

YUKON SNOW SURVEY BULLETIN & WATER SUPPLY FORECAST

April 1, 2012

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 2012

As of May 2010, snow surveys are no longer conducted at Clay Creek, Profile Mountain, Duke River or Arrowhead Lake. This bulletin can now be accessed on the web at:

http://environmentyukon.gov.yk.ca/monitoringenvironment/snow_survey.php

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

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

Meteorologist, Wildland Fire Management, Yukon Department of Community Services, Whitehorse

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

Parks Canada

The Yukon Energy Corporation

YUKON TERRITORY SNOWPACK CONDITIONS AND RUNOFF PROJECTION

WEATHER

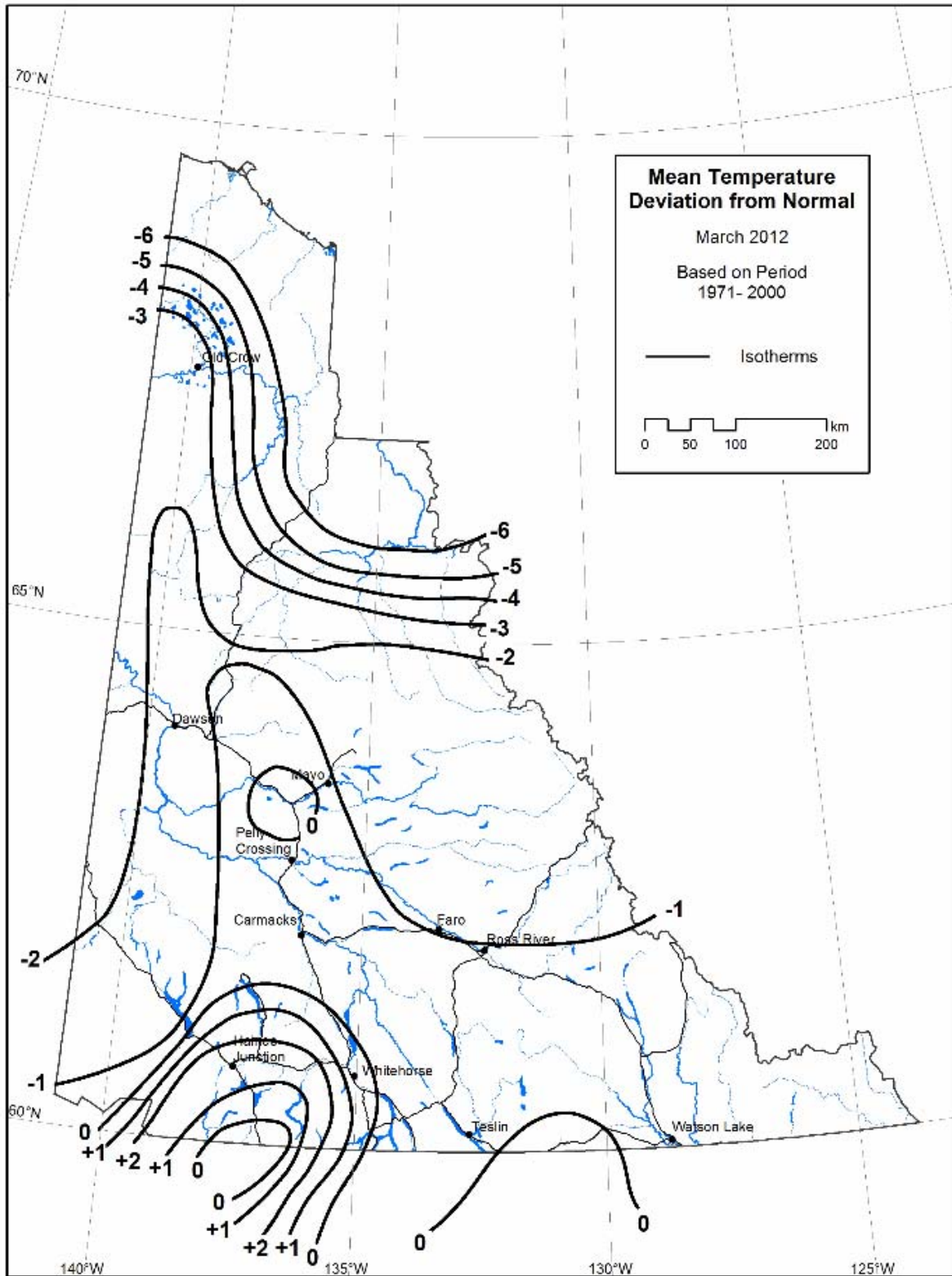
March temperatures throughout Yukon were generally near normal with the exception of northern Yukon which was significantly below normal. Temperature deviations ranged from two degrees above normal in southwestern Yukon to six degrees below normal in northern Yukon. March precipitation was generally above normal though variable. Northernmost regions of northern Yukon received precipitation amounts of 50 percent of normal, while south central and southeast Yukon received amounts up to 200 percent of normal. The Whitehorse and southern lakes regions received precipitation levels 300 percent of normal.

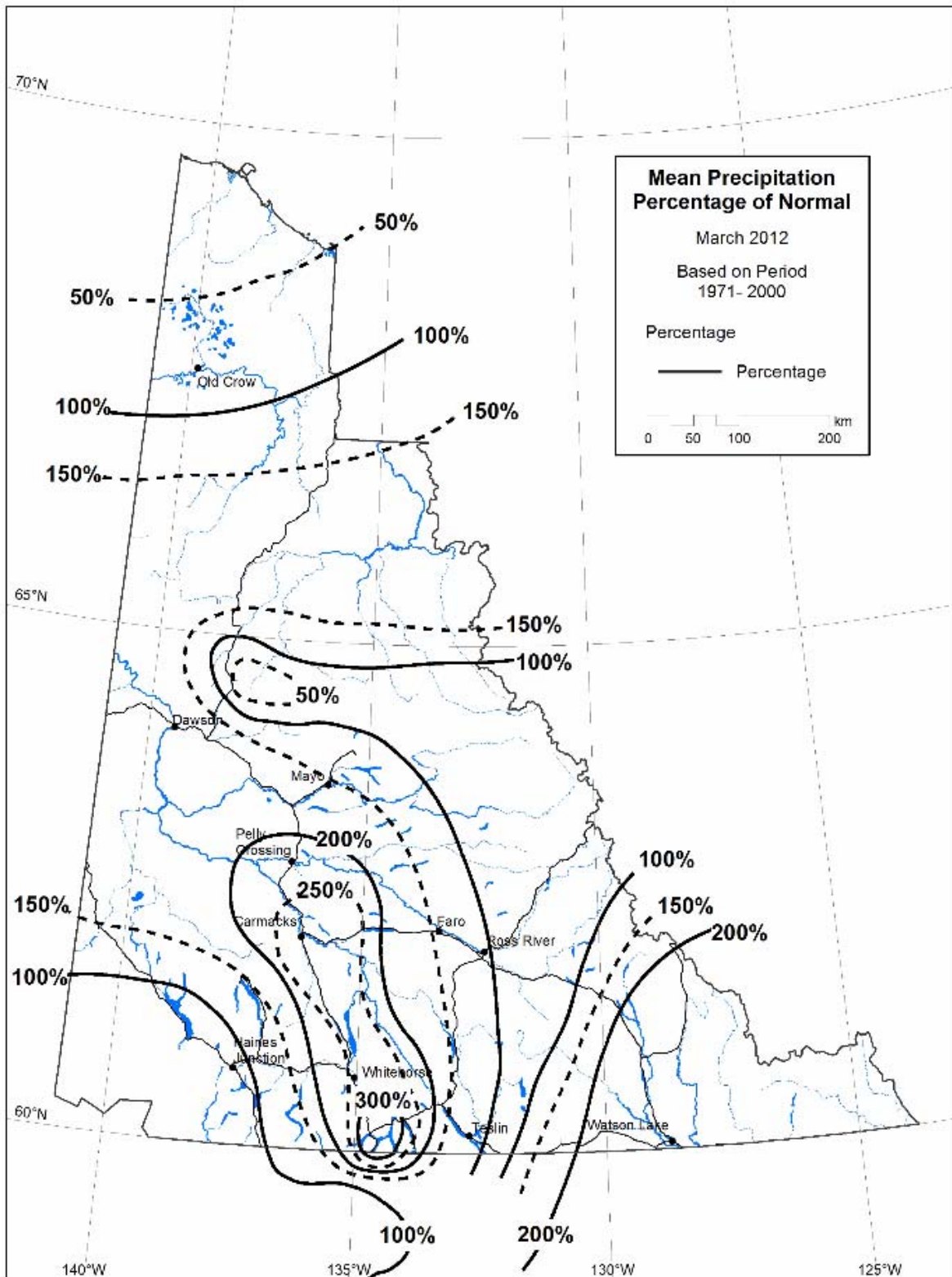
SNOWPACK

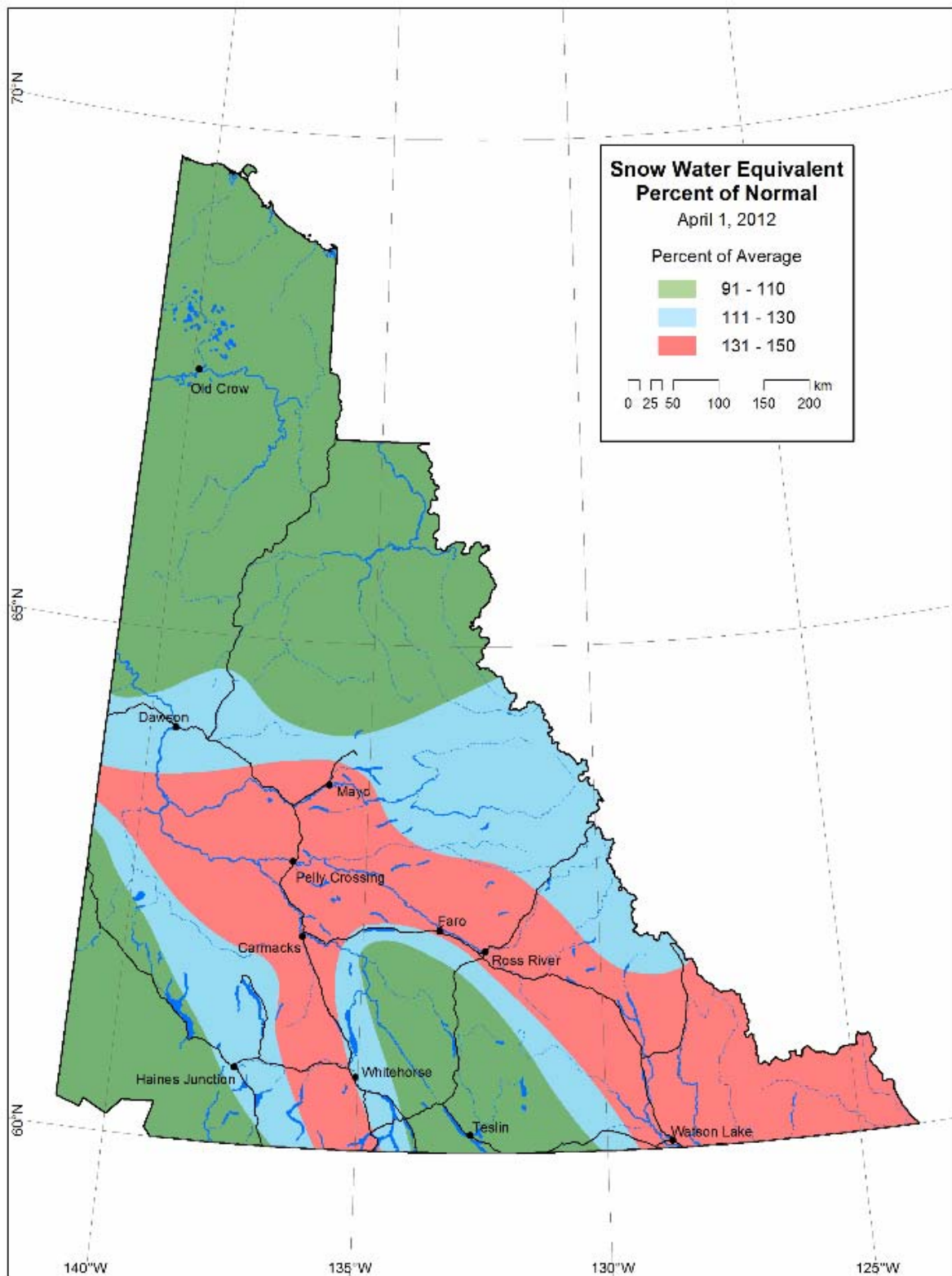
The April 1st Yukon snowpack ranges from normal to above normal throughout the Territory. Northern, southwestern and south central regions are normal, while the remainder of the Territory has a well above normal snowpack.

STREAMFLOW

Streamflow conditions are generally above normal throughout most of Yukon for April 1st. Streamflow during this period represents winter baseflow, which provides an indication of winter groundwater contributions.





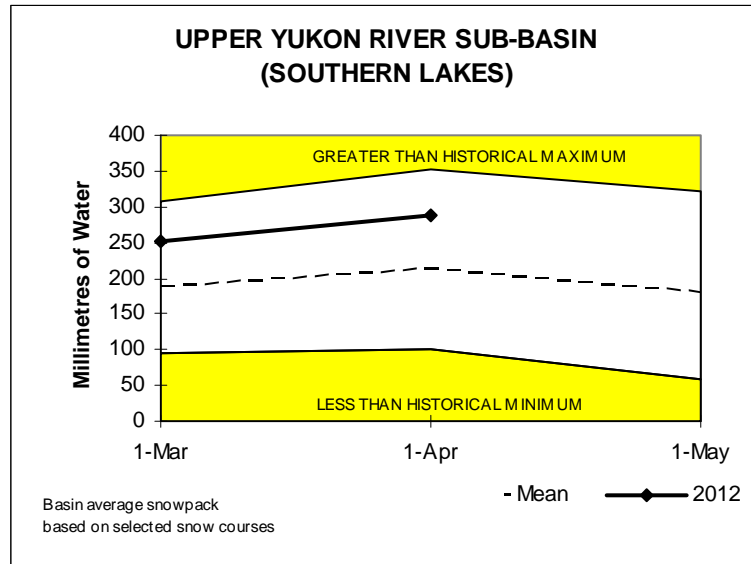


YUKON RIVER BASIN

Snowpack conditions in the Yukon River Basin range from well above normal in central and southwestern and southeastern portions of the basin to normal in the southwest and south central portion of the basin. Overall conditions in the basin are above normal.

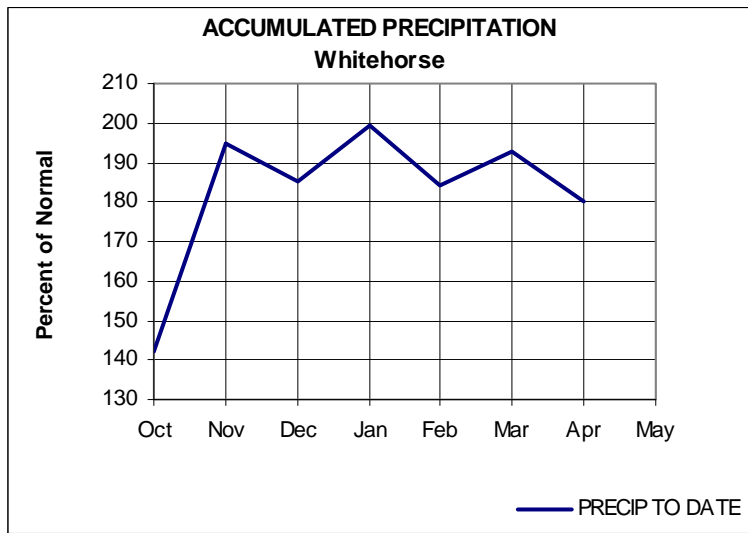
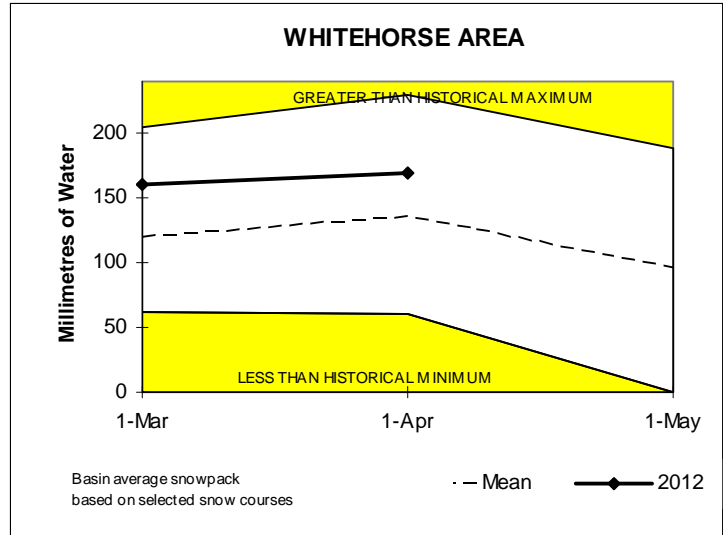
UPPER YUKON RIVER SUB-BASIN (SOUTHERN LAKES)

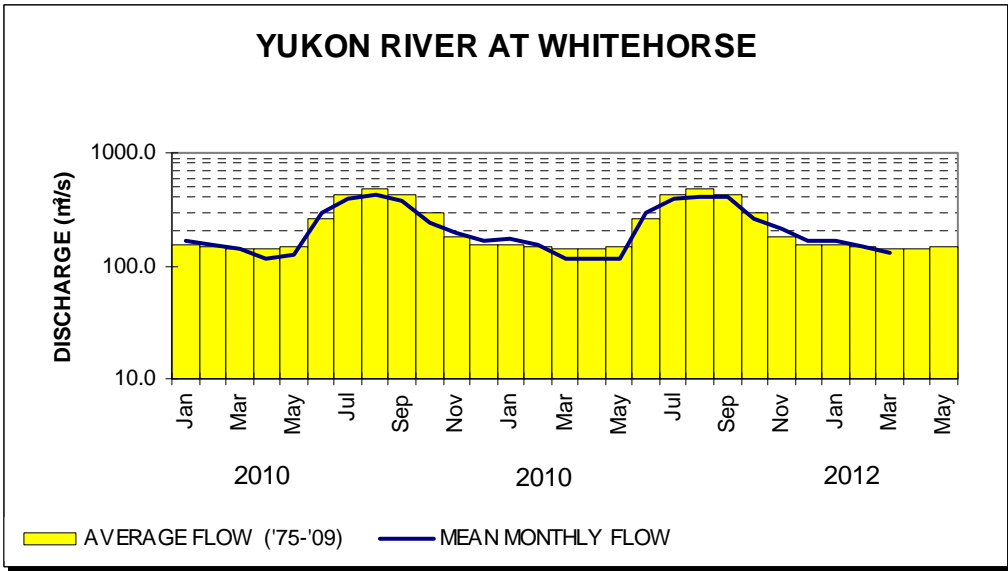
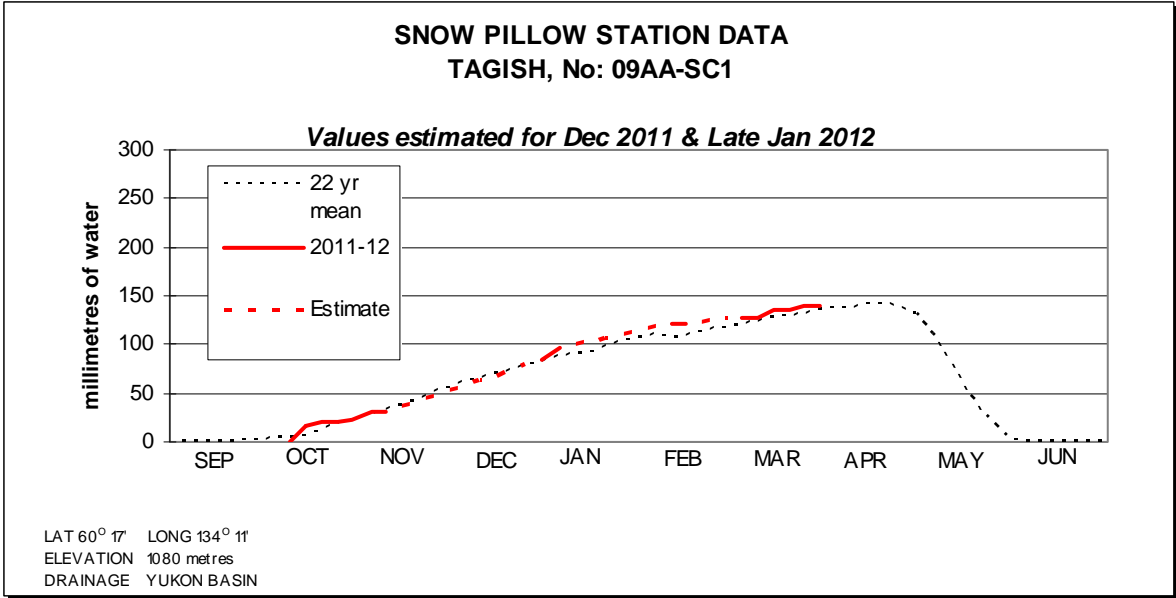
Snowpack conditions in the Upper Yukon River watershed are above normal. Values range from 90 percent of normal at Atlin to 164 percent of normal at Log Cabin which is a 52-year record. A basin-wide average has been estimated to be 136 percent of normal.



WHITEHORSE AREA

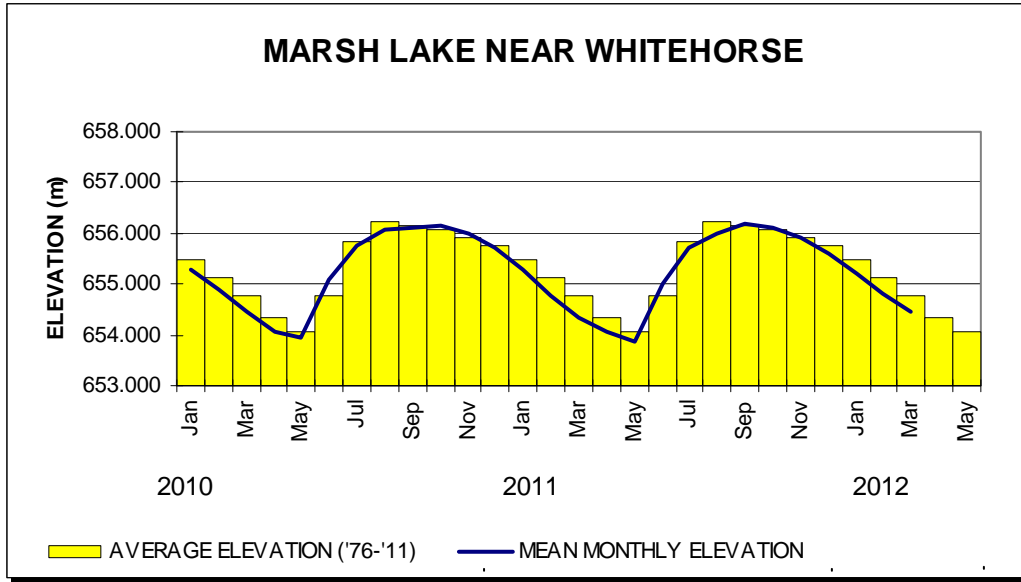
Snowpack conditions in the Whitehorse area are above normal for April 1st. Values range from 103 percent of normal at Tagish to 148 percent of normal at Mt. McIntyre. An area-wide average is estimated to be 125 percent of normal.





YUKON RIVER and MARSH LAKE

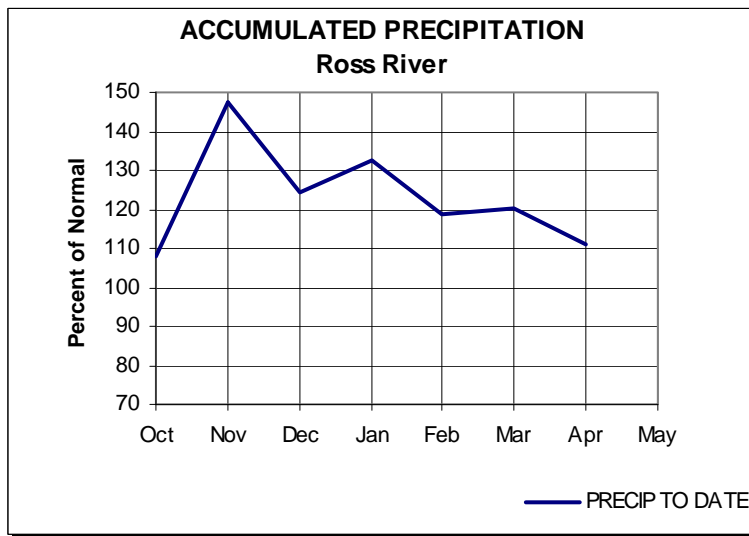
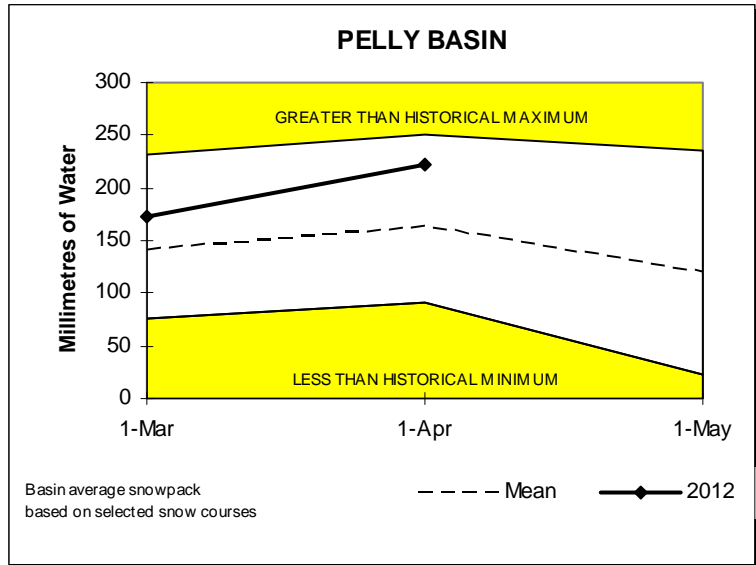
The elevation of Marsh Lake during March was 654.467 m or 0.323 m below normal. During March, the mean discharge of the Yukon River at Whitehorse was 89 percent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 125 percent and 130 percent of normal, respectively.

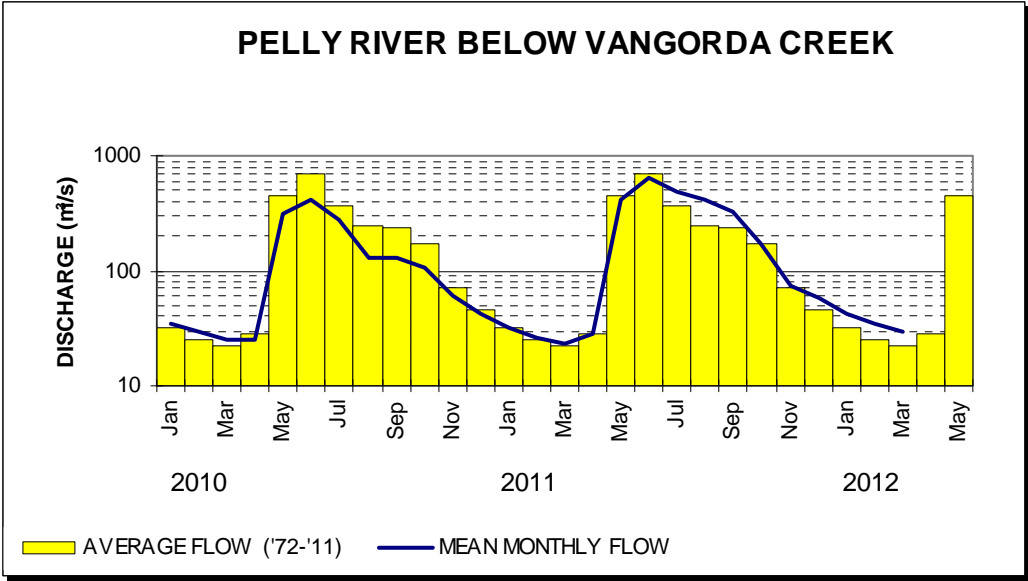
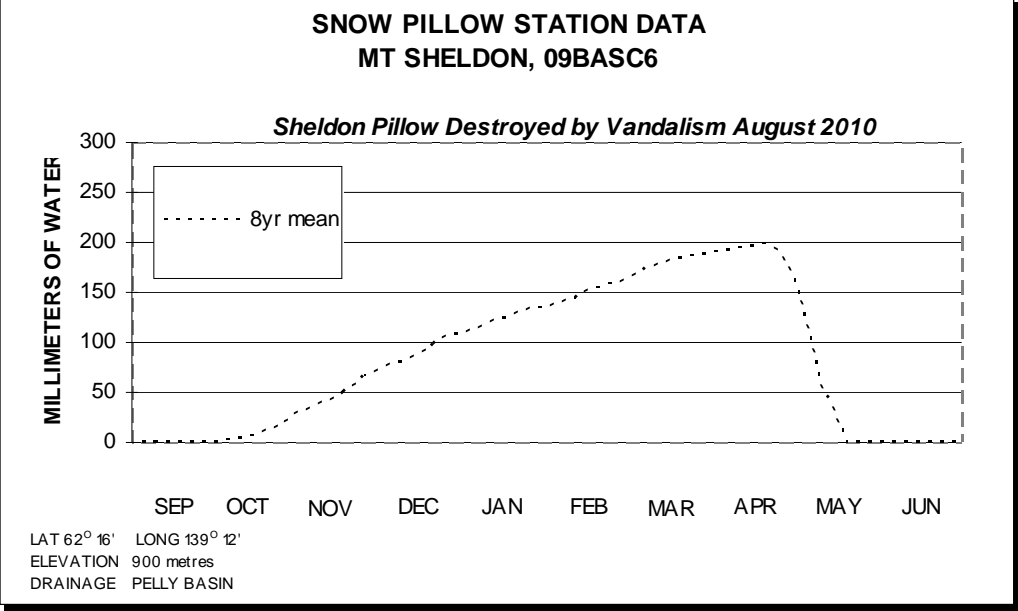


PELLY RIVER SUB-BASIN

Snowpack conditions in the Pelly River watershed are above normal. Values of snow water equivalent range from 123 percent of normal at Twin Creeks to 152 percent of normal at Hoole River. A basin-wide average has been estimated to be 135 percent of normal.

Mean March streamflow for the watershed was 136 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 125 percent and 130 percent of normal, respectively.

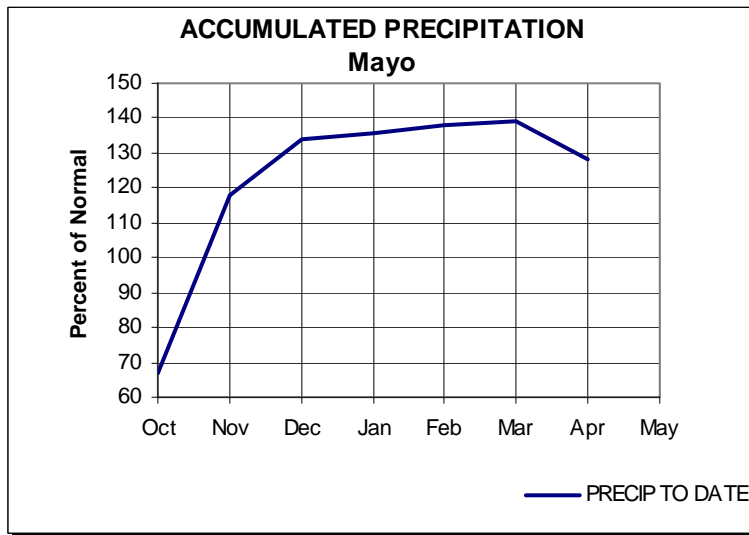
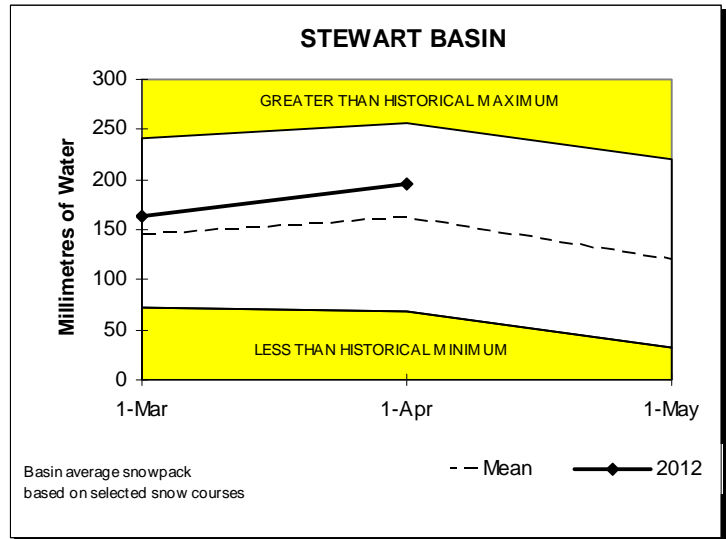


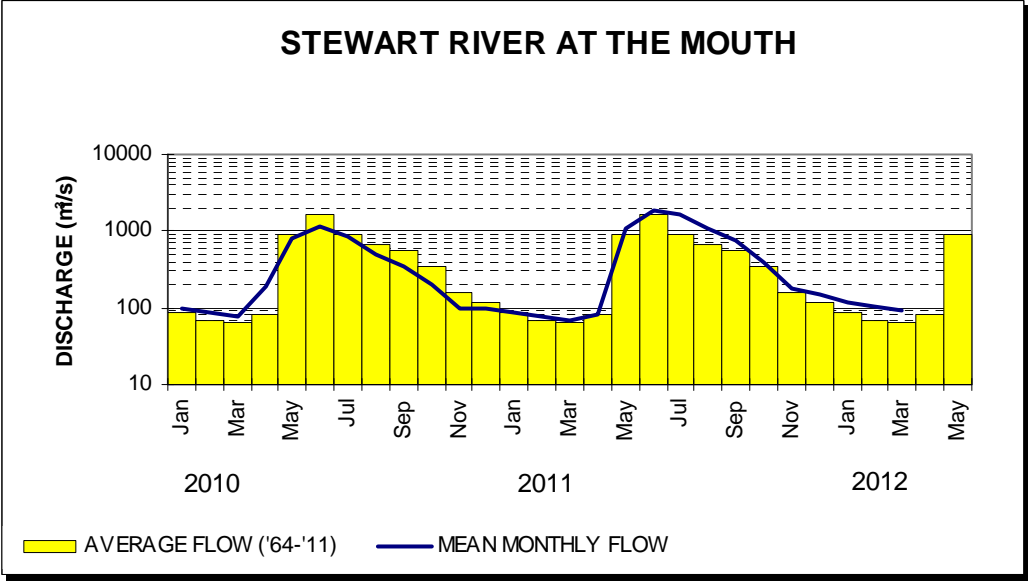
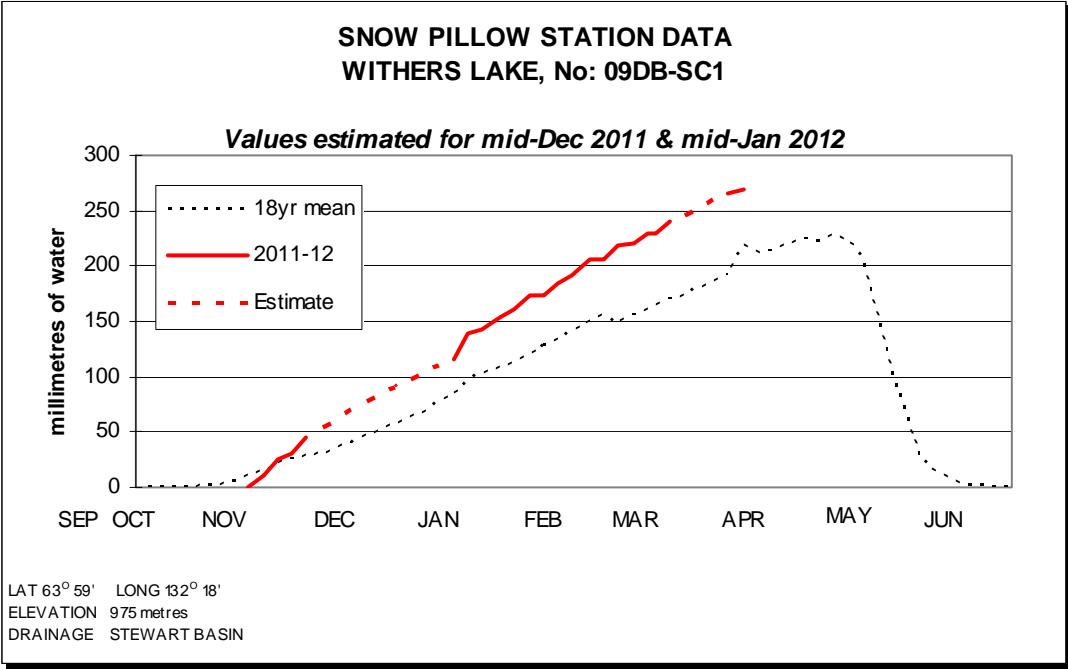


STEWART RIVER SUB-BASIN

Snowpack conditions in the Stewart River watershed are above normal for April 1st. Values of snow water equivalent range from 90 percent of normal at Calumet to 150 percent of normal at Mayo Airport. A basin-wide average has been estimated to be 121 percent of normal.

Mean March streamflow for the watershed was 142 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 120 percent and 125 percent of normal, respectively.

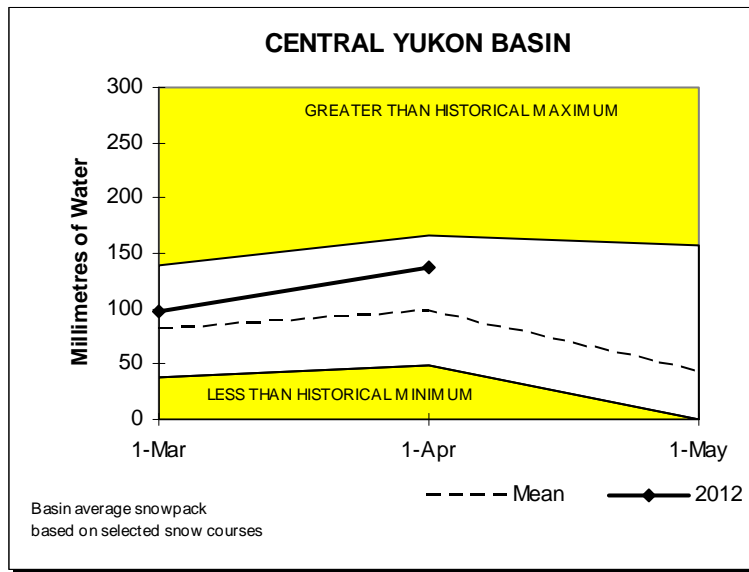




CENTRAL YUKON RIVER BASIN (CARMACKS AREA)

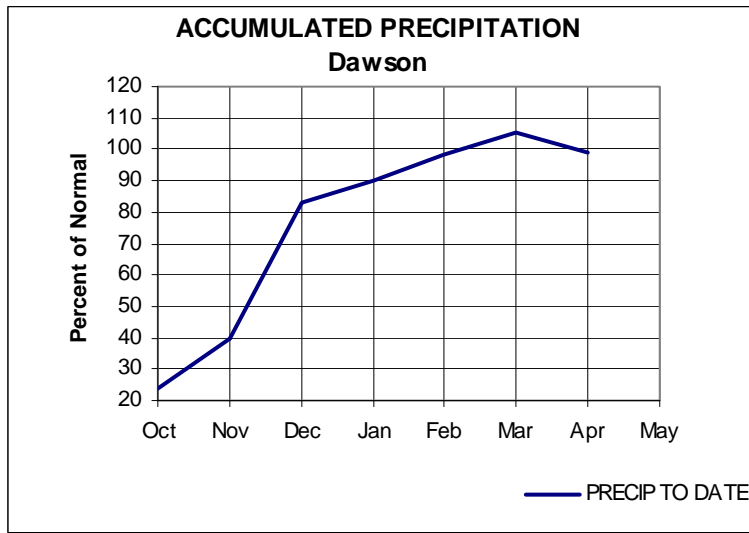
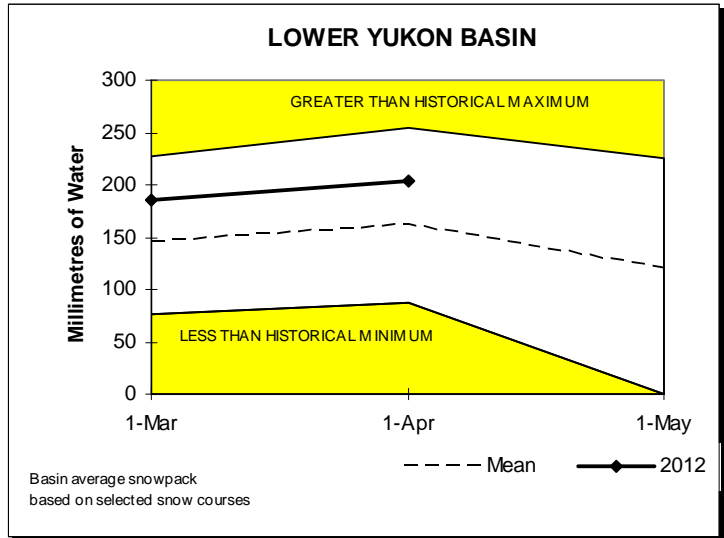
Snowpack conditions in the Carmacks area are well above normal for April 1st. Values of snow water equivalent range from

124 percent of normal at MacIntosh to 152 percent of normal at Mount Berdoe. An area-wide average has been estimated to be 141 percent of normal.



LOWER YUKON RIVER BASIN (DAWSON AREA)

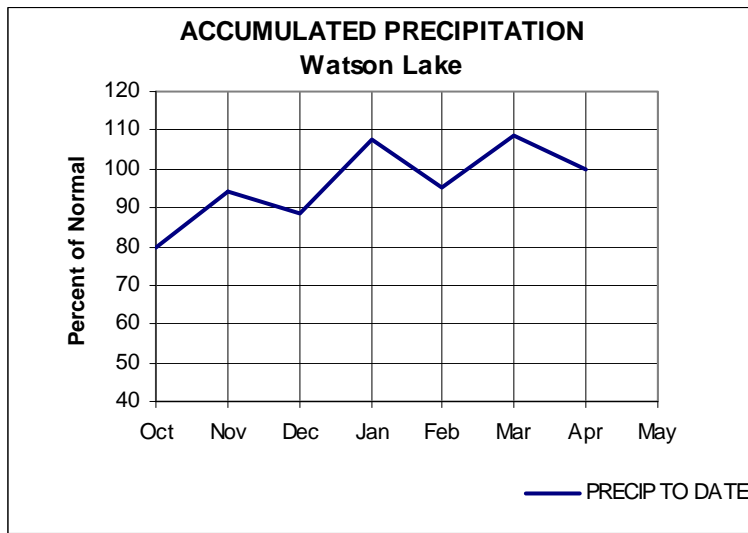
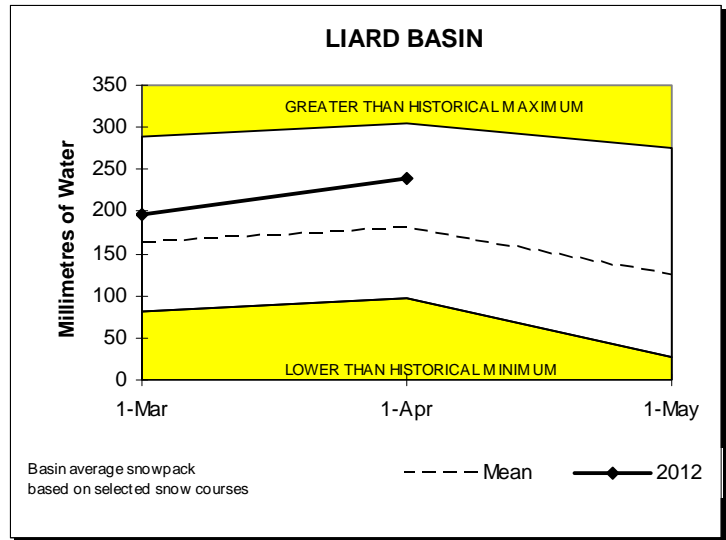
Snowpack conditions in the Dawson area are above normal for April 1st. Values of snow water equivalent range from 123 percent of normal at King Solomon Dome to 130 percent of normal at Grizzly Creek. An area-wide average has been estimated to be 127 percent of normal.

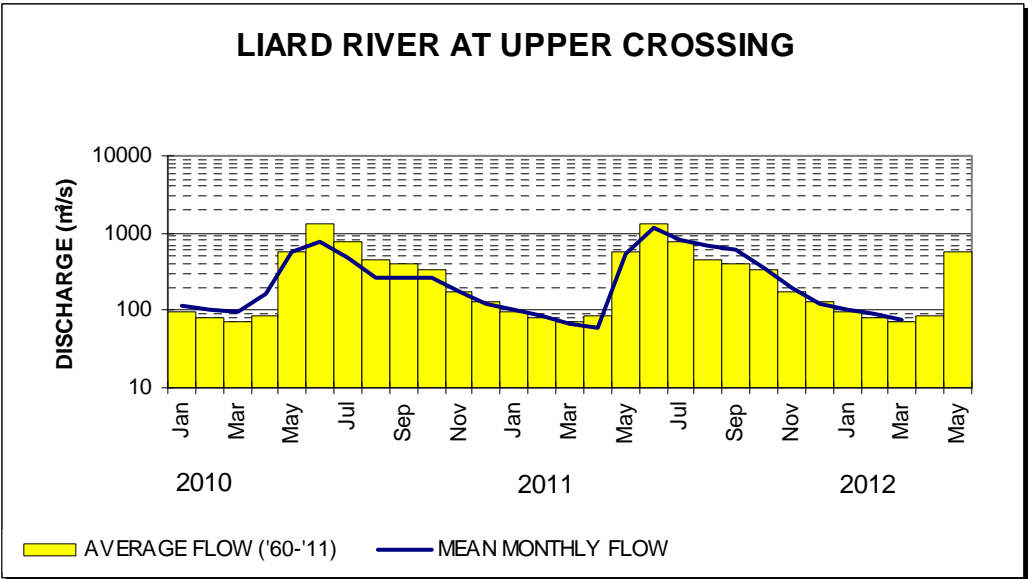
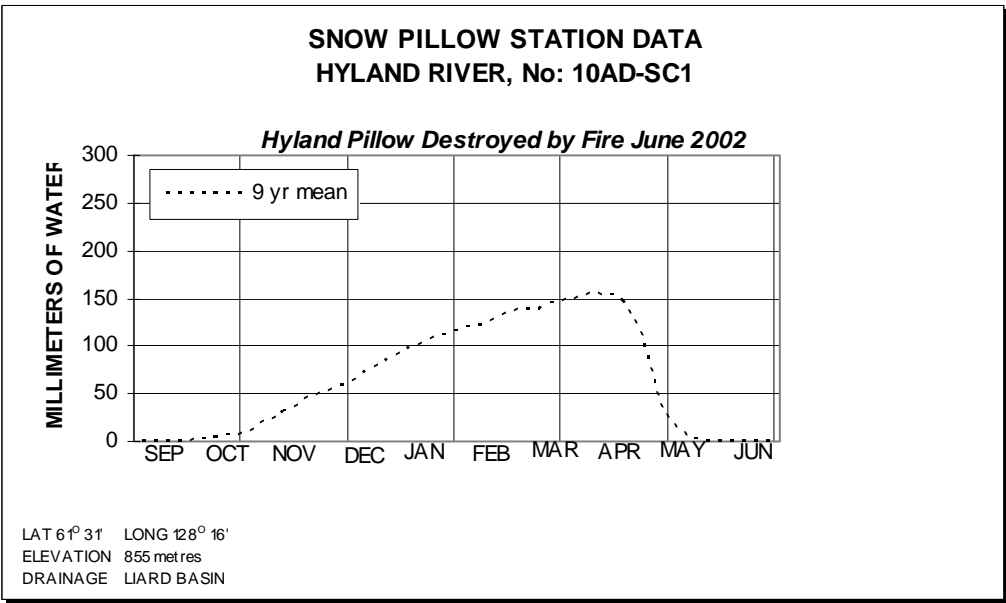


LIARD RIVER BASIN

Snowpack conditions within the Liard River watershed are above normal. Values of snow water equivalent range from 96 percent of normal at Pine Lake Airstrip to 176 percent of normal at Hyland River. A basin-wide average has been estimated to be 132 percent of normal.

Mean March streamflow for the Liard River upstream of Upper Liard was 110 percent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 118 percent and 127 percent of normal.

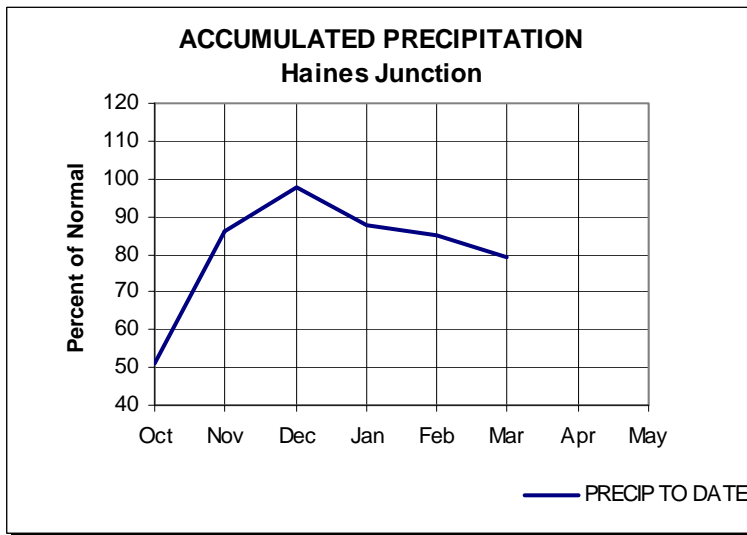
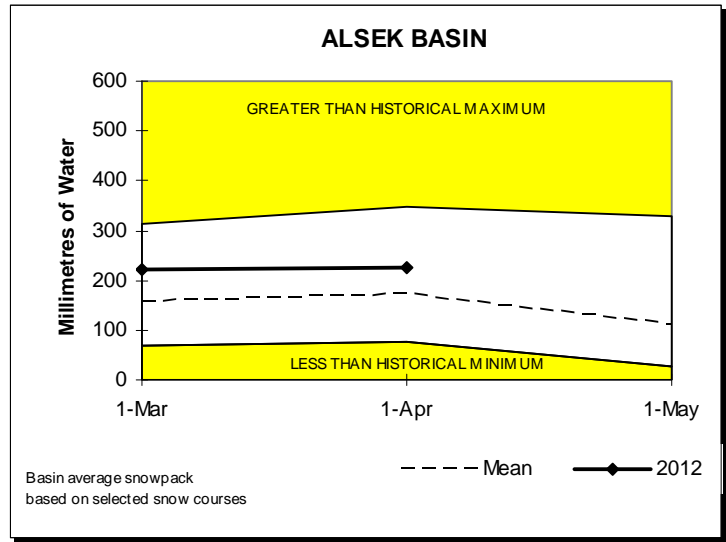




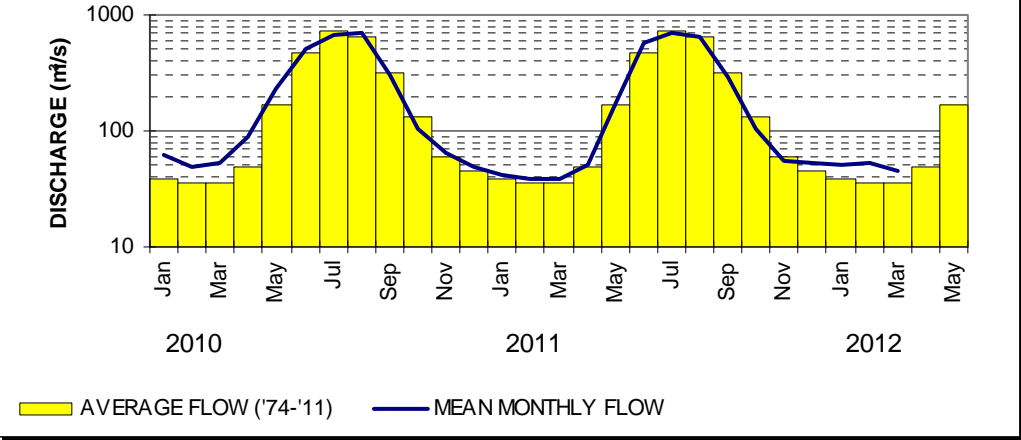
ALSEK RIVER BASIN

Snowpack conditions within the Alsek River watershed are above normal for April 1st. Values of snow water equivalent range from 118 percent of normal at Summit to 138 percent of normal at Alder Creek. A basin-wide average has been estimated to be 128 percent of normal.

Mean monthly streamflow for March as indicated by the Alsek River above Bates River was 128 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 125 and 125 percent of normal, respectively.



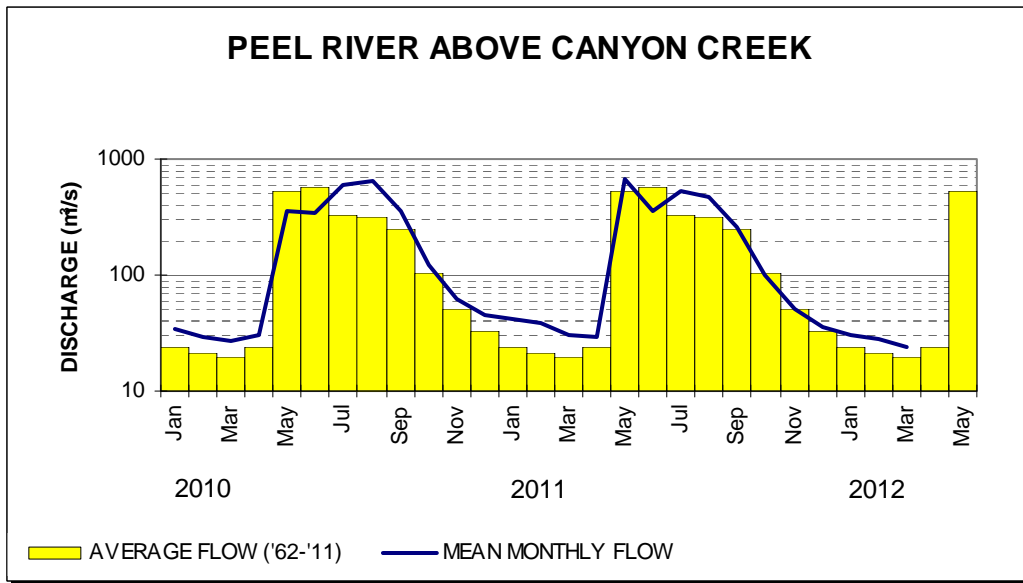
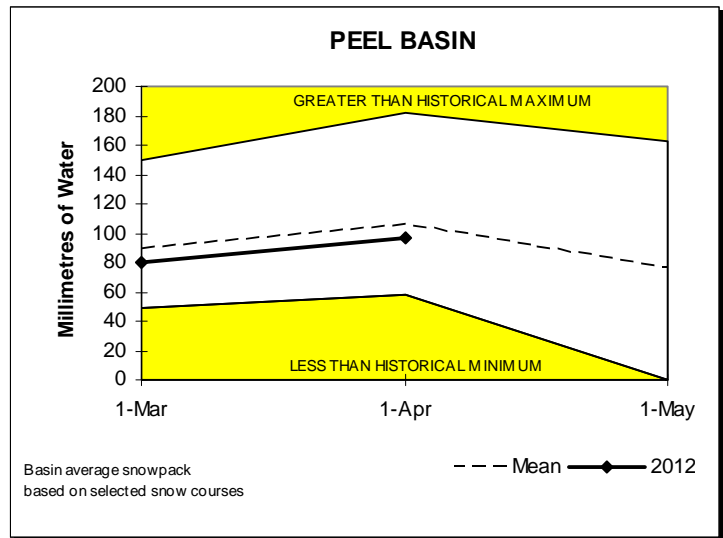
ALSEK RIVER ABOVE BATES RIVER



PEEL RIVER BASIN

Snowpack conditions in the Peel River watershed are below normal with values of snow water equivalent ranging from 84 percent of normal at Ogilvie to 99 percent of normal at Blackstone. A basin-wide average has been estimated to be 92 percent of normal.

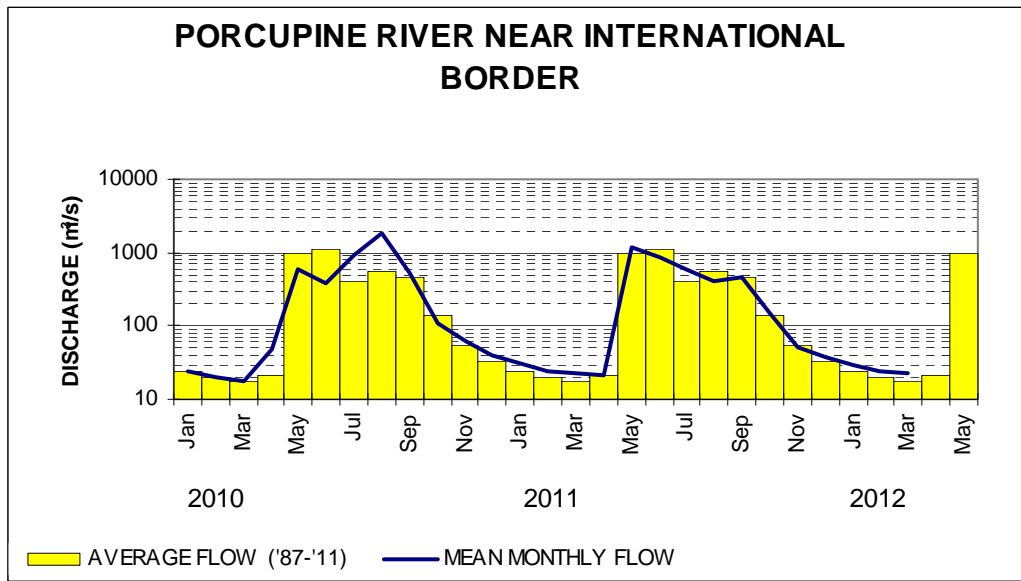
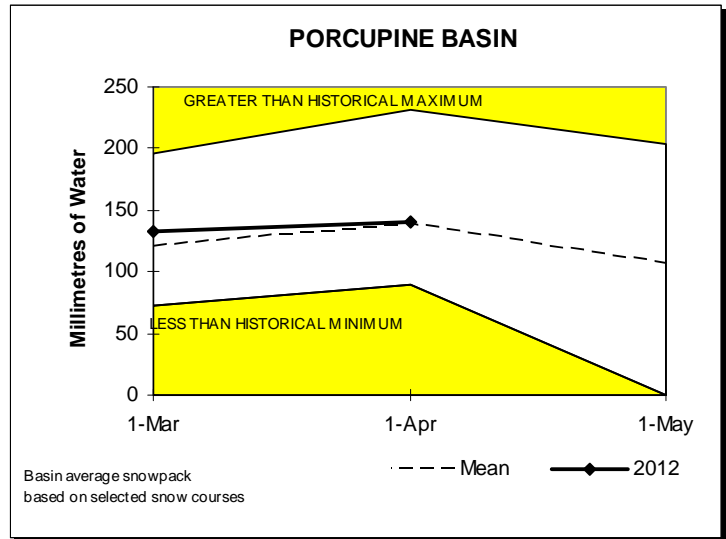
Mean monthly streamflow for March as indicated by the Peel River above Canyon Creek station was 121 percent of normal. Peel River volume and peak flow forecasts are not available at this time.



PORCUPINE RIVER BASIN

Snowpack conditions in the Porcupine River watershed are near normal with values of snow water equivalent ranging from 90 percent of normal at Old Crow to 131 percent of normal at Eagle Plains. A basin-wide average has been estimated to be 101 percent of normal.

Mean March streamflow for the basin as indicated by the Porcupine River near the International Boundary is 127 percent of normal. Porcupine River volume and peak flow forecasts are not available at this time.



Drainage Basin and Snow Course

For Sample Date: 2012-04-01

Name	Number	Elev (m)	Date of Survey	This Year		Water Content		Yrs of Rec
				Snow Depth (cm)	Water Content (mm)	Last Year (mm)	Average (mm)	
Alsek River Basin								
Canyon Lake	08AA-SC01	1160	3/29/2012	59	126	119	94	33
Alder Creek	08AA-SC02	768	4/3/2012	89	221	144	158	32
Aishihik Lake	08AA-SC03	945	3/28/2012	55	118	155	81	18
Haines Junction Farm	08AA-SC04	610	3/28/2012	58	138	120	104	12
Summit	08AB-SC03	1000	3/28/2012	113	335	314	268	32
Profile Mountain	08AB-SC04	900	No Surv			N.S.	313	24
Yukon River Basin								
Tagish	09AA-SC01	1080	3/27/2012	73	150	196	148	36
Montana Mountain	09AA-SC02	1020	3/26/2012	82	176	204	142	35
Log Cabin (B.C.)	09AA-SC03	884	3/26/2012	166	610	366	372	52
Atlin (B.C)	09AA-SC04	730	3/31/2012	48	112	74	122	47
Mt McIntyre B	09AB-SC01B	1097	3/26/2012	93	225	241	155	36
Whitehorse Airport	09AB-SC02	700	3/27/2012	66	129	129	103	45
Meadow Creek	09AD-SC01	1235	3/29/2012	133	390	288	279	35
Jordan Lake	09AD-SC02	930	3/29/2012	76	151	90	138	25
Morley Lake	09AE-SC01	824	3/26/2012	75	172	134	154	24
Mount Berdoe	09AH-SC01	1035	3/26/2012	78	166	194	109	36
Satasha Lake	09AH-SC03	1106	3/26/2012	70	140	144	101	25
Williams Creek	09AH-SC04	914	3/26/2012	70	146	142	100	17
Twin Creeks	09BA-SC02	900	3/28/2012	94	236	172	189	34
Hoole River	09BA-SC03	1036	3/29/2012	83	207	148	136	35
Burns Lake	09BA-SC04	1112	3/29/2012	105	239	231	221	26
Finlayson Airstrip	09BA-SC05	988	3/29/2012	44	75 E	115	107	25
Fuller Lake	09BB-SC03	1126	3/28/2012	103	243	179	198	26
Russell Lake	09BB-SC04	1060	3/28/2012	116	287	263	231	25
Rose Creek	09BC-SC01	1080	3/28/2012	70	150	135	105	18
Mount Nansen	09CA-SC01	1021	3/26/2012	63	112	158	80	36
MacIntosh	09CA-SC02	1160	3/26/2012	64	125	160	101	36
Burwash Airstrip	09CA-SC03	810	3/28/2012	29	44	69	44	35
Duke River	09CA-SC05	1310	No Surv			N.S.	105	25
Burwash Uplands	09CA-SC06	1080	No Surv			N.S.	77	4
Beaver Creek	09CB-SC01	655	3/27/2012	58	134 E	118	86	37
Chair Mountain	09CB-SC02	1067	3/27/2012	57	94 E	120	97	23
White River	09CB-SC03	823	No Surv			N.S.	76	5
Casino Creek	09CD-SC01	1065	3/26/2012	80	182	150	128	34
Pelly Farm	09CD-SC03	472	3/27/2012	61	131	80	76	26

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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: 2012-04-01

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	3/28/2012	105	262 E	207	189	34	
Arrowhead Lake	09DA-SC02	1120	No Surv			N.S.	196	18	
Withers Lake	09DB-SC01	975	3/27/2012	119	306	232	234	26	
Rackla Lake	09DB-SC02	1040	3/28/2012	103	222	220	195	25	
Mayo Airport A	09DC-SC01A	540	3/27/2012	58	144	70	95	42	
Mayo Airport B	09DC-SC01B	540	3/27/2012	64	156	106	104	25	
Edwards Lake	09DC-SC02	830	3/28/2012	95	216	187	164	25	
Calumet	09DD-SC01	1310	3/26/2012	99	180	146	196	33	
King Solomon Dome	09EA-SC01	1080	3/27/2012	94	197	179	160	37	
Grizzly Creek	09EA-SC02	975	3/29/2012	92	232	139	177	36	
Midnight Dome	09EB-SC01	855	3/27/2012	90	184	195	148	37	
Boundary (Alaska)	09EC-SC02	1005	4/1/2012	51	114	127	135	42	
Porcupine River Basin									
Riff's Ridge	09FA-SC01	650	3/29/2012	85	165	159	144	24	
Eagle Plains	09FB-SC01	710	3/28/2012	83	157	148	164	28	
Eagle River	09FB-SC02	340	3/28/2012	76	133	121	136	28	
Old Crow	09FD-SC01	299	3/31/2012	65	132	153	117	30	
Liard River Basin									
Watson Lake Airstrip	10AA-SC01	685	3/29/2012	70	194	165	138	47	
Tintina Airstrip	10AA-SC02	1067	3/29/2012	98	261	187	204	34	
Pine Lake Airstrip	10AA-SC03	995	3/30/2012	99	219	181	227	36	
Ford Lake	10AA-SC04	1110	3/29/2012	90	175	165	195	25	
Frances River	10AB-SC01	730	3/28/2012	78	218	176	161	37	
Hyland River	10AD-SC01	855	3/28/2012	97	303	207	174	35	
Peel River Basin									
Blackstone River	10MA-SC01	920	3/29/2012	59	105	109	105	36	
Ogilvie River	10MA-SC02	595	3/29/2012	58	89	113	106	35	
Bonnet Plume Lake	10MB-SC01	1120	3/28/2012	92	211	183	183	25	
Alaska Snow Courses									
Eaglecrest	08AK-SC01	305	3/30/2012	295	1107	472	508	30	
Moore Creek Bridge	08AK-SC02	700	4/1/2012	160	546	348	546	20	

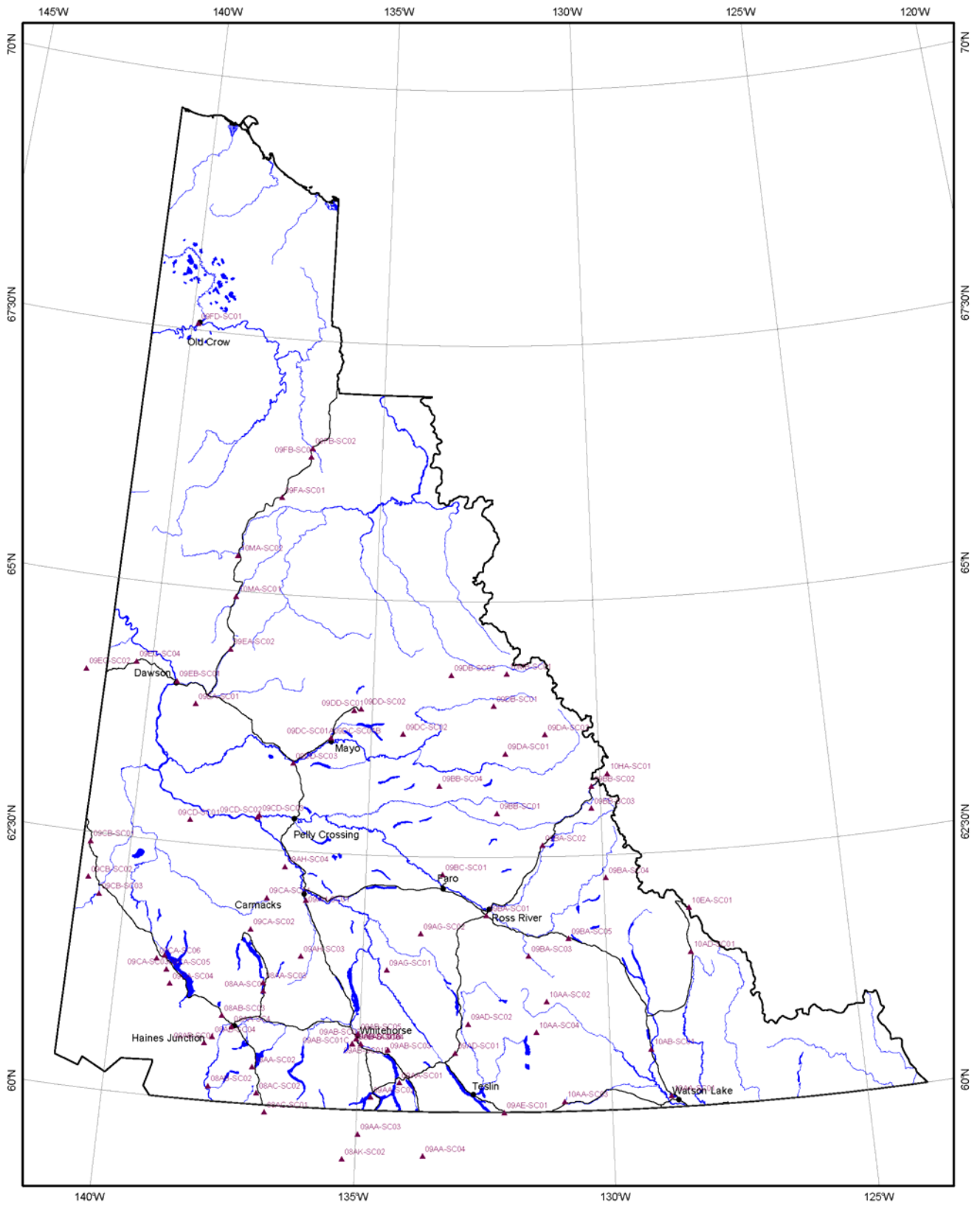
INDEX OF YUKON SNOW COURSES

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'	6
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



Location of Water Resource Snow Courses