

Snow Survey and Water Supply Bulletin – February 1st, 2019

The February 1st snow survey is now complete. Data from 114 manual snow courses and 78 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 and the provincial Climate Related Monitoring Program have been used to form the basis of the following report¹.

Weather

Weather through the first week of January was stormy, resulting in high precipitation throughout most of the province. In higher elevations, precipitation fell as snow, increasing the snowpack considerably. Over the following three weeks, British Columbia was primarily under the influence of a high-pressure ridge, resulting in limited precipitation, clear skies and in some areas, inversions. Generally, temperatures were above-normal (+1.0 to 4.0°C) across most of the province. The largest temperature anomalies occurred in northern regions.

Snowpack

Snow basin indices for February 1st, 2019 range from a low of 63% of normal in the Stikine to a high of 114% in the Upper Fraser West (Table 1 and Figure 1). Generally, the province has near normal snowpack for February 1st, with the average of all snow measurements across the province at 97%. Below normal snowpack (60-80% of normal) is present in the Stikine, Skagit, Similkameen and Liard. Above normal snowpack (110-125% of normal) exists in the Peace, North Thompsons and Upper Fraser West. Near normal snowpacks (80-110%) are present throughout the rest of the province. Currently, there are no regions of the province with exceptionally high snowpacks.

The February 1st snow basin index for the entire Fraser River is 99% of normal. Lower elevations snow sites (<1200m) in the Fraser River watershed are at 85% of normal, likely the result of warmer temperatures so far this winter. This is similar at low to mid-elevation sites across the province, with the provincial average for measurements below 1200m being 93% of normal. Field observations, particularly from south-west BC, indicate a sharp transition from limited snow at low elevation, to deeper snowpack at elevation.

So far this season, snow accumulation has been dominated by persistent weather patterns. Most of this year's snowpack built up rapidly over a 5-6 week period from early-December to early-January. Weather into February has shifted again into the dominance of Arctic air across the province, with extremely cold temperatures and limited snow accumulation. This pattern is expected to continue at least into the middle of February.

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 – February 1, 2019

Basin	% of Normal	Basin	% of Normal
Upper Fraser West	114	Boundary	80
Upper Fraser East	108	Similkameen	74
Nechako	90	South Coast	100
Middle Fraser	105	Vancouver Island	96
Lower Fraser	91	Central Coast	93
North Thompson	112	Skagit	65
South Thompson	89	Peace	112
Upper Columbia	107	Skeena-Nass	84
West Kootenay	92	Stikine	63
East Kootenay	83	Liard	75
Okanagan	86	Fraser	99
Nicola	88	British Columbia	97

Outlook

The Climate Prediction Centre (CPC) at the U.S. National Weather Service/NOAA has issued an El Niño watch and is forecasting a high likelihood of El Niño developing through the rest of this winter and continuing into the spring. Temperature anomalies in the equatorial Pacific Ocean have been easing since December. Typically, El Niño is linked to warmer winters across British Columbia, with a trend towards lower than normal snowpacks. However, the impact of El Niño on winter snowpacks in BC is highly variable and does not always mean lower snowpacks - for example, 2007 had significant snowpack across the province, despite being an El Niño winter. Additionally, warm sea surface temperature anomalies persist in the Pacific Ocean off the BC/Alaska coast, though they have generally weakened since mid-November. Warm temperature anomalies in the Pacific often have a similar or enhancing effect when they occur in phase with El Niño, as was the case in 2014-15 and 2015-16.

Seasonal weather forecasts from Environment and Climate Change Canada have shifted over the past month, with a transition to an increased likelihood of below normal

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temperatures forecasted over February to April. NOAA seasonal forecasts for the contiguous United States indicate an increased likelihood of above normal temperature across Washington, Idaho, Montana and Alaska. However, the lack of a strong El Niño signal may increase the uncertainty of longer term seasonal weather forecasting.

By early February, nearly two-thirds of the annual BC snowpack has typically accumulated. At this stage in the season, snow accumulation is currently typical for February 1st across the province, with a few regions slightly above or below normal. Seasonal snowpacks can still change significantly with two or more months of possible snow accumulation left.

At this stage in the season there is no significant elevated flood risk present in the current snowpack regionally across the province. While snow is one significant aspect to seasonal flooding in BC, weather during the freshet season also plays a key role, and flooding is possible in years with normal snowpack. For example, peak flows at the Fraser River at Hope during normal snowpack years ranges between 7,000 and 12,000 m³/s.

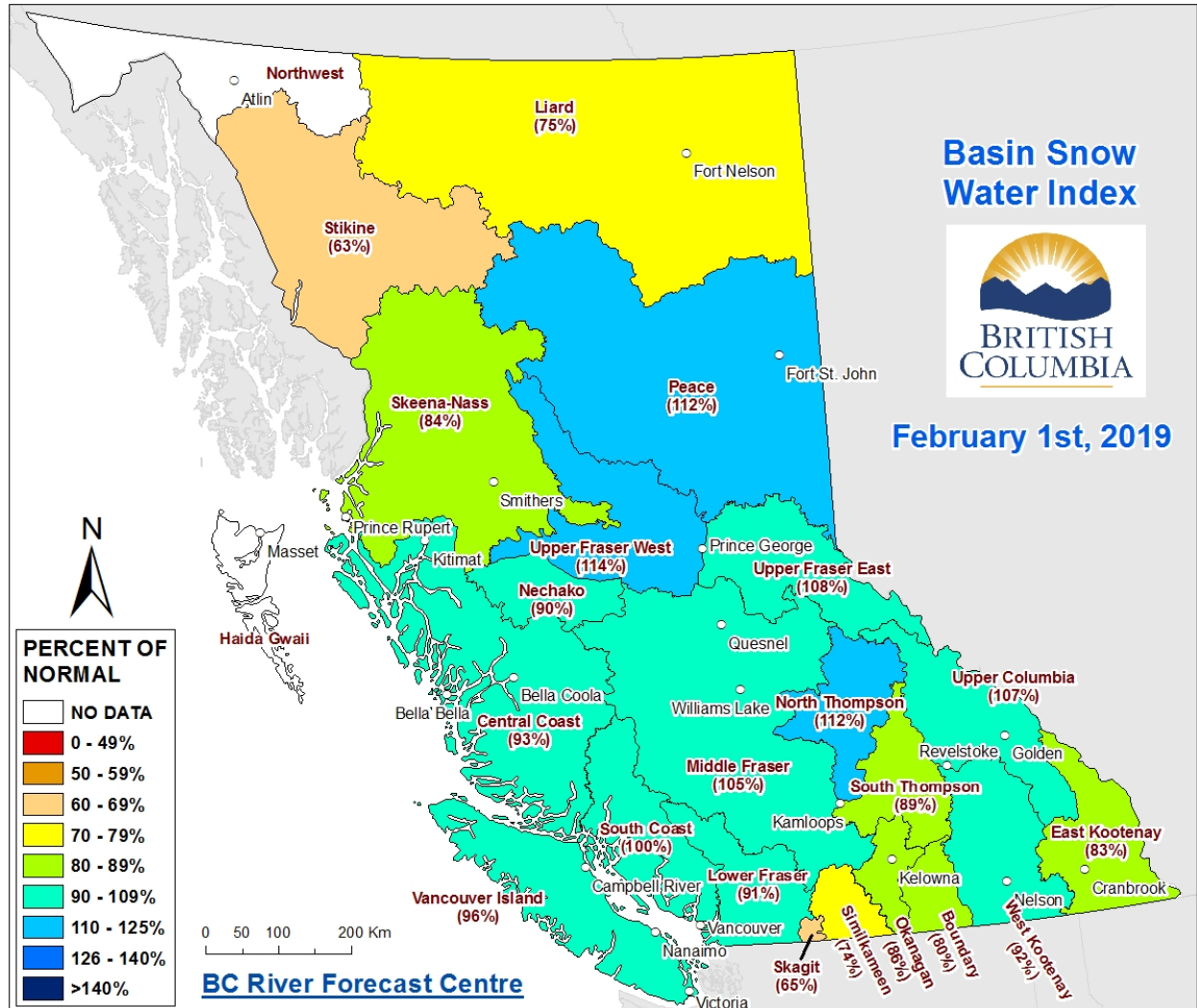
Seasonal volume runoff forecasts (see below) are near-normal (85-105%) for the Upper Fraser, Thompson, Skeena/Bulkley, Nicola River, and Okanagan Lake basins, and above-normal (~120%) for the Quesnel River. Below-normal (<85%) seasonal volume runoff forecasts are expected for the Similkameen, Nicola Lake and Kalamlaka-Wood Lake basins. The snowmelt component of seasonal runoff on Vancouver Island, South Coast, and Lower Fraser is near normal. Well below normal snowpacks in the North-west and Stikine are an early indication of the potential for below normal seasonal runoff.

The River Forecast Centre will continue to monitor snowpack conditions and will provide an updated seasonal flood risk forecast in the March 1st, 2019 bulletin, which is scheduled for release on March 8th.

BC River Forecast Centre
February 8, 2019

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Figure 1: Basin Snow Water Index – February 1st, 2019



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Ministry of Forests, Lands and Natural Resource Operations
River Forecast Centre
Volume Runoff Forecast February 2019

Location		Feb - Jun Runoff				Feb - Jul Runoff				Feb - 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					4071	3858	106	333	5643	5325	106	396
	McGregor at Lower Canyon					4010	4185	96	553	5080	5231	97	672
	Fraser at Shelley					17606	16786	105	1716	21819	20845	105	2033
Middle Fraser Basin	Quesnel River at Quesnel					5833	4930	118	551	7509	6261	120	661
Thompson Basin	N. Thompson at McLure					9675	9411	103	710	11384	11580	98	925
	S. Thompson at Chase					5569	6389	87	650	6963	7956	88	940
	Thompson at Spences Bridge					14768	16353	90	1381	18211	20333	90	1775
Bulkley and Skeena	Bulkley at Quick					2542	2784	91	1655	3128	3381	93	2173
	Skeena at Usk					18503	19604	94	1553	22786	23948	95	2123
Nicola Lake	Inflows	86	131	66	33	126	148	85	38				
Nicola River	at Spences Bridge	515	549	94	100	579	616	94	123				
Okanagan and Kalamalka-Wood Lake	Okanagan Lake with Greyback (2F08)	424	488	87	99	440	515	85	120				
	Kalamalka-Wood Lake	23.1	33.1	70	12.8	23.1	34.5	67	15.1				
Similkameen River	at Nighthawk	1185	1391	85	166					1411	1701	83	196
	at Hedley	905	1080	84	139					1033	1268	81	148

Note: 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.

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

Use at your own risk

2019 Automated Snow Weather Station/Manual Snow Survey Data				February					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	2018 SWE (mm)	2017 SWE (mm)	Minimum (mm)	Maximum (mm)	1981-2010 Normal (mm)	Years of Record
1A01P	Yellowhead Lake	Upper Fraser East	1847	2019-02-01	146				397	258	233	596	396	21
1A02P	McBride Upper	Upper Fraser East	1608	2019-02-01	128	337		110%	275	212	195	522	306	26
1A03P	Barkerville	Upper Fraser East	1483	2019-02-01	111	287		134%	173	168	116	368	214	43
1A05	LONGWORTH (UPPER)	Upper Fraser East	1693		N	N	N			346	236	1042	559	45
1A05P	Longworth Upper	Upper Fraser East	1740	2019-02-01	250	657			444	296	296	444		2
1A06A	HANSARD	Upper Fraser East	622		NS	NS	NS				112	326	180	20
1A10	PRINCE GEORGE A	Upper Fraser East	684	2019-02-02	68	106		110%	61	44	0	224	96	56
1A11	PACIFIC LAKE	Upper Fraser East	756	2019-02-06	161	446		104%	521	312	165	679	430	50
1A12	KAZA LAKE	Upper Fraser West	1247	2019-02-05	104	264		110%		147	125	440	240	49
1A12P	Kaza Lake	Upper Fraser West	1248	2019-02-01	105	334			228	169	164	228		3
1A14P	Hedrick Lake	Upper Fraser East	1118	2019-02-01	198	538		103%	435		214	934	524	18
1A15	KNUDSEN LAKE	Upper Fraser East	1598		N	N	N		687	367	284	899	554	47
1A15P	Knudsen Lake	Upper Fraser East	1601	2019-02-01	183	394			415	445	415	445		2
1A16	BURNS LAKE	Upper Fraser West	820	2019-01-31	48	92		83%	104	60	44	232	111	48
1A17P	Revolution Creek	Upper Fraser East	1676	2019-02-01	200	594		103%	498	330	295	1042	574	33
1A19P	Dome Mountain	Upper Fraser East	1768	2019-02-01	170	487		97%	328	308	298	853	501	12
1A23	BIRD CREEK	Upper Fraser West	1196	2019-02-02	78	160		155%		82	56	220	103	27
1B01	MOUNT WELLS	Nechako	1489	2019-01-30	102	312		85%		364	188	606	365	33
1B01P	Mount Wells	Nechako	1489	2019-02-01		351		85%	363	408	210	656	411	26
1B02	TAHTSA LAKE	Nechako	1319	2019-01-30	223	796		93%	530	875	508	1442	853	66
1B02P	Tahtsa Lake	Nechako	1319	2019-02-01		855		92%	894	979	464	1532	929	26
1B05	SKINS LAKE	Nechako	877	2019-02-02	39	78		94%		67	35	224	83	50
1B06	MOUNT SWANNELL	Nechako	1596	2019-02-02	87	205		97%		199	88	353	211	28
1B07	NUTLI LAKE	Nechako	1502	2019-01-30	100	302		80%		414	218	729	378	26
1B08P	Mount Pondosy	Nechako	1413	2019-02-01		520		90%	526	655	273	877	578	26
1C01	BROOKMERE	Middle Fraser	994		NS	NS	NS				41	297	142	46
1C05	MCGILLIVRAY PASS	Middle Fraser	1715	2019-01-26	134	393		99%	453	346	150	645	397	66
1C05P	McGillivray Pass	Middle Fraser	1766	2019-02-01		425			484					1
1C06	PAVILION	Middle Fraser	1209		NS	NS	NS				0	130	49	38
1C08	NAZKO	Middle Fraser	1029	2019-02-06	30	75		132%	52	38	6	132	57	41
1C09A	HIGHLAND VALLEY	Middle Fraser	1547		NS	NS	NS				20	188	67	26
1C12P	Green Mountain	Middle Fraser	1766	2019-02-01		651		105%	654	409	278	985	620	24
1C13A	HORSEFLY MOUNTAIN	Middle Fraser	1612		NS	NS	NS				204	475	310	12
1C14	BRALORNE	Middle Fraser	1382	2019-01-26	54	138		110%	166	92	0	338	125	47
1C14P	Bralorne	Middle Fraser	1382	2019-02-01	71	188			222					1
1C17	MOUNT TIMOTHY	Middle Fraser	1632	2019-01-30	87	242		110%	186	160	92	384	221	56
1C18P	Mission Ridge	Middle Fraser	1903	2019-02-01		334		84%	451	341	185	794	398	48

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1C19	GNAWED MOUNTAIN	Middle Fraser	1617	NS	NS	NS	NS				18	198	76	25
1C20P	Boss Mountain Mine	Middle Fraser	1477	2019-02-01	161	488		119%	323	271	255	611	411	24
1C21	BIG CREEK	Middle Fraser	1130	2019-01-27	6	10		20%	57	16	0	94	49	46
1C22	PUNTZI MOUNTAIN	Middle Fraser	939	2019-01-28	5	28		54%	64	32	0	126	52	47
1C23	PENFOLD CREEK	Middle Fraser	1687	NS	NS	NS	NS				525	663	663	3
1C25	LAC LE JEUNE (UPPER)	Middle Fraser	1471	2019-01-31	33	66		67%	151	117	13	177	98	45
1C28	DUFFEY LAKE	Middle Fraser	1253	NS	NS	NS	NS						0	1
1C29	SHOVELNOSE MOUNTAIN	Middle Fraser	1456	2019-01-31	58	129		76%	241	130	48	307	169	37
1C29P	Shovelnose Moutain	Middle Fraser	1460	2019-02-01	44	157								0
1C32	DEADMAN RIVER	Middle Fraser	1463	NS	NS	NS	NS				50	130	81	8
1C33A	GRANITE MOUNTAIN	Middle Fraser	1175	2019-01-31	55	150		108%	124	79	97	175	139	12
1C37	BRALORNE(UPPER)	Middle Fraser	1980	2019-01-26	156	486		112%		416	178	724	434	22
1C38	DOWNTON LAKE (UPPER)	Middle Fraser	1884	N	N	N	N		654	588	208	980	646	23
1C38P	Downton Lake Upper	Middle Fraser	1829	2019-02-01		622			560	537	616	616		3
1C39	BRIDGE GLACIER (LOWER)	Middle Fraser	1393	2019-01-26	168	506		114%	560	416	112	688	444	23
1C40	TYAUGHTON	Middle Fraser	1946	2019-01-26	111	328		99%		244	128	654	331	21
1C40P	North Tyaughton	Middle Fraser	1969	2019-02-01		275			355	211	211	355		3
1C41P	Yanks Peak East	Middle Fraser	1683	2019-02-01	215	782		138%	443	405	312	803	565	21
1C42	CAVERHILL LAKE	Middle Fraser	1400	NS	NS	NS	NS							
1D06P	Tenquille Lake	Lower Fraser	1669	2019-02-01	264	814		115%	871	712	344	1092	708	17
1D08	STAVE LAKE	Lower Fraser	1211	2019-01-28	236	869		99%		815	163	2010	881	48
1D09	WAHLEACH LAKE	Lower Fraser	1395	2019-01-28	82	237		65%		286	33	665	364	50
1D09P	Wahleach Lake Upper	Lower Fraser	1408	2019-02-01		439		68%	683	338	246	1061	644	26
1D10	NAHATLATCH RIVER	Lower Fraser	1530	2019-01-28	264	948		114%		765	262	1359	833	45
1D16	DICKSON LAKE	Lower Fraser	1147	2019-01-28	159	568		62%		950	122	1538	918	24
1D17P	Chilliwack River	Lower Fraser	1621	2019-02-01	229	999		101%	1105	750	368	1659	992	26
1D18P	Disappointment Lake	Lower Fraser	1050	2019-02-01	224	675								
1D19P	Spuzzum Creek	Lower Fraser	1197	2019-02-01	242	972		91%	1181	797	300	1902	1074	19
1E01B	BLUE RIVER	North Thompson	673	2019-01-27	76	242		99%	172	202	98	380	245	33
1E02P	Mount Cook	North Thompson	1574	2019-02-01	322	1055		119%	817	642	684	1098	890	18
1E03A	TROPHY MOUNTAIN	North Thompson	1907	NS	NS	NS	NS						0	
1E05	KNOUFF LAKE	North Thompson	1189	NS	NS	NS	NS			82	38	229	109	61
1E07	ADAMS RIVER	North Thompson	1769	2019-01-27	137	524		115%	455	450	285	654	457	37
1E08P	Azure River	North Thompson	1625	2019-02-01	241				802	722	506	1043	814	21
1E10P	Kostal Lake	North Thompson	1760	2019-02-01	196	672		110%	483	509	417	790	611	33
1E14P	Cook Creek	North Thompson	1280	2019-02-01	180									1
1F01A	ABERDEEN LAKE	South Thompson	1262	2019-01-29	45	91		85%	147	108	48	193	107	61

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1F02	ANGLEMONT	South Thompson	1168	2019-02-01	81	229		84%	332	167	130	483	272	59
1F03P	Park Mountain	South Thompson	1857	2019-02-01	132	477		80%	623		331	867	593	33
1F04P	Enderby	South Thompson	1950	2019-02-01	191	591			712	607	607	712		2
1F06P	Celista Mountain	South Thompson	1533	2019-02-01	198	658		102%	638	421	506	788	643	13
2A01A	CANOE RIVER	Upper Columbia	866		NS	NS	NS			72	17	140	74	42
2A02	GLACIER	Upper Columbia	1249	2019-02-02	191	599		128%	434	289	241	828	468	77
2A03A	FIELD	Upper Columbia	1310	2019-01-29	55	121		98%	116	87	46	233	123	78
2A06P	Mount Revelstoke	Upper Columbia	1770	2019-02-01		827		101%	822	695	464	1190	819	25
2A07	KICKING HORSE	Upper Columbia	1648	2019-01-30	90	232		102%	254	131	102	384	227	71
2A11	BEAVERFOOT	Upper Columbia	1924	2019-01-29	57	148		104%		118	78	244	142	67
2A14	MOUNT ABBOT	Upper Columbia	2031	2019-01-26	254	950		116%	840	692	396	1209	822	59
2A16	GOLDSTREAM	Upper Columbia	1914	2019-01-28	235	824		101%	781	708	460	1136	816	51
2A17	FIDELITY MOUNTAIN	Upper Columbia	1852	2019-01-27	255	917		107%	750	638	430	1376	854	55
2A18	KEYSTONE CREEK	Upper Columbia	1839	2019-01-28	167	559		102%	577	485	290	866	548	51
2A18P	Keystone Creek	Upper Columbia	1850	2019-02-01		643			652	608	638	652		3
2A19	VERMONT CREEK	Upper Columbia	1533	2019-01-29	98	299		104%		252	102	574	287	50
2A21P	Molson Creek	Upper Columbia	1930	2019-02-01		832		110%	812	619	417	1155	759	37
2A22	SUNBEAM LAKE	Upper Columbia	2066	2019-01-28	193	634		101%	716	559	348	886	629	51
2A23	BUSH RIVER	Upper Columbia	1982	2019-01-28	185	619		107%		525	292	902	577	49
2A25	KIRBYVILLE LAKE	Upper Columbia	1739	2019-01-28	253	892		108%	862	739	381	1472	827	46
2A27	DOWNIE SLIDE (LOWER)	Upper Columbia	964	2019-01-28	157	494		99%	486	324	256	740	501	41
2A29	DOWNIE SLIDE (UPPER)	Upper Columbia	1628	2019-01-28	278	1040		108%	1022	804	335	1422	965	40
2A30P	Colpitti Creek	Upper Columbia	2131	2019-02-01		599			682	523	403	682		3
2A31P	Caribou Creek Upper	Upper Columbia	2201	2019-02-01		634			739	570	465	739		3
2A32P	Wildcat Creek	Upper Columbia	2122	2019-02-01		508			428	325	271	428		3
2B02A	FARRON	Lower Columbia	1229	2019-01-28	78	231		105%	318	178	63	346	219	45
2B05	WHATSHAN (UPPER)	Lower Columbia	1476	2019-01-26	118	365		77%	517	242	249	759	475	49
2B06P	Barnes Creek	Lower Columbia	1595	2019-02-01		348		94%	418	150	195	566	369	25
2B07	KOCH CREEK	Lower Columbia	1813	2019-01-26	144	463		93%	550	418	203	708	497	57
2B08P	St. Leon Creek	Lower Columbia	1822	2019-02-01		699		91%	803	579	311	1130	767	25
2B09	RECORD MOUNTAIN	Lower Columbia	1906	2019-01-29	130	396		82%	565	440	117	802	481	42
2C01	SINCLAIR PASS	East Kootenay	1374		NS	NS	NS				33	208	77	45
2C04	SULLIVAN MINE	East Kootenay	1580	2019-01-30	54	124		66%	237	128	46	397	187	72
2C07	FERNIE EAST	East Kootenay	1213	2019-01-31	68	192		91%	269	158	51	467	212	66
2C09Q	Morrissey Ridge	East Kootenay	1966	2019-02-01		319		69%	411	249	173	886	463	38
2C10P	Moyie Mountain	East Kootenay	1840	2019-02-01	68	223		78%	319	216	104	518	286	39
2C14P	Floe Lake	East Kootenay	2110	2019-02-01		435		92%	563	457	221	746	471	25

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2C15	MOUNT ASSINIBOINE	East Kootenay	2230	2019-01-29	128	353		101%		336	140	592	351	48
2C16	MOUNT JOFFRE	East Kootenay	1763	2019-01-29	75	194		81%		146	96	439	240	47
2C17	THUNDER CREEK	East Kootenay	2062	2019-01-29	64	135		77%		134	69	335	175	46
2D02	FERGUSON	West Kootenay	929	2019-01-29	133	390		96%	443	280	237	616	407	45
2D03	SANDON	West Kootenay	1072	NS	NS	NS	NS				328	328	0	3
2D04	NELSON	West Kootenay	952	2019-01-30	81	198		75%	296	142	79	508	264	80
2D05	GRAY CREEK (LOWER)	West Kootenay	1558	2019-01-28	88	265		87%	364	185	127	511	304	69
2D06	CHAR CREEK	West Kootenay	1290	2019-02-01	99	312		84%	481	218	117	650	371	52
2D07A	DUNCAN LAKE NO. 2	West Kootenay	662	2019-02-06	24	70	A	53%	166	104	60	283	132	27
2D08P	East Creek	West Kootenay	2004	2019-02-01		719		117%	659	518	274	1012	616	37
2D09	MOUNT TEMPLEMAN	West Kootenay	1879	2019-01-29	204	717		102%		605	409	1115	701	49
2D10	GRAY CREEK (UPPER)	West Kootenay	1926	2019-01-28	128	382		77%		413	268	792	497	48
2D14P	Redfish Creek	West Kootenay	2086	2019-02-01	223	835		102%	939	791	667	1067	821	16
2E01	MONASHEE PASS	Kettle	1387	2019-01-26	71	184		78%	244	103	122	364	236	58
2E02	CARMI	Kettle	1254	2019-01-30	39	86		89%			51	196	97	29
2E03	BIG WHITE MOUNTAIN	Kettle	1672	2019-01-30	94	284		88%	411	179	178	483	322	50
2E07P	Grano Creek	Kettle	1874	2019-02-01	85	234		71%	382	245	156	476	330	20
2F01A	TROUT CREEK (West)	Okanagan	1430	2019-01-28	50	90		61%	181		93	212	147	8
2F01P	Trout Creek West	Okanagan	1420	2019-02-01					193					1
2F02	SUMMERLAND RESERVOIR	Okanagan	1304	2019-01-30	61	137		88%	219		65	307	156	54
2F03	MC CULLOCH	Okanagan	1266	2019-01-30	48	96		82%	167	91	63	196	117	81
2F04	GRAYSTOKE LAKE	Okanagan	1818	2019-02-01	60	200		91%	248		128	324	219	18
2F05P	Mission Creek	Okanagan	1794	2019-02-01	87	264		83%	378	200	164	503	320	48
2F07	POSTILL LAKE	Okanagan	1358	2019-01-31	46	96		70%		97	73	243	138	67
2F08P	Greyback Reservoir	Okanagan	1550	2019-02-01	43	111			222	119	119	222		2
2F09	WHITEROCKS MOUNTAIN	Okanagan	1789	2019-01-27	119	392		107%	435	274	135	693	366	46
2F10P	Silver Star Mountain	Okanagan	1839	2019-02-01	148	508			530	359	483	530		3
2F11	ISINTOK LAKE	Okanagan	1651	2019-01-31	34	66		61%	172		26	307	109	52
2F12	MOUNT KOBAN	Okanagan	1817	2019-01-27	64	135		69%	269	204	43	400	196	51
2F13	ESPERON CR (UPPER)	Okanagan	1634	NS	NS	NS	NS				156	457	156	6
2F14	ESPERON CR (MIDDLE)	Okanagan	1440	NS	NS	NS	NS				146	399	208	12
2F18P	Brenda Mine	Okanagan	1453	2019-02-01		184		74%	252	159	148	368	249	25
2F19	OOYAMA LAKE	Okanagan	1365	2019-01-31	44	78		66%	157	80	31	193	119	49
2F20	VASEUX CREEK	Okanagan	1403	2019-01-27	40	70		80%	122	54	44	208	87	30
2F21	BOULEAU LAKE	Okanagan	1405	NS	NS	NS	NS				168	396	216	10
2F23	MACDONALD LAKE	Okanagan	1742	2019-01-30	99	290		106%	410		132	411	273	19
2F24	ISLAHT LAKE	Okanagan	1492	2019-01-30	83	222		99%	230	119	123	364	225	35

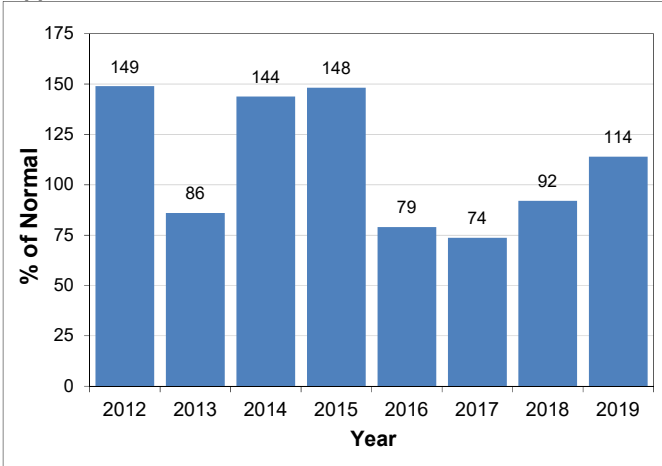
2019 Automated Snow Weather Station/Manual Snow Survey Data				February					Historic Snow Water Equivalent (mm)					
Station ID	Name	Basin	Elevation (masl)	Survey Date YYYY-MM-DD	SD (cm)	SWE (mm)	Code	SWE % 1981-2010 Normal	2018 SWE (mm)	2017 SWE (mm)	Minimum (mm)	Maximum (mm)	1981-2010 Normal (mm)	Years of Record
2F25	POSTILL LAKE UPPER	Okanagan	1500	2019-01-31	47	111					120	210		5
2G03P	Blackwall Peak	Similkameen	1934	2019-02-01	141	460		83%	639	398	158	1076	553	50
2G04	LOST HORSE MOUNTAIN	Similkameen	1988	2019-01-27	58	114	B	82%	225	108	70	335	139	57
2G05	MISSEZULA MOUNTAIN	Similkameen	1602	2019-01-27	47	85	B	59%	184	106	60	284	144	56
2G06	HAMILTON HILL	Similkameen	1477	2019-01-26	57	119	B	56%	241	150	91	411	213	58
3A01	GROUSE MOUNTAIN	South Coast	1126	2019-01-30	173	668		88%	1224	988	50	1530	761	68
3A02	POWELL RIVER (UPPER)	South Coast	1002	NS	NS	NS	NS							0
3A05	POWELL RIVER (LOWER)	South Coast	882	NS	NS	NS	NS				620	620	620	3
3A09	PALISADE LAKE	South Coast	898	NS	NS	NS	NS				318	914	616	4
3A09P	Palisade Lake	South Coast	900	2019-02-01	145	622								0
3A10	DOG MOUNTAIN	South Coast	1007	2019-01-29	154	578		81%	1033	842	77	1243	715	34
3A19	ORCHID LAKE	South Coast	1178	2019-01-28	286	1054		95%	1495	998	273	1855	1114	40
3A20	CALLAGHAN CREEK	South Coast	1009	2019-01-29	186	672		124%	836		50	1040	542	35
3A22P	Nostetuko River	South Coast	1457	2019-02-01	106	380		103%	485	266	120	780	368	29
3A24P	Mosley Creek Upper	South Coast	1655	2019-02-01	74	205		85%	308	198	106	509	242	29
3A25P	Squamish River Upper	South Coast	1387	2019-02-01	363	1241		114%	1350	858	503	1543	1087	28
3A26	CHAPMAN CREEK	South Coast	1022	2019-01-29	198	780		92%	1306	830	540	1306	844	8
3A27	EDWARDS LAKE	South Coast	1070	2019-01-29	137	540		321%			410	944	168	5
3A28P	Tetrahedron	South Coast	1420	2019-02-01	288	857								0
3B01	FORBIDDEN PLATEAU	Vancouver Island	1110	2019-01-28	249	980		106%	1257	791	42	1640	922	64
3B02A	MOUNT COKELY	Vancouver Island	1267	NS	NS	NS	NS				234	1050	586	7
3B04	ELK RIVER	Vancouver Island	270	2019-01-28	11	36		59%	76	102	0	544	61	62
3B10	UPPER THELWOOD LAKE	Vancouver Island	1014	NS	NS	NS	NS				28	1534	285	24
3B17P	Wolf River Upper	Vancouver Island	1422	2019-02-01		879		102%	1065	689	162	1383	858	36
3B18	WOLF RIVER (MIDDLE)	Vancouver Island	1050	2019-01-28	112	340		85%		336	0	742	400	46
3B19	WOLF RIVER (LOWER)	Vancouver Island	615	2019-01-28	77	228		93%		178	0	572	244	46
3B23P	Jump Creek	Vancouver Island	1134	2019-02-01	110	516		84%	1122	466	0	1367	616	22
3B24P	Heather Mountain Upper	Vancouver Island	1190	2019-02-01	126	593			1282	878	859	1282		3
3B26P	Mount Arrowsmith	Vancouver Island	1465	2019-02-01	199	690			886					1
3C07	WEDEENE RIVER SOUTH	North Coast	196	NS	NS	NS	NS				105	497	304	14
3C08P	Burnt Bridge Creek	North Coast	1329	2019-02-01	136	536		93%	475	515	248	1124	577	20
3D01C	SUMALLO RIVER WEST	Skagit	801	2019-01-28	37	84		52%	265	182	0	368	161	26
3D02	LIGHTNING LAKE	Skagit	1254	NS	NS	NS	NS				67	242	154	5
3D03A	KLESILKWA	Skagit	1134	2019-01-28	50	136		76%		153	0	508	180	69
4A02P	Pine Pass	Peace	1386	2019-02-01	248	822		110%	700	525	363	1250	745	29
4A03	WARE (UPPER)	Peace	1563	2019-02-04	85	189		103%	195	130	90	289	184	55
4A03P	Ware Upper	Peace	1565	2019-02-01	80	182			182	130				2

2019 Automated Snow Weather Station/Manual Snow Survey Data				February					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	2018 SWE (mm)	2017 SWE (mm)	Minimum (mm)	Maximum (mm)	1981-2010 Normal (mm)	Years of Record
4A04	WARE (LOWER)	Peace	969	N	N	N	N		142		63	286	143	55
4A04P	Ware Lower	Peace	971	2019-02-01	67	163			168	89				2
4A05	GERMANSEN (UPPER)	Peace	1489	2019-02-05	116	329		139%	263	144	140	371	237	51
4A06	TUTIZZI LAKE	Peace	1043	2019-02-05	89	205		110%	206	95	106	348	186	50
4A07	LADY LAURIER LAKE	Peace	1460	2019-02-03	128	342		93%	314	275	194	679	369	50
4A09	PULPIT LAKE	Peace	1331	2019-02-04	117	320		103%	256	208	152	530	312	50
4A09P	Pulpit Lake	Peace	1331	2019-02-01	102	281		87%	218	183	133	405	324	28
4A10	FREDRICKSON LAKE	Peace	1323	2019-02-05	83	187		104%	131	105	93	309	179	50
4A11	TRYGVE LAKE	Peace	1409	N	N	N	N		210	175	119	434	264	50
4A12	TSAYDAYCHI LAKE	Peace	1173	2019-02-05	124	360		130%	307		146	507	277	51
4A13	PHILIP LAKE	Peace	1013	2019-02-05	100	261		131%	180		118	355	199	51
4A16	MORFEE MOUNTAIN	Peace	1427	2019-02-05	204	723		121%	466	373	265	952	597	50
4A18	MOUNT SHEBA	Peace	1480	2019-02-06	232	783		138%	617	447	299	932	566	49
4A20	MONKMAN CREEK	Peace	1566	2019-01-30	117	377		100%	500	344	163	775	376	42
4A20P	Monkman Creek	Peace	1570	2019-02-01		339								0
4A21	MOUNT STEARNS	Peace	1514	2019-02-03	60	103		100%	94	117	40	196	103	44
4A25	FORT ST. JOHN A	Peace	692	2019-02-07	64	96		120%	70	72	22	154	80	43
4A27P	Kwadacha North	Peace	1554	2019-02-01	99	212			221	137				2
4A30P	Aiken Lake	Peace	1061	2019-02-01	76	198		103%	124	122	90	330	193	33
4A31P	Crying Girl Prairie	Peace	1358	2019-02-01		182			190	165	100	190		3
4A33P	Muskwa-Kechika	Peace	1196	2019-02-01		93			81	84	23	84		3
4A34P	Dowling Creek	Peace	1456	2019-02-01		1096			574	661				2
4B01	KIDPRICE LAKE	Skeena-Nass	1415	2019-02-02	192	595		90%		725	420	1220	664	63
4B02	JOHANSON LAKE	Skeena-Nass	1480	2019-02-05	91	229		109%	176	133	108	355	211	50
4B03A	HUDSON BAY MTN.	Skeena-Nass	1452	2019-02-04	133	363		101%	364	326	168	665	361	46
4B04	CHAPMAN LAKE	Skeena-Nass	1485	NS	NS		NS							0
4B06	TACHEK CREEK	Skeena-Nass	1133							120	99	298	156	19
4B07	MCKENDRICK CREEK	Skeena-Nass	1048	NS	NS		NS				264	264	0	2
4B08	MOUNT CRONIN	Skeena-Nass	1491	NS	NS		NS						0	
4B10	NINGUNSAW PASS	Nass	647	2019-02-04	85	220		71%		178	171	603	312	41
4B11A	BEAR PASS	Nass	437	2019-02-04	101	220		48%	340	270	192	821	455	31
4B12P	Granduc Mine	Skeena-Nass	790	2019-02-01						80				1
4B13A	TERRACE A	Skeena-Nass	219	2019-01-29	24	86		67%	146	22	0	330	128	37
4B14	EQUITY MINE	Skeena-Nass	1434	NS	NS		NS				174	444	265	15
4B15	LU LAKE	Skeena-Nass	1296	NS	NS		NS				134	352	214	15
4B15P	Lu Lake	Skeena-Nass	1308	2019-02-01	80	206		107%	218	213	90	351	192	20
4B16P	Shedin Creek	Skeena-Nass	1320	2019-02-01	171	474		77%	384	324	195	878	617	22

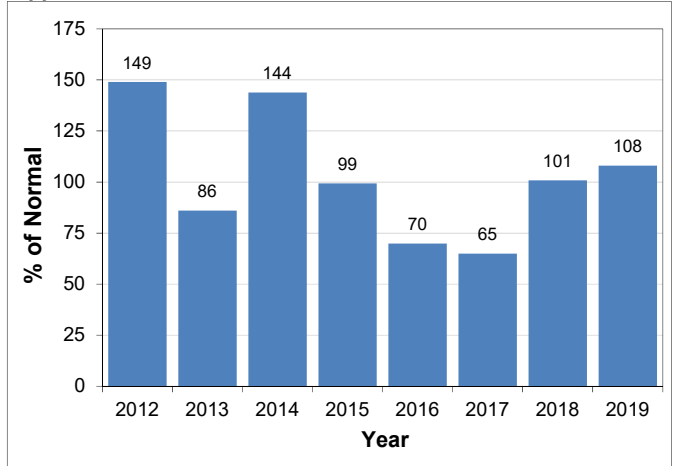
2019 Automated Snow Weather Station/Manual Snow Survey Data				February					Historic Snow Water Equivalent (mm)					
Station ID	Name	Basin	Elevation (masl)	Survey Date YYYY-MM-DD	SD (cm)	SWE (mm)	Code	SWE % 1981-2010 Normal	2018 SWE (mm)	2017 SWE (mm)	Minimum (mm)	Maximum (mm)	1981-2010 Normal (mm)	Years of Record
4B17P	Tsai Creek	Skeena-Nass	1360	2019-02-01	236	772		93%	644	640	302	1489	827	20
4B18P	Cedar-Kiteen	Skeena-Nass	912	2019-02-01	139	395		81%		297	178	856	486	16
4C01	SIKANNI LAKE	Liard	1390	2019-02-04	78	160		83%	162	95	78	325	193	50
4C01P	Sikanni Lake	Liard	1400	2019-02-01	89	182			237	93	93	237		2
4C02	SUMMIT LAKE	Liard	1291	NS	NS		NS			60	36	146	91	20
4C03	DEASE LAKE	Liard	805	2019-02-05	44	68		67%			36	218	101	51
4C05	FORT NELSON AIRPORT	Liard	368	2019-01-29	44	51		67%	51	60	35	128	76	51
4C15	JADE CITY	Liard	943	NS	NS		NS				102	260	165	14
4D01	TELEGRAPH CREEK	Stikine	490	NS	NS		NS				51	244	110	22
4D02	ISKUT	Stikine	931	2019-02-05	28	48		59%			30	162	82	41
4D11P	Kinaskan Lake	Stikine	1020	2019-02-01	65	182		63%	113	188	94	194	288	22
4E02B	ATLIN LAKE	Yukon	730	1900-01-00										
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 - February 1, 2019

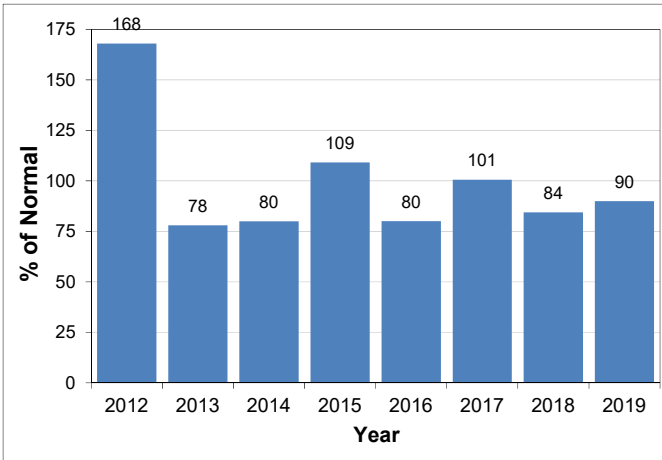
Upper Fraser West



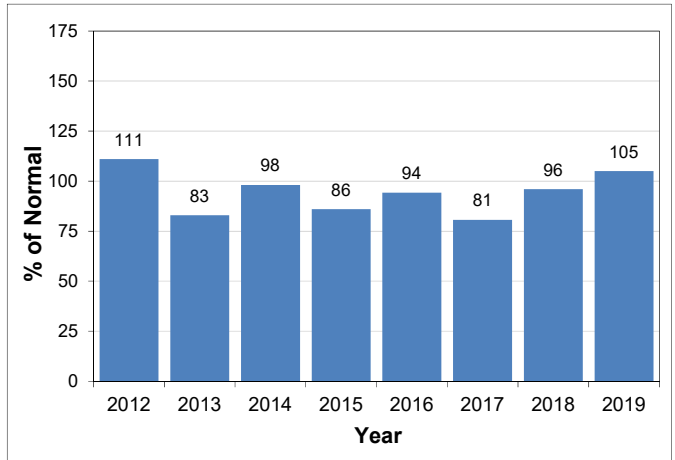
Upper Fraser East



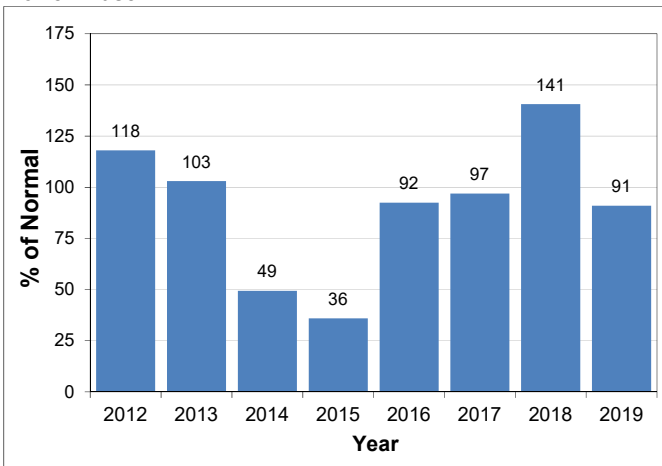
Nechako



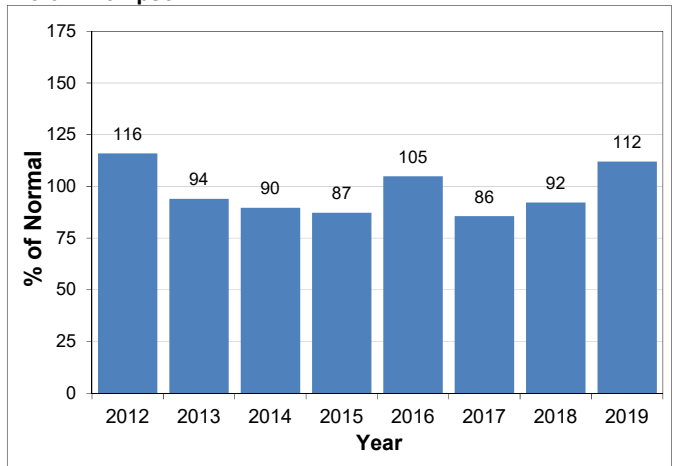
Middle Fraser



Lower Fraser

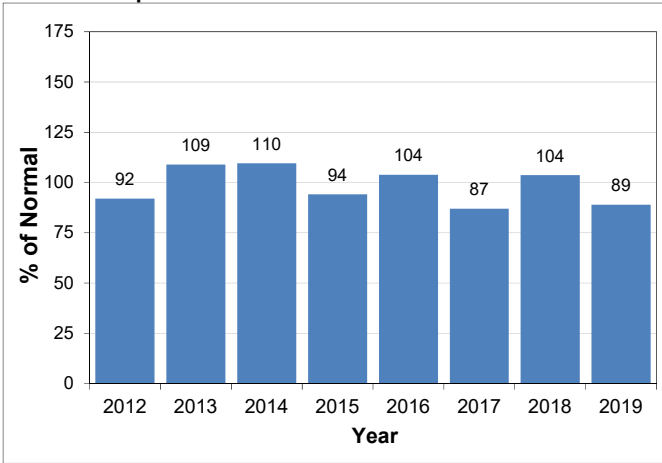


North Thompson

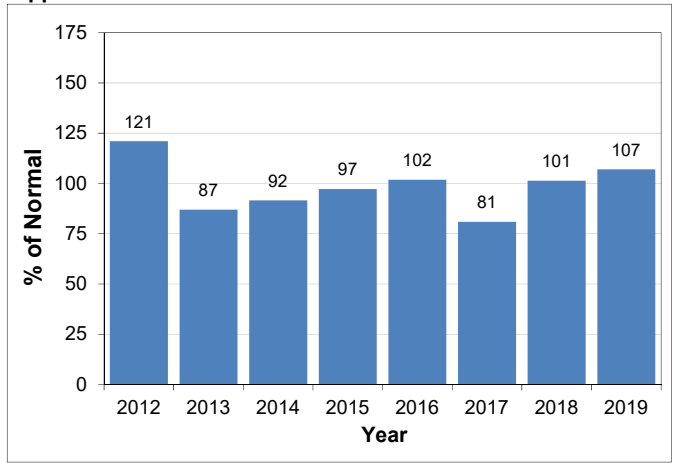


Snow Basin Index Graphs - February 1, 2019

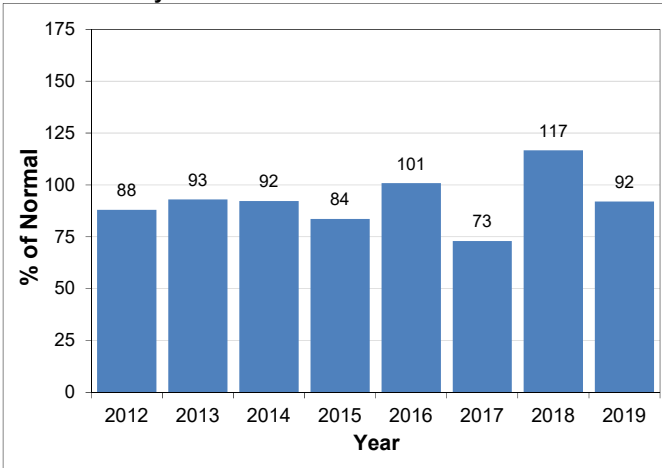
South Thompson



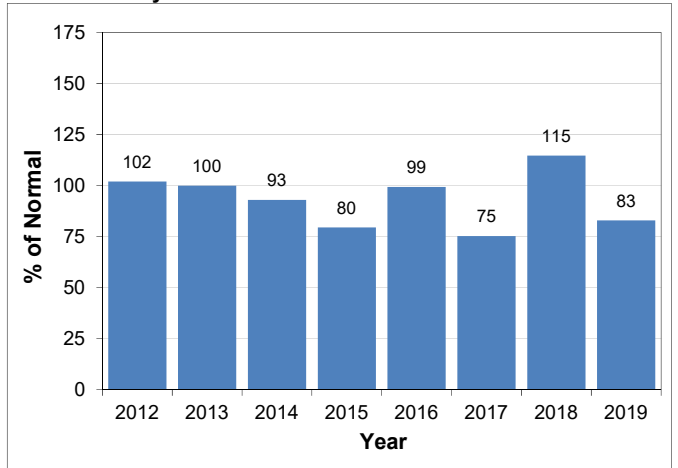
Upper Columbia



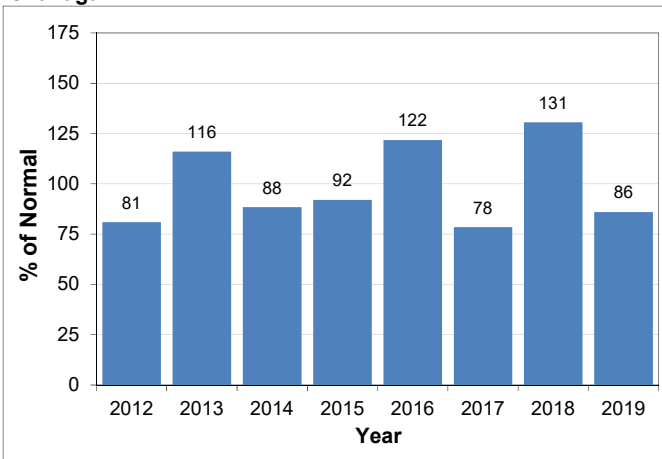
West Kootenay



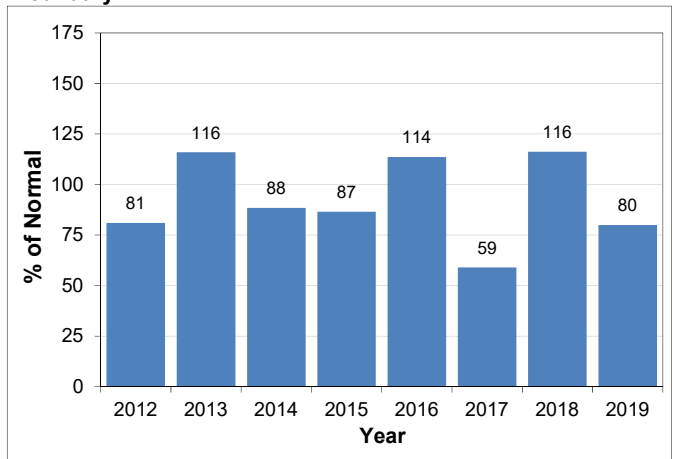
East Kootenay



Okanagan

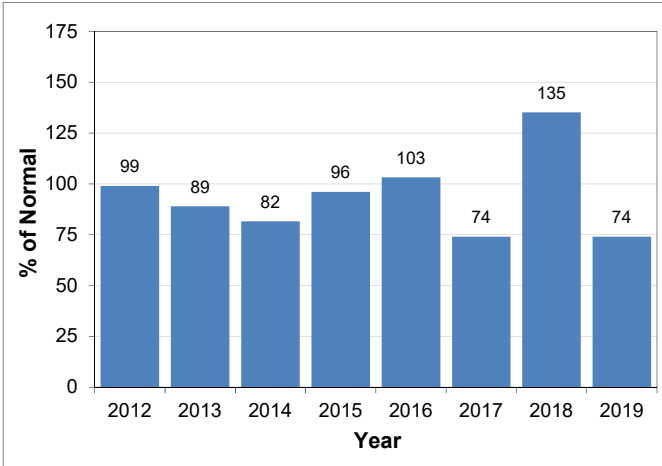


Boundary

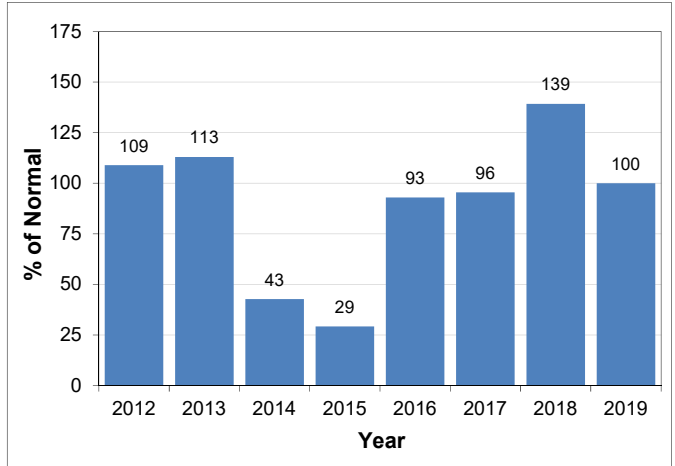


Snow Basin Index Graphs - February 1, 2019

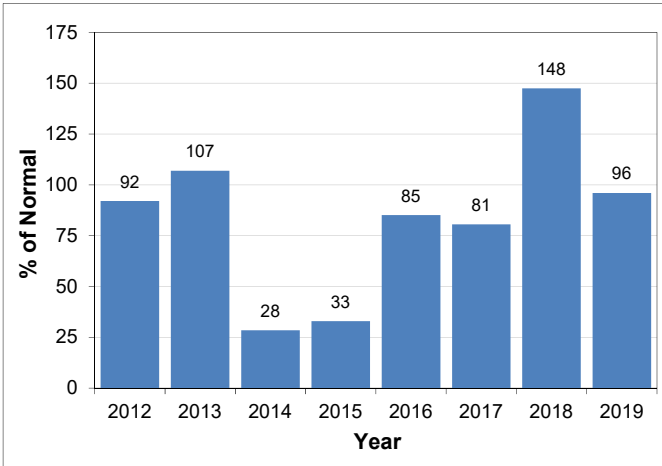
Similkameen



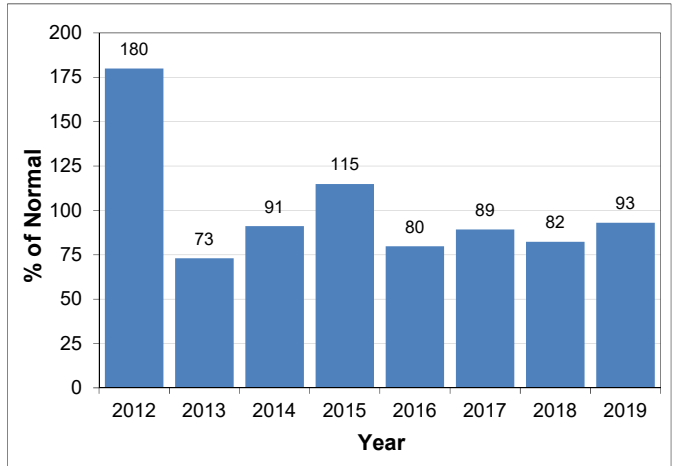
South Coast



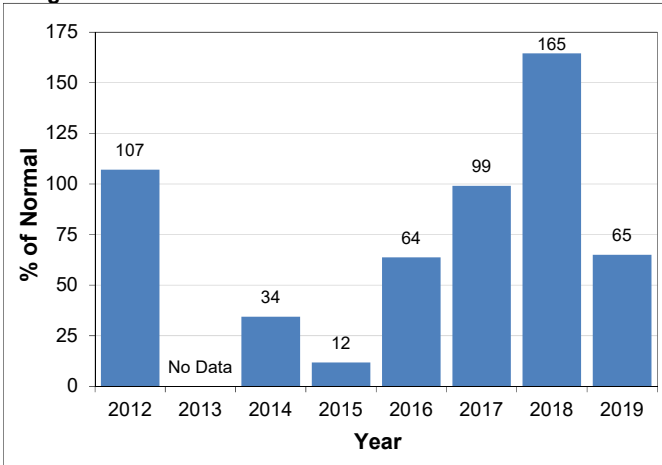
Vancouver Island



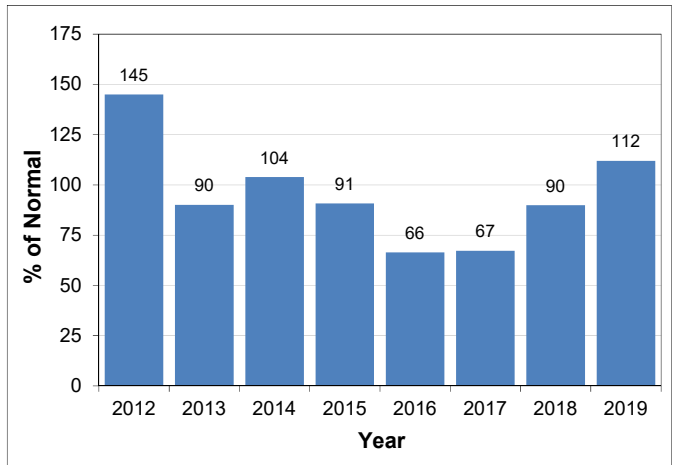
Central Coast



Skagit

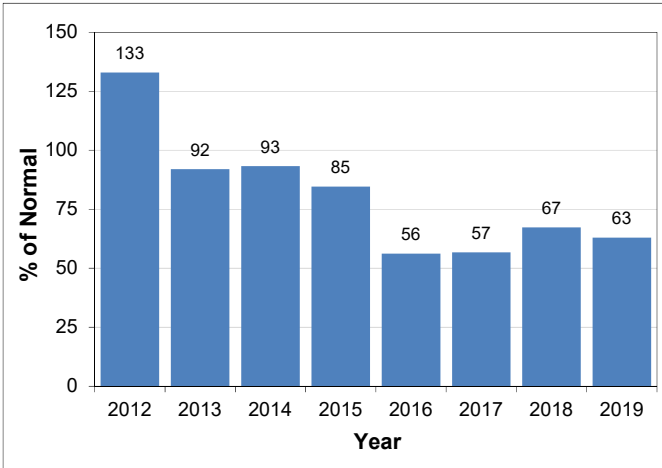


Peace

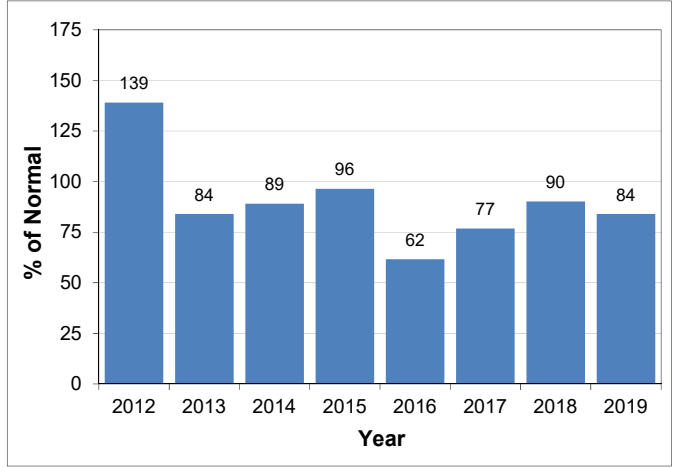


Snow Basin Index Graphs - February 1, 2019

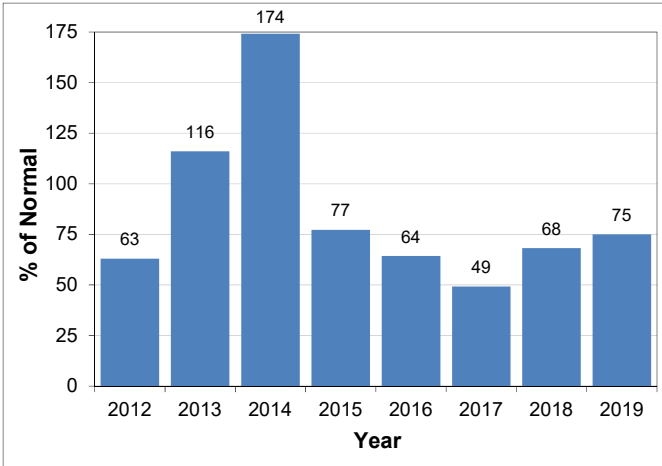
Stikine



Skeena-Nass



Liard



Northwest

