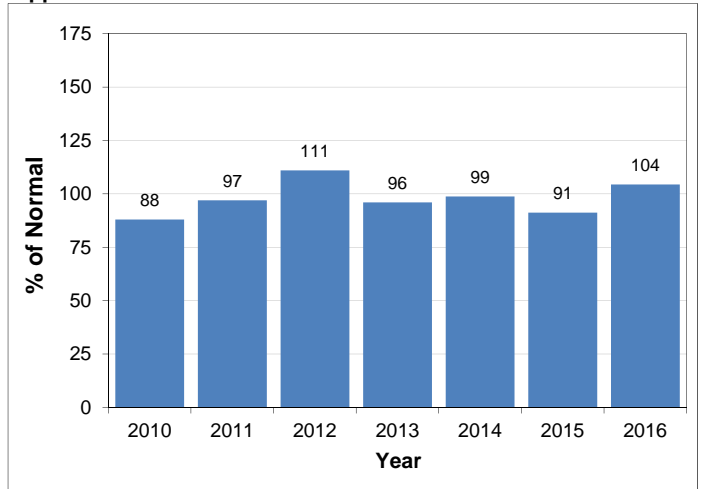


## Snow Basin Index Graphs - March 1, 2016

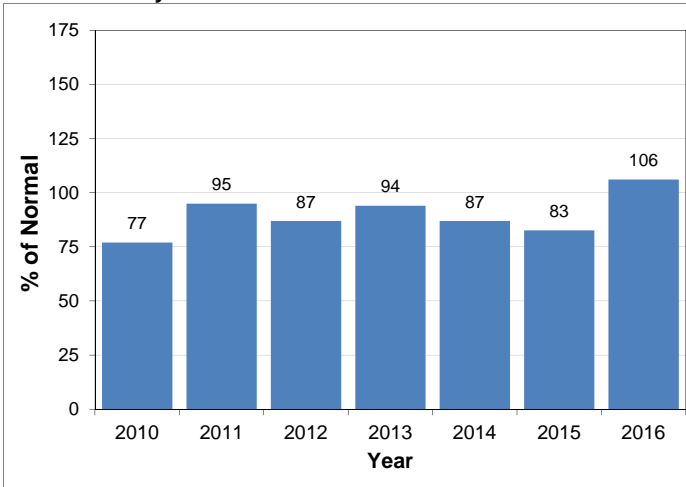
### South Thompson



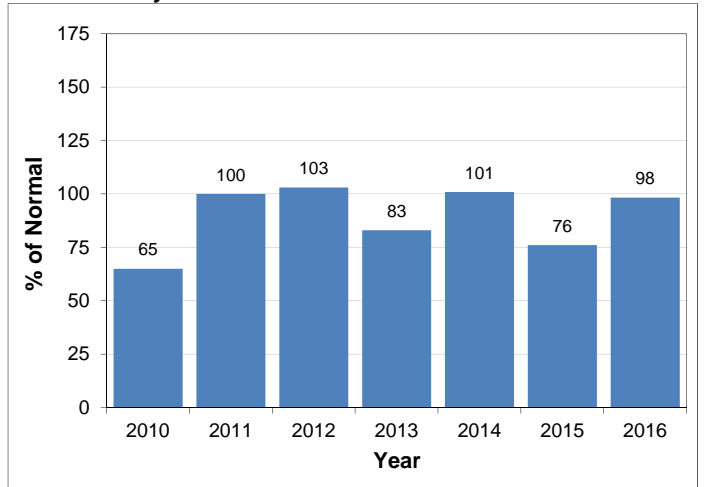
### Upper Columbia



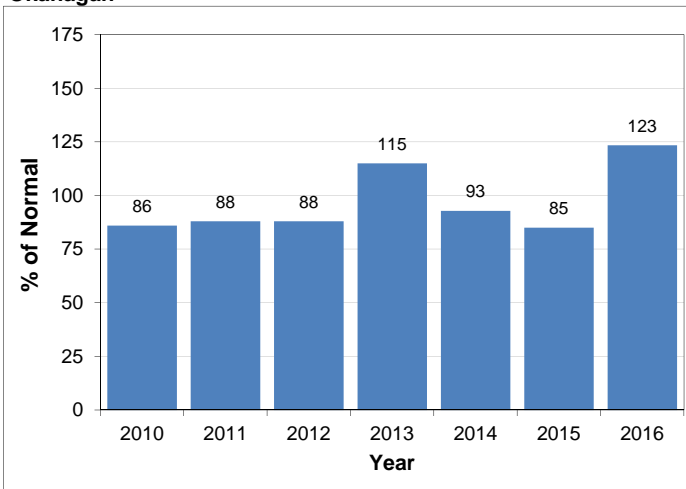
### West Kootenay



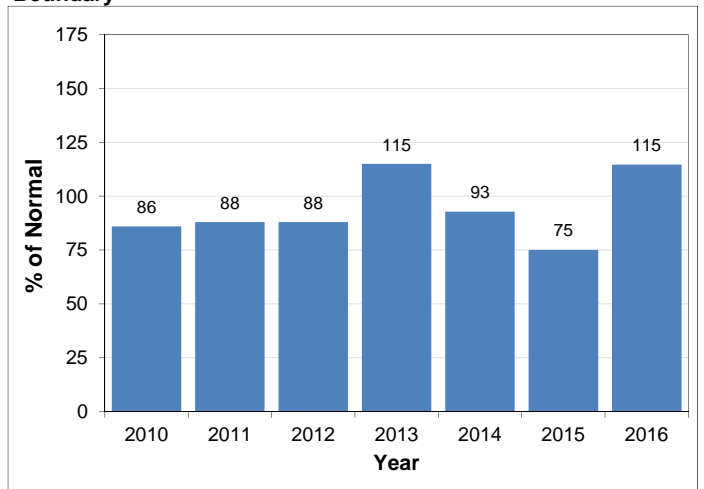
### East Kootenay



### Okanagan

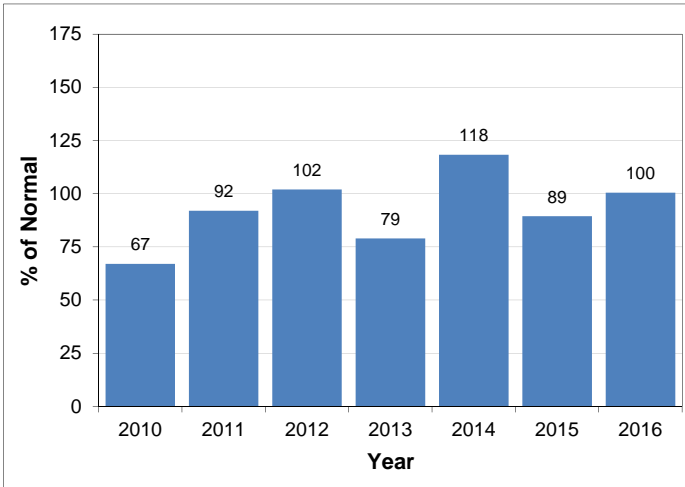


### Boundary

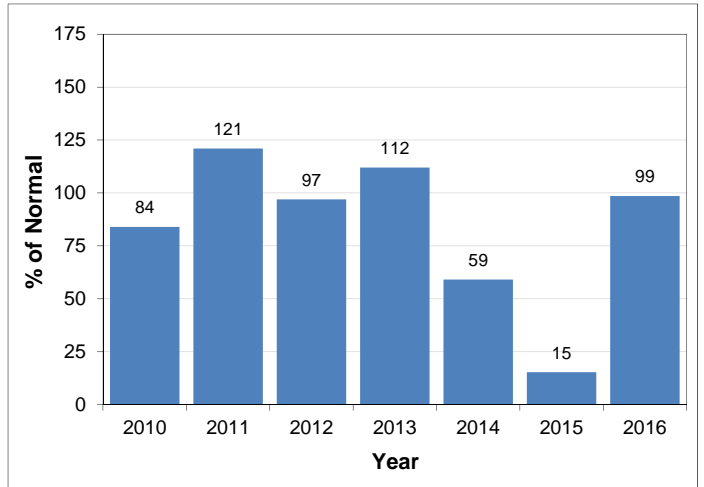


## Snow Basin Index Graphs - March 1, 2016

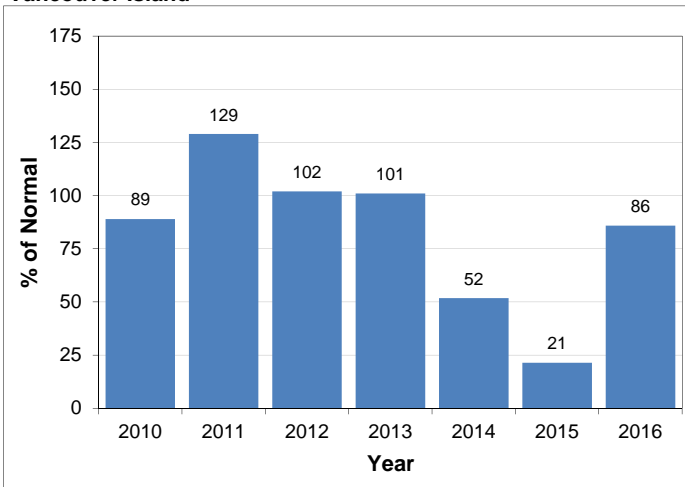
### Similkameen



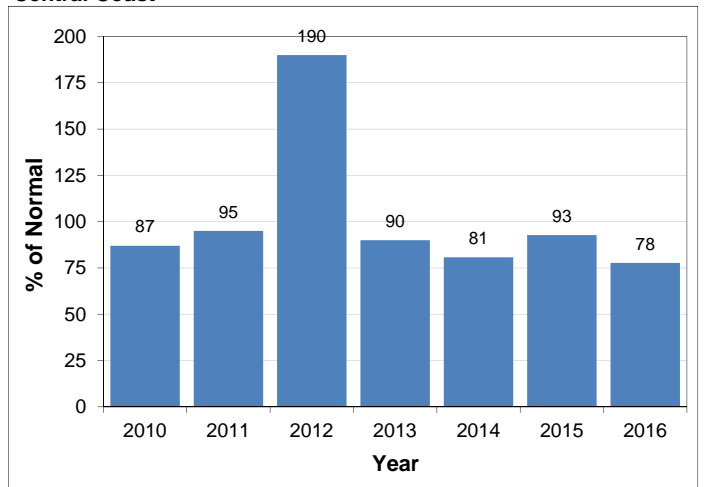
### South Coast



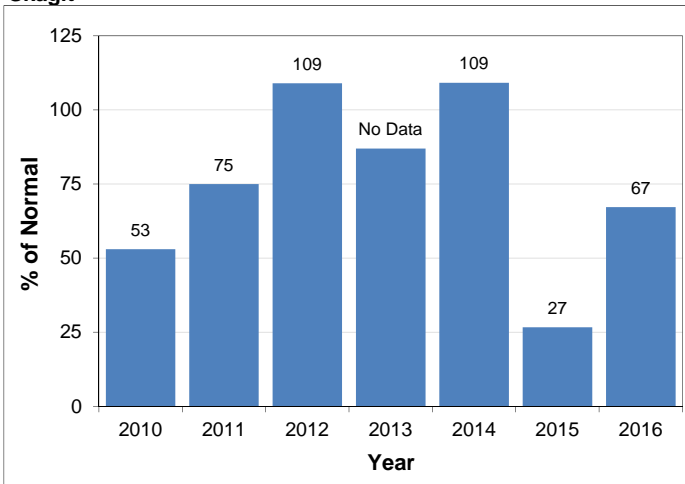
### Vancouver Island



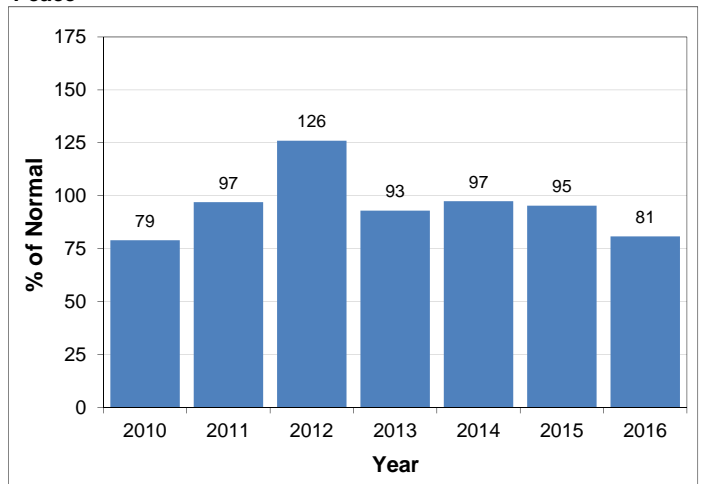
### Central Coast



### Skagit

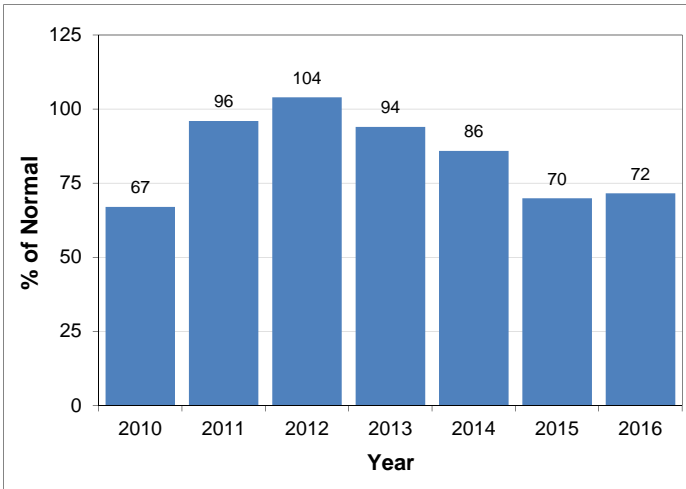


### Peace

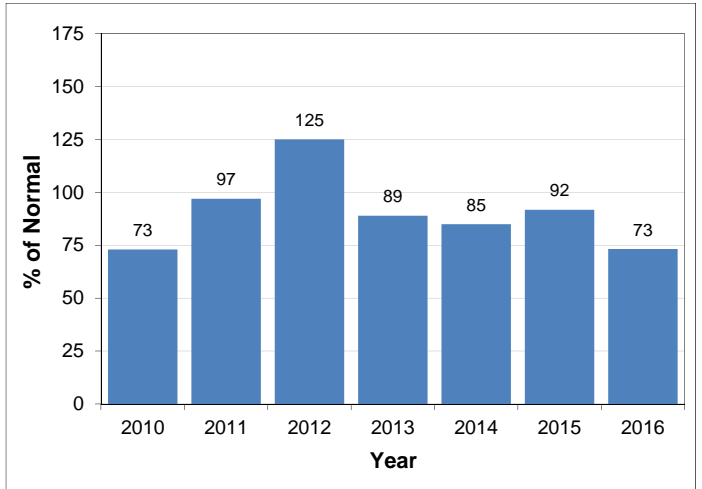


## Snow Basin Index Graphs - March 1, 2016

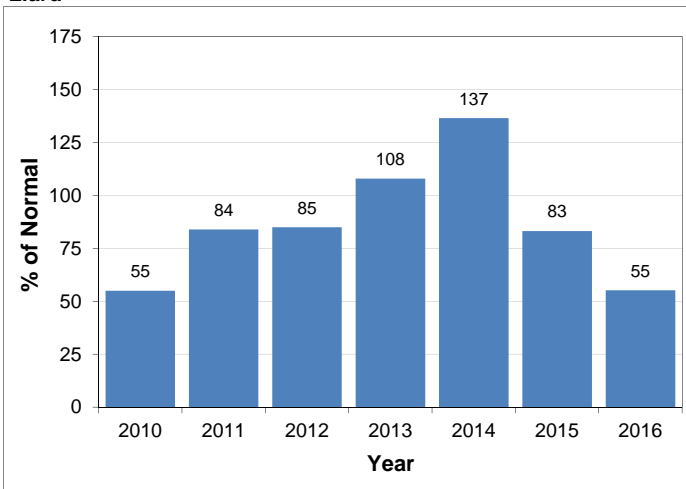
### Stikine



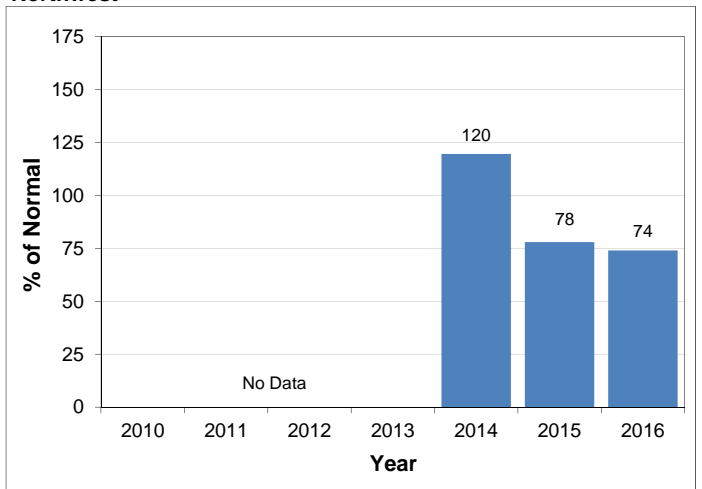
### Skeena-Nass



### Liard



### Northwest





**River Forecast Centre**  
**Ministry of Forests, Lands and Natural Resource Operations**  
**Volume Runoff Forecast March 2016**

Location	Mar - Jun Runoff				Mar - Jul Runoff				Mar - Sep Runoff				
	Forecast (kdam <sup>3</sup> )	Normal (1981-2010) (kdam <sup>3</sup> )	% of Normal	Std. Error (kdam <sup>3</sup> )	Forecast (kdam <sup>3</sup> )	Normal (1981-2010) (kdam <sup>3</sup> )	% of Normal	Std. Error (kdam <sup>3</sup> )	Forecast (kdam <sup>3</sup> )	Normal (1981-2010) (kdam <sup>3</sup> )	% of Normal	Std. Error (kdam <sup>3</sup> )	
Upper Fraser Basin	Fraser at McBride				3683	3786	97	331	5203	5252	99	390	
	McGregor at Lower Canyon				3466	4087	85	490	4522	5132	88	639	
	Fraser at Shelley				14035	16310	86	1494	18056	20369	89	1832	
Middle Fraser Basin	Quesnel River at Quesnel				4406	4747	93	510	5693	6078	94	670	
Thompson Basin	N. Thompson at McLure				9313	9190	101	536	11637	11359	102	826	
	S. Thompson at Chase				6431	6111	105	566	8154	7678	106	832	
	Thompson at Spences Bridge				16703	15775	106	1174	21196	19755	107	1814	
Bulkley and Skeena	Bulkley at Quick				2071	2709	76	1361	2604	3306	79	1939	
	Skeena at Usk				16738	19187	87	1335	21026	23531	89	1809	
Nicola Lake	Inflows	138	126	110	31	157	143	110	35				
Nicola River	at Spences Bridge	670	523	128	82	772	591	131	103				
Similkameen River	at Nighthawk	1494	1342	111	158					1843	1652	112	184
	at Hedley	1223	1045	117	134					1441	1233	117	151
Okanagan and Kalamalka-Wood Lake	Okanagan Lake Inflow	676	470	144	89	731	497	147	110				
	Kalamalka-Wood Lake Inflow	35	31	114	12	37	33	115	15				
Cowichan River	Cowichan Lake Inflows	328	423	79%	74					364	467	79%	70

Note: 1 kdam<sup>3</sup>=1,000,000 m<sup>3</sup>

Note that missing values reflect that forecasts were not made for that time interval

Disclaimer: Seasonal forecasts were developed using a Principle Component Analysis of snow pack, climate and streamflow data.

There is inherent uncertainty in runoff forecasts including potential errors in data and the unpredictable nature of seasonal weather

Use at your own risk