

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

**April 1, 2006**

Prepared and issued by:  
Environment Yukon  
Environmental Programs Branch  
Water Resources Section

## PREFACE

The Yukon Snow Survey Bulletin and Water Supply Forecast is prepared and issued by the Water Resources Branch of Yukon Environment three times annually, after March 1, April 1 and May 1. 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 2006

No changes for 2006.

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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:

Atmospheric Environment Service, 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**

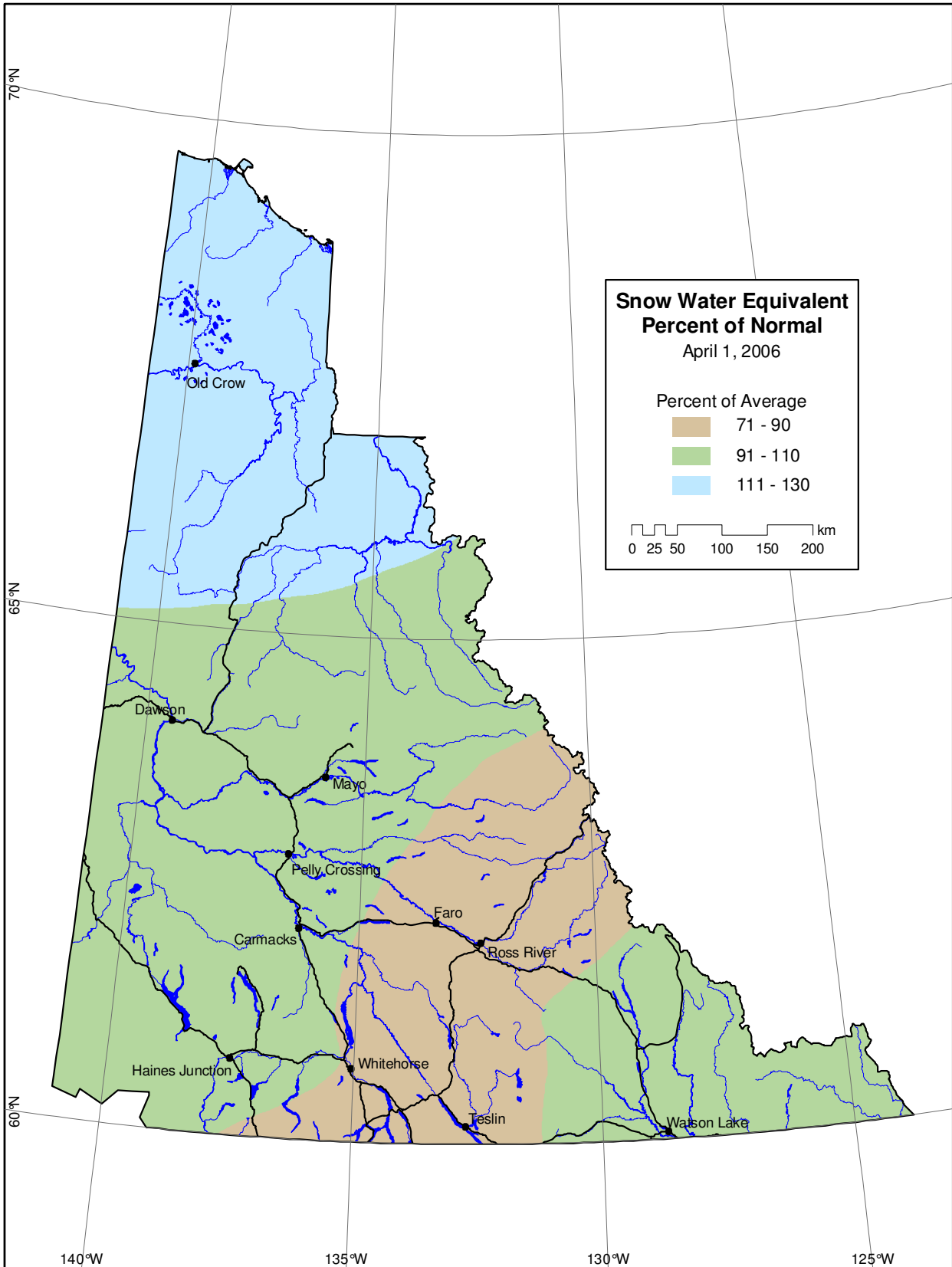
March was a very unsettled month in the Yukon. Temperatures were below normal. Dawson showed the greatest deviation from normal with a mean monthly temperature of 5.2 degrees below normal. Whitehorse was 4.8 degrees below normal and set three records for overnight lows on March 12<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup>. Precipitation was light for March except for the Whitehorse area which received nearly double the monthly normal.

## **SNOWPACK**

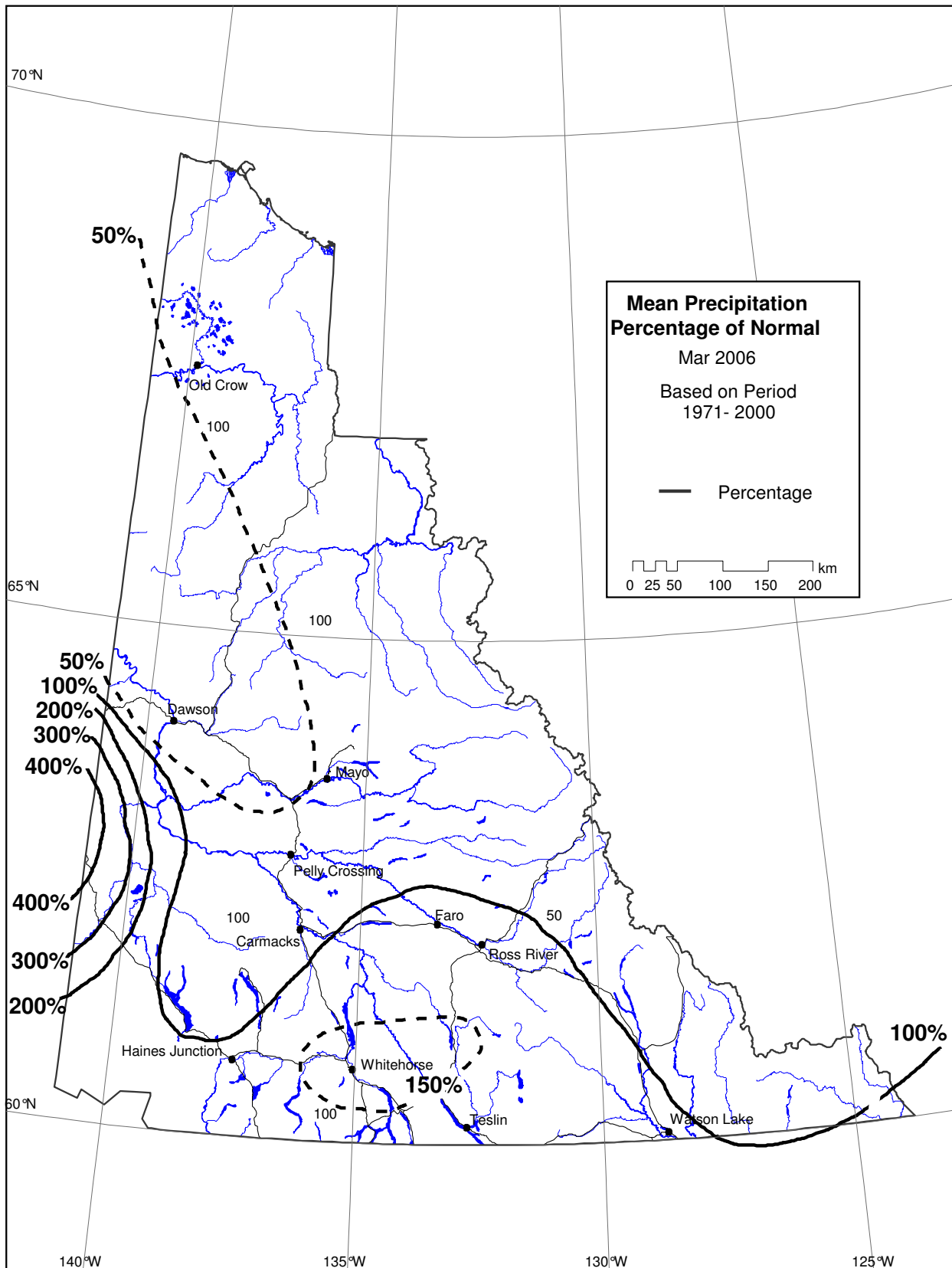
Snowpack conditions are close to normal most everywhere in the Yukon for April 1st. The Pelly River and the Upper Yukon are somewhat below average. North of the Ogilives is above average but most of the rest of the territory is close to average.

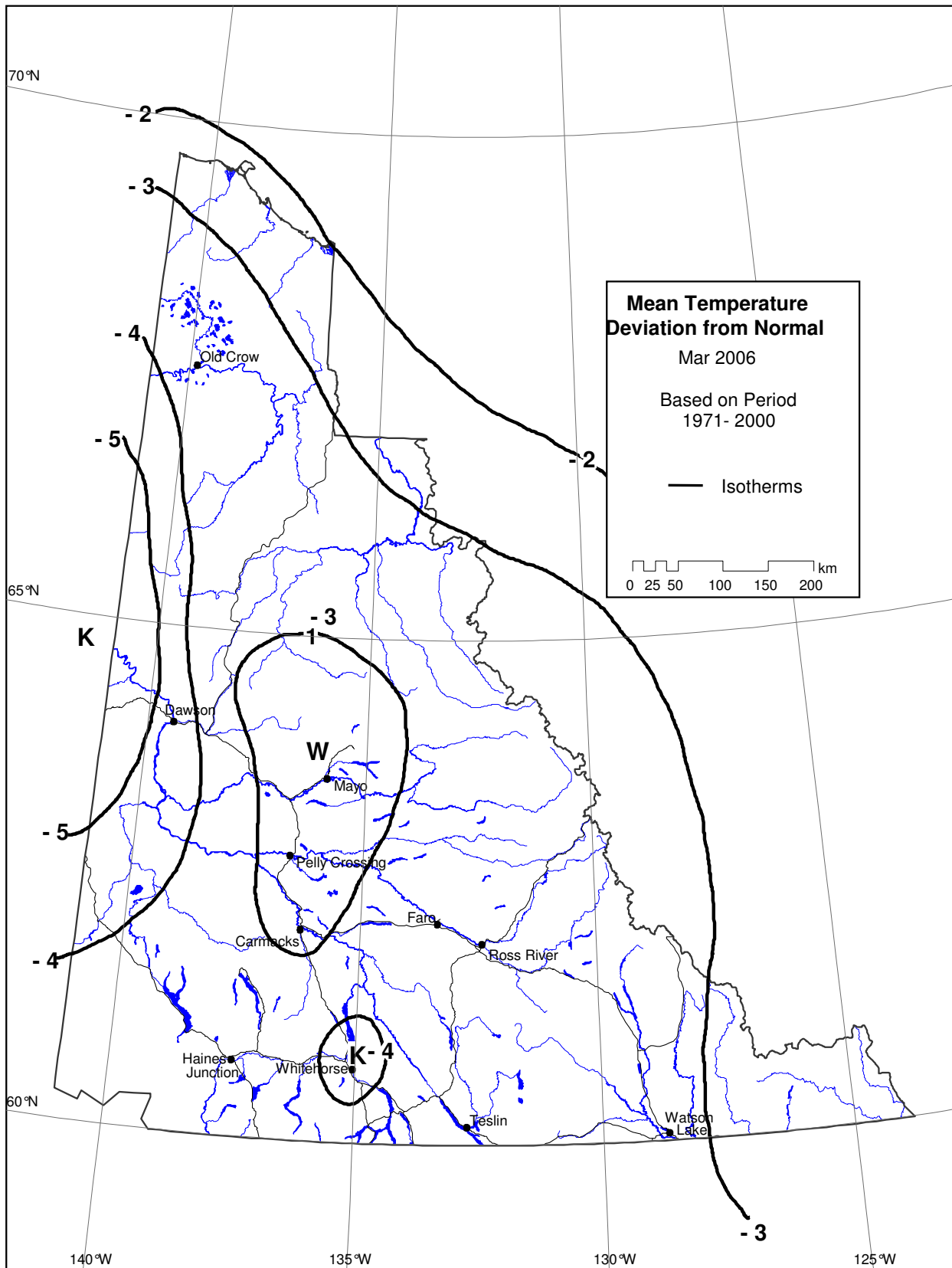
## **STREAMFLOW**

Streamflow conditions within Yukon are normal to slightly above normal for March 1<sup>st</sup>. Streamflow during this period represents winter baseflow, which provides an indication of winter groundwater contributions.



Yukon Snow Survey 2006



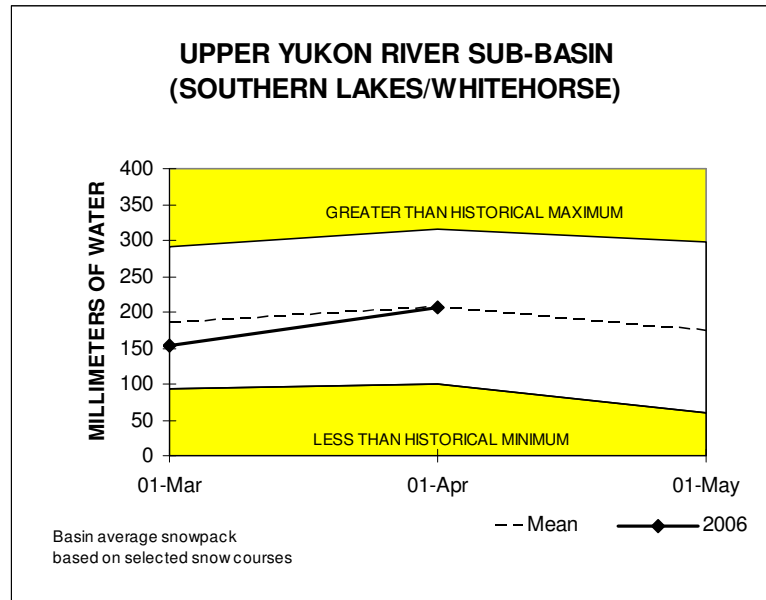


# YUKON RIVER BASIN

Snowpack conditions in most of the Yukon River Basin are near normal. The south central area of the basin which includes the Pelly, Teslin and Upper Yukon River Basins are below normal.

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

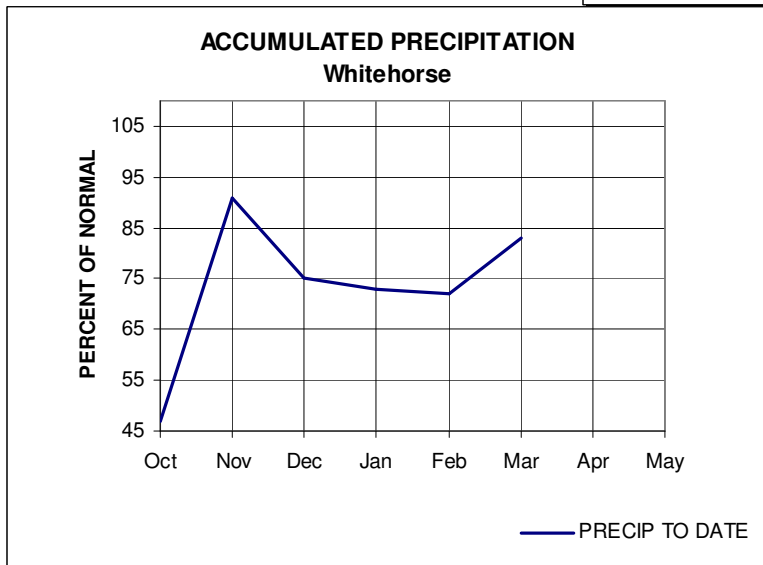
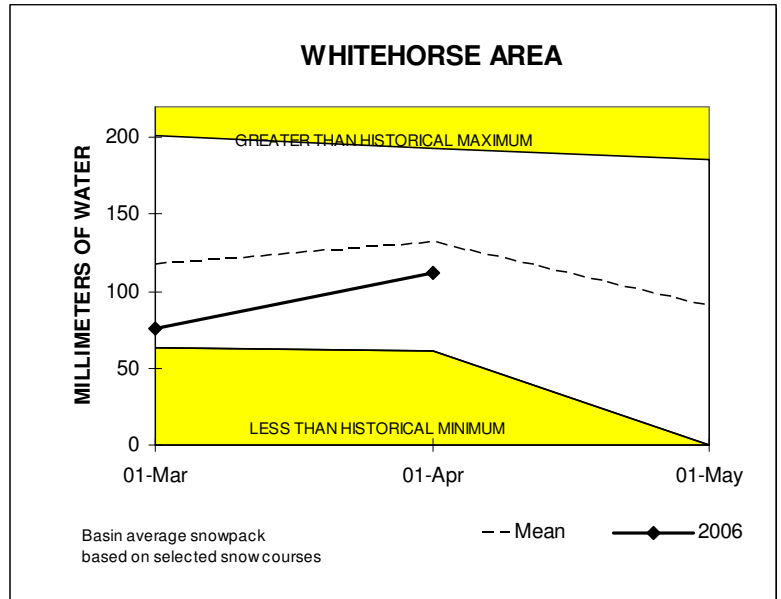
Snowpack conditions for April 1<sup>st</sup> in the Upper Yukon River watershed are below normal but up slightly from March 1st. Values range from 92 percent of normal at Log Cabin to 66 percent of normal at Atlin. A basin wide average has been estimated to be 82 percent of normal.



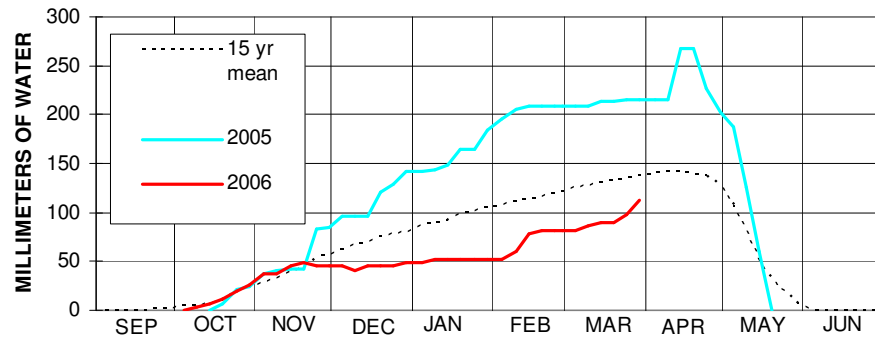


## WHITEHORSE AREA

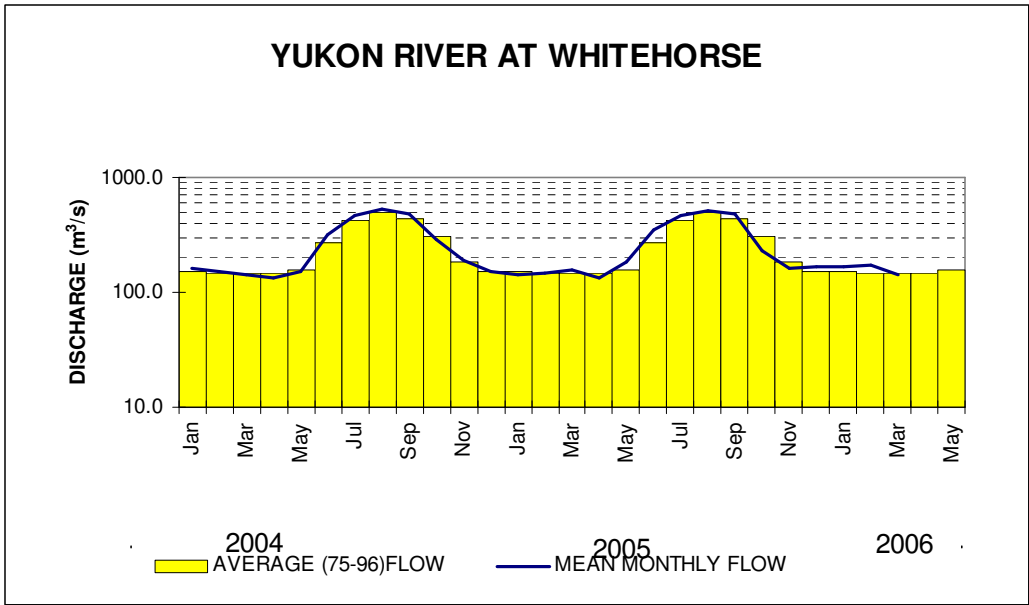
Snowpack conditions in the Whitehorse area are below normal for April 1<sup>st</sup> but up considerably from March 1<sup>st</sup>. Values range from 99 percent of normal at Mt. MacIntyre to 71 percent of normal at Whitehorse Airport. A basin wide average is estimated to be 85 percent of average.



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

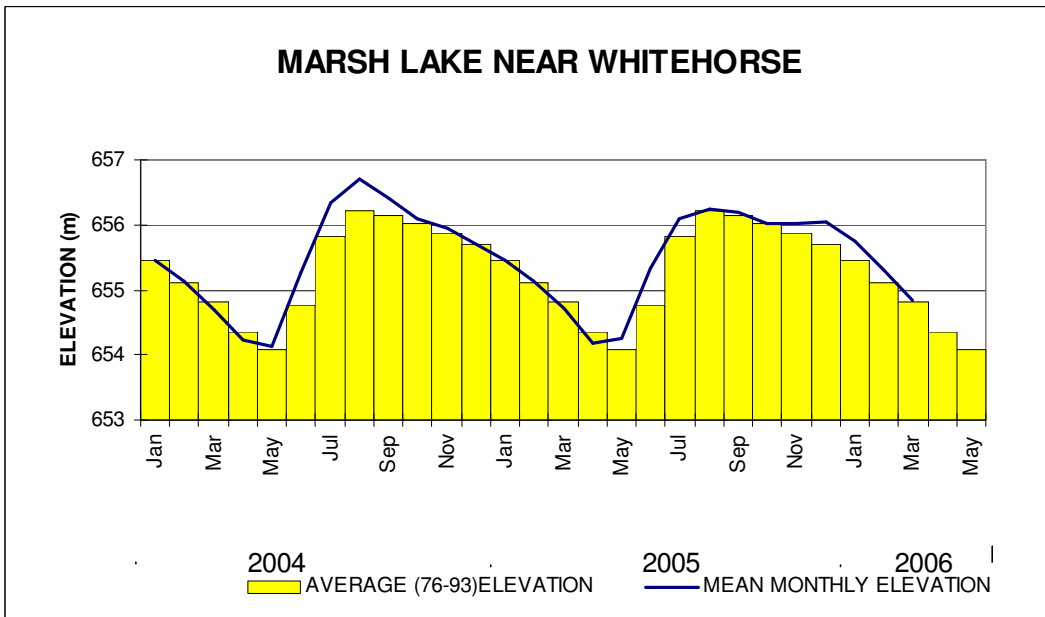


LAT 60° 17' LONG 134° 11'  
ELEVATION 1080 metres  
DRAINAGE YUKON BASIN



**MARSH LAKE**

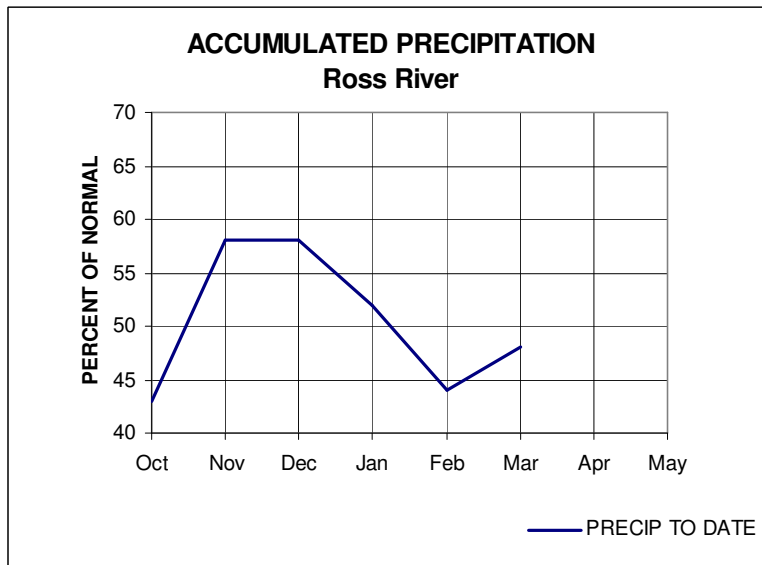
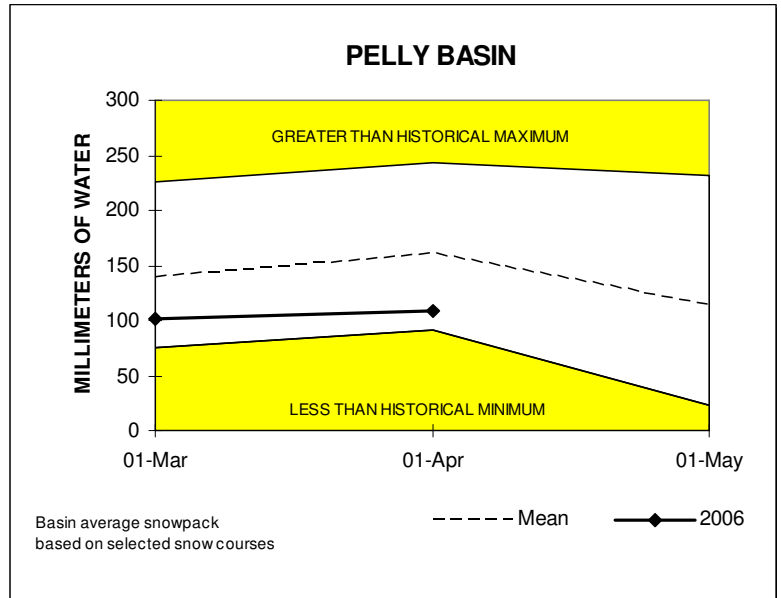
The elevation of Marsh Lake during March was 654.837 or 0.029M above normal. Yukon River at Whitehorse mean discharge during March was 97 percent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 92 percent and 101 percent of normal respectively.



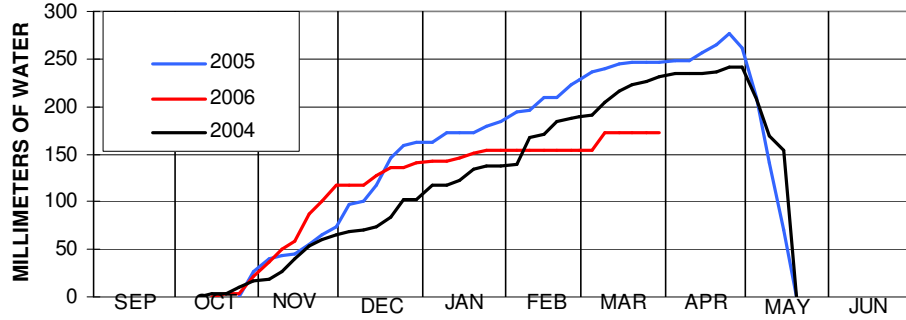
# PELLY RIVER SUB-BASIN

Snowpack conditions in the Pelly River watershed are well below normal and down slightly from March 1st. Values of snow water equivalent range from an estimate of 74 percent of normal at Twin Creeks to 57 percent of normal at Hoole River. A basin wide average has been estimated to be 67 percent of normal.

Mean March streamflow for the watershed was 140 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.

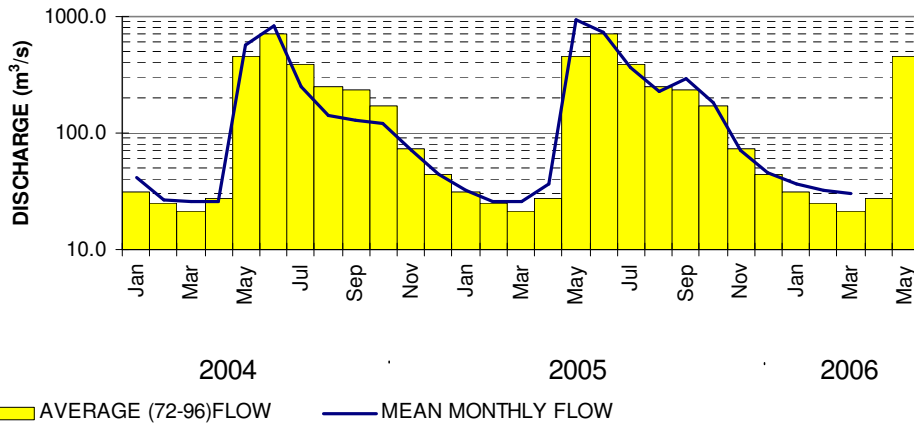


**SNOW PILLOW STATION DATA  
MT SHELDON, No: 09BA-SC6**



LAT 62° 16' LONG 139° 12'  
ELEVATION 900 metres  
DRAINAGE PELLY BASIN

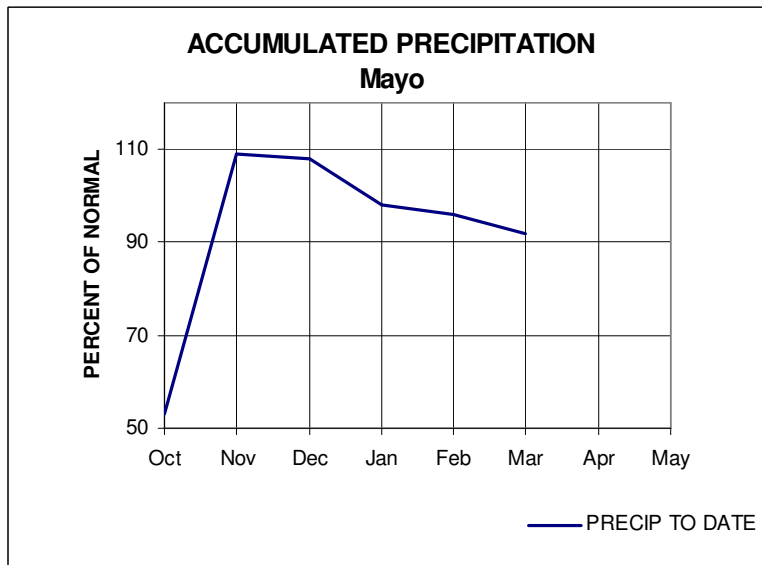
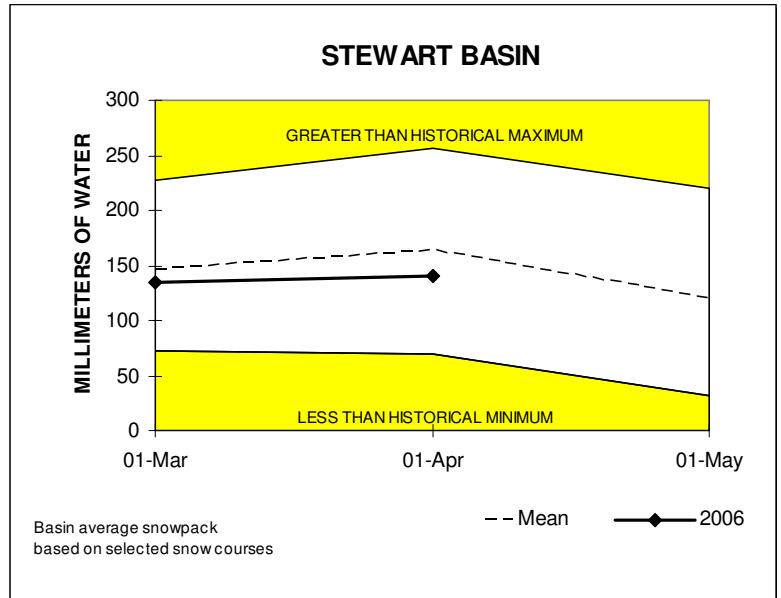
**PELLY RIVER BELOW VANGORDA CREEK**

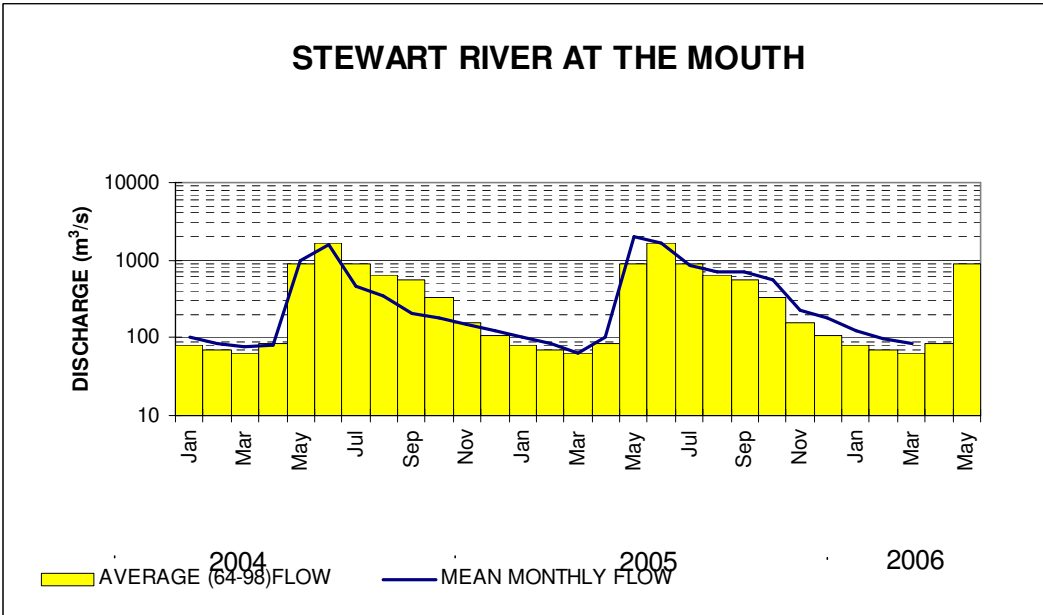
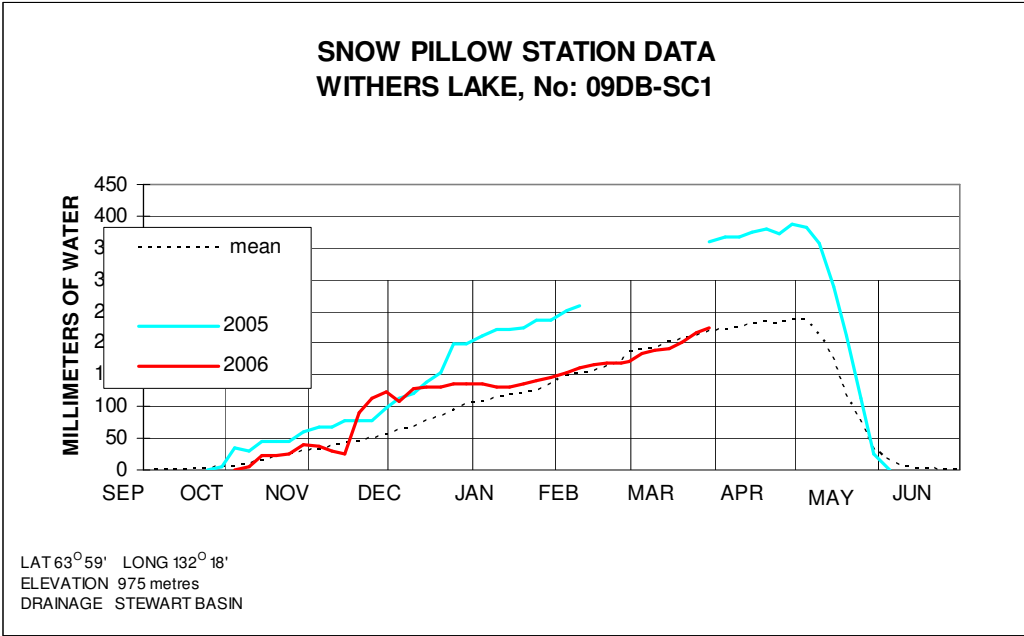


# STEWART RIVER SUB-BASIN

Snowpack conditions throughout the Stewart River watershed are below normal for April 1<sup>st</sup>. Values of snow water equivalent range from 99 percent of normal at Mayo to 73 percent of normal at Plata Airstrip. A basin wide average has been estimated to be 86 percent of normal.

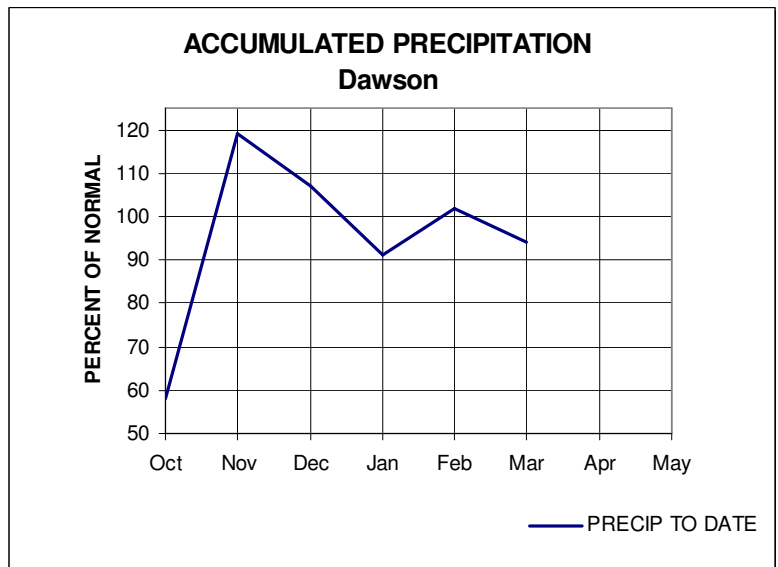
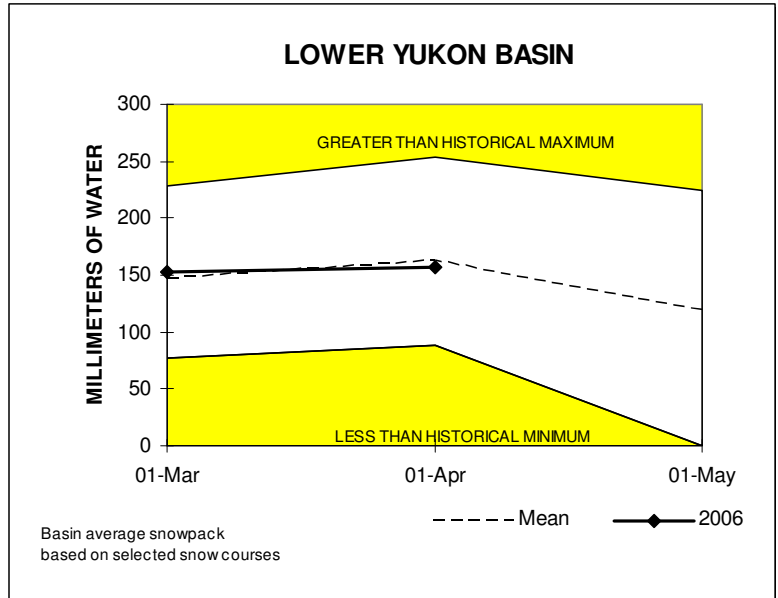
The Stewart River near the Mouth indicates March streamflow at 137 percent of average. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 90 percent and 95 percent of normal respectively.





# LOWER YUKON RIVER BASIN ( DAWSON AREA)

Snowpack conditions in the Dawson area are normal for April 1st. Values of snow water equivalent range from 113 percent of normal at King Solomon Dome to 82 percent of normal at Midnight Dome. An area wide average has been estimated to be 97 percent of normal.

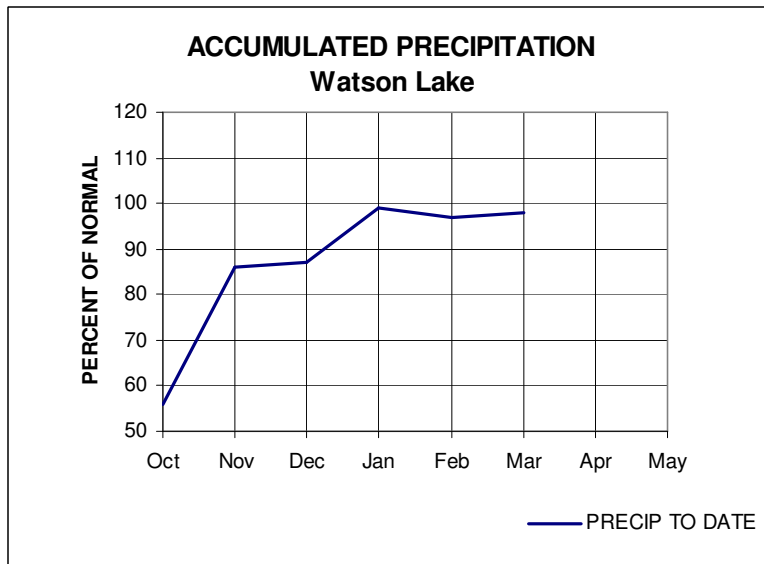
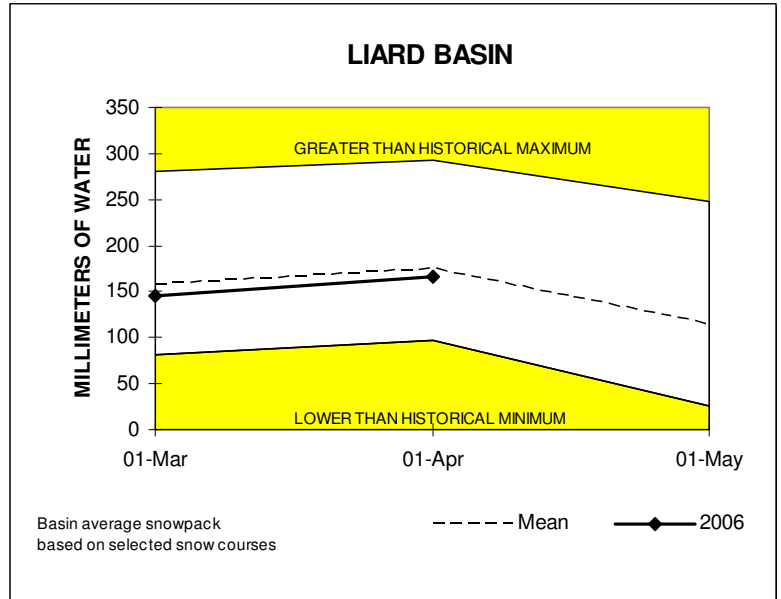




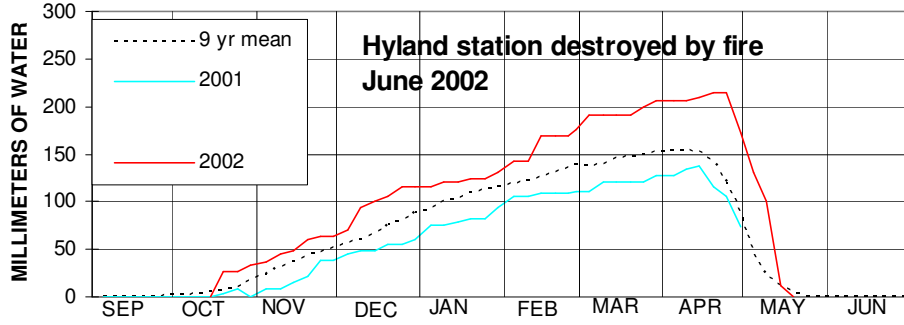
# LIARD RIVER BASIN

Snowpack conditions within the Liard River watershed are near normal. Values of snow water equivalent range from 111 percent of normal at Watson Lake Airport to 87 percent of normal at Hyland River. A basin wide average has been estimated to be 93 percent of normal.

Mean March streamflow for the Liard River upstream of Upper Liard was 129 percent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 98 percent and 99 percent of normal.

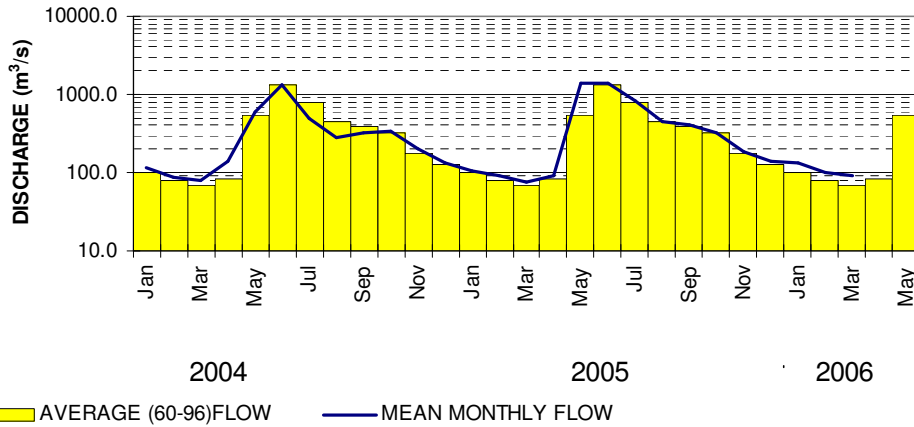


**SNOW PILLOW STATION DATA  
HYLAND RIVER, No: 10AD-SC1**



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

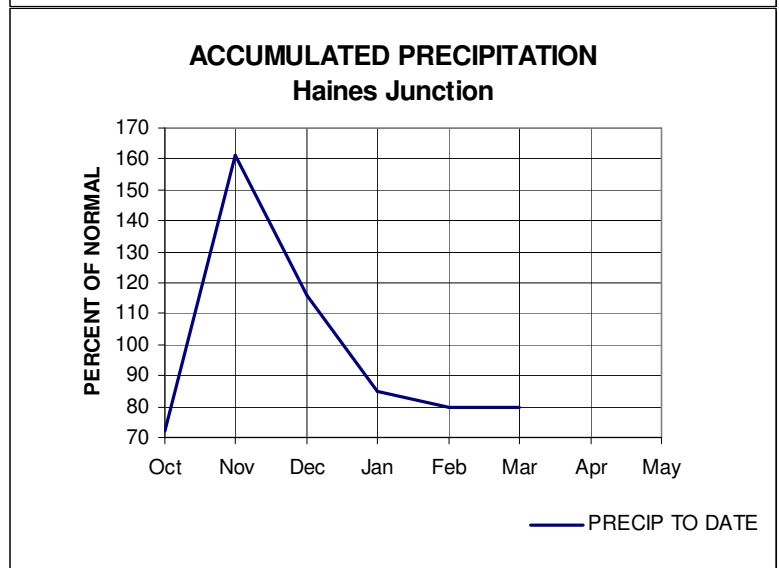
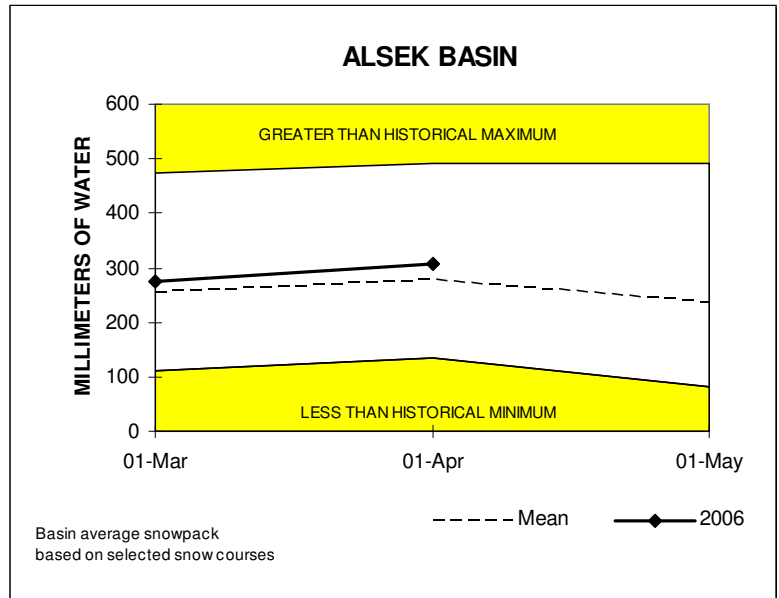
**LIARD RIVER AT UPPER CROSSING**



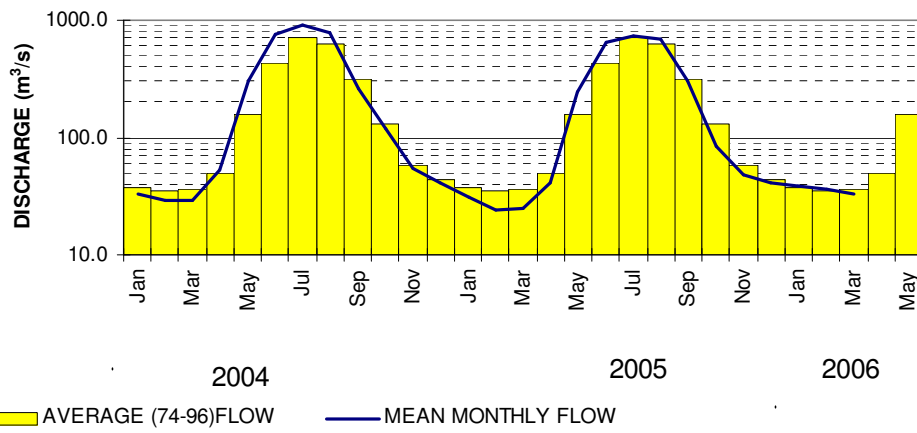
# ALSEK RIVER BASIN

Snowpack conditions within the Alsek River watershed are above normal for April 1<sup>st</sup>. Values of snow water equivalent range from 133 percent of normal at Summit to 88 percent of normal at Canyon Lake. A basin wide average has been estimated to be 110 percent of normal.

Mean monthly streamflow for March as indicated by the Alsek River above Bates River was 91 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 110 and 110 percent of normal respectively.



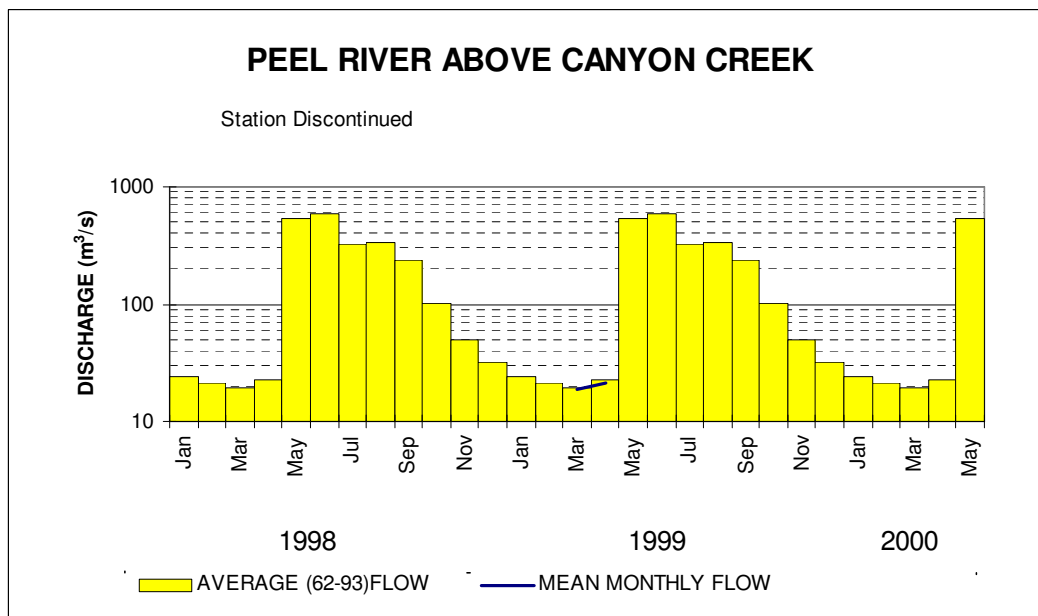
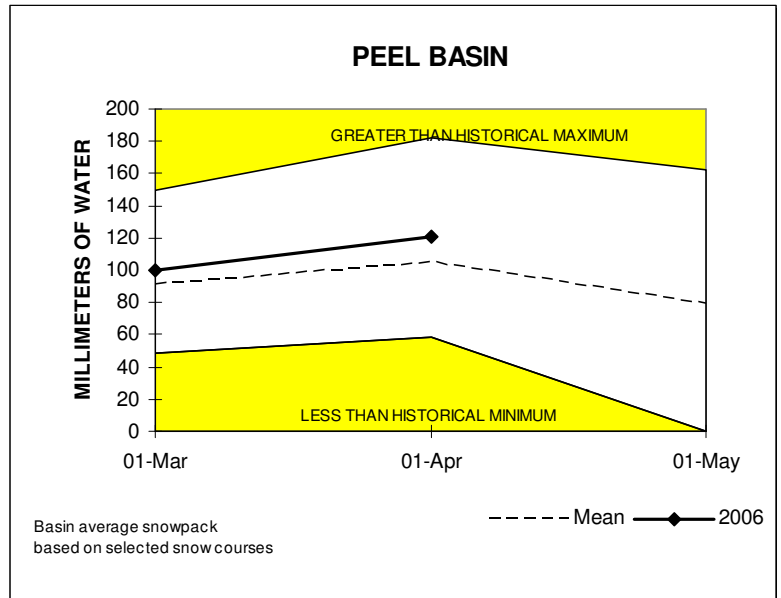
### ALSEK RIVER ABOVE BATES RIVER



# PEEL RIVER BASIN

Snowpack conditions in the Peel River watershed are above normal with values of snow water equivalent ranging from 141 percent of normal at Ogilvie to 89 percent of normal at Blackstone. A basin wide average has been estimated to be 115 percent of normal.

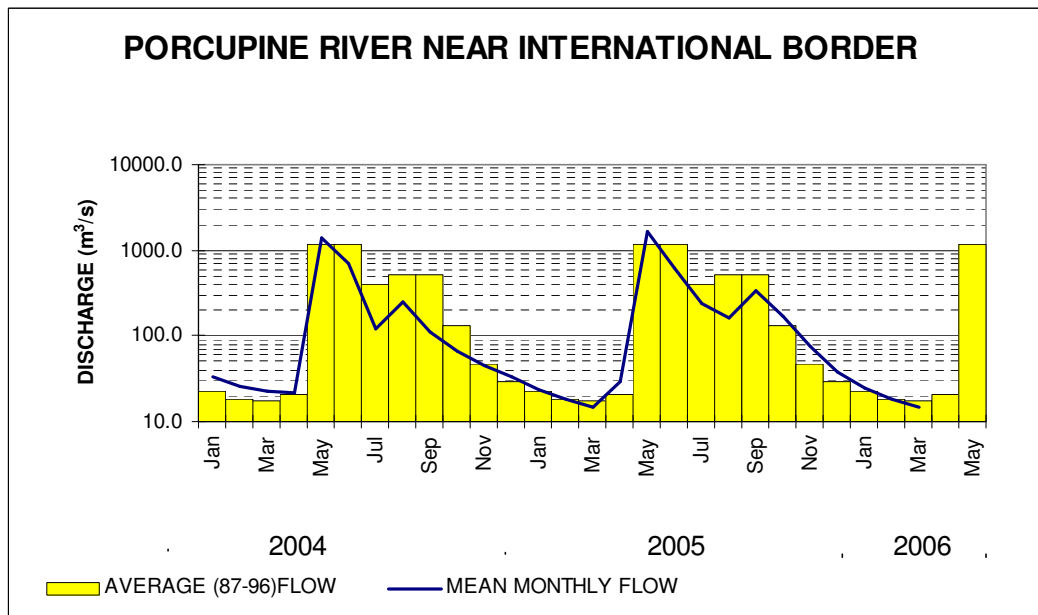
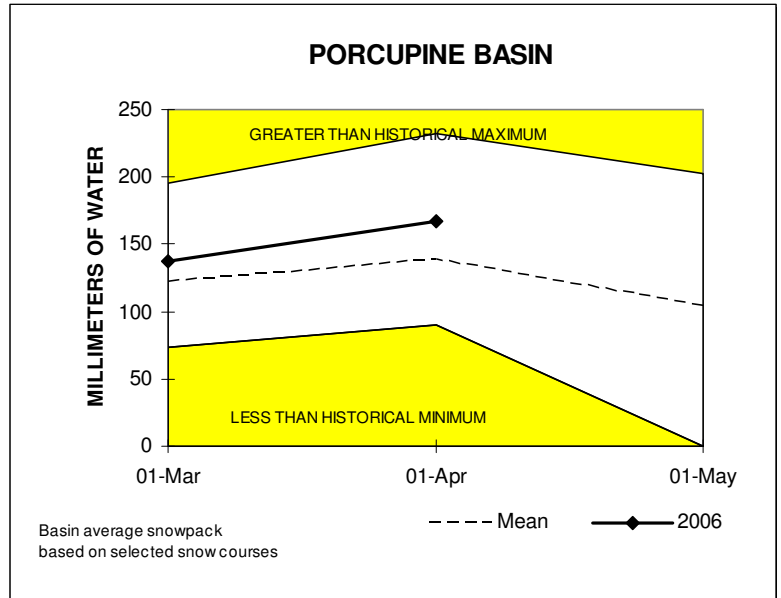
Streamflow data is no longer collected at the Peel River above Canyon Creek station. Given normal summer meteorological conditions however, volume runoff and peak flows for the season are expected to be 129 and 114 percent of normal respectively.



# PORCUPINE RIVER BASIN

Snowpack conditions in the Porcupine River watershed are above normal with values of snow water equivalent ranging from 121 percent of normal at Old Crow and Eagle River to 120 percent of normal at Eagle Plains. A basin wide average has been estimated to be 121 percent of normal.

Mean February streamflow for the basin as indicated by the Porcupine River near the International Boundary is 87 percent of normal. Porcupine River volume and peak flow forecasts are not available at this time.



# Drainage Basin and Snow Course

For Sample Date: 2006-04-01

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
<b>Alsek River Basin</b>								
Canyon Lake	08AA-SC01	1160	2006/03/26	37	79	109	90	27
Alder Creek	08AA-SC02	768	2006/03/26	64	162	235	156	26
Aishihik Lake	08AA-SC03	945	2006/03/28	27	58	65	69	12
Haines Junction Farm	08AA-SC4	610	2006/03/29	27	64	91	110	6
Clay Creek	08AB-SC02	670	2006/03/30	188	640	725	605	27
Summit	08AB-SC03	1000	2006/03/29	118	348	291	262	26
Profile Mountain	08AB-SC04	900	2006/04/02	111	319	323	313	19
<b>Yukon River Basin</b>								
Tagish	09AA-SC01	1080	2006/03/30	63	118	231	141	30
Montana Mountain	09AA-SC02	1020	2006/03/29	49	111	167	137	29
Log Cabin (B.C.)	09AA-SC03	884	2006/03/29	111	334	451	364	46
Atlin (B.C)	09AA-SC04	730	2006/04/02	28	80	132	121	41
Mt McIntyre B	09AB-SC01B	1097	2006/03/31	71	147	210	148	30
Whitehorse Airport	09AB-SC02	700	2006/03/30	38	71	123	100	39
Meadow Creek	09AD-SC01	1235	2006/03/29	94	200	349	270	29
Jordan Lake	09AD-SC02	930	2006/03/29	46	87	173	136	19
Morley Lake	09AE-SC01	824	2006/03/30	51	112 E	211	152	19
Mount Berdoe	09AH-SC01	1035	2006/03/27	48	108	101	105	30
Satasha Lake	09AH-SC03	1106	2006/03/27	48	136	86	92	19
Williams Creek	09AH-SC04	914	2006/03/27	44	90	78	88	11
Twin Creeks	09BA-SC02	900	No Surv			210	189	29
Hoole River	09BA-SC03	1036	2006/03/29	48	76	181	133	29
Burns Lake	09BA-SC04	1112	2006/03/29	90	167	229	219	20
Finlayson Airstrip	09BA-SC05	988	2006/03/29	41	74	140	105	19
Fuller Lake	09BB-SC03	1126	2006/03/28	65	141	252	201	20
Russell Lake	09BB-SC04	1060	2006/03/28	83	178	300	235	19
Rose Creek	09BC-SC01	1080	2006/03/27	45	63	127	103	12
Mount Nansen	09CA-SC01	1021	2006/03/27	41	84	71	74	30
MacIntosh	09CA-SC02	1160	2006/03/27	48	92	101	95	30
Burwash Airstrip	09CA-SC03	810	2006/03/28	10	18	50	44	29
Duke River	09CA-SC05	1310	2006/03/30	48	88	138	106	20
Beaver Creek	09CB-SC01	655	2006/03/28	40	62	81	85	31
Chair Mountain	09CB-SC02	1067	2006/03/28	43	65	134	95	18
White River	09CB-SC03	823	No Surv			N.S.	76	5
Casino Creek	09CD-SC01	1065	2006/03/27	63	134	199	126	28
Pelly Farm	09CD-SC03	472	2006/03/26	32	61	56	77	20

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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: 2006-04-01

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
<b>Yukon River Basin</b>								
Plata Airstrip	09DA-SC01	830	2006/03/28	65	141	273	194	28
Arrowhead Lake	09DA-SC02	1120	No Surv			N.S.	198	17
Withers Lake	09DB-SC01	975	2006/03/28	96	237	375	239	20
Rackla Lake	09DB-SC02	1040	2006/03/28	83	185	253	200	19
Mayo Airport A	09DC-SC01A	540	2006/03/27	44	94	168	95	37
Mayo Airport B	09DC-SC01B	540	2006/03/27	45	84	154	107	19
Edwards Lake	09DC-SC02	830	2006/03/28	61	127	203	168	19
Calumet	09DD-SC01	1310	2006/03/28	90	186	292	202	27
King Solomon Dome	09EA-SC01	1080	2006/03/28	80	179	225	158	31
Grizzly Creek	09EA-SC02	975	2006/03/28	88	171	285	180	30
Midnight Dome	09EB-SC01	855	2006/03/28	67	121	199	148	31
Boundary (Alaska)	09EC-SC02	1005	2006/04/03	56	127	188	136	37
<b>Porcupine River Basin</b>								
Riff's Ridge	09FA-SC01	650	2006/03/29	93	205	140	142	19
Eagle Plains	09FB-SC01	710	2006/03/29	96	198	168	165	22
Eagle River	09FB-SC02	340	2006/03/29	85	166	138	137	23
Old Crow	09FD-SC01	299	2006/03/29	77	138	140	114	24
<b>Liard River Basin</b>								
Watson Lake Airport	10AA-SC01	685	2006/03/27	64	146	213	131	41
Tintina Airstrip	10AA-SC02	1067	2006/03/29	79	189	264	198	28
Pine Lake Airstrip	10AA-SC03	995	2006/03/30	82	205	324	224	30
Ford Lake	10AA-SC04	1110	2006/03/29	69	154	244	192	19
Frances River	10AB-SC01	730	2006/03/28	68	150	240	154	31
Hyland River	10AD-SC01	855	2006/03/28	66	146	261	167	29
<b>Peel River Basin</b>								
Blackstone River	10MA-SC01	920	2006/03/29	52	94	143	106	30
Ogilvie River	10MA-SC02	595	2006/03/29	71	147	115	104	29
Bonnet Plume Lake	10MB-SC01	1120	2006/03/28	78	176	288	193	19
<b>Alaska Snow Courses</b>								
Eaglecrest	08AK-SC01	305	2006/03/30	89	269	307	441	18
Moore Creek Bridge	08AK-SC02	700	2006/03/30	84	234	N.S.	559	14