

**YUKON SNOW SURVEY
BULLETIN & WATER
SUPPLY FORECAST**

April 1, 2011

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 2011

There have been no network changes in 2011. 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:

Yukon Snow Survey Bulletin and Water Supply Forecast
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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

Yukon Department of Highways and Public Works

Parks Canada

The Yukon Energy Corporation

YUKON TERRITORY SNOWPACK CONDITIONS AND RUNOFF PROJECTION

WEATHER

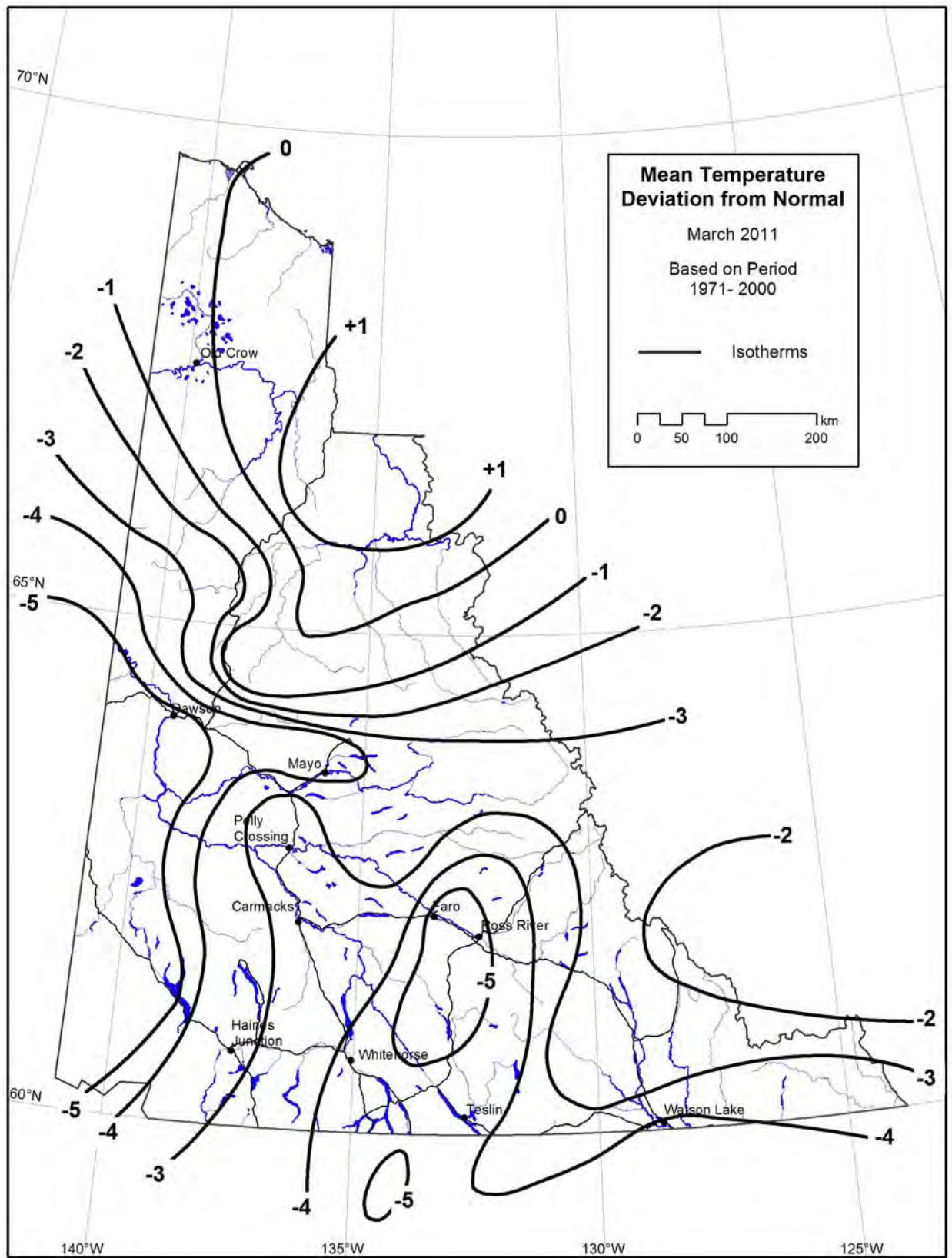
March temperatures throughout Yukon were generally well below normal with the exception of northern Yukon. Temperature deviations ranged from one degree above normal in northern Yukon to five degrees below normal in western and south central regions. March precipitation was well below normal throughout the Territory.

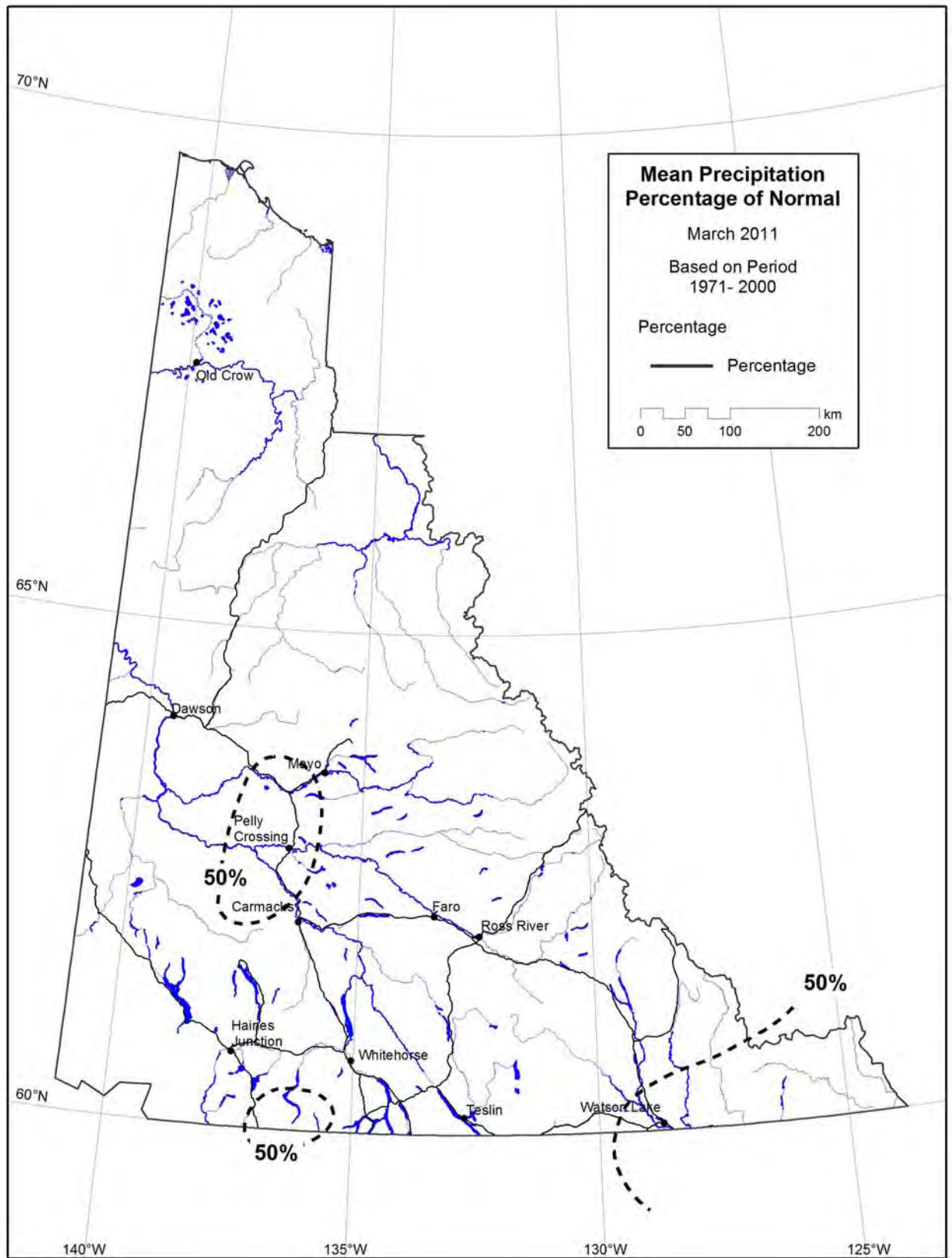
SNOWPACK

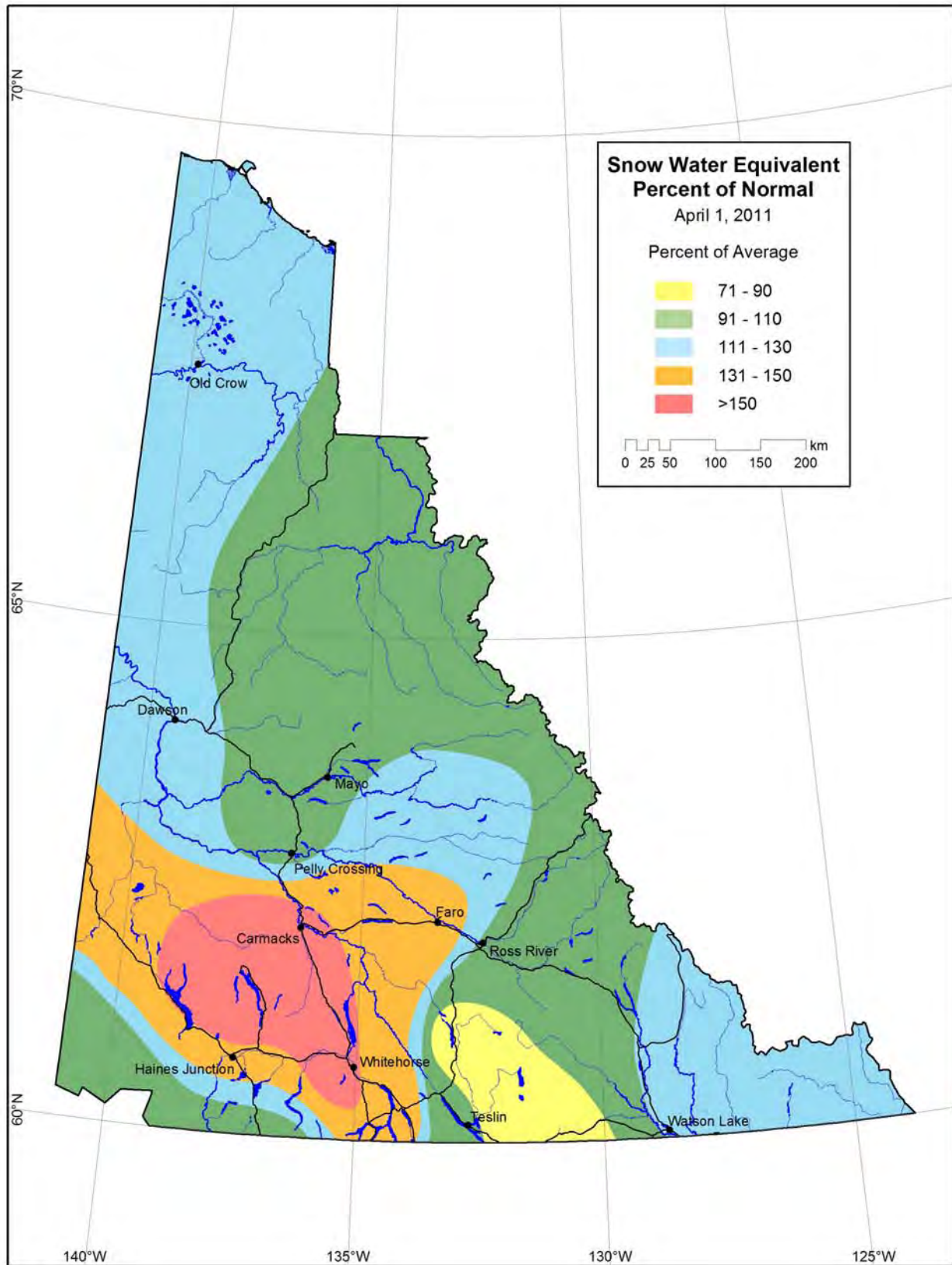
The April 1 Yukon snowpack is near normal throughout much of the Territory with the exception of southwestern Yukon which has an area of well above normal snowpack centred on Aishihik Lake and including the Carmacks and Kluane Lake regions. There is a second pocket of below normal snowpack in the Cassiar Mountains region east of Teslin.

STREAMFLOW

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





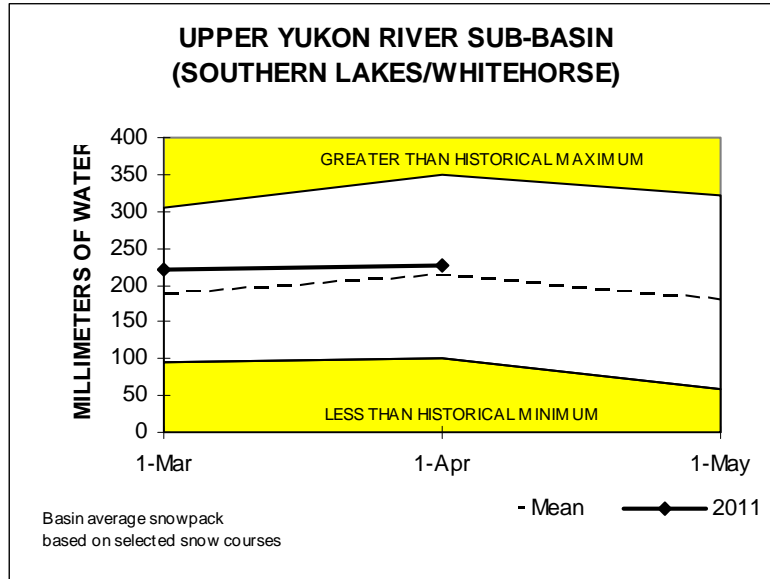


YUKON RIVER BASIN

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

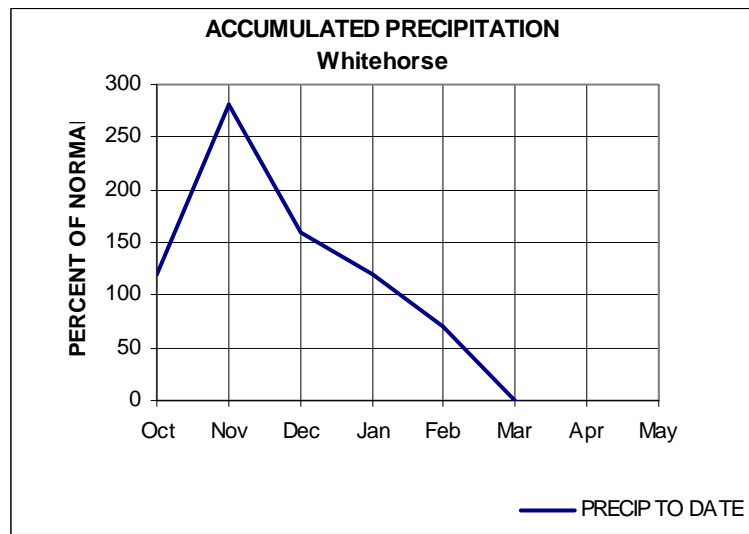
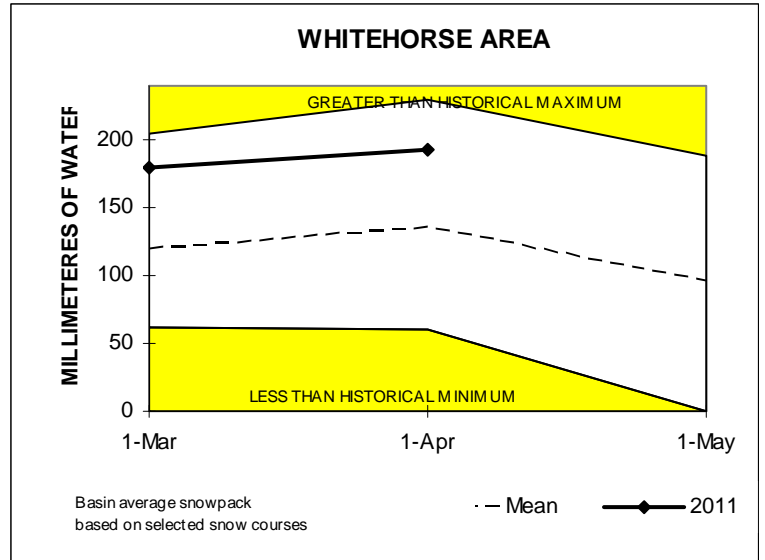
UPPER YUKON RIVER SUB-BASIN (SOUTHERN LAKES)

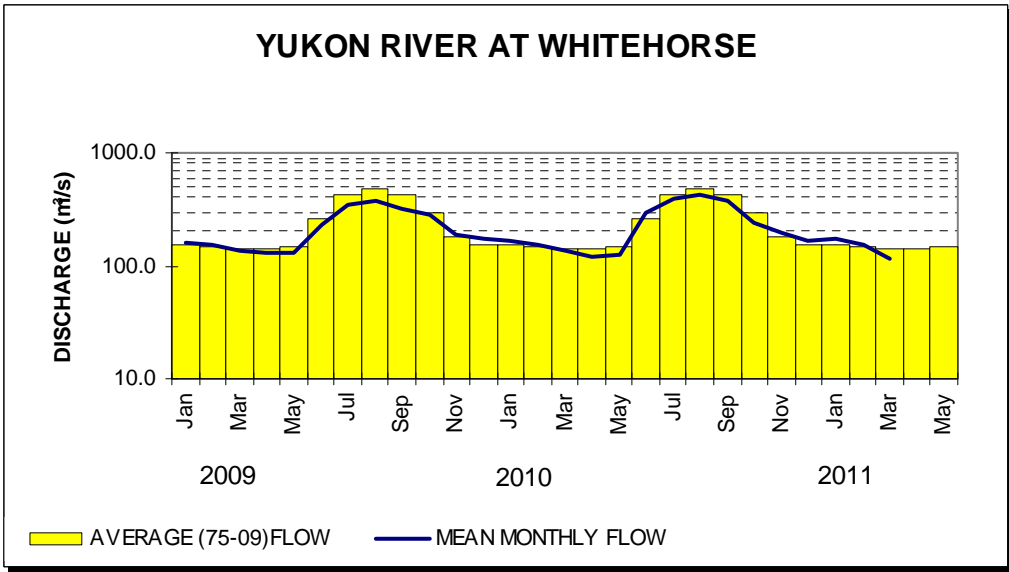
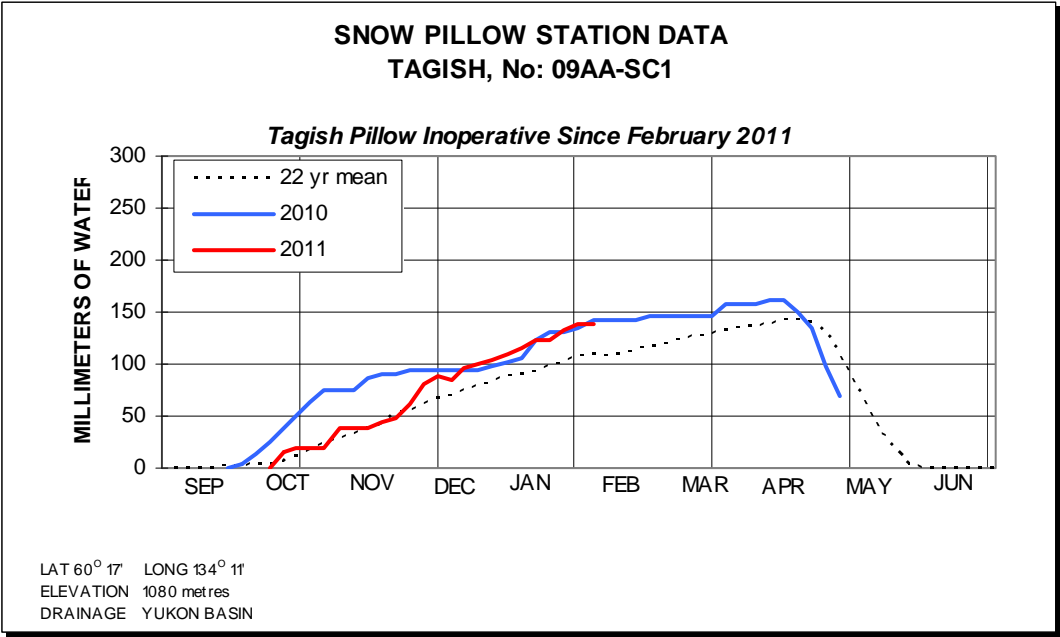
Snowpack conditions in the Upper Yukon River watershed are slightly above normal. Values range from 60 percent of normal at Atlin to 145 percent of normal at Montana Mountain. A basin wide average has been estimated to be 107 percent of normal.



WHITEHORSE AREA

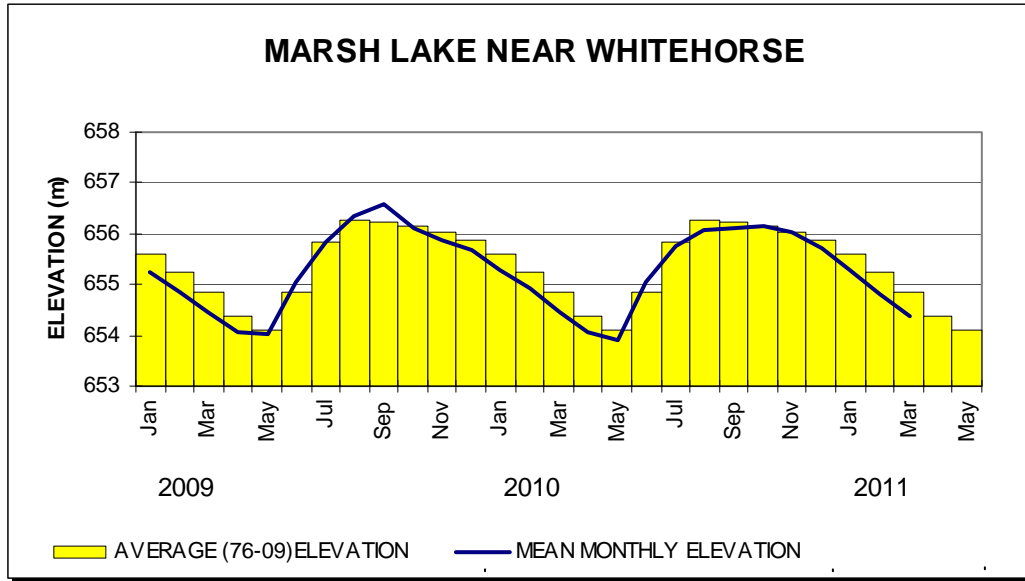
Snowpack conditions in the Whitehorse area are well above normal for April 1st. Values range from 126 percent of normal at the Whitehorse Airport to 158 percent of normal at Mt McIntyre which is a 35 year record. An area wide average is estimated to be 142 percent of normal.





YUKON RIVER and MARSH LAKE

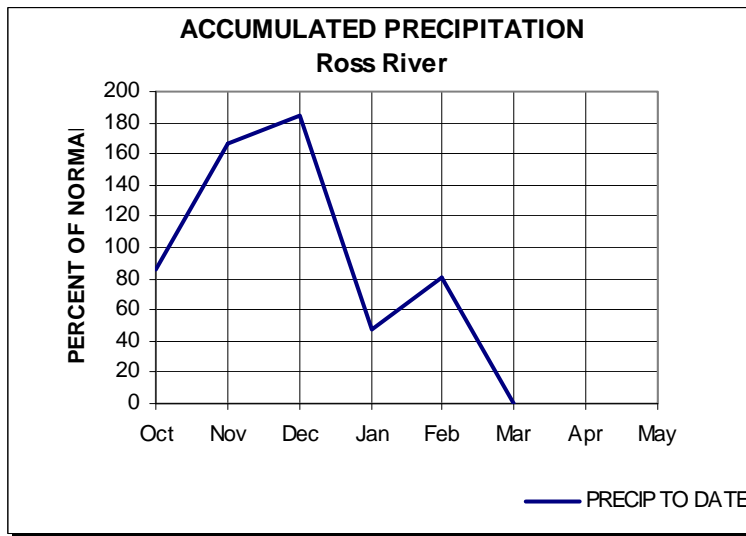
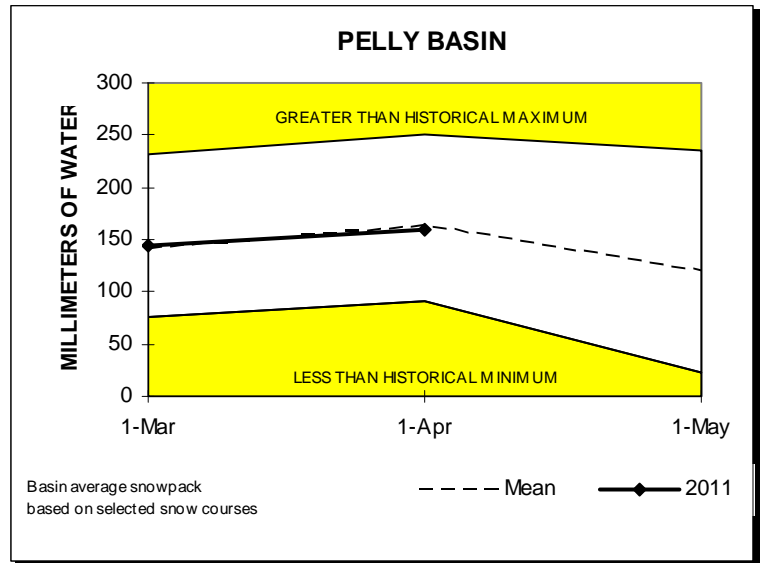
The elevation of Marsh Lake during March was 654.375 m or 0.415 m below normal. Yukon River at Whitehorse mean discharge during March was 82 percent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 110 percent and 110 percent of normal respectively.

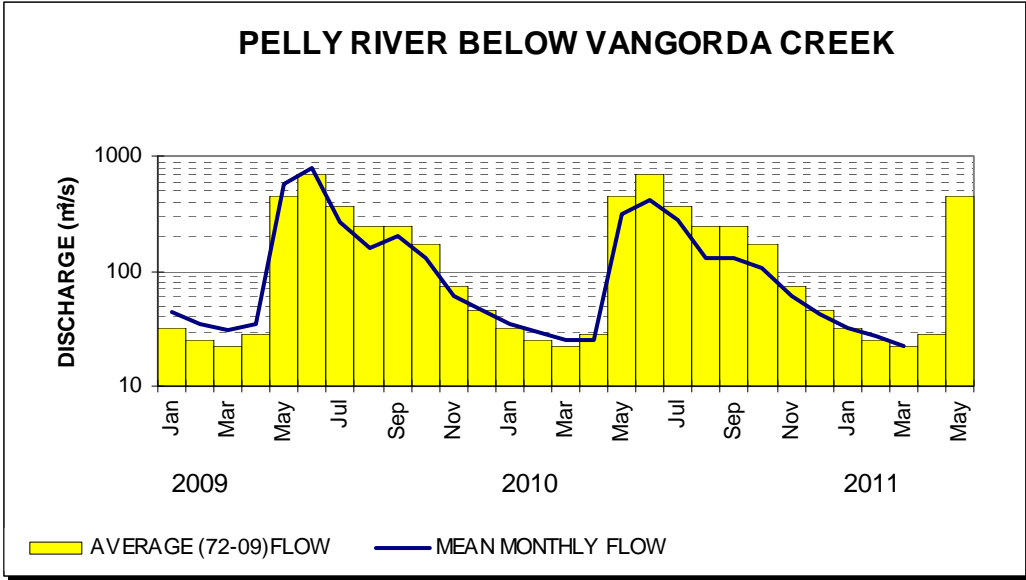
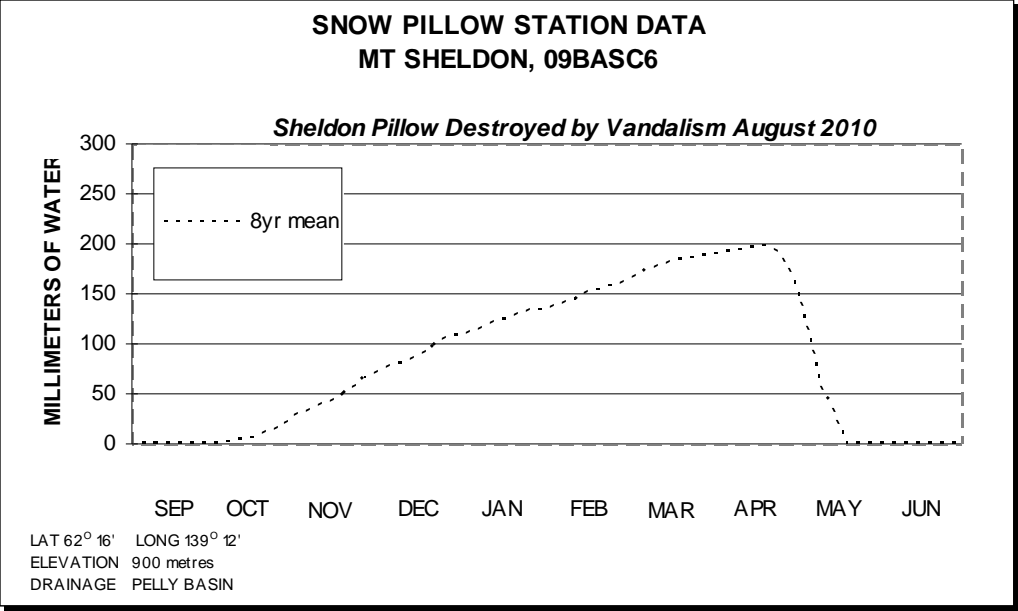


PELLY RIVER SUB-BASIN

Snowpack conditions in the Pelly River watershed are near normal. Values of snow water equivalent range from 91 percent of normal at Twin Creeks to 109 percent of normal at Hoole River. A basin wide average has been estimated to be 98 percent of normal.

Mean March streamflow for the watershed was 100 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 105 percent and 100 percent of normal respectively.

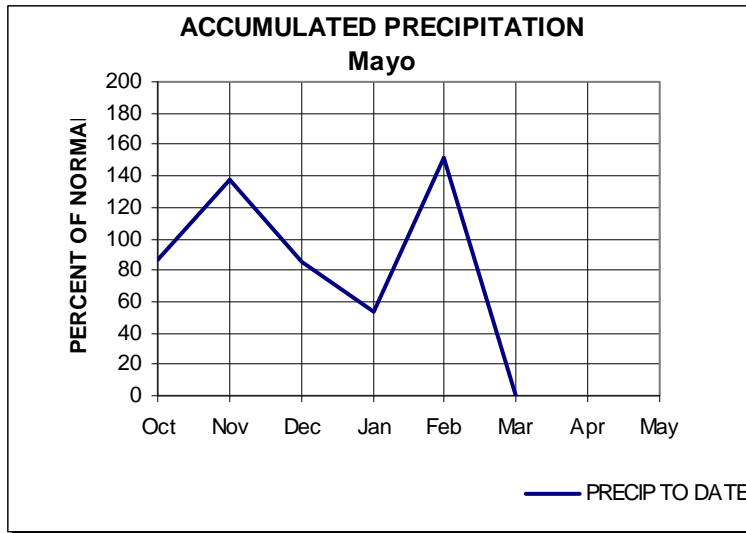
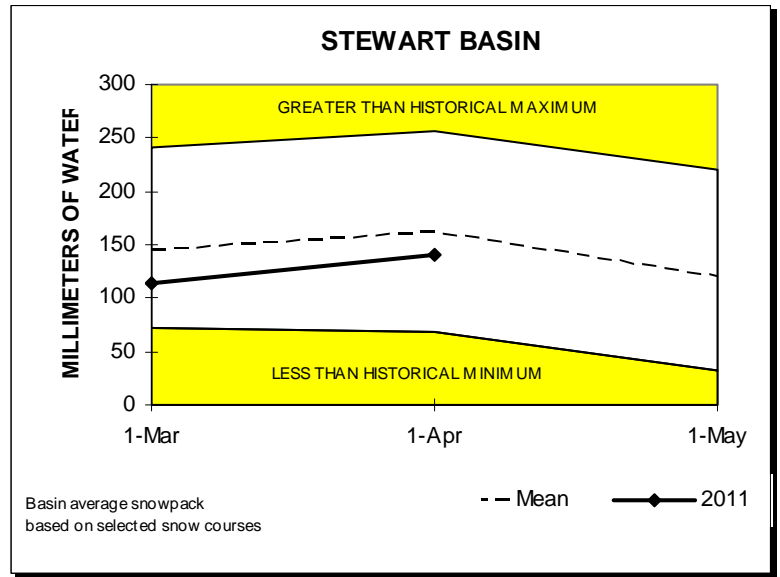


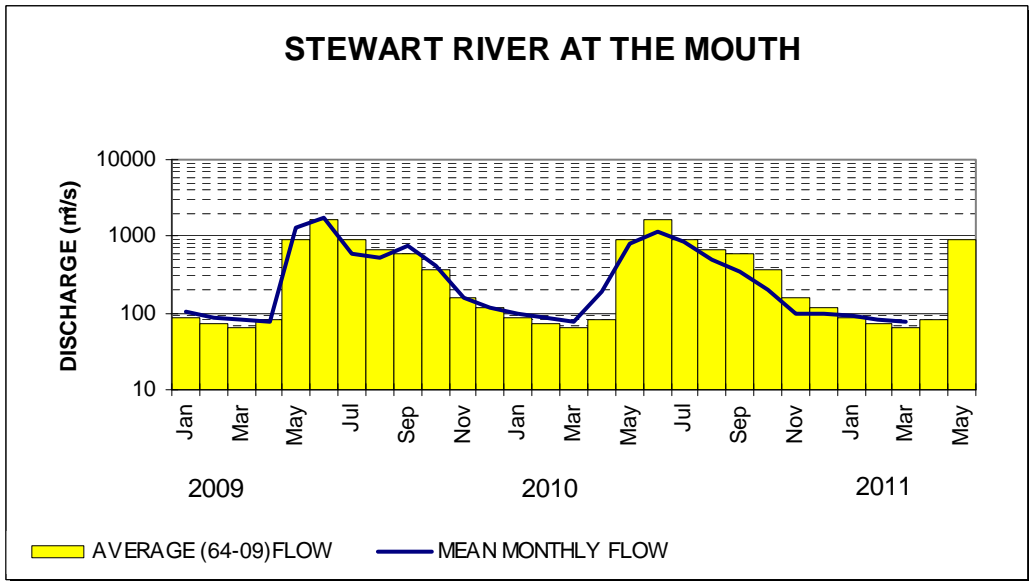
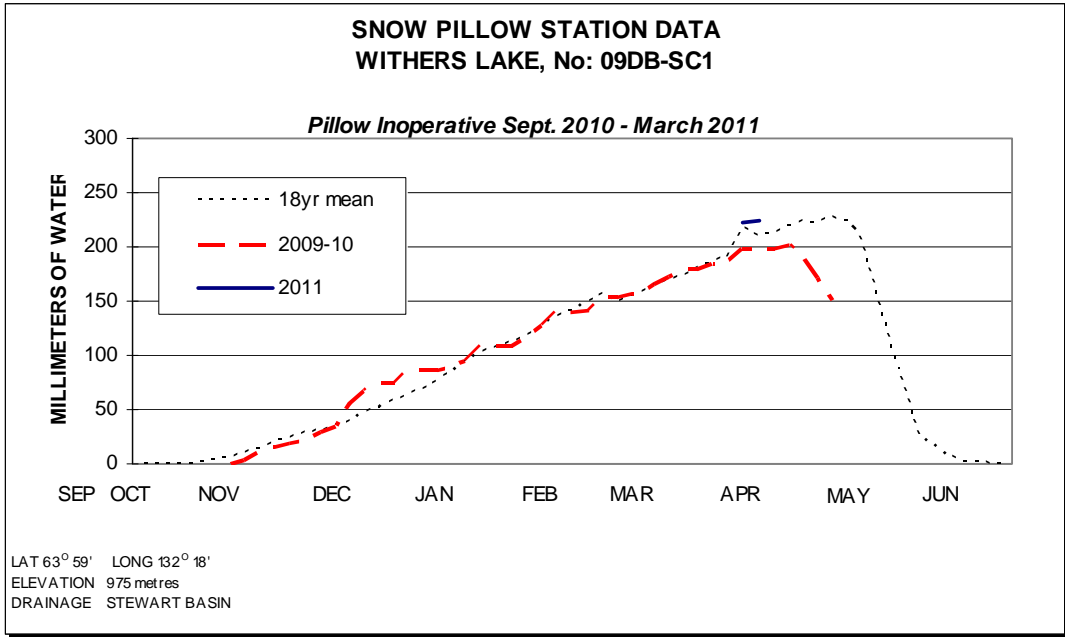


STEWART RIVER SUB-BASIN

Snowpack conditions in the Stewart River watershed are below normal for April 1st. Values of snow water equivalent range from 73 percent of normal at the Mayo Airport and Calumet to 108 percent of normal at Plata Airstrip. A basin wide average has been estimated to be 87 percent of normal.

Mean March streamflow for the watershed was 119 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 100 percent and 95 percent of normal respectively.

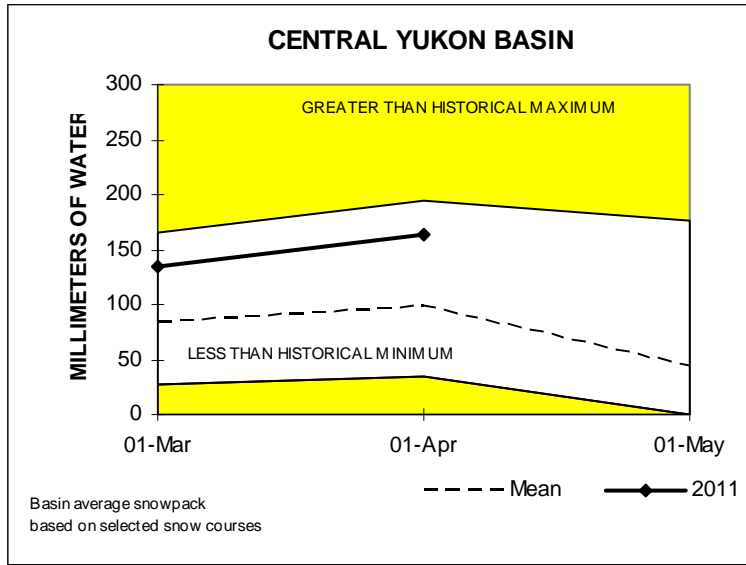




CENTRAL YUKON RIVER BASIN (CARMACKS AREA)

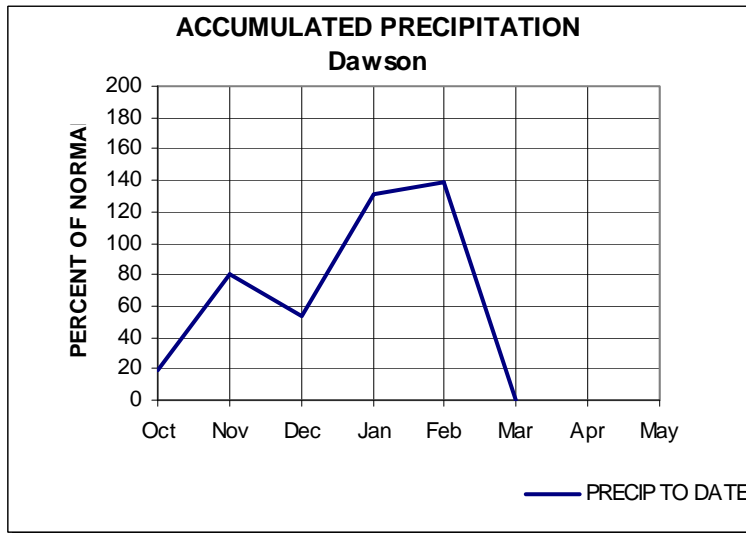
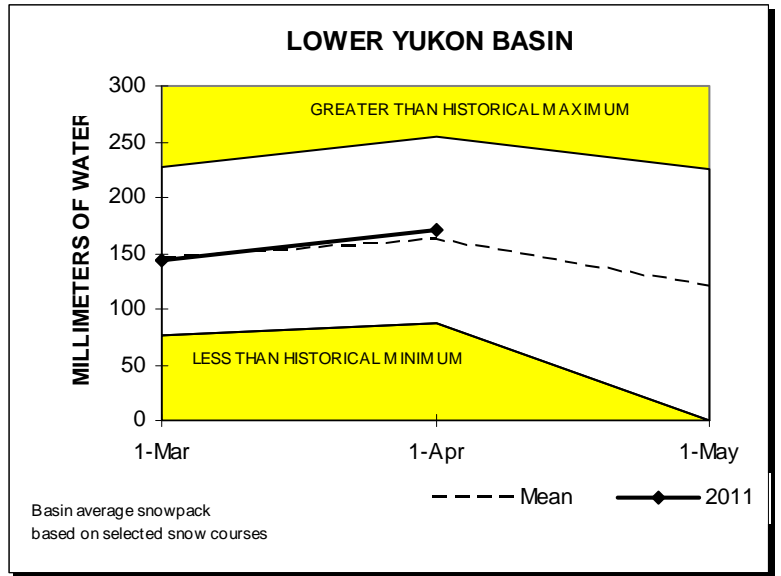
Snowpack conditions in the Carmacks area are well above normal for April 1st. Values of snow water equivalent range from

142 percent of normal at Williams Creek to 198 percent of normal at Mount Nansen. An area wide average has been estimated to be 168 percent of normal. Record high snowpacks were observed at Mount Berdoe and Mount Nansen.



LOWER YUKON RIVER BASIN (DAWSON AREA)

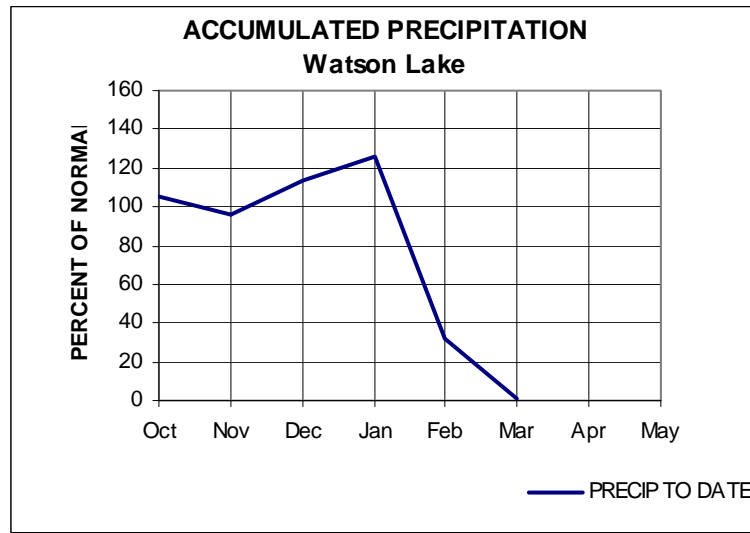
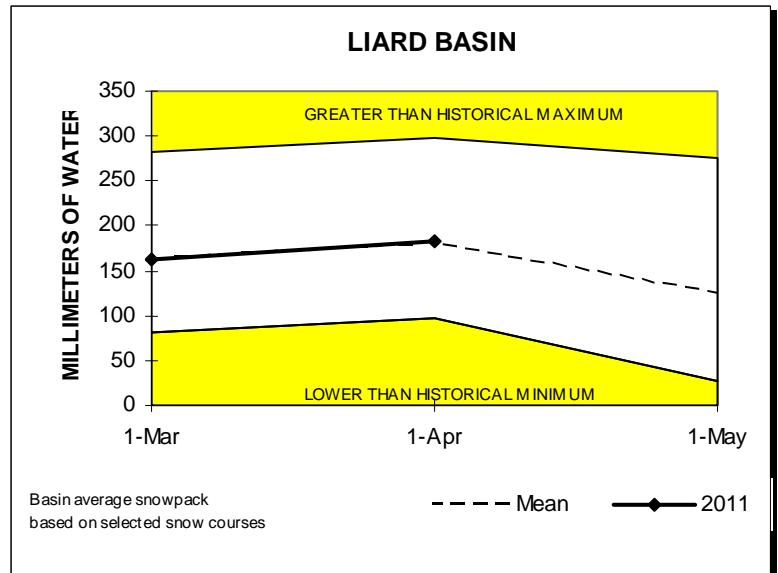
Snowpack conditions in the Dawson area are slightly above normal for April 1st. Values of snow water equivalent range from 78 percent of normal at Grizzly to 133 percent of normal at Midnight Dome. An area wide average has been estimated to be 106 percent of normal.



LIARD RIVER BASIN

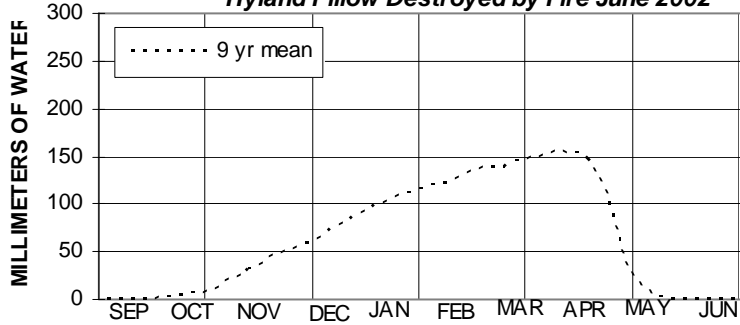
Snowpack conditions within the Liard River watershed are near normal. Values of snow water equivalent range from 79 percent of normal at Pine Lake Airstrip to 120 percent of normal at Watson Lake Airport and Hyland River. A basin wide average has been estimated to be 101 percent of normal.

Mean March streamflow for the Liard River upstream of Upper Liard was 91 percent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 98 percent and 104 percent of normal.



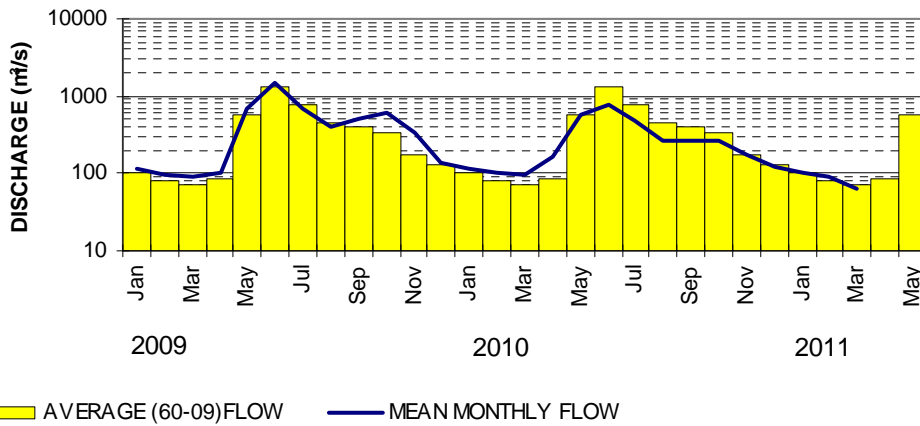
**SNOW PILLOW STATION DATA
HYLAND RIVER, No: 10AD-SC1**

Hyland Pillow Destroyed by Fire June 2002



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

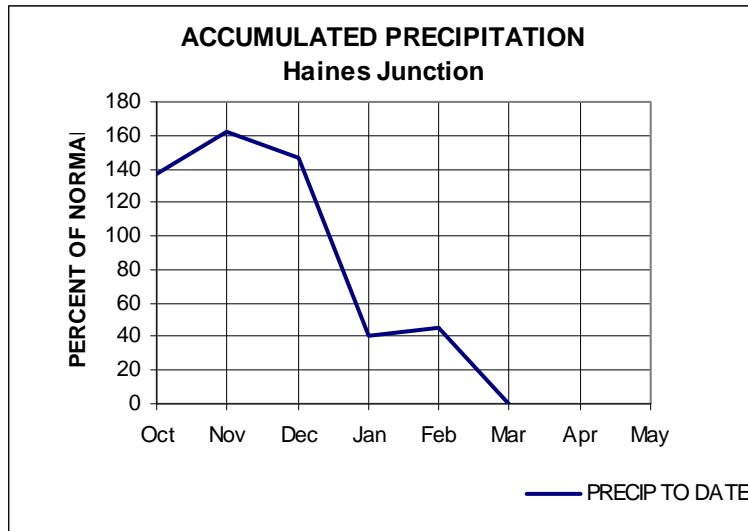
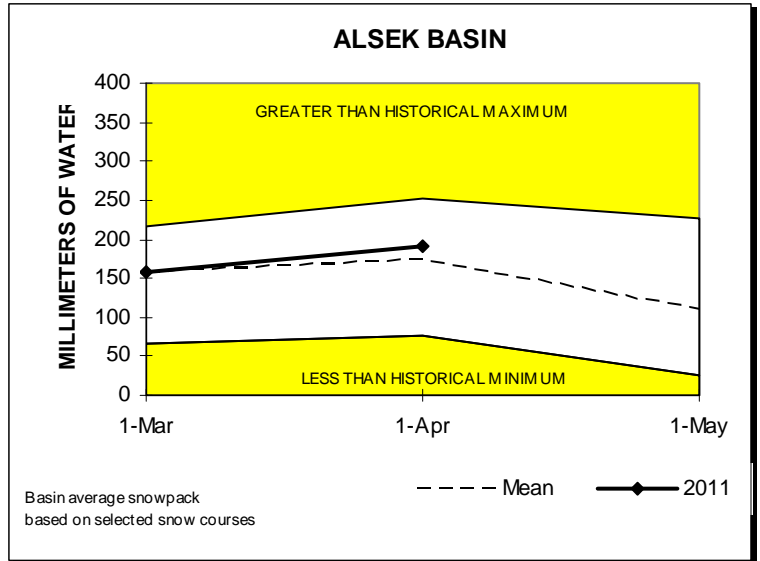
LIARD RIVER AT UPPER CROSSING

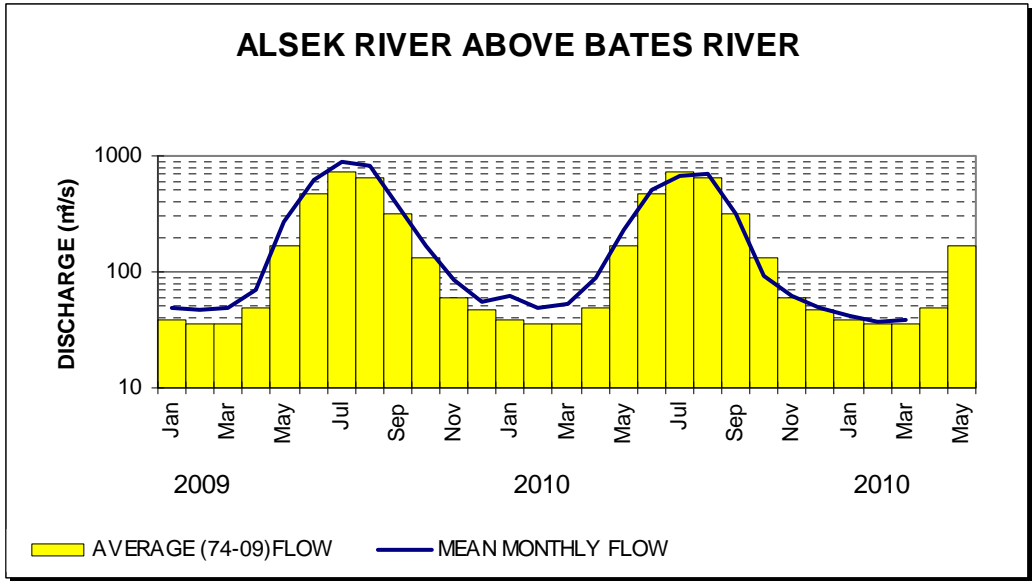


ALSEK RIVER BASIN

Snowpack conditions within the Alsek River watershed are slightly above normal for April 1st. Values of snow water equivalent range from 90 percent of normal at Alder Creek to 128 percent of normal at Canyon Creek. A basin wide average has been estimated to be 111 percent of normal.

Mean monthly streamflow for March as indicated by the Alsek River above Bates River was 108 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 115 and 115 percent of normal respectively.

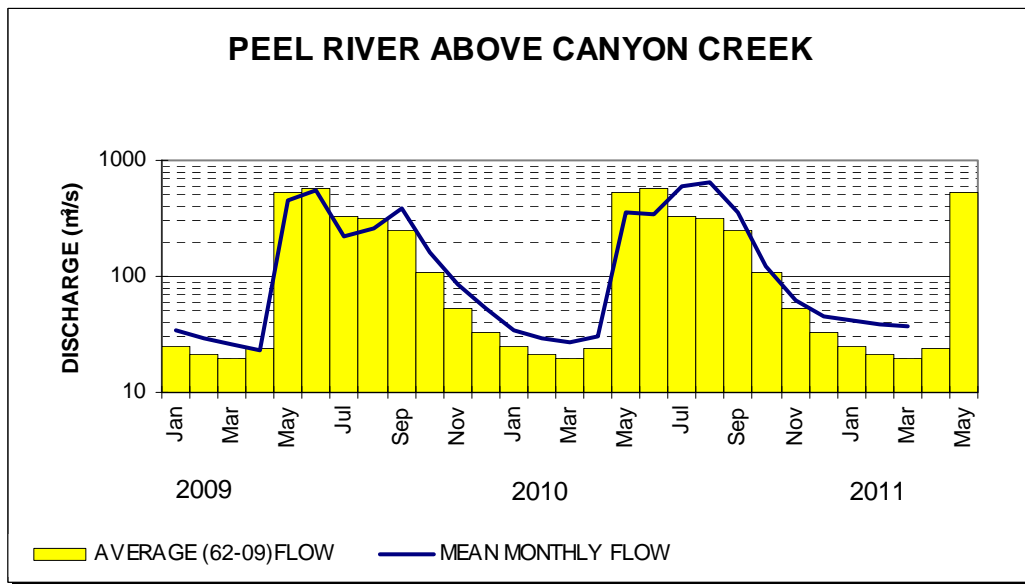
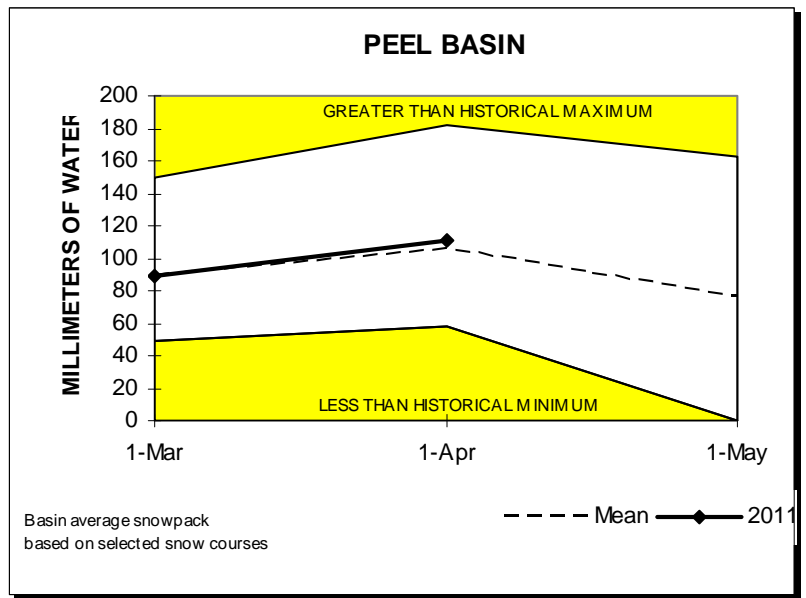




PEEL RIVER BASIN

Snowpack conditions in the Peel River watershed are near normal with values of snow water equivalent ranging from 104 percent of normal at Blackstone to 107 percent of normal at Ogilvie. A basin wide average has been estimated to be 106 percent of normal.

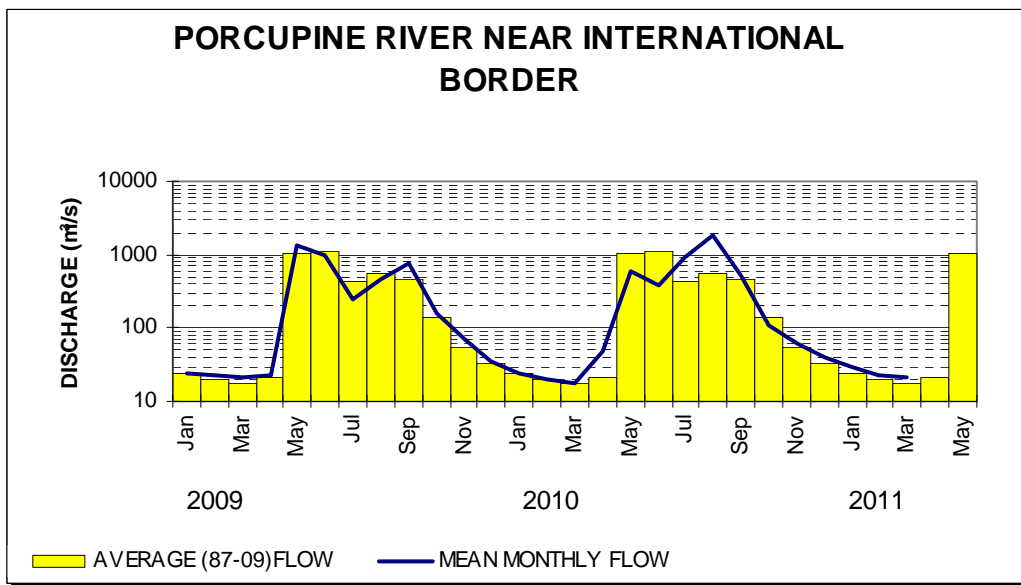
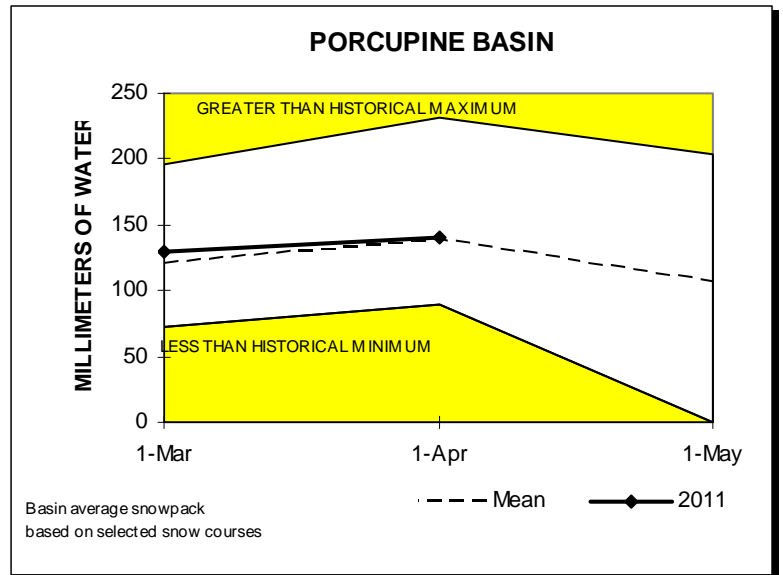
Mean monthly streamflow for March as indicated by the Peel River above Canyon Creek station was 187 percent of normal. Peel River volume and peak flow forecasts are not available at this time.



PORCUPINE RIVER BASIN

Snowpack conditions in the Porcupine River watershed are near normal with values of snow water equivalent ranging from 88 percent of normal at Eagle River to 133 percent of normal at Old Crow. 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 116 percent of normal. Porcupine River volume and peak flow forecasts are not available at this time.



Drainage Basin and Snow Course

For Sample Date: 2011-04-01

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
Alsek River Basin								
Canyon Lake	08AA-SC01	1160	3/29/2011	62	119	109	93	32
Alder Creek	08AA-SC02	768	3/27/2011	65	144	136	159	31
Aishihik Lake	08AA-SC03	945	3/29/2011	70	155	72	76	17
Haines Junction Farm	08AA-SC04	610	3/29/2011	50	120	102	103	11
Clay Creek	08AB-SC02	670	No Surv			622	613	32
Summit	08AB-SC03	1000	3/29/2011	108	314	322	267	31
Profile Mountain	08AB-SC04	900	No Surv			372	313	24
Yukon River Basin								
Tagish	09AA-SC01	1080	3/31/2011	78	196	179	147	35
Montana Mountain	09AA-SC02	1020	3/30/2011	81	204	144	141	34
Log Cabin (B.C.)	09AA-SC03	884	3/30/2011	118	366	428	372	51
Atlin (B.C.)	09AA-SC04	730	3/30/2011	42	74	116	123	46
Mt McIntyre B	09AB-SC01B	1097	3/28/2011	91	241	190	153	35
Whitehorse Airport	09AB-SC02	700	3/30/2011	49	129	71	102	44
Meadow Creek	09AD-SC01	1235	3/31/2011	115	288	320 E	279	34
Jordan Lake	09AD-SC02	930	3/30/2011	48	90	139	140	24
Morley Lake	09AE-SC01	824	3/30/2011	62	134	100	155	23
Mount Berdoe	09AH-SC01	1035	3/28/2011	77	194	122	106	35
Satasha Lake	09AH-SC03	1106	3/28/2011	67	144	108	100	24
Williams Creek	09AH-SC04	914	3/28/2011	61	142	122	97	16
Twin Creeks	09BA-SC02	900	3/29/2011	82	172	102	189	33
Hoole River	09BA-SC03	1036	3/30/2011	75	148	139	136	34
Burns Lake	09BA-SC04	1112	3/30/2011	99	231	163	221	25
Finlayson Airstrip	09BA-SC05	988	3/30/2011	54	115	82	106	24
Fuller Lake	09BB-SC03	1126	3/29/2011	90	179	199	199	25
Russell Lake	09BB-SC04	1060	3/29/2011	110	263	163	230	24
Rose Creek	09BC-SC01	1080	3/31/2011	63	135	102	103	17
Mount Nansen	09CA-SC01	1021	3/28/2011	63	158	110	78	35
MacIntosh	09CA-SC02	1160	3/28/2011	68	160	132	99	35
Burwash Airstrip	09CA-SC03	810	3/29/2011	39	69	47	43	34
Duke River	09CA-SC05	1310	No Surv			68	105	25
Beaver Creek	09CB-SC01	655	3/29/2011	65	118	82	85	36
Chair Mountain	09CB-SC02	1067	3/30/2011	66	120	85	96	22
White River	09CB-SC03	823	No Surv			N.S.	76	5
Casino Creek	09CD-SC01	1065	3/28/2011	69	150	128	127	33
Pelly Farm	09CD-SC03	472	3/27/2011	46	80	38	76	25

Printed on 06 Apr 2011 from the Environment Yukon Snow Survey System
Code "E" - Estimate, Code "B" - Survey date is outside of valid sampling range

Page 1 of 2

Drainage Basin and Snow Course

For Sample Date: 2011-04-01

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	3/29/2011	88	207	110	189	33
Arrowhead Lake	09DA-SC02	1120	No Surv			159	196	18
Withers Lake	09DB-SC01	975	3/29/2011	100	232	190	234	25
Rackla Lake	09DB-SC02	1040	3/29/2011	92	220	170	194	24
Mayo Airport A	09DC-SC01A	540	3/28/2011	23	70	N.S.	96	41
Mayo Airport B	09DC-SC01B	540	3/29/2011	49	106	54	104	24
Edwards Lake	09DC-SC02	830	3/29/2011	86	187	122	163	24
Calumet	09DD-SC01	1310	3/28/2011	84	146	154	198	32
King Solomon Dome	09EA-SC01	1080	3/31/2011	79	179	141	159	36
Grizzly Creek	09EA-SC02	975	3/30/2011	59	139	174	178	35
Midnight Dome	09EB-SC01	855	3/28/2011	79	195	160	147	36
Boundary (Alaska)	09EC-SC02	1005	3/30/2011	53	127	104	135	41
Porcupine River Basin								
Riff's Ridge	09FA-SC01	650	3/31/2011	80	159	N.S.	144	23
Eagle Plains	09FB-SC01	710	3/31/2011	74	148	150	164	27
Eagle River	09FB-SC02	340	3/31/2011	65	121	119	137	27
Old Crow	09FD-SC01	299	3/28/2011	63	153	118	115	29
Liard River Basin								
Watson Lake Airport	10AA-SC01	685	3/29/2011	60	165	150	137	46
Tintina Airstrip	10AA-SC02	1067	3/30/2011	83	187	186	205	33
Pine Lake Airstrip	10AA-SC03	995	3/29/2011	77	181	210 E	228	35
Ford Lake	10AA-SC04	1110	3/30/2011	78	165	159	196	24
Frances River	10AB-SC01	730	3/28/2011	64	176	143	161	36
Hyland River	10AD-SC01	855	3/28/2011	74	207	194	173	34
Peel River Basin								
Blackstone River	10MA-SC01	920	3/31/2011	55	109	83	105	35
Ogilvie River	10MA-SC02	595	3/31/2011	64	113	110	106	34
Bonnet Plume Lake	10MB-SC01	1120	3/29/2011	84	183	147	183	24
Alaska Snow Courses								
Eaglecrest	08AK-SC01	305	3/29/2011	137	472	493	509	29
Moore Creek Bridge	08AK-SC02	700	4/2/2011	122	348	574	556	19

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'	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