



Snow Survey and Water Supply Bulletin – April 1st, 2018

The April 1st, 2018 snow survey is now complete. Data from 132 snow courses and 74 automated snow weather stations around the province (collected by the Ministry of Environment Snow Survey Program, BC Hydro and partners), and climate data from Environment and Climate Change Canada forms the basis of the following report¹.

Weather

The weather in March was relatively cool and remained dry for most of the month until several storm systems moved through the province at the end of the month. Temperatures across the British Columbia were near normal to slightly below normal (-2 to 0 °C relative to normal). Precipitation was well above normal for most locations in the Interior, and significantly below normal for Vancouver Island and the South Coast.

Snowpack

Snow basin indices for April 1st 2018 range from a low of 65% of normal in the Stikine to a high of 152% in the Similkameen and Okanagan regions (Table 1 and Figure 1). Overall, the province has an above normal snow pack for April 1st. The average of all snow measurements across the province is 127% of normal, increasing significantly from 119% of normal on March 1st.

Well-above normal snow packs (>130%) are present in the Upper Fraser West, Okanagan, Similkameen, Boundary, and Skagit. The April 1st snow index for the Okanagan is 152% of normal, which is tied with April 1999 for the highest snow pack dating back to 1980. Above normal snow packs (110-130%) are present in the Middle Fraser, Upper Fraser East, Lower Fraser, Upper Columbia, West Kootenay, East Kootenay, South Coast, and Central Coast. Although the Middle Fraser snow index is 110%, there are areas within the Middle Fraser that are much higher. For example, the Nicola basin has an index of 132%, and snow surveys within the Chilcotin plateau are significantly above normal (>150%). Near normal snow packs (80-110%) have accumulated in the Liard, Peace, Skeena-Nass, Nechako, Vancouver Island, the North Thompson, and the South Thompson. Although the Nechako snow index is considered near normal, two snow surveys within the Nechako basin (1A23 Bird Creek & 1B05 Skins Lake) currently measure all-time record highs. It is thus likely that the Nechako snow index (103%) under-represents certain areas within the entire basin. A well-below normal snow pack is present in the Stikine (65%) and Northwest (72%). Finally, the Fraser River snow index as an entire watershed is 108% of normal.

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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Table 1 - BC Snow Basin Indices – April 1, 2018

Basin	% of Normal	Basin	% of Normal
Upper Fraser West	145	Boundary	149
Upper Fraser East	114	Similkameen	152
Nechako	103	South Coast	120
Middle Fraser	110	Vancouver Island	106
Lower Fraser	113	Central Coast	116
North Thompson	109	Skagit	150
South Thompson	109	Peace	95
Upper Columbia	111	Skeena-Nass	89
West Kootenay	127	Stikine	65
East Kootenay	119	Liard	83
Okanagan	152	Northwest	72

Outlook

The easing trend in La Niña conditions in the equatorial Pacific Ocean, which began in February, is continuing. The Climate Prediction Centre (CPC) at the U.S. National Weather Service/NOAA is forecasting the high likelihood that conditions will continue to transition to ENSO-neutral through the spring, with neutral conditions to develop into the summer. While La Niña is waning, it is not uncommon for the effects of La Niña to persist several months beyond the period of the defined La Niña event. For example, snow packs in previous La Niña events in British Columbia tended to grow more rapidly than normal through April. Province-wide snow basin indices during La Niña years tend to increase by 2-5% over the April 1st to May 1st period. While there is still uncertainty over how weather patterns will play out over the next few months, continued increases in snow basin indices into May are likely to occur, given this year's La Niña context.

Seasonal forecasts (April to June) from Environment and Climate Change Canada indicate an increased likelihood of below normal temperatures for the eastern border of British Columbia and above normal temperatures for the Northwest. Short to medium-term forecasts suggest continued light to moderate precipitation for Vancouver Island and the South Coast for the following week. Precipitation from these events is expected to spill over the Coast Mountains and into the southern interior, likely increasing the mountain snowpack. Temperatures are forecast to be near normal over this period.

By April 1st, nearly 95% of the annual BC snow pack has typically accumulated. For most areas, the transition from snow accumulation to snow melt generally occurs in the middle of April, and therefore the April 1st snow survey is considered to be the key survey of the year for assessing the impact of snow pack on seasonal water supply and flood risk.



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Very high snow packs (>145%) in the South Interior (including the Skagit, Similkameen, Okanagan, Boundary and Upper Fraser West), and high snow packs in the Kootenay (>120%) indicate an increased seasonal risk of flooding. Given this year's La Niña conditions, it is unlikely that the risk will ease much prior to the melt season. While the snow pack in the overall Fraser River basin is only slightly above normal (108%), under specific weather conditions it is possible for snow to melt rapidly throughout the entire basin. Increased seasonal runoff in spring can contribute to higher local inflows to the lower reaches of the Fraser River, where there is still a flood risk for the the Lillooet River and tributaries depending upon weather conditions. Given the potential for increasing snow packs in the coming weeks, there is the possibility of increasing seasonal flood risk in other areas of the province.

Seasonal volume runoff forecasts (see below) are near-normal (100-110%) for the Upper Fraser, Middle Fraser, Thompson and Skeena/Bulkley basins, and well above-normal (>130%) for areas of the South Interior, including the Okanagan, Similkameen and Nicola. The snowmelt component of seasonal runoff on Vancouver Island, South Coast, Lower Fraser and Skagit is expected to be near to slightly above normal given the snow pack in those regions. Below normal snow packs in the Northwest and Stikine are an early indication of the potential for below normal seasonal runoff.

Hydrological Effects of BC Wildfires in 2017

Forest fires burned the largest area in BC's history during the summer of 2017. These fires affected many watersheds, including large areas in the Cariboo Chilcotin, Thompson Okanagan, West Coast, and Kootenay Boundary regions. Disturbances such as fire affect the hydrologic response of streams, rivers and lakes relevant to potential flooding. Specifically, flows from snowmelt dominated watersheds impacted by fires tend to be greater and peak earlier as compared to undisturbed areas, even under normal weather conditions. Many of the regions affected by burns last summer have above normal snow packs this year.

Areas that will be more susceptible to earlier and higher flows due to potential fire impacts and a high snowpack include: Bonaparte River (Cache), Baezaeko River, Nazko River, Chilcotin River, Deadman River, and West Road River; including minor tributaries/creeks.

Upcoming Freshet

Snow pack is one element of seasonal flood risk during BC's freshet season. Weather patterns during the snow melt season play a critical role in whether or not flooding occurs. Intense or prolonged rainfall and extreme temperatures are important factors that can lead to flooding, even for areas with a near normal snow pack.

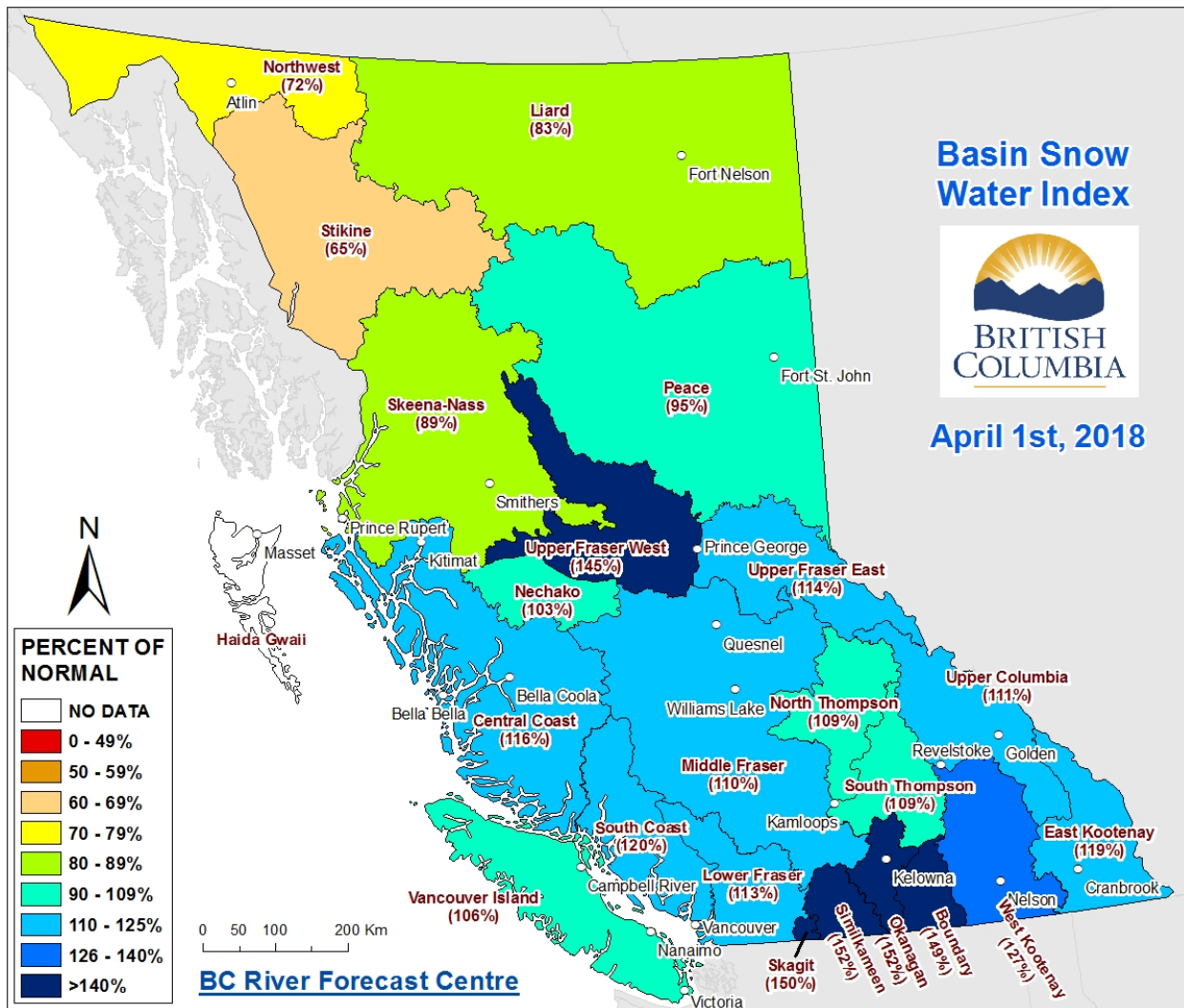


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The River Forecast Centre will continue to monitor snow pack conditions and will provide an updated seasonal flood risk forecast in the May 1st 2018 bulletin, which is scheduled for release on May 7th.

BC River Forecast Centre
April 9, 2018

Figure 1: Basin Snow Water Index – April 1st, 2018



2018 Automated Snow Weather Station/Manual Snow Survey Data				April					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	2017 SWE (mm)	2016 SWE (mm)	Minimum (mm)	Maximum (mm)	1981-2010 Normal (mm)	Years of Record
1A01P	Yellowhead Lake	Upper Fraser East	1847	2018-04-01	188	560		104%	458	485	254	784	541	21
1A02P	McBride Upper	Upper Fraser East	1608	2018-04-01	175	479		108%	391	393	198	693	442	26
1A03P	Barkerville	Upper Fraser East	1483	2018-04-01	137	382		105%	296	251	123	524	364	43
1A05	LONGWORTH (UPPER)	Upper Fraser East	1693	2018-03-27	289	952		124%		632	296	1234	768	63
1A05P	Longworth Upper	Upper Fraser East	1740	2018-04-01	282	787			523		523	523		1
1A06A	HANSARD	Upper Fraser East	622	2018-04-05	52	194		110%			72	442	176	20
1A10	PRINCE GEORGE A	Upper Fraser East	684		NS	NS	NS		0	0	0	313	98	56
1A11	PACIFIC LAKE	Upper Fraser East	756	2018-03-28	235	851		140%	423	297	165	1060	608	55
1A12	KAZA LAKE	Upper Fraser West	1247	2018-03-29	126	346		101%	251	270	132	476	341	55
1A12P	Kaza Lake	Upper Fraser West	1248	2018-04-01	133	323			269	290	269	290		2
1A14P	Hedrick Lake	Upper Fraser East	1118	2018-04-01	270	796		99%	482	407	214	1288	801	18
1A15	KNUDSEN LAKE	Upper Fraser East	1598	2018-03-28	281	885	A	110%	605		506	1346	801	51
1A15P	Knudsen Lake	Upper Fraser East	1601	2018-04-01		658			499		499	499		1
1A16	BURNS LAKE	Upper Fraser West	820	2018-04-04	77	204		171%	60	26	0	264	119	48
1A17P	Revolution Creek	Upper Fraser East	1676	2018-04-01	279	856		109%	562	699	326	1292	783	33
1A19P	Dome Mountain	Upper Fraser East	1768	2018-04-01	236	673		92%	577	591	298	1069	732	12
1A23	BIRD CREEK	Upper Fraser West	1196	2018-04-01	124	320		229%	104	146	84	270	140	28
1B01	MOUNT WELLS	Nechako	1489	2018-04-01	202	660		135%	525	381	273	690	490	63
1B01P	Mount Wells	Nechako	1489	2018-04-01		674		121%	563	427	227	869	557	26
1B02	TAHTSA LAKE	Nechako	1319	2018-04-01	279	1006		84%	1239	1026	775	1972	1202	65
1B02P	Tahtsa Lake	Nechako	1319	2018-04-01		1231		96%	1335	1166	464	2227	1278	26
1B05	SKINS LAKE	Nechako	877	2018-04-01	77	233		259%	68	42	0	203	90	54
1B06	MOUNT SWANNELL	Nechako	1596	2018-04-01	142	413		146%	261	249	148	490	282	29
1B07	NUTLI LAKE	Nechako	1502	2018-04-01	169	549		106%	556	414	301	834	518	27
1B08P	Mount Pondosy	Nechako	1413	2018-04-01		819		104%	886	732	363	1152	790	26
1C01	BROOKMERE	Middle Fraser	994	2018-03-31	67	223		130%	182	138	45	399	171	73
1C05	MCGILLIVRAY PASS	Middle Fraser	1715	2018-03-29	145	513		90%	566	544	239	1118	572	66
1C05P	McGillivray Pass	Middle Fraser	1766	2018-04-02		619								
1C06	PAVILION	Middle Fraser	1209	2018-03-29	26	84		382%			0	147	22	60
1C08	NAZKO	Middle Fraser	1029	2018-03-28	45	132		287%		0	0	142	46	59
1C09A	HIGHLAND VALLEY	Middle Fraser	1547		N	N	N		144	70	3	249	83	51
1C12P	Green Mountain	Middle Fraser	1766	2018-04-01		732		83%	729	968	429	1408	878	24
1C13A	HORSEFLY MOUNTAIN	Middle Fraser	1612	2018-03-27	161	542		116%	422	518	282	716	466	48
1C14	BRALORNE	Middle Fraser	1382	2018-03-29	60	197		129%	241	158	0	389	153	55
1C14P	Bralorne	Middle Fraser	1382	2018-04-02		270								
1C17	MOUNT TIMOTHY	Middle Fraser	1632	2018-04-03	113	338		114%	237	373	161	533	296	57
1C18P	Mission Ridge	Middle Fraser	1903	2018-04-01		614		112%	653	451	157	1012	550	48

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1C19	GNAWED MOUNTAIN	Middle Fraser	1617	N	N	N	N		163	88	21	307	106	51
1C20P	Boss Mountain Mine	Middle Fraser	1477	2018-04-01	202	649		111%	496	672	255	866	585	24
1C21	BIG CREEK	Middle Fraser	1130	2018-03-31	22	68		486%	0	0	0	119	14	48
1C22	PUNTZI MOUNTAIN	Middle Fraser	939	2018-04-02	24	84		442%	0	0	0	91	19	48
1C23	PENFOLD CREEK	Middle Fraser	1687	N	N	N	N		888		525	1285	979	46
1C25	LAC LE JEUNE (UPPER)	Middle Fraser	1471	2018-03-29	76	264		208%	211	171	0	228	127	45
1C28	DUFFEY LAKE	Middle Fraser	1253	2018-04-04	152	581		121%	491	522	212	866	480	40
1C29	SHOVELNOSE MOUNTAIN	Middle Fraser	1456	2018-03-30	96	313		141%	275	239	16	442	222	39
1C32	DEADMAN RIVER	Middle Fraser	1463	N	N	N	N			100	30	196	104	33
1C33A	GRANITE MOUNTAIN	Middle Fraser	1175	2018-03-27	99	274		146%		177	93	272	188	11
1C37	BRALORNE(UPPER)	Middle Fraser	1980	N	N	N	N		734	684	290	1010	665	23
1C38	DOWNTON LAKE (UPPER)	Middle Fraser	1884	N	N	N	N		890	942	422	1416	847	23
1C38P	Downton Lake Upper	Middle Fraser	1829	2018-04-01		681			810	781	781	810		2
1C39	BRIDGE GLACIER (LOWER)	Middle Fraser	1393	2018-03-29	175	622		107%	616	736	240	1086	580	23
1C40	TYAUGHTON	Middle Fraser	1946	2018-03-29	147	504		115%	372	430	198	844	440	23
1C40P	North Tyaughton	Middle Fraser	1969	2018-04-01		456			310	375	310	375		2
1C41P	Yanks Peak East	Middle Fraser	1683	2018-04-01	275	979		123%	668	754	365	1013	794	21
1C42	CAVERHILL LAKE	Middle Fraser	1400	2018-03-26	97	290			218	286	174	284		13
1D06P	Tenquille Lake	Lower Fraser	1669	2018-04-01	296	1112		110%	1242	1220	526	1587	1014	17
1D08	STAVE LAKE	Lower Fraser	1211	2018-03-31	353	1597		110%		1453	98	2750	1448	49
1D09	WAHLEACH LAKE	Lower Fraser	1395	2018-03-31	165	596		101%		488	33	1270	588	49
1D09P	Wahleach Lake Upper	Lower Fraser	1408	2018-04-01		1108		108%	668	702	265	1640	1026	26
1D10	NAHATLATCH RIVER	Lower Fraser	1530	2018-03-31	326	1377		106%		1476	468	2410	1296	49
1D16	DICKSON LAKE	Lower Fraser	1147	2018-03-31	416	1913		128%	1626	1276	56	2990	1497	25
1D17P	Chilliwack River	Lower Fraser	1621	2018-04-01	392	1746		122%	1592	1461	590	2418	1435	26
1D19P	Spuzzum Creek	Lower Fraser	1197	2018-04-01	325	1575		98%	1738	1471	166	2745	1600	19
1E01B	BLUE RIVER	North Thompson	673	2018-03-28	96	338		124%	290	260	154	425	272	35
1E02P	Mount Cook	North Thompson	1574	2018-04-01	390	1296		107%	1155	1515	684	1480	1209	18
1E03A	TROPHY MOUNTAIN	North Thompson	1907	2018-03-30	192	634		118%	590	540	332	888	537	43
1E05	KNOUFF LAKE	North Thompson	1189	NS	NS	NS	NS		160	120	0	274	134	63
1E07	ADAMS RIVER	North Thompson	1769	2018-03-30	226	786		117%	750	810	435	1069	673	48
1E08P	Azure River	North Thompson	1625	2018-04-01	274	959		84%	1180	1126	528	1538	1135	21
1E10P	Kostal Lake	North Thompson	1760	2018-04-01		865		102%	850	881	417	1169	850	33
1E14P	Cook Creek	North Thompson	1280	2018-04-01	196	622					409	769	575	11
1F01A	ABERDEEN LAKE	South Thompson	1262	2018-03-29	65	213		172%	145	138	6	259	124	76
1F02	ANGLEMONT	South Thompson	1168	2018-03-27	144	486		151%	300	272	142	561	321	61
1F03P	Park Mountain	South Thompson	1857	2018-04-01	274	1030		121%		919	379	1207	852	32

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1F04P	Enderby	South Thompson	1950	2018-04-01	344	1008								0
1F06P	Celista Mountain	South Thompson	1533	2018-04-01	272	1031		119%	879	1132	506	1117	867	13
2A01A	CANOE RIVER	Upper Columbia	866		NS	NS	NS		116	0	0	262	65	76
2A02	GLACIER	Upper Columbia	1249	2018-03-28	188	709		106%	611	659	362	1161	670	81
2A03A	FIELD	Upper Columbia	1310	2018-03-28	59	204		149%	134	112	8	251	137	79
2A06P	Mount Revelstoke	Upper Columbia	1770	2018-04-01		1272		105%	1199	1288	595	1686	1210	25
2A07	KICKING HORSE	Upper Columbia	1648	2018-03-28	131	394		124%	301	312	160	589	317	70
2A11	BEAVERFOOT	Upper Columbia	1924	2018-03-31	86	236		124%	226	242	105	460	191	70
2A14	MOUNT ABBOT	Upper Columbia	2031	2018-03-29	330	1300		108%	1300	1239	600	1849	1199	59
2A16	GOLDSTREAM	Upper Columbia	1914	2018-03-29	312	1058		93%	1221	1164	584	1638	1133	55
2A17	FIDELITY MOUNTAIN	Upper Columbia	1852	2018-03-23	308	1248		103%	1128	1200	590	1951	1210	55
2A18	KEYSTONE CREEK	Upper Columbia	1839	2018-03-29	244	827		105%		844	414	1388	788	51
2A18P	Keystone Creek	Upper Columbia	1850	2018-04-01		998			1066	966	966	1066		2
2A19	VERMONT CREEK	Upper Columbia	1533	2018-03-31	138	476		120%	490	500	190	843	397	52
2A21P	Molson Creek	Upper Columbia	1930	2018-04-01		1081		105%	1017	945	481	1551	1029	37
2A22	SUNBEAM LAKE	Upper Columbia	2066	2018-03-29	274	969		109%	955	831	469	1384	885	51
2A23	BUSH RIVER	Upper Columbia	1982		N	N	N		875	753	455	1331	809	51
2A25	KIRBYVILLE LAKE	Upper Columbia	1739	2018-03-29	328	1173		101%	1360	1333	671	1816	1163	46
2A27	DOWNIE SLIDE (LOWER)	Upper Columbia	964	2018-03-29	197	720		108%	644	682	338	1032	664	40
2A29	DOWNIE SLIDE (UPPER)	Upper Columbia	1628	2018-03-29	363	1320		99%	1474	1474	335	2360	1334	40
2A30P	Colpitt Creek	Upper Columbia	2131	2018-04-01		957			907	803	803	907		2
2A31P	Caribou Creek Upper	Upper Columbia	2201	2018-04-01		1034			1053	946	946	1053		2
2A32P	Wildcat Creek	Upper Columbia	2122	2018-04-01		646			635	523	523	635		2
2B02A	FARRON	Lower Columbia	1229	2018-03-29	124	465		155%	350	347	127	480	300	45
2B05	WHATSHAN (UPPER)	Lower Columbia	1476	2018-03-28	228	780		122%	588	678	350	964	638	60
2B06P	Barnes Creek	Lower Columbia	1595	2018-04-01		774		146%	428	629	272	773	530	25
2B07	KOCH CREEK	Lower Columbia	1813	2018-03-28	230	810		112%	819	907	397	1156	722	58
2B08P	St. Leon Creek	Lower Columbia	1822	2018-04-01		1317		123%	1189	1148	536	1553	1072	25
2B09	RECORD MOUNTAIN	Lower Columbia	1906	2018-03-28	244	822		116%	905	895	315	1307	708	43
2C01	SINCLAIR PASS	East Kootenay	1374	2018-03-29	58	161		148%	96	116	36	262	109	81
2C04	SULLIVAN MINE	East Kootenay	1580	2018-03-30	117	347		128%	326	264	114	538	272	72
2C07	FERNIE EAST	East Kootenay	1213	2018-03-31	114	398		139%	348	205	24	605	286	67
2C09Q	Morrissey Ridge	East Kootenay	1966	2018-04-01		683		97%	689	719	308	1224	704	38
2C10P	Moyie Mountain	East Kootenay	1840	2018-04-01	119	518		126%	561	398	184	679	412	39
2C14P	Floe Lake	East Kootenay	2110	2018-04-01		828		119%	850	650	331	983	695	25
2C15	MOUNT ASSINIBOINE	East Kootenay	2230		N	N	N		673	528	252	816	514	49
2C16	MOUNT JOFFRE	East Kootenay	1763	2018-03-31	155	444		127%	358	366	179	711	349	49

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2C17	THUNDER CREEK	East Kootenay	2062	2018-03-31	134	368		142%	312	330	140	475	259	49
2D02	FERGUSON	West Kootenay	929	2018-04-02	155	669		122%		611	142	881	550	79
2D03	SANDON	West Kootenay	1072	2018-04-01	120	447		135%	375	241	71	585	330	75
2D04	NELSON	West Kootenay	952	2018-04-03	124	410		123%	283	156	5	622	334	80
2D05	GRAY CREEK (LOWER)	West Kootenay	1558	2018-03-28	174	579		132%		498	276	688	440	69
2D06	CHAR CREEK	West Kootenay	1290	2018-03-28	190	684		130%	557	488	214	940	525	52
2D07A	DUNCAN LAKE NO. 2	West Kootenay	662	NS	NS	NS	NS		180		0	223	83	26
2D08P	East Creek	West Kootenay	2004	2018-04-01		905		105%	1044	999	442	1245	863	37
2D09	MOUNT TEMPLEMAN	West Kootenay	1879	N	N	N	N			1078	520	1608	1013	46
2D10	GRAY CREEK (UPPER)	West Kootenay	1926	2018-03-28	269	920		127%		855	492	1123	722	48
2D14P	Redfish Creek	West Kootenay	2086	2018-04-01	406	1477		124%	1687	1596	751	1755	1188	16
2E01	MONASHEE PASS	Kettle	1387	2018-03-28	138	440		136%	283	356	165	517	324	69
2E02	CARMI	Kettle	1254	2018-03-29	72	210		183%	88	31	0	290	115	55
2E03	BIG WHITE MOUNTAIN	Kettle	1672	2018-03-29	196	671		141%	396	608	319	762	476	52
2E07P	Grano Creek	Kettle	1874	2018-04-01	201	714		138%	479	703	285	791	516	20
2F01A	TROUT CREEK (West)	Okanagan	1430	2018-03-28	100	336		171%	163	211	93	272	196	8
2F01P	Trout Creek West	Okanagan	1420	2018-04-01	112	268								0
2F02	SUMMERLAND RESERVOIR	Okanagan	1304	2018-03-28	121	360		183%	227	290	96	389	197	82
2F03	MC CULLOCH	Okanagan	1266	2018-03-29	81	265		201%	144	168	6	249	132	83
2F04	GRAYSTOKE LAKE	Okanagan	1818	2018-04-03	165	552		163%		390	168	828	339	43
2F05P	Mission Creek	Okanagan	1794	2018-04-01	203	705		147%	432	627	242	728	478	48
2F07	POSTILL LAKE	Okanagan	1358	2018-03-28	91	284		141%		239	90	348	202	67
2F08P	Greyback Reservoir	Okanagan	1550	2018-04-01	116	283			257		257	257		1
2F09	WHITEROCKS MOUNTAIN	Okanagan	1789	2018-03-31	190	670		129%	555	785	318	1021	521	65
2F10P	Silver Star Mountain	Okanagan	1839	2018-04-01		754			649	786	649	786		2
2F11	ISINTOK LAKE	Okanagan	1651	2018-03-28	111	273		184%	141	144	66	340	148	53
2F12	MOUNT KOBAU	Okanagan	1817	2018-03-31	155	549		181%	375	481	105	602	304	52
2F13	ESPERON CR (UPPER)	Okanagan	1634	2018-03-30	144	478		125%	386	524	244	805	383	52
2F14	ESPERON CR (MIDDLE)	Okanagan	1440	2018-03-30	126	404		123%	318	516	196	607	328	52
2F18P	Brenda Mine	Okanagan	1453	2018-04-01		389		113%	308	436	190	497	345	25
2F19	OOYAMA LAKE	Okanagan	1365	2018-03-29	85	236		153%	182	188	61	255	154	48
2F20	VASEUX CREEK	Okanagan	1403	2018-03-31	78	238		180%	100	176	40	239	132	47
2F21	BOULEAU LAKE	Okanagan	1405	2018-03-25	144	396		129%	252	344	160	564	306	47
2F23	MACDONALD LAKE	Okanagan	1742	2018-04-06	176	598		140%	45	596	45	677	428	40
2F24	ISLAHT LAKE	Okanagan	1492	2018-04-05	134	440		142%		480	145	501	309	35
2F25	POSTILL LAKE UPPER	Okanagan	1500	N	N	N	N			281	38	281		7
2G03P	Blackwall Peak	Similkameen	1934	2018-04-01	250	944		123%	754	893	403	1497	770	50

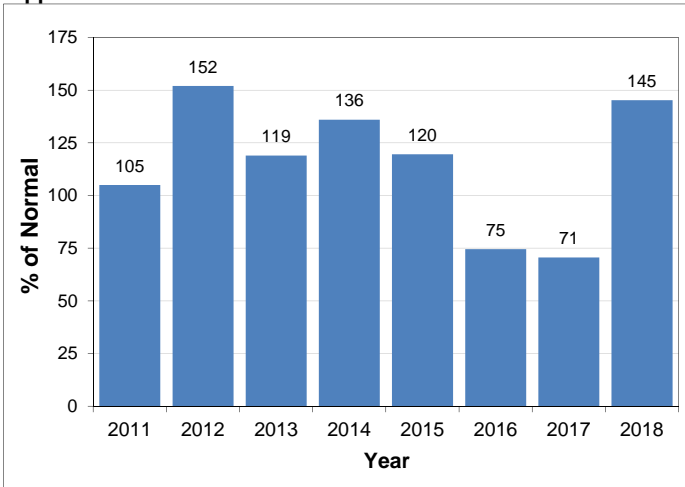
2018 Automated Snow Weather Station/Manual Snow Survey Data				April					Historic Snow Water Equivalent (mm)					
Station ID	Name	Basin	Elevation (masl)	Survey Date YYYY-MM-DD	SD (cm)	SWE (mm)	Code	SWE % 1981-2010 Normal	2017 SWE (mm)	2016 SWE (mm)	Minimum (mm)	Maximum (mm)	1981-2010 Normal (mm)	Years of Record
2G04	LOST HORSE MOUNTAIN	Similkameen	1988	2018-03-28	139	408	B	189%	181	268	138	533	216	57
2G05	MISSEZULA MOUNTAIN	Similkameen	1602	2018-03-28	98	284	B	144%	208	215	90	361	197	57
2G06	HAMILTON HILL	Similkameen	1477	2018-03-27	111	354	B	122%	265	220	83	851	291	58
3A01	GROUSE MOUNTAIN	South Coast	1126	2018-03-29	400	1750		151%	1694	1150	0	2670	1160	82
3A02	POWELL RIVER (UPPER)	South Coast	1002	NS	NS	NS	NS			826	15	1813	969	65
3A05	POWELL RIVER (LOWER)	South Coast	882	NS	NS	NS	NS			344	8	1554	651	58
3A09	PALISADE LAKE	South Coast	898	2018-03-28	371	1720		130%	1620	1106	0	3560	1322	71
3A10	DOG MOUNTAIN	South Coast	1007	2018-03-27	346	1470		129%	1496	1008	0	2720	1137	73
3A19	ORCHID LAKE	South Coast	1178	2018-03-28	485	2134		121%	1970	1402	90	3770	1769	45
3A20	CALLAGHAN CREEK	South Coast	1009	2018-03-30	253	981		120%	940	1040	24	1604	820	41
3A22P	Nostetuko River	South Coast	1457	2018-04-01	139	589		104%	516	593	233	1074	568	29
3A24P	Mosley Creek Upper	South Coast	1655	2018-04-01	147	383		133%	269	238	147	567	288	29
3A25P	Squamish River Upper	South Coast	1387	2018-04-01	419	1744		110%	1595	1725	715	2760	1584	28
3A26	CHAPMAN CREEK	South Coast	1022	2018-03-28	462	1770	A		318		318	1728	308	10
3A27	EDWARDS LAKE	South Coast	1070	NS	NS	NS	NS				398	1286	215	6
3B01	FORBIDDEN PLATEAU	Vancouver Island	1110	2018-03-30	308	1394		94%	1432	1667	30	3550	1485	63
3B02A	MOUNT COKELY	Vancouver Island	1267	N	N	N	N			790	0	2100	831	36
3B04	ELK RIVER	Vancouver Island	270	2018-03-30	0	0	T	0%	55	0	0	607	34	62
3B10	UPPER THELWOOD LAKE	Vancouver Island	1014	2018-03-30	273	1214		83%	1436	1384	0	3200	1455	60
3B17P	Wolf River Upper	Vancouver Island	1422	2018-04-01		1202		91%	1162	1473	305	2600	1320	36
3B18	WOLF RIVER (MIDDLE)	Vancouver Island	1050	2018-03-30	111	430		70%	560	612	0	1706	618	48
3B19	WOLF RIVER (LOWER)	Vancouver Island	615	2018-03-30	59	246		78%	312	150	0	1198	315	48
3B23P	Jump Creek	Vancouver Island	1134	2018-04-01	276	1440		132%	1334	811	0	3040	1088	22
3B24P	Heather Mountain Upper	Vancouver Island	1190	2018-04-01	348	1741			1745	1429	1429	1745		2
3B26P	Mount Arrowsmith	Vancouver Island	1465	2018-04-01	311	1232								0
3C07	WEDEENE RIVER SOUTH	North Coast	196	2018-04-04	141	520		136%	380	140	96	981	383	32
3C08P	Burnt Bridge Creek	North Coast	1329	2018-04-01	201	771		96%	740	649	382	1402	802	20
3D01C	SUMALLO RIVER WEST	Skagit	801	2018-03-28	84	337		176%		0	0	461	191	25
3D02	LIGHTNING LAKE	Skagit	1254	2018-03-26	103	344	B	124%	262	360	60	622	278	71
3D03A	KLESILKWA	Skagit	1134	2018-03-31	87	345		149%	293	110	0	792	231	70
4A02P	Pine Pass	Peace	1386	2018-04-01	304	1030		100%	859	945	363	1550	1026	29
4A03	WARE (UPPER)	Peace	1563	2018-03-30	112	286		111%	198	162	90	390	258	56
4A03P	Ware Upper	Peace	1565	2018-04-01	114	260			203		203	203		1
4A04	WARE (LOWER)	Peace	969	2018-03-30	89	225		116%	143	167	89	316	194	56
4A04P	Ware Lower	Peace	971	2018-04-01	85	235			150		150	150		1
4A05	GERMANSEN (UPPER)	Peace	1489	2018-03-29	130	368		106%	253	318	156	523	348	57
4A06	TUTIZZI LAKE	Peace	1043	2018-03-29	95	291		112%	188	175	106	406	259	55

2018 Automated Snow Weather Station/Manual Snow Survey Data				April					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	2017 SWE (mm)	2016 SWE (mm)	Minimum (mm)	Maximum (mm)	1981-2010 Normal (mm)	Years of Record
4A07	LADY LAURIER LAKE	Peace	1460	2018-03-31	161	465		88%	436	436	194	854	529	55
4A09	PULPIT LAKE	Peace	1331	2018-03-30	138	403		95%	329	353	152	618	425	55
4A09P	Pulpit Lake	Peace	1331	2018-04-01	119	316		72%	282	297	133	620	439	28
4A10	FREDRICKSON LAKE	Peace	1323	2018-03-30	94	235		95%	149	165	93	351	247	55
4A11	TRYGVE LAKE	Peace	1409		N	N	N		285	253	119	511	370	55
4A12	TSAYDAYCHI LAKE	Peace	1173	2018-03-29	144	417		105%	346	346	166	639	398	55
4A13	PHILIP LAKE	Peace	1013	2018-03-29	82	252		90%	133	251	133	449	279	55
4A16	MORFEE MOUNTAIN	Peace	1427	2018-03-28	222	749		90%		685	265	1158	833	48
4A18	MOUNT SHEBA	Peace	1480	2018-03-28	284	893		109%		676	369	1294	823	48
4A20	MONKMAN CREEK	Peace	1566	2018-03-28	212	714		132%	535	398	190	1067	540	44
4A21	MOUNT STEARNS	Peace	1514	2018-03-30	83	168		114%	180	81	41	239	147	44
4A25	FORT ST. JOHN A	Peace	692	2018-04-03	81	164		169%	105		0	226	97	43
4A27P	Kwadacha North	Peace	1554	2018-04-01	129	301			227		227	227		1
4A30P	Aiken Lake	Peace	1061	2018-04-01	74	218		81%	191	208	90	371	268	33
4A31P	Crying Girl Prairie	Peace	1358	2018-04-01		314			278	173	173	278		2
4A33P	Muskwa-Kechika	Peace	1196	2018-04-01		117			129	46	46	129		2
4A34P	Dowling Creek	Peace	1456	2018-04-01		1254			444		444	444		1
4B01	KIDPRICE LAKE	Skeena-Nass	1415	2018-04-01	263	845		91%	999	685	622	1781	931	64
4B02	JOHANSON LAKE	Skeena-Nass	1480	2018-03-29	105	279		93%	226	270	108	417	301	55
4B03A	HUDSON BAY MTN.	Skeena-Nass	1452	2018-03-28	174	530		106%	408	392	168	846	499	46
4B04	CHAPMAN LAKE	Skeena-Nass	1485	2018-03-28	184	586		128%	422	375	315	762	457	53
4B06	TACHEK CREEK	Skeena-Nass	1133	2018-04-01	116	244		109%	178	208	112	362	223	50
4B07	MCKENDRICK CREEK	Skeena-Nass	1048	2018-03-28	158	421		155%	199	222	183	427	271	50
4B08	MOUNT CRONIN	Skeena-Nass	1491	2018-03-28	230	714		125%	549	460	433	1097	570	49
4B10	NINGUNSAW PASS	Nass	647	2018-03-27	92	251		58%		199	220	730	434	42
4B11A	BEAR PASS	Nass	437	2018-03-28	126	460		72%	430	322	330	1013	642	31
4B12P	Granduc Mine	Skeena-Nass	790	2018-04-01	320				82		82	82		1
4B13A	TERRACE A	Skeena-Nass	219	2018-04-04	62	182		217%	60	0	0	333	84	38
4B14	EQUITY MINE	Skeena-Nass	1434	2018-03-28	167	546		142%	406	364	258	640	385	41
4B15	LU LAKE	Skeena-Nass	1296	2018-03-28	137	420		144%	252	250	162	504	291	41
4B15P	Lu Lake	Skeena-Nass	1308	2018-04-01	147	469		178%	285	259	119	478	264	20
4B16P	Shedin Creek	Skeena-Nass	1320	2018-04-01	195	563		63%	532	469	195	1096	896	22
4B17P	Tsai Creek	Skeena-Nass	1360	2018-04-01	270	1025		88%	934	808	302	1825	1165	20
4B18P	Cedar-Kiteen	Skeena-Nass	912	2018-04-01	NA	NA	NA		472	365	178	1126	712	17
4C01	SIKANNI LAKE	Liard	1390	2018-03-30	104	251		91%	171	158	78	380	276	55
4C01P	Sikanni Lake	Liard	1400	2018-04-01	113	304			171		171	171		1
4C02	SUMMIT LAKE	Liard	1291	2018-03-28	74	90		80%	95	54	0	240	113	54

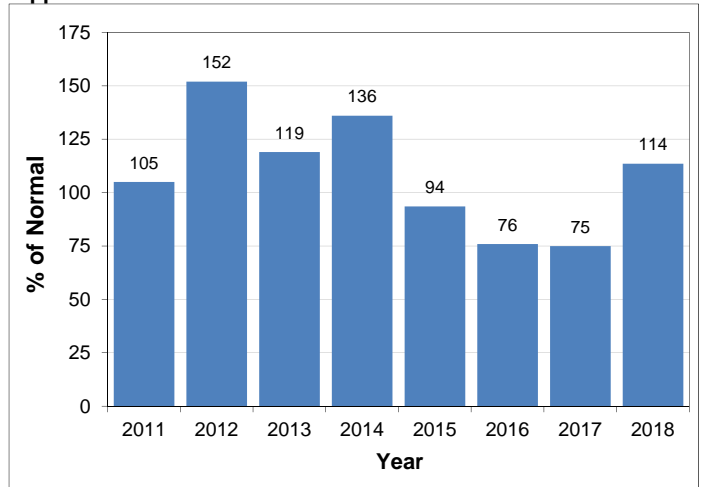
2018 Automated Snow Weather Station/Manual Snow Survey Data				April					Historic Snow Water Equivalent (mm)					
Station ID	Name	Basin	Elevation (masl)	Survey Date YYYY-MM-DD	SD (cm)	SWE (mm)	Code	SWE % 1981-2010 Normal	2017 SWE (mm)	2016 SWE (mm)	Minimum (mm)	Maximum (mm)	1981-2010 Normal (mm)	Years of Record
4C03	DEASE LAKE	Liard	805	2018-04-05	54	99		75%		58	50	259	132	50
4C05	FORT NELSON AIRPORT	Liard	368	2018-03-28	48	52	A	55%	96	66	23	198	94	51
4C15	JADE CITY	Liard	943	NS	NS	NS	NS			150	156	340	238	15
4D01	TELEGRAPH CREEK	Stikine	490	2018-04-06	27	72		49%		14	37	343	146	40
4D02	ISKUT	Stikine	931	2018-04-05	38	72		73%		0	0	180	98	41
4D11P	Kinaskan Lake	Stikine	1020	2018-04-01	54	167		41%	330	237	94	330	405	22
4E02B	ATLIN LAKE	Yukon	730	N	N	N	N		92	46	76	243		12
Code	Description													
A	Sampling problems were encountered													
B	Early or late sampling													
C	Early or late sampling w/problems encountered													
E	Estimate													
N	Scheduled, but not sampled													
NA	Not available													
NS	Not scheduled													
SD	Snow Depth													
SWE	Snow Water Equivalent													
T	Trace Amount													

Snow Basin Index Graphs - April 1, 2018

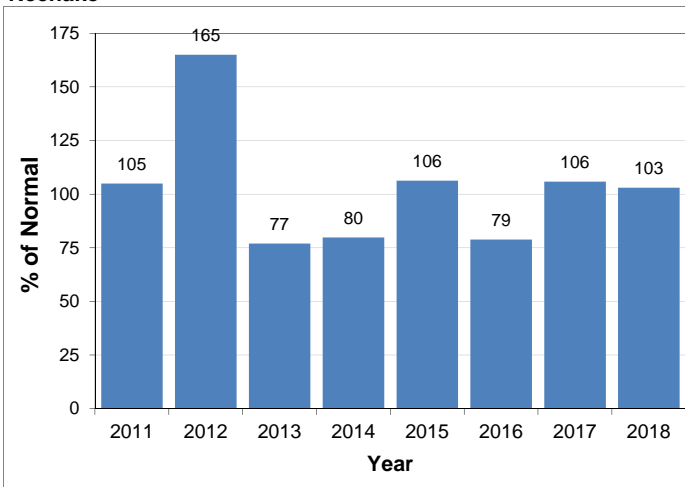
Upper Fraser West



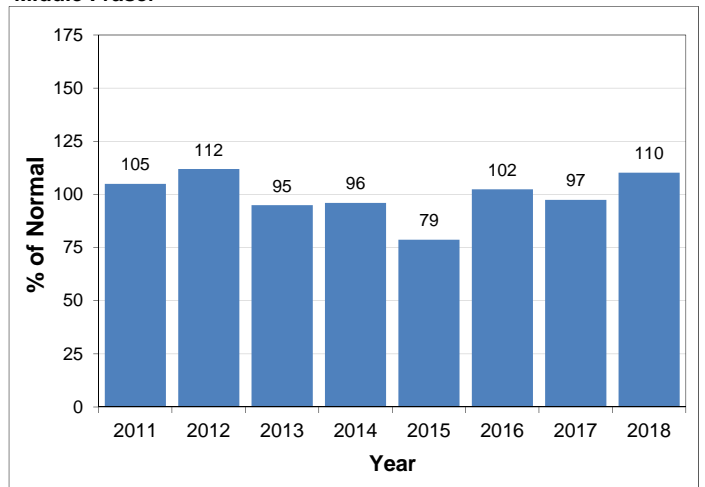
Upper Fraser East



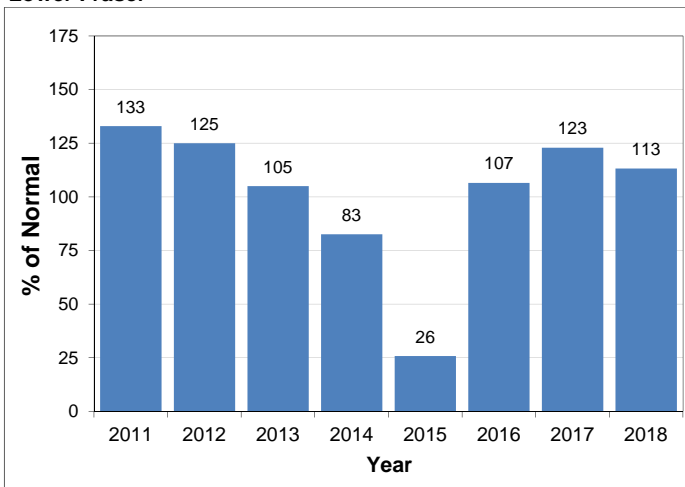
Nechako



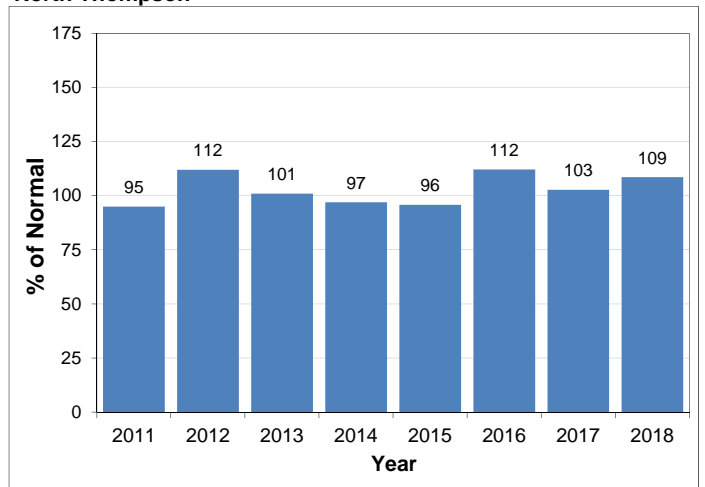
Middle Fraser



Lower Fraser

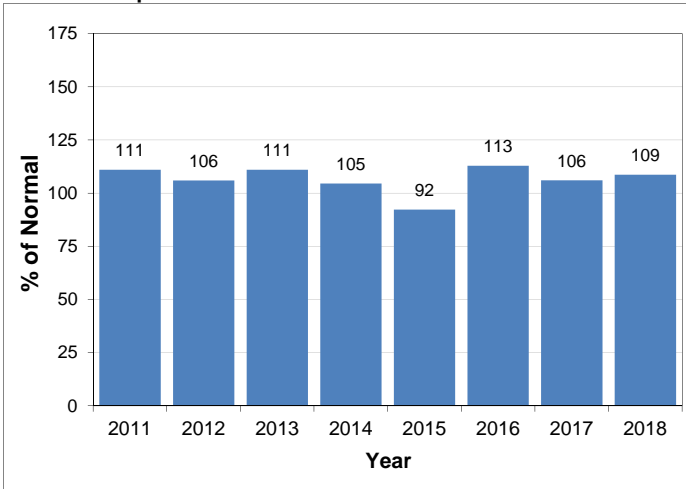


North Thompson

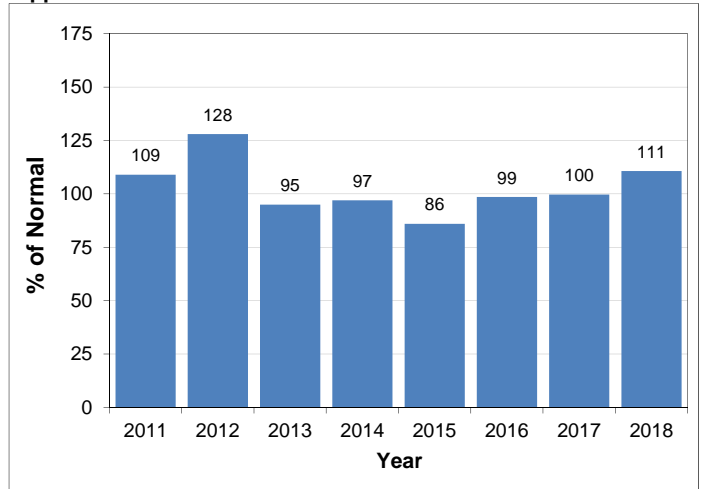


Snow Basin Index Graphs - April 1, 2018

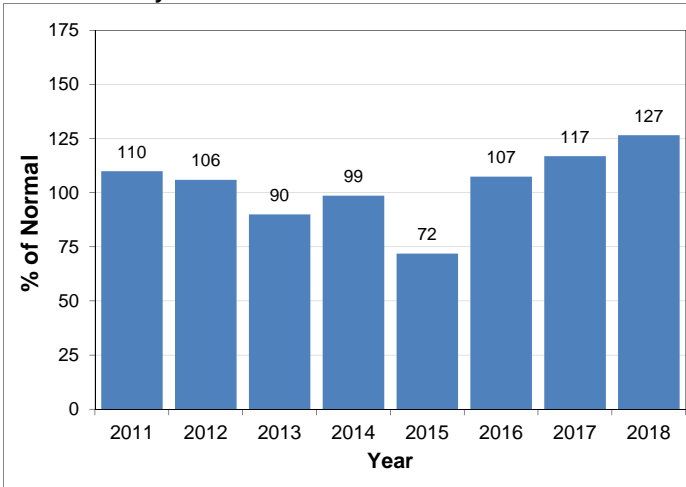
South Thompson



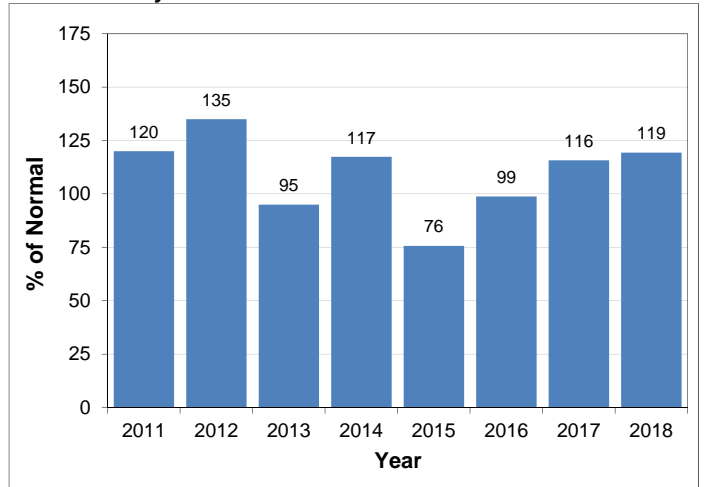
Upper Columbia



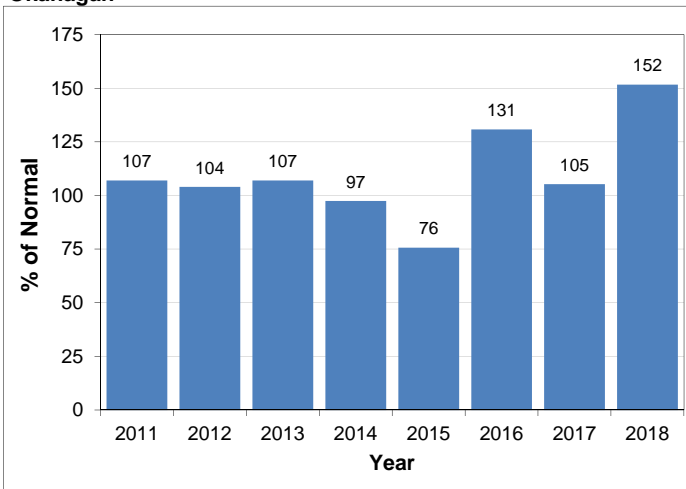
West Kootenay



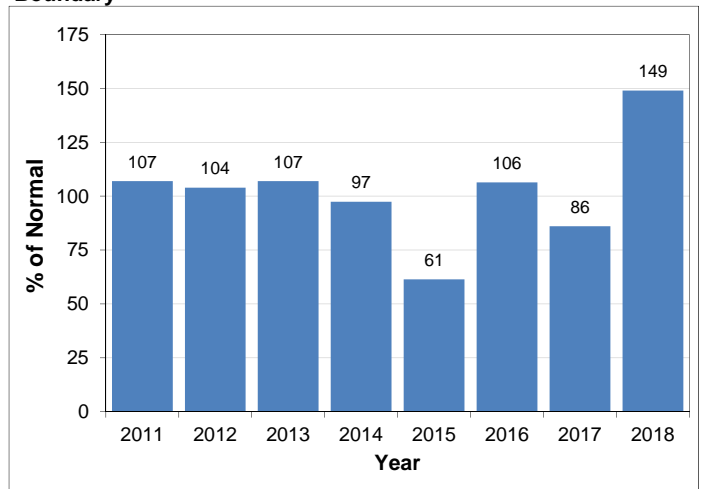
East Kootenay



Okanagan

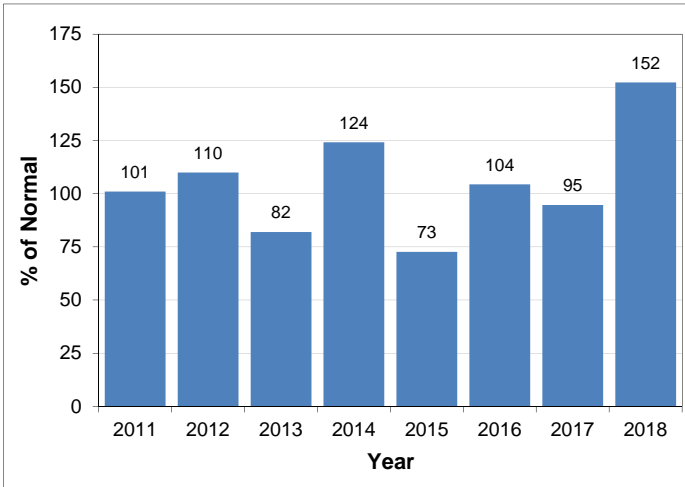


Boundary

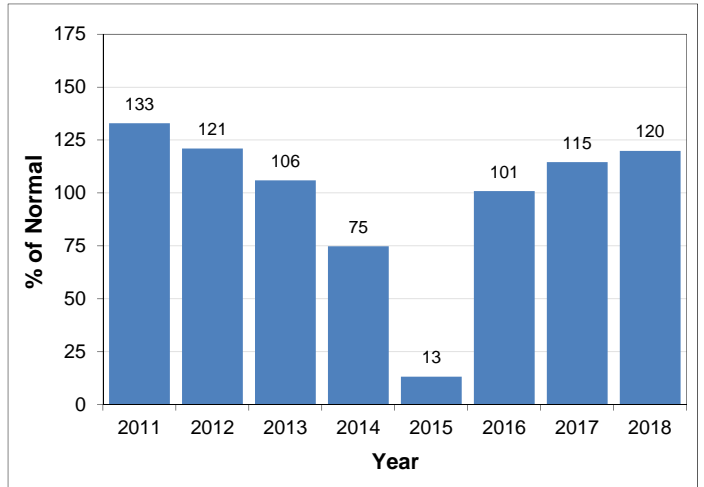


Snow Basin Index Graphs - April 1, 2018

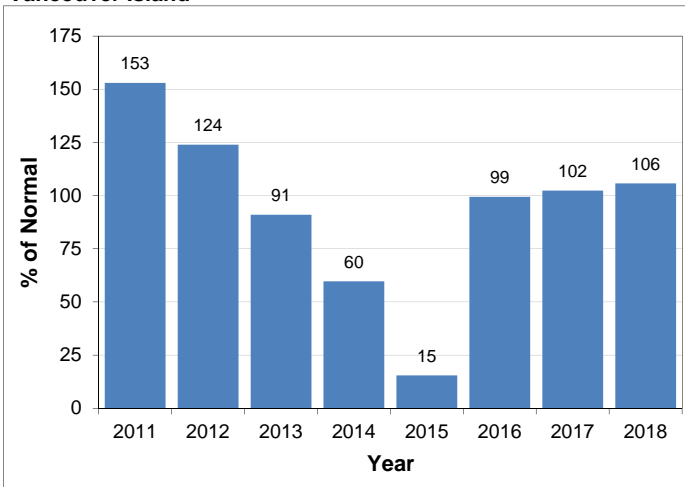
Similkameen



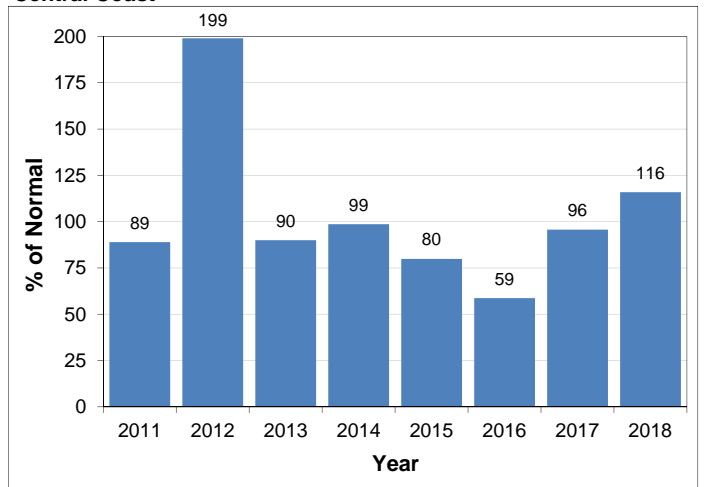
South Coast



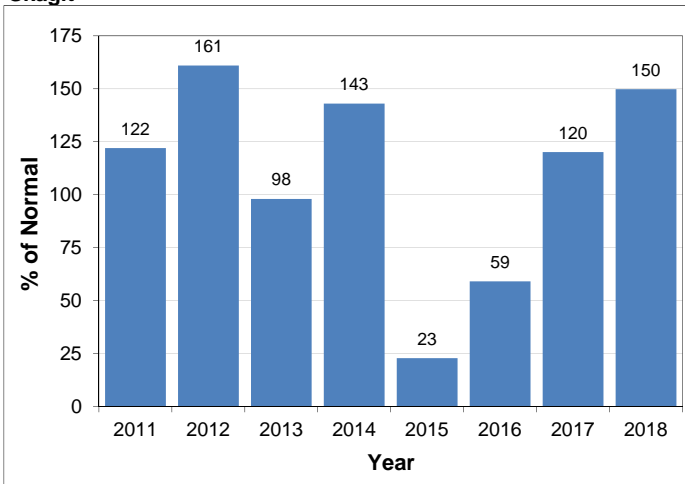
Vancouver Island



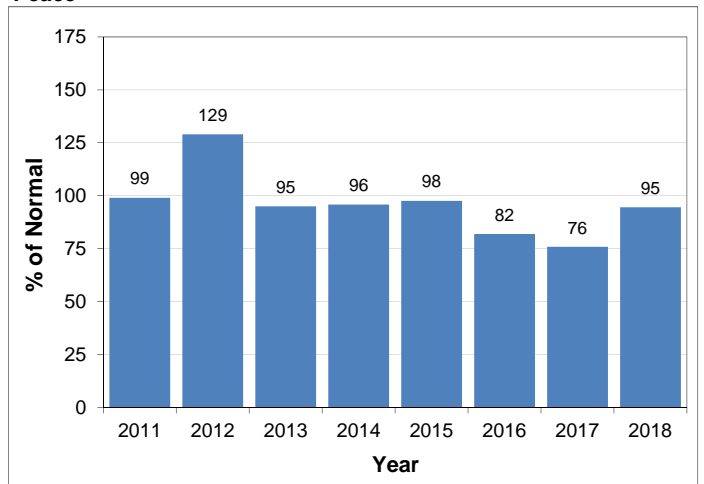
Central Coast



Skagit

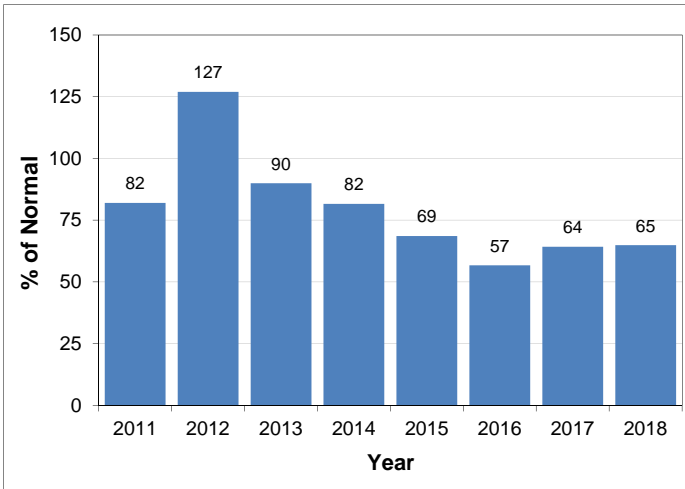


Peace

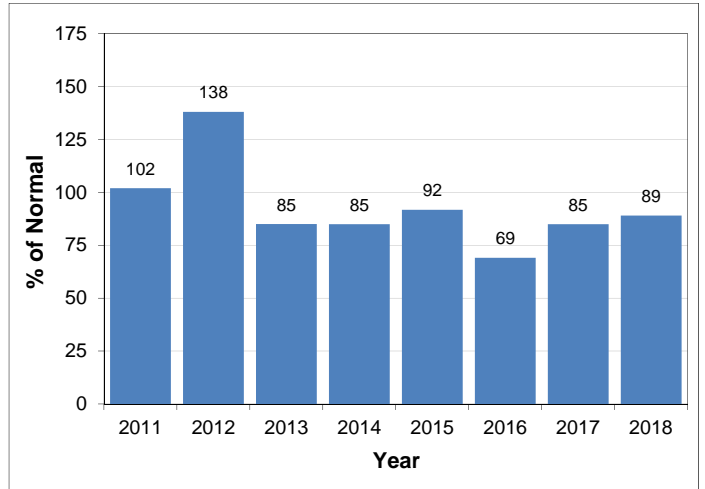


Snow Basin Index Graphs - April 1, 2018

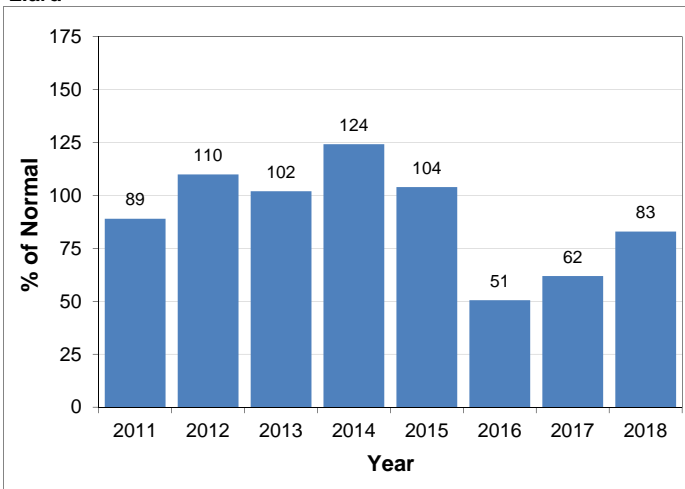
Stikine



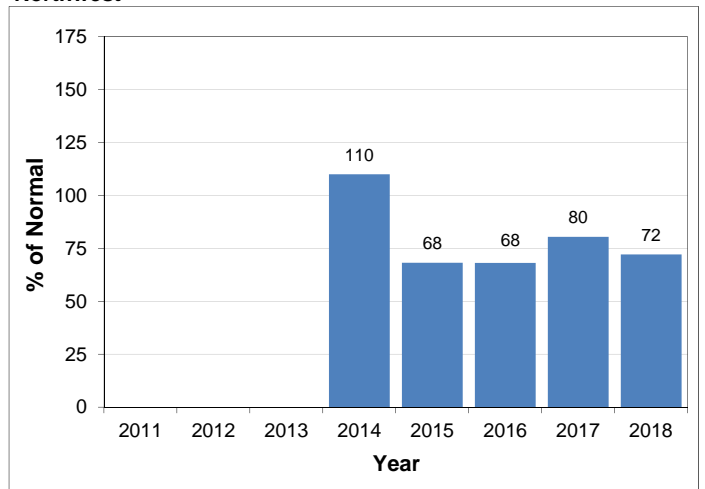
Skeena-Nass



Liard



Northwest



Ministry of Forests, Lands and Natural Resource Operations
River Forecast Centre
Volume Runoff Forecast April 2018

Location	Apr - Jun Runoff				Apr - Jul Runoff				Apr - Sep Runoff				
	Forecast (kdam ³)	Normal (1981-2010) (kdam ³)	% of Normal	Std. Error (kdam ³)	Forecast (kdam ³)	Normal (1981-2010) (kdam ³)	% of Normal	Std. Error (kdam ³)	Forecast (kdam ³)	Normal (1981-2010) (kdam ³)	% of Normal	Std. Error (kdam ³)	
Upper Fraser Basin	Fraser at McBride				3714	3699	100%	307	5234	5166	101%	381	
	McGregor at Lower Canyon				4105	3964	104%	428	5205	5010	104%	564	
	Fraser at Shelley				15320	15670	98%	1179	19474	19730	99%	1562	
Middle Fraser Basin	Quesnel River at Quesnel				4616	4541	102%	418	6006	5872	102%	568	
Thompson Basin	N. Thompson at McLure				9230	8916	104%	481	11595	11085	105%	753	
	S. Thompson at Chase				5969	5792	103%	448	7635	7359	104%	686	
	Thompson at Spences Bridge				16355	15114	108%	973	20972	19094	110%	1560	
Bulkley and Skeena	Bulkley at Quick				2825	2625	108%	236	3449	3222	107%	272	
	Skeena at Usk				19625	18673	105%	1173	24054	23017	105%	1698	
Nicola Lake	Inflows	194	121	161%	30	218	138	159%	35				
Nicola River	at Spences Bridge	731	486	150%	82	856	554	155%	101				
Okanagan and Kalamalka-Wood Lake	Okanagan Lake Inflow	677	440	154%	88	735	465	158%	108				
	Kalamalka-Wood Lake Inflow	42	28	152%	11	49	29	168%	13				
Similkameen River	Similkameen at Nighthawk	1750	1273	137%	128					2229	1583	141%	156
	Similkameen at Hedley	1400	989	142%	96					1718	1177	146%	96
Cowichan River	Cowichan Lake Inflows	283	248	114%	65					322	290	111%	84

1 kdam³=1,000,000 m³

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.

Cowichan Lake Inflows are based on a multi-variate regression analysis and reflects a normal scenario for summer weather conditions

The Standard Error in the Cowichan forecast reflects model error, and does not capture uncertainty over seasonal weather

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

Use at your own risk