

YUKON SNOW SURVEY BULLETIN & WATER SUPPLY FORECAST

March 1, 2010

Prepared and issued by:
Water Resources Branch
Environment Yukon



PREFACE

The Yukon Snow Survey Bulletin and Water Supply Forecast is prepared and issued three times annually - after March 1, April 1 and May 1 - by Environment Yukon's Water Resources Branch. The bulletin provides a summary of winter meteorological and streamflow conditions for Yukon, as well as current snow depth and snow water equivalent observations for 56 locations. This information is used to make projections of total volume runoff for the summer period, and an estimate of peak flow for the main river basins and sub-basins including the: upper and lower Yukon, Pelly, Stewart, Liard, Alsek, Porcupine and Peel Rivers. Information about the bulletin, snowpack conditions or streamflow projections can be obtained by contacting:

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NETWORK CHANGES for 2010

There have been no network changes in 2010. This bulletin can now be accessed on the web at http://environmentyukon.gov.yk.ca/monitoringenvironment/snow_survey.php

ISSN 1705-883X

It is recommended that reference to this report be made in the following form:

Yukon Snow Survey Bulletin and Water Supply Forecast
Water Resources Branch
Dept. of Environment
Government Of Yukon
Box 2703, Whitehorse, Yukon Y1A 2C6

ACKNOWLEDGMENTS

The Yukon Snow Survey Bulletin and Water Supply Forecast is published three times annually, after March 1, April 1, and May 1, as part of the Yukon Snow Survey Program, by the Water Resources Branch, Department of Environment, Government of Yukon.

Other agencies that contribute significantly to the Snow Survey Program by providing data, assistance and information for the bulletin are:

Meteorological Service of Canada, Whitehorse
Supervisor, Technical Programs

Officer in Charge, Water Survey of Canada, Whitehorse.

Agencies cooperating with Environment Yukon in the Snow Survey Program are:

Client Service and Inspections Branch, Yukon Department of Energy Mines and Resources

Information Management and Technology, Yukon Department of Environment

B.C. Ministry of Environment, Water Stewardship Division

USDA Natural Resources Conservation Service

Yukon Department of Highways and Public Works

Parks Canada

The Yukon Energy Corporation

YUKON TERRITORY SNOWPACK CONDITIONS AND RUNOFF PROJECTION

WEATHER

October 2009 to February 2010 winter temperatures were generally higher than normal throughout the Territory with progressively higher temperatures moving from east to west. Temperatures were near normal in southeast Yukon with values 3 to 4 degrees above normal in western and Central Yukon.

Winter precipitation was near or below normal throughout the Territory. Areas of normal precipitation were observed in south central and northeastern Yukon with the rest of the Territory below normal.

October

October temperatures were above normal in northern and central Yukon, while they were normal in southwestern and below in southeastern Yukon. October precipitation was significantly below normal in northern Yukon, near normal in western central Yukon and above normal in the remainder of the Territory.

November

November temperatures were near normal in northern Yukon, slightly above normal in the southeast and moderately above normal throughout other Yukon regions. November precipitation was well above normal in northern and western central Yukon, well below normal in eastern central and south western Yukon and near normal in south eastern Yukon.

December

December temperatures were well above normal in northern and western central Yukon, above normal in eastern central and south western Yukon and below normal in southeastern Yukon. December precipitation was below normal in northern Yukon, while it was well below normal throughout the remainder of the Territory.

January

January temperatures near normal in northern Yukon while they were well above normal throughout the remainder of the Territory. January precipitation was well above normal in northern and eastern central Yukon, below normal in western central, near normal in southwestern and above normal in southeastern Yukon.

February

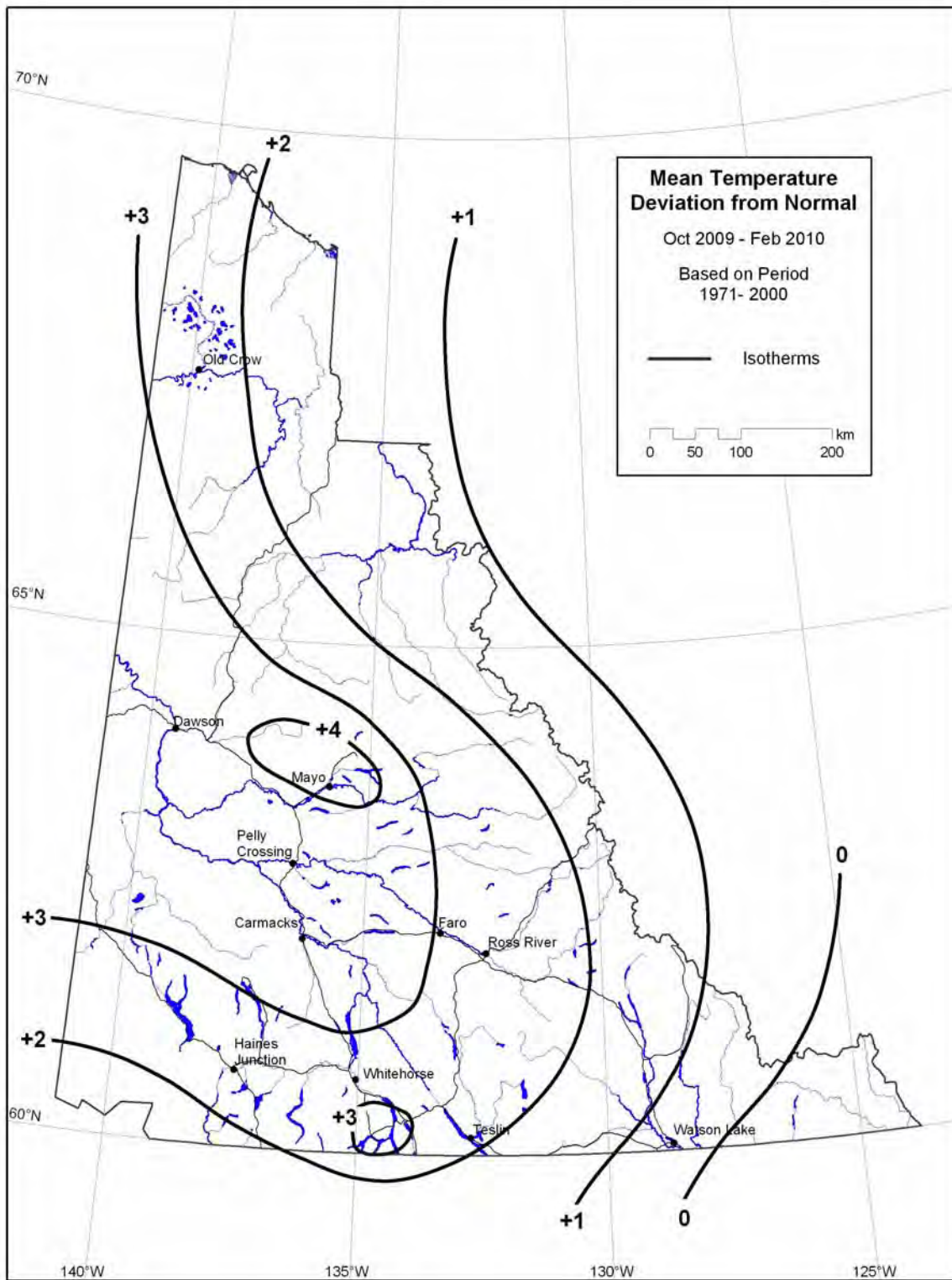
February temperatures were well above normal throughout the Territory, while precipitation was well below normal throughout.

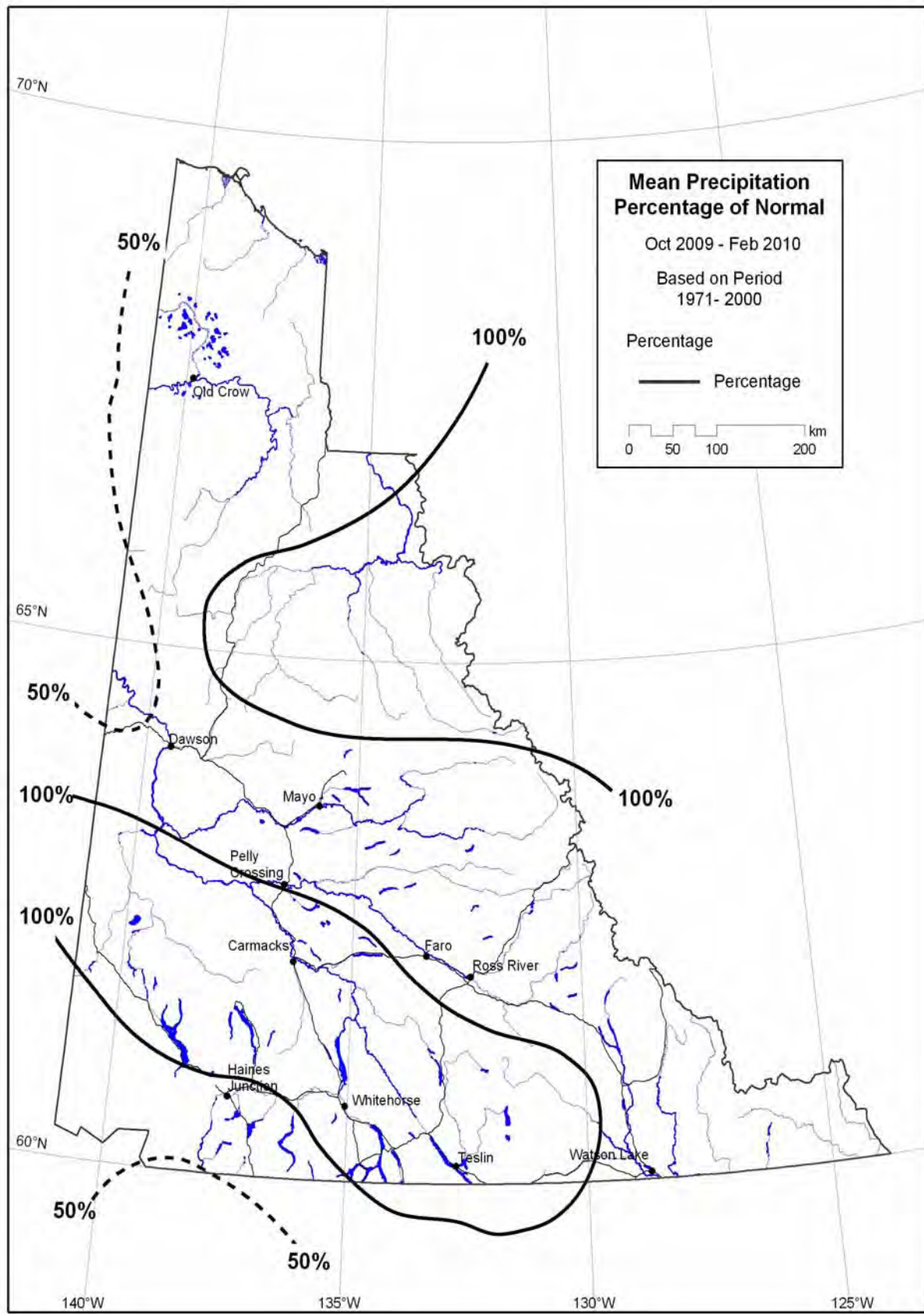
SNOWPACK

The March 1 Yukon snowpack is generally below normal with a pocket of well below normal snowpack in the Pelly crossing and Mayo regions and the area east of Dawson. Exceptions are northern Yukon and the Faro and Ross River regions which are normal, with a pocket of above normal snowpack around Carmacks.

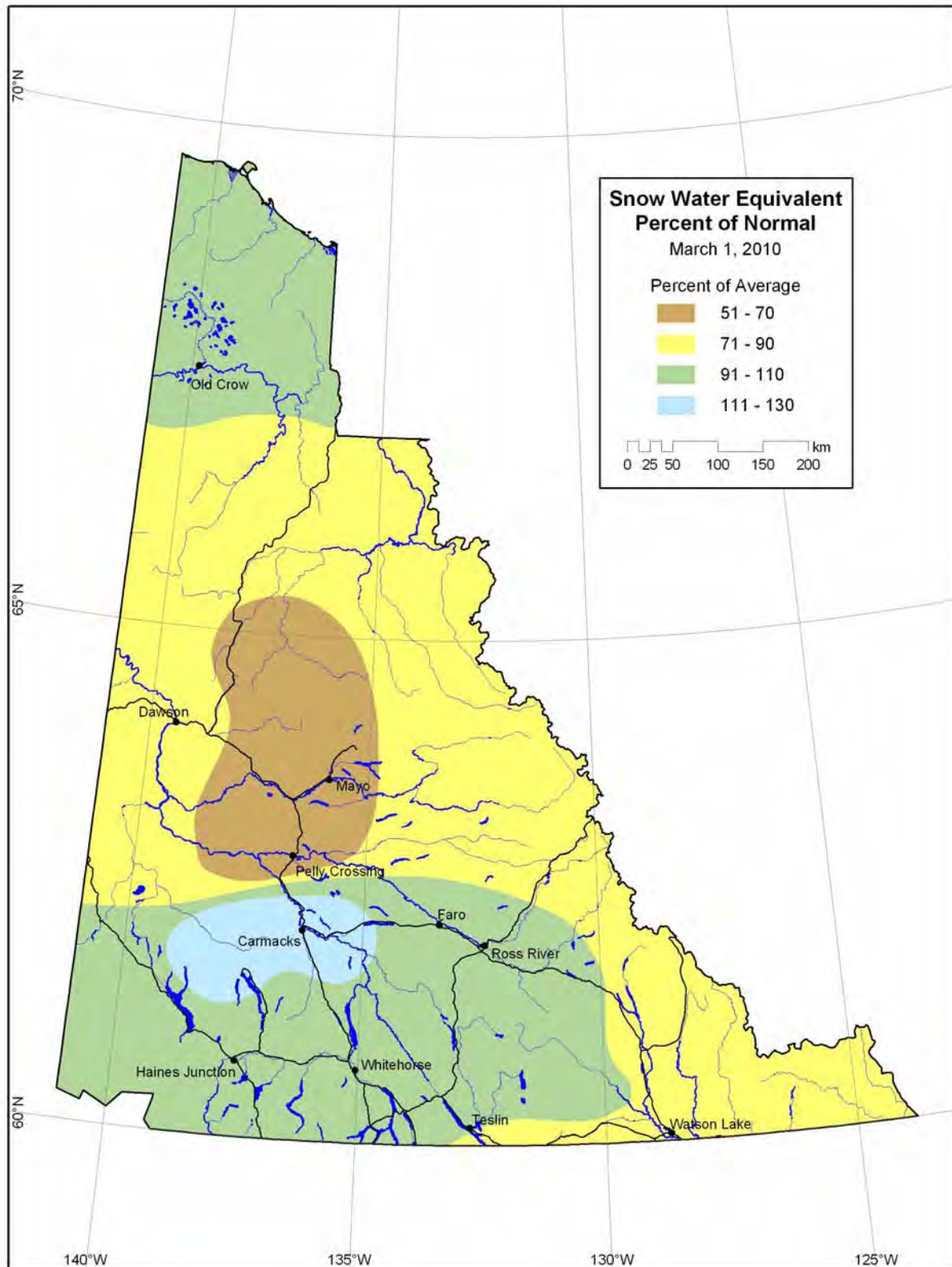
STREAMFLOW

Streamflow conditions within the Yukon are above normal for March 1st. Streamflow during this period represents winter baseflow, which provides an indication of winter groundwater contributions.





Yukon Snow Survey 2010

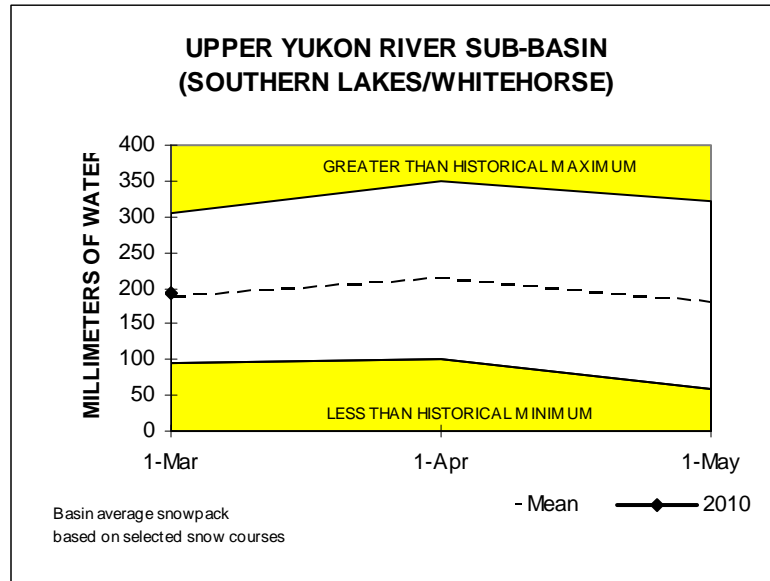


YUKON RIVER BASIN

Snowpack conditions in the Yukon River Basin range from above normal in the Carmacks region to well below normal in the north central regions which includes Pelly Crossing, Mayo and the area east of Dawson. Overall conditions are slightly below normal.

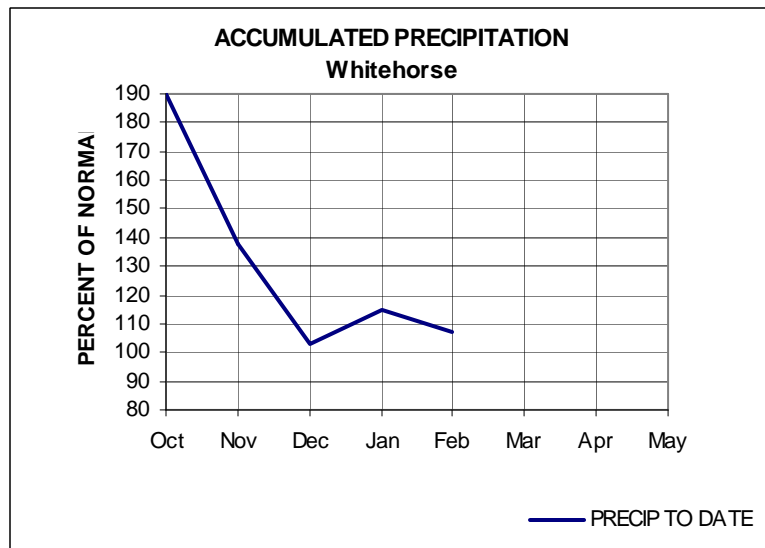
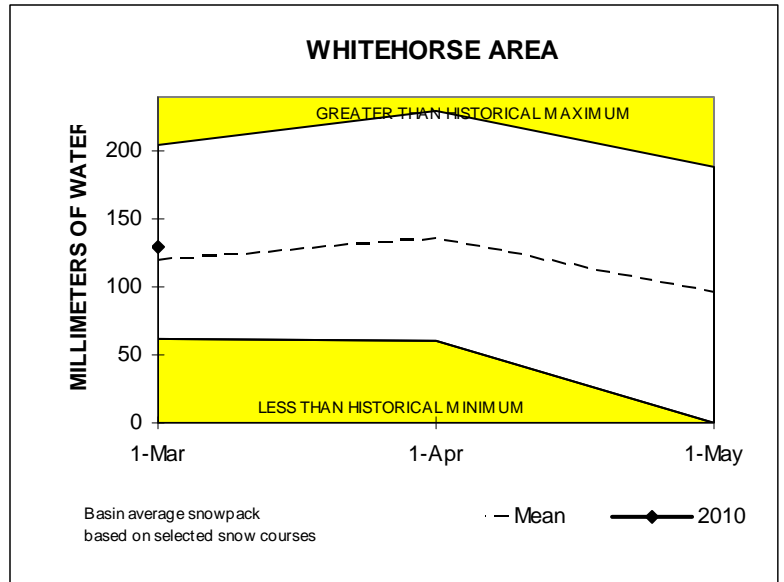
UPPER YUKON RIVER SUB-BASIN (SOUTHERN LAKES/WHITEHORSE)

Snowpack conditions in the Upper Yukon River watershed are near normal. Values range from 83 percent of normal at Atlin to 129 percent of normal at Mt McIntyre. A basin wide average has been estimated to be 103 percent of normal.

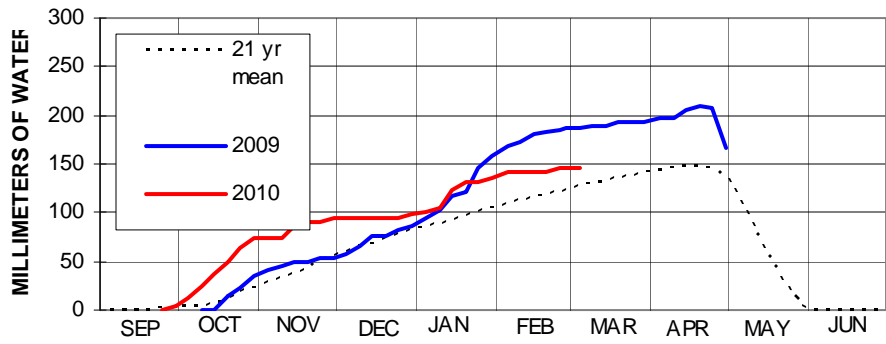


WHITEHORSE AREA

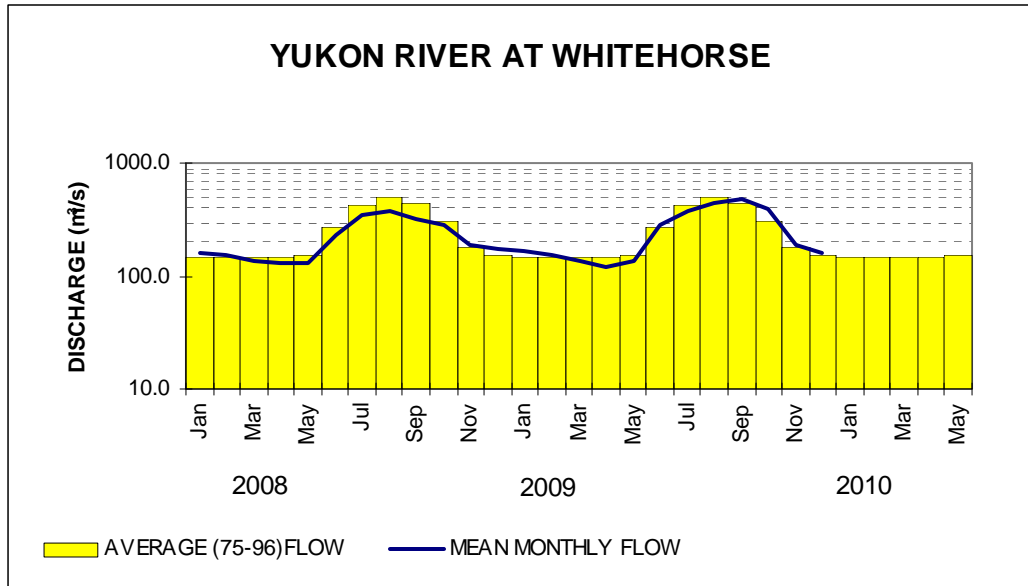
Snowpack conditions in the Whitehorse area are slightly above normal for March 1st. Values range from 89 percent of normal at the Whitehorse Airport to 129 percent of normal at Log Cabin. A basin wide average is estimated to be 109 percent of normal.



**SNOW PILLOW STATION DATA
TAGISH, No: 09AA-SC1**

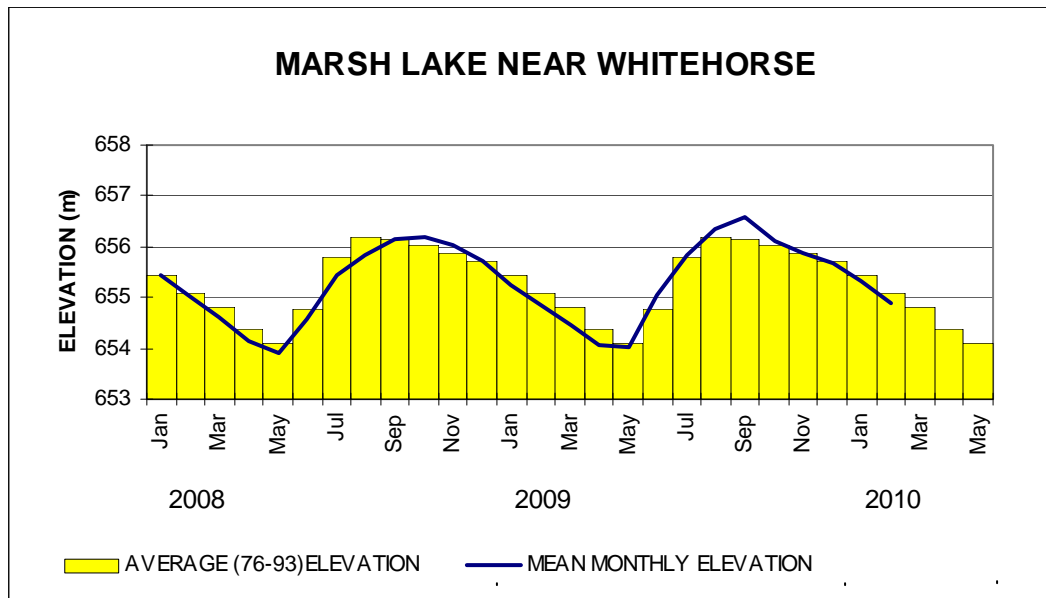


LAT 60° 17' LONG 134° 11'
ELEVATION 1080 metres
DRAINAGE YUKON BASIN



YUKON RIVER and MARSH LAKE

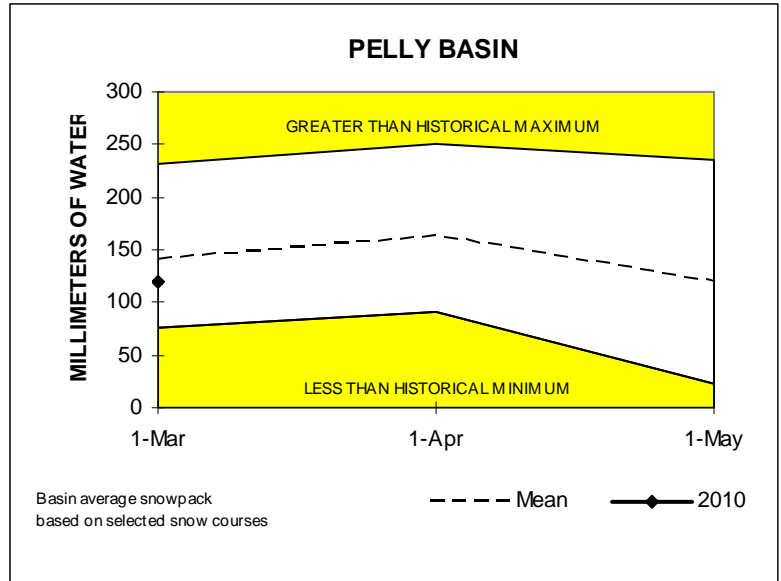
The elevation of Marsh Lake during February was 654.884M or 0.221M below normal. Yukon River at Whitehorse mean discharge during February was 104 percent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 95 percent and 95 percent of normal respectively.

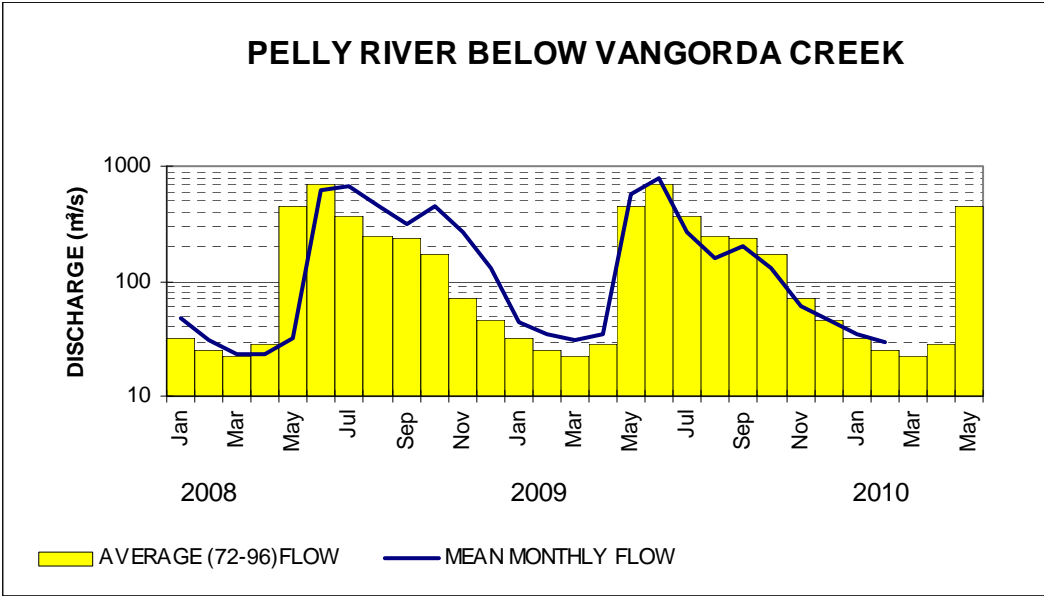
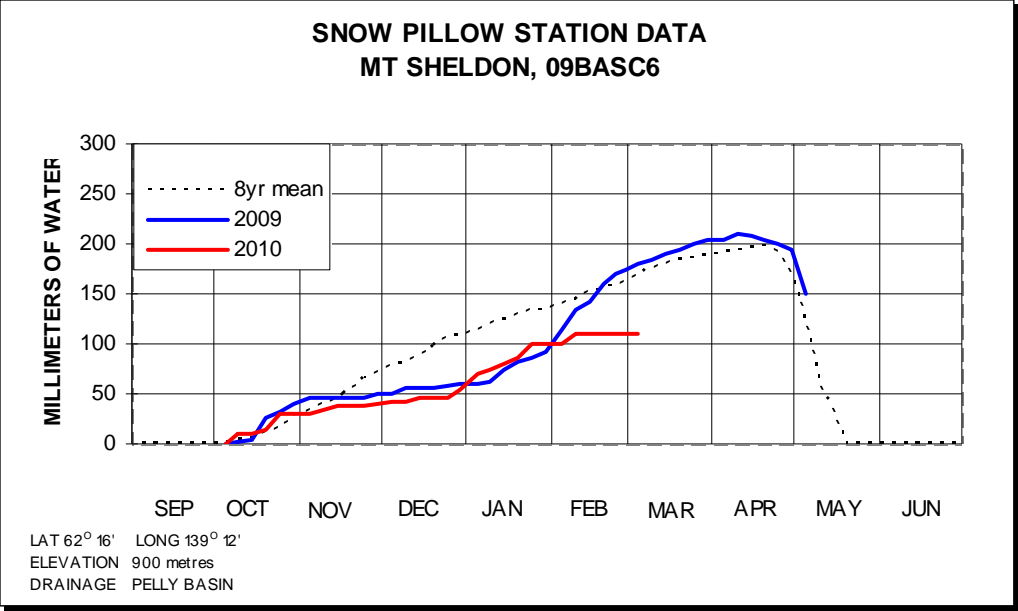


PELLY RIVER SUB-BASIN

Snowpack conditions in the Pelly River watershed are slightly below normal. Values of snow water equivalent range from 72 percent of normal at Twin Creeks to 101 percent of normal at Hoole River. A basin wide average has been estimated to be 84 percent of normal.

Mean February streamflow for the watershed was 114 percent of normal as indicated by the Pelly River below Vangorda Creek. Given normal summer meteorological conditions, volume runoff and peak flows are expected to be 80 percent and 80 percent of normal respectively.

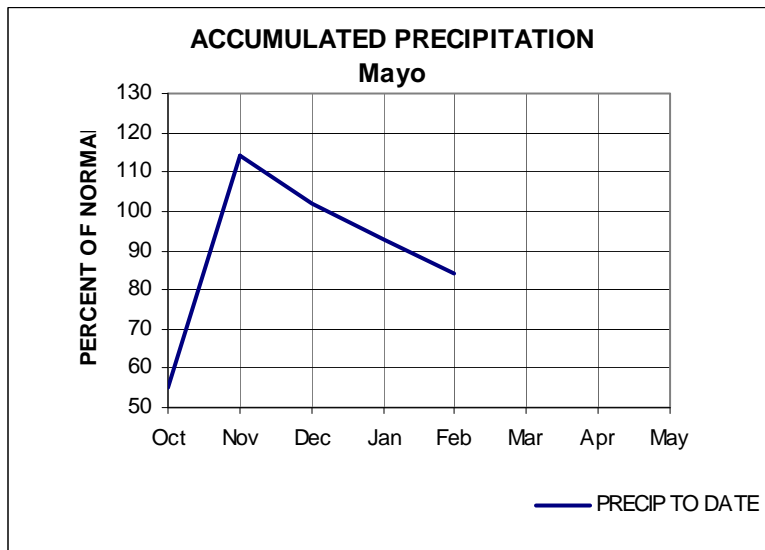
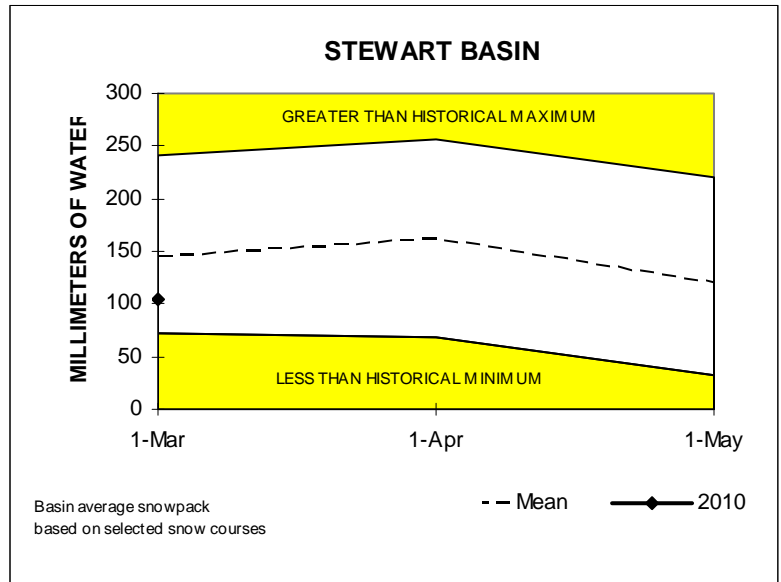




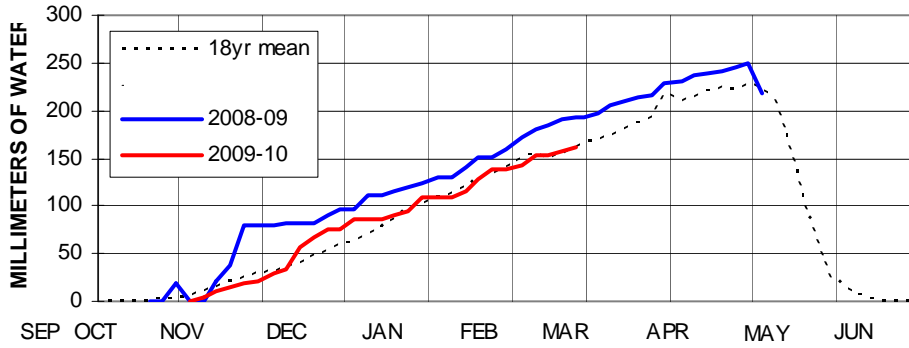
STEWART RIVER SUB-BASIN

Snowpack conditions in the Stewart River watershed are well below normal for March 1st. Values of snow water equivalent range from 62 percent of normal at Calumet to 84 percent of normal at the Mayo Airport. A basin wide average has been estimated to be 73 percent of normal.

Mean February streamflow for the watershed was 124 percent of normal as indicated by the Stewart River at the Mouth. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 75 percent and 76 percent of normal respectively.

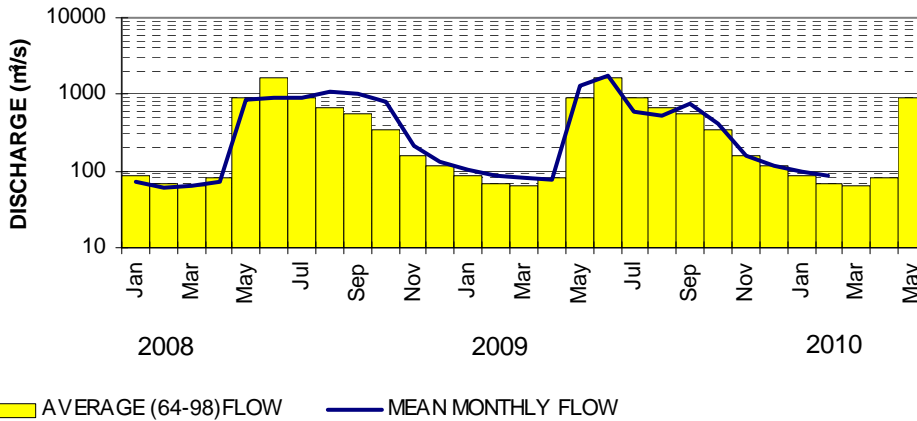


**SNOW PILLOW STATION DATA
WITHERS LAKE, No: 09DB-SC1**



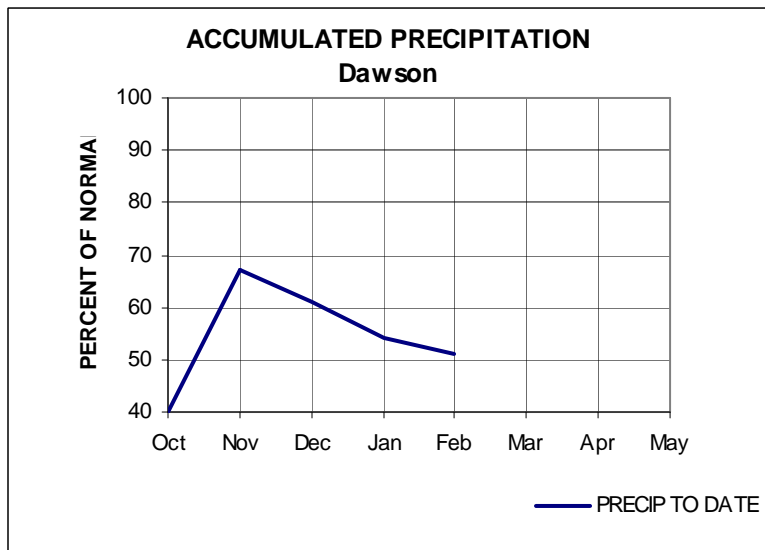
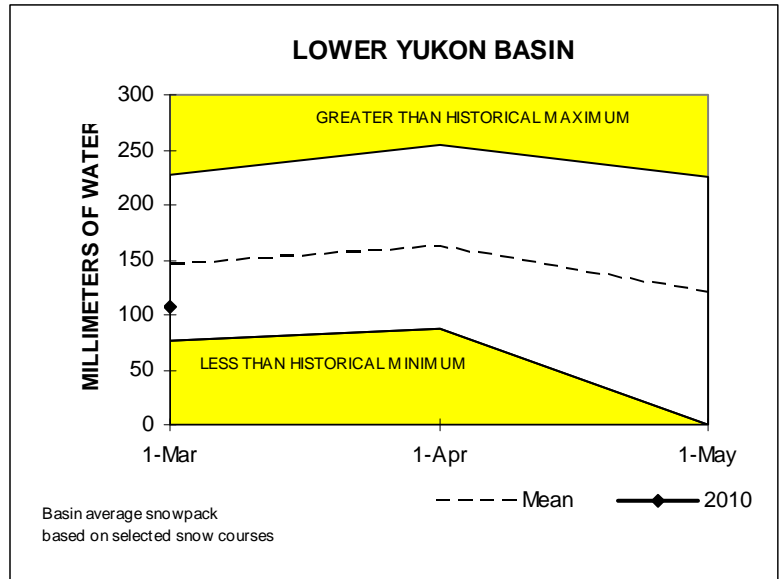
LAT 63° 59' LONG 132° 18'
ELEVATION 975 metres
DRAINAGE STEWART BASIN

STEWART RIVER AT THE MOUTH



LOWER YUKON RIVER BASIN (DAWSON AREA)

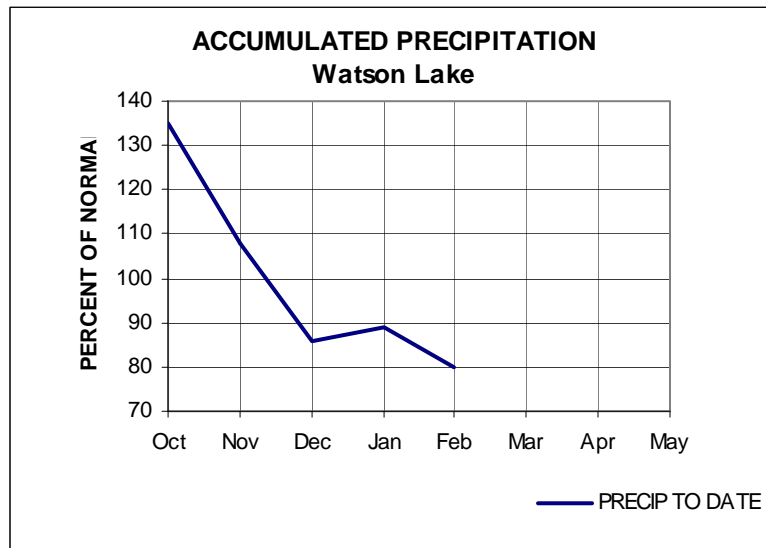
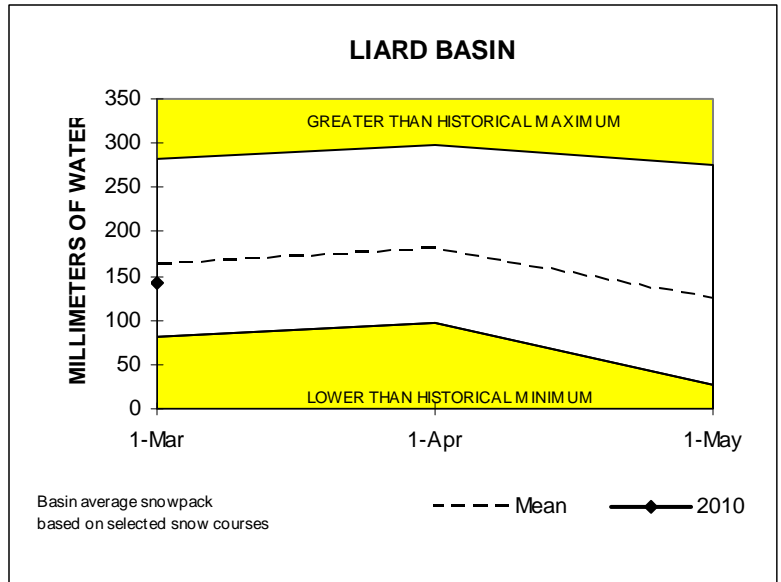
Snowpack conditions in the Dawson area are well below normal for March 1st. Values of snow water equivalent range from 70 percent of normal at Grizzly Creek to 83 percent of normal at Midnight Dome. An area wide average has been estimated to be 75 percent of normal.



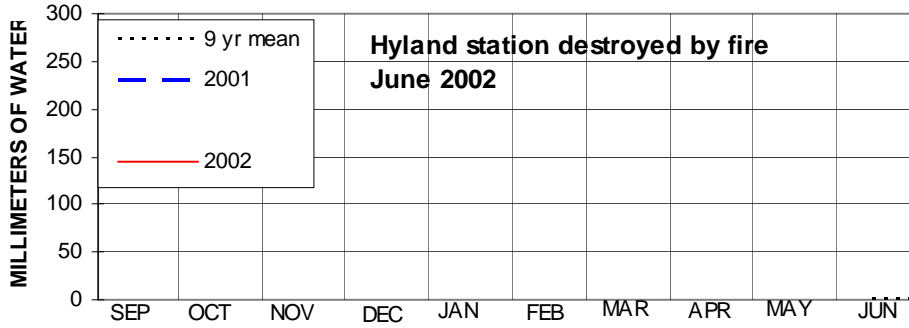
LIARD RIVER BASIN

Snowpack conditions within the Liard River watershed are slightly below normal. Values of snow water equivalent range from 81 percent of normal at Hyland River to 103 percent of normal at Tintina Airstrip. A basin wide average has been estimated to be 89 percent of normal.

Mean February streamflow for the Liard River upstream of Upper Liard was 124 percent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 87 percent and 85 percent of normal.

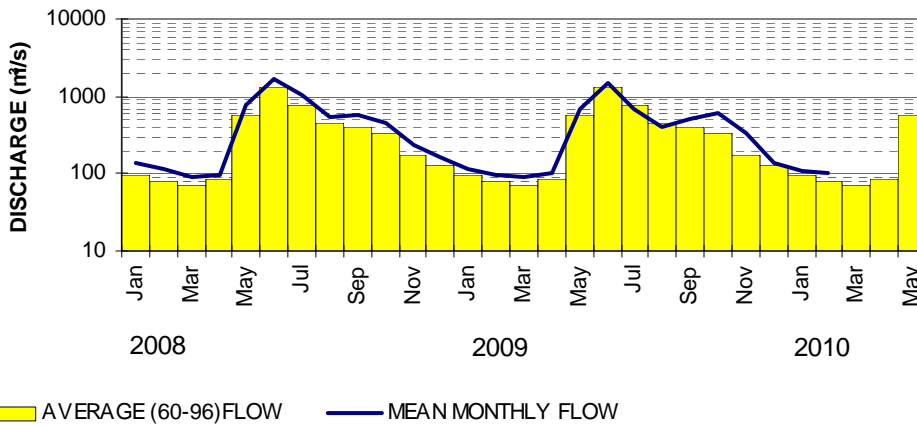


**SNOW PILLOW STATION DATA
HYLAND RIVER, No: 10AD-SC1**



LAT 61° 31' LONG 128° 16'
ELEVATION 855 metres
DRAINAGE LIARD BASIN

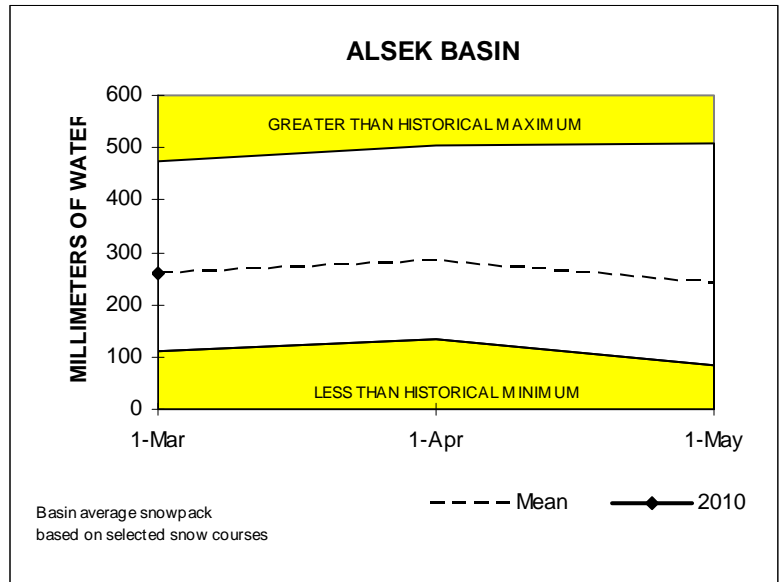
LIARD RIVER AT UPPER CROSSING

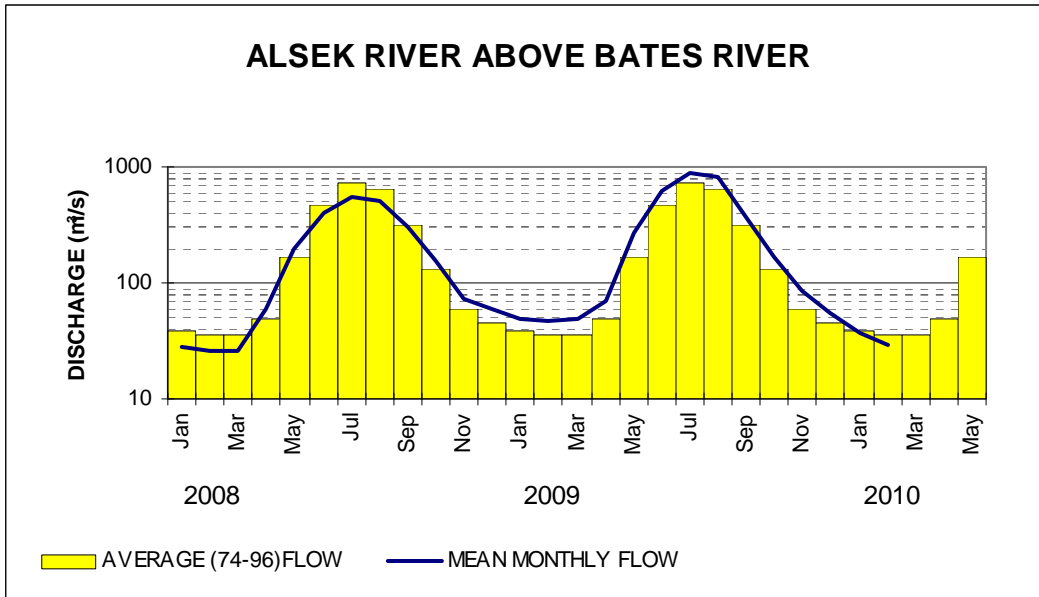


ALSEK RIVER BASIN

Snowpack conditions within the Alsek River watershed are near normal for March 1st. Values of snow water equivalent range from 79 percent of normal at Alder Creek to 120 percent of normal at Canyon Lake. A basin wide average has been estimated to be 99 percent of normal.

Mean monthly streamflow for February as indicated by the Alsek River above Bates River was 84 percent of normal. The Alsek River is primarily a glacial regime type, which is largely dependent on summer temperatures. Given normal summer meteorological conditions however, volume runoff and peak flows for the season are expected to be 100 and 95 percent of normal respectively.

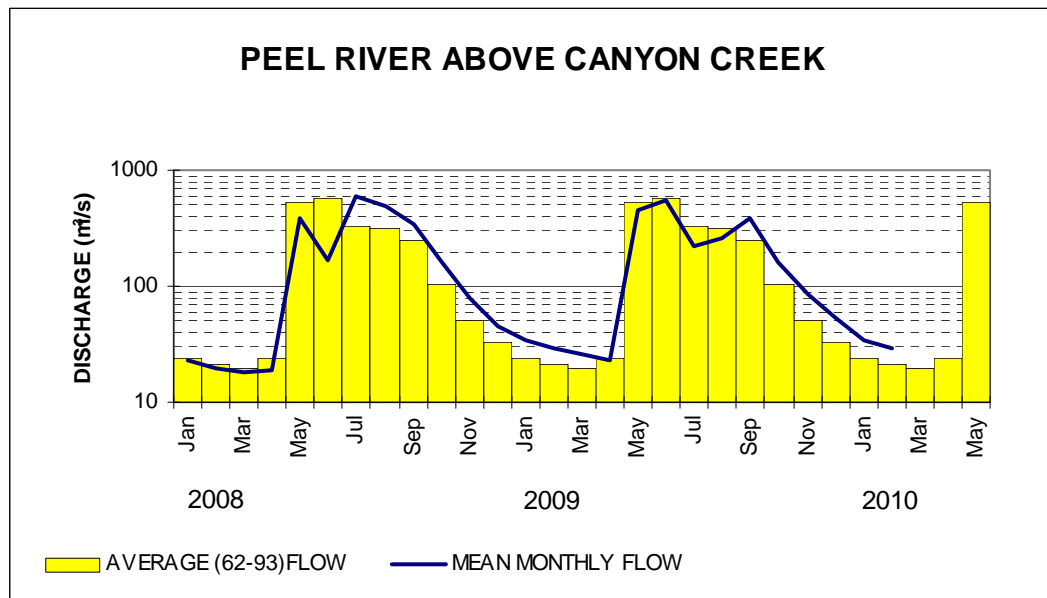
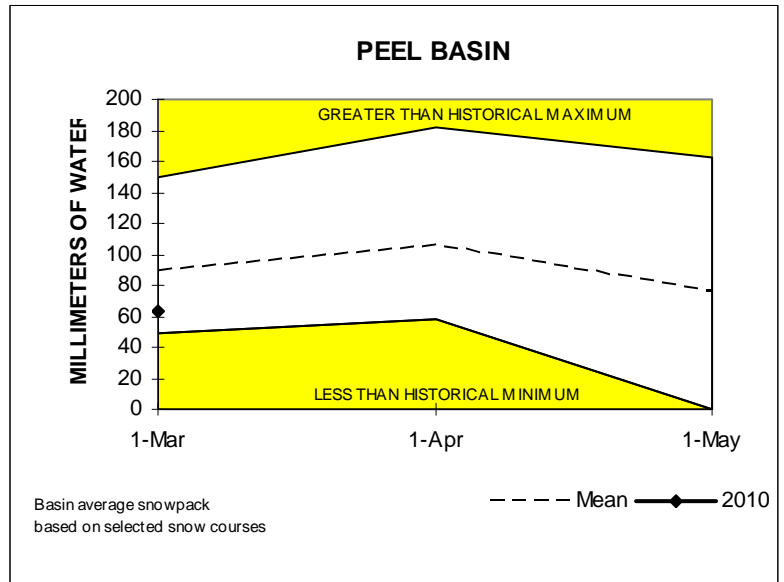




PEEL RIVER BASIN

Snowpack conditions in the Peel River watershed are well below normal with values of snow water equivalent ranging from 64 percent of normal at Blackstone to a 78 percent of normal at Ogilvie. A basin wide average has been estimated to be 89 percent of normal.

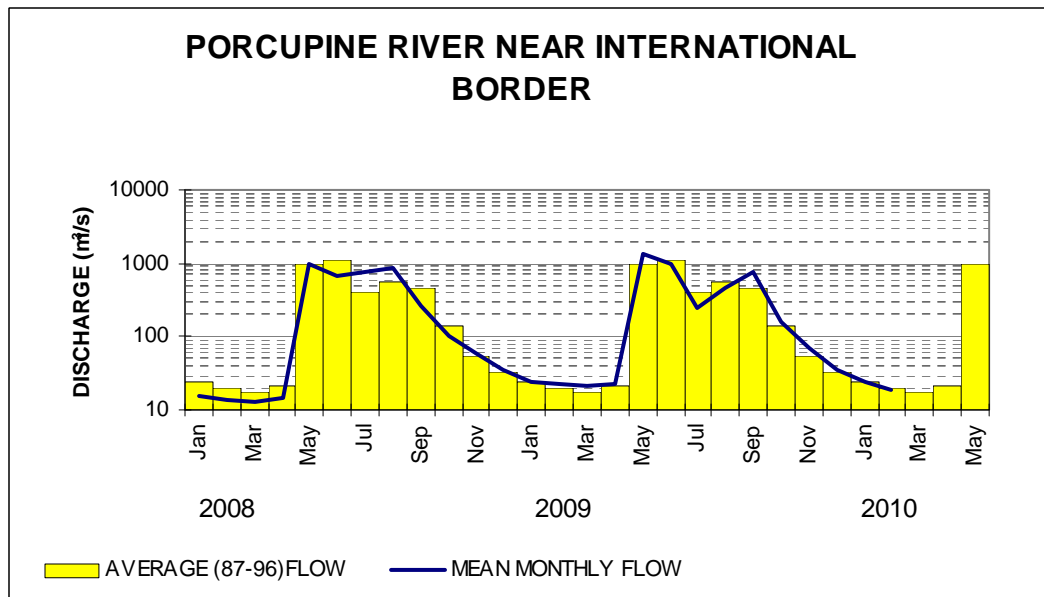
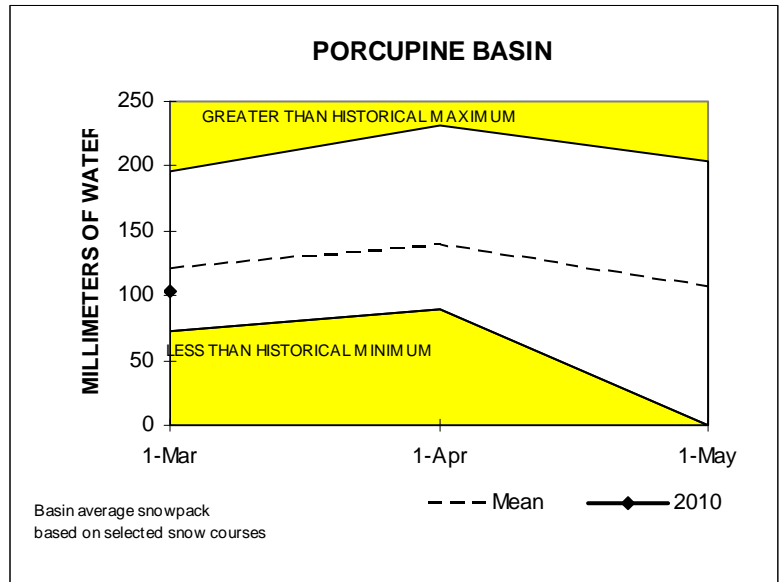
Mean monthly streamflow for February as indicated by the Peel River above Canyon Creek station was 135 percent of normal. Peel River volume and peak flow forecasts are not available at this time.



PORCUPINE RIVER BASIN

Snowpack conditions in the Porcupine River watershed are below normal with values of snow water equivalent ranging from 72 percent of normal at Eagle River to 111 percent of normal at Old Crow. A basin wide average has been estimated to be 86 percent of normal.

Mean February streamflow for the basin as indicated by the Porcupine River near the International Boundary is 97 percent of normal. Porcupine River volume and peak flow forecasts are not available at this time.



Drainage Basin and Snow Course

For Sample Date: 2010-03-01

Name	Number	Elev (m)	Date of Survey	This Year		Water Content		
				Snow Depth (cm)	Water Content (mm)	Last Year (mm)	Average (mm)	Yrs of Rec
Alsek River Basin								
Canyon Lake	08AA-SC01	1160	2/25/2010	46	95	121	79	32
Alder Creek	08AA-SC02	768	2/23/2010	53	116	243	146	29
Aishihik Lake	08AA-SC03	945	2/25/2010	31	53	113	72	16
Haines Junction Farm	08AA-SC4	610	2/24/2010	44	95	119	92	10
Clay Creek	08AB-SC02	670	3/5/2010	245	568	919	567	28
Summit	08AB-SC03	1000	2/24/2010	91	253	337	246	30
Profile Mountain	08AB-SC04	900	3/5/2010	117	310	347	284	23
Yukon River Basin								
Tagish	09AA-SC01	1080	2/24/2010	68	128	184	127	35
Montana Mountain	09AA-SC02	1020	2/25/2010	59	141	162	129	34
Log Cabin (B.C.)	09AA-SC03	884	2/25/2010	109	332	454	325	49
Atlin (B.C.)	09AA-SC04	730	3/6/2010	46	94	142	113	45
Mt McIntyre B	09AB-SC01B	1097	3/1/2010	71	168	193	130	34
Whitehorse Airport	09AB-SC02	700	3/2/2010	40	82	168	92	45
Meadow Creek	09AD-SC01	1235	2/24/2010	107	273	309	242	33
Jordan Lake	09AD-SC02	930	2/26/2010	62	125	195	128	22
Morley Lake	09AE-SC01	824	3/2/2010	48	103	213	146	21
Mount Berdoe	09AH-SC01	1035	2/23/2010	65	128	112 E	94	35
Satasha Lake	09AH-SC03	1106	2/23/2010	51	82	106 E	82	23
Williams Creek	09AH-SC04	914	2/23/2010	53	96	134	82	15
Twin Creeks	09BA-SC02	900	2/26/2010	66	119	215	165	32
Hoole River	09BA-SC03	1036	2/26/2010	59	118	201	117	33
Burns Lake	09BA-SC04	1112	2/26/2010	84	140	239	195	23
Finlayson Airstrip	09BA-SC05	988	2/26/2010	47	108	144	92	23
Fuller Lake	09BB-SC03	1126	2/26/2010	83	173	170	168	23
Russell Lake	09BB-SC04	1060	2/25/2010	78	171	206	198	23
Rose Creek	09BC-SC01	1080	No Surv			133	96	16
Mount Nansen	09CA-SC01	1021	2/23/2010	51	76	76 E	66	34
MacIntosh	09CA-SC02	1160	2/23/2010	57	100	99 E	79	34
Burwash Airstrip	09CA-SC03	810	2/23/2010	26	44	31	40	33
Duke River	09CA-SC05	1310	3/2/2010	49	97	117	91	23
Beaver Creek	09CB-SC01	655	2/23/2010	38	54	100	72	35
Chair Mountain	09CB-SC02	1067	No Surv			N.S.	83	18
White River	09CB-SC03	823	No Surv			N.S.	59	4
Casino Creek	09CD-SC01	1065	2/23/2010	54	76	124	105	32
Pelly Farm	09CD-SC03	472	2/23/2010	29	48	76	74	23

Printed on 16 Mar 2010 from the Environment Yukon Snow Survey System
Code "E" - Estimate, Code "B" - Survey date is outside of valid sampling range

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Drainage Basin and Snow Course

For Sample Date: 2010-03-01

Name	Number	Elev (m)	Date of Survey	This Year		Water Content		
				Snow Depth (cm)	Water Content (mm)	Last Year (mm)	Average (mm)	Yrs of Rec
Yukon River Basin								
Plata Airstrip	09DA-SC01	830	2/25/2010	71	130	156	165	31
Arrowhead Lake	09DA-SC02	1120	2/25/2010	66	123	N.S.	162	14
Withers Lake	09DB-SC01	975	2/25/2010	75	157	213	201	24
Rackla Lake	09DB-SC02	1040	2/25/2010	75	140	171	167	21
Mayo Airport A	09DC-SC01A	540	2/24/2010	45	76	104	90	40
Mayo Airport B	09DC-SC01B	540	2/24/2010	44	52	105	96	22
Edwards Lake	09DC-SC02	830	2/25/2010	58	114	154	147	23
Calumet	09DD-SC01	1310	2/24/2010	68	110	161	177	32
King Solomon Dome	09EA-SC01	1080	2/24/2010	61	106	133	147	35
Grizzly Creek	09EA-SC02	975	2/25/2010	66	109	130	154	34
Midnight Dome	09EB-SC01	855	2/24/2010	62	110	127	132	34
Boundary (Alaska)	09EC-SC02	1005	3/2/2010	53	102	152	115	35
Porcupine River Basin								
Riff's Ridge	09FA-SC01	650	2/25/2010	73	118	133	123	23
Eagle Plains	09FB-SC01	710	2/25/2010	68	116	145	147	27
Eagle River	09FB-SC02	340	2/25/2010	55	80	101	111	27
Old Crow	09FD-SC01	299	3/1/2010	64	114	152	103	24
Liard River Basin								
Watson Lake Airport	10AA-SC01	685	2/23/2010	55	113	234	131	45
Tintina Airstrip	10AA-SC02	1067	2/26/2010	80	188	297	183	31
Pine Lake Airstrip	10AA-SC03	995	2/23/2010	73	175	298	202	33
Ford Lake	10AA-SC04	1110	2/26/2010	78	168	271	170	22
Frances River	10AB-SC01	730	2/23/2010	60	120	251	143	34
Hyland River	10AD-SC01	855	3/1/2010	66	121	216	150	34
Peel River Basin								
Blackstone River	10MA-SC01	920	2/25/2010	41	56	87	87	34
Ogilvie River	10MA-SC02	595	2/25/2010	57	70	90	90	34
Bonnet Plume Lake	10MB-SC01	1120	2/25/2010	68	131	123	152	22
Alaska Snow Courses								
Eaglecrest	08AK-SC01	305	2/26/2010	76	307	701	447	28
Moore Creek Bridge	08AK-SC02	700	2/27/2010	155	465	716	472	18

INDEX OF YUKON SNOW COURSES 2009

NAME	NUMBER	ELEVATION (m)	LATITUDE	LONGITUDE	AGENCY
YUKON RIVER BASIN					
Tagish	09AA-SC1	1080	60°17'	134°11'	2
Montana Mountain	09AA-SC2	1020	60°08'	134°44'	2
Log Cabin (B.C.)	09AA-SC3	884	59°46'	134°58'	2
Atlin (B.C.)	09AA-SC4	730	59°34'	133°42'	3
Mt. McIntyre (B)	09AB-SC1B	1097	60°39'	135°08'	1
Whitehorse Airport	09AB-SC2	700	60°42'	135°04'	1
Meadow Creek	09AD-SC1	1235	60°35'	133°05'	2
Jordan Lake	09AD-SC2	930	60°52'	132°50'	1
Morley Lake	09AE-SC1	824	60°00'	132°07'	2
Mount Berdoe	09AH-SC1	1035	62°02'	136°14'	2
Satasha Lake	09AH-SC3	1106	61°29'	136°16'	2
Williams Creek	09AH-SC4	914	60°21'	136°43'	2
Twin Creeks	09BA-SC2	900	62°37'	131°16'	1
Hoole River	09BA-SC3	1036	61°32'	131°36'	1
Burns Lake	09BA-SC4	1112	62°17'	129°57'	1
Finlayson Airstrip	09BA-SC5	988	61°42'	130°46'	1
Fuller Lake	09BB-SC3	1126	62°58'	130°46'	1
Rose Creek	09BC-SC01	1080	62°20'	133°23'	1
Russell Lake	09BB-SC4	1060	63°12'	133°29'	1
Mount Nansen	09CA-SC1	1021	62°02'	137°03'	2
MacIntosh	09CA-SC2	1160	61°43'	137°20'	2
Burwash Airstrip	09CA-SC3	810	61°23'	139°03'	2
Duke River	09CA-SC5	1310	61°15'	138°59'	6
Beaver Creek	09CB-SC1	655	62°25'	140°51'	2
Chair Mountain	09CB-SC2	1067	62°04'	140°48'	2
White River	09CB-SC3	823	61°55'	140°32'	2
Casino Creek	09CD-SC1	1065	62°44'	138°48'	2
Pelly Farm	09CD-SC3	472	62°50'	137°20'	8
Plata Airstrip	09DA-SC1	830	63°31'	132°03'	1
Arrowhead Lake	09DA-SC2	1120	63°42'	131°10'	1
Withers Lake	09DB-SC1	975	63°59'	132°18'	1
Rackla Lake	09DB-SC2	1040	64°17'	133°15'	1
Mayo Airport (A)	09DC-SC1A	540	63°38'	135°53'	2
Mayo Airport (B)	09DC-SC1B	540	63°38'	135°53'	2
Edwards Lake	09DC-SC2	830	63°42'	134°18'	1
Calumet	09DD-SC1	1310	63°55'	135°24'	2
King Solomon Dome	09EA-SC1	1080	63°52'	138°56'	2
Grizzly Creek	09EA-SC2	975	64°26'	138°16'	2
Boundary (Alaska)	09EC-SC2	1005	64°05'	141°27'	4
Midnight Dome	09EB-SC1	855	64°04'	139°24'	2

NAME	NUMBER	ELEVATION (m)	LATITUDE	LONGITUDE	AGENCY
LIARD RIVER BASIN					
Watson Lake Airport	10AA-SC1	685	60°07'	128°50'	2
Tintina Airstrip	10AA-SC2	1067	61°05'	131°15'	1
Pine Lake Airstrip	10AA-SC3	995	60°06'	130°56'	2
Ford Lake	10AA-SC4	1110	60°47'	131°28'	1
Frances River	10AB-SC1	730	60°35'	129°11'	2
Hyland River	10AD-SC1	855	61°31'	128°16'	2
ALSEK RIVER BASIN					
Canyon Lake	08AA-SC1	1160	61°07'	136°59'	7
Alder Creek	08AA-SC2	768	60°22'	137°06'	6
Aishihik Lake	08AA-SC3	945	61°12'	137°00'	7
Haines Junction Farm	08AA-SC4	610	60°45'	137°34'	2
Clay Creek	08AB-SC2	670	60°09'	137°56'	6
Summitt	08AB-SC3	1000	60°51'	137°47'	2
Profile Mountain	08AB-SC4	900	60°38'	137°56'	6
PEEL RIVER BASIN					
Blackstone River	10MA-SC1	920	64°57'	138°15'	2
Ogilvie River	10MA-SC2	595	65°21'	138°18'	2
Bonnet Plume Lake	10MB-SC1	1120	64°18'	132°00'	1
PORCUPINE RIVER BASIN					
Riff's Ridge	09FA-SC1	650	65°57'	137°22'	2
Eagle Plains	09FB-SC1	710	66°22'	136°44'	2
Eagle River	09FB-SC2	340	66°27'	136°43'	2
Old Crow	09FD-SC1	299	67°34'	139°51'	5
ALASKA SNOW COURSES					
Eaglecrest	34J03	305	58°17'	134°32'	4
Moore Creek Bridge	34K02	701	59°31'	135°15'	4

Numbers refer to Agencies cooperating in the Yukon Snow Surveys:

1. Department of Environment, Government of Yukon
2. Dept of Energy Mines and Resources Yukon
3. British Columbia Ministry of Environment
4. USDA Natural Resources Conservation Service
5. Yukon Transportation and Highways
6. Parks Canada
7. Yukon Energy Corp.
8. Private Contract