

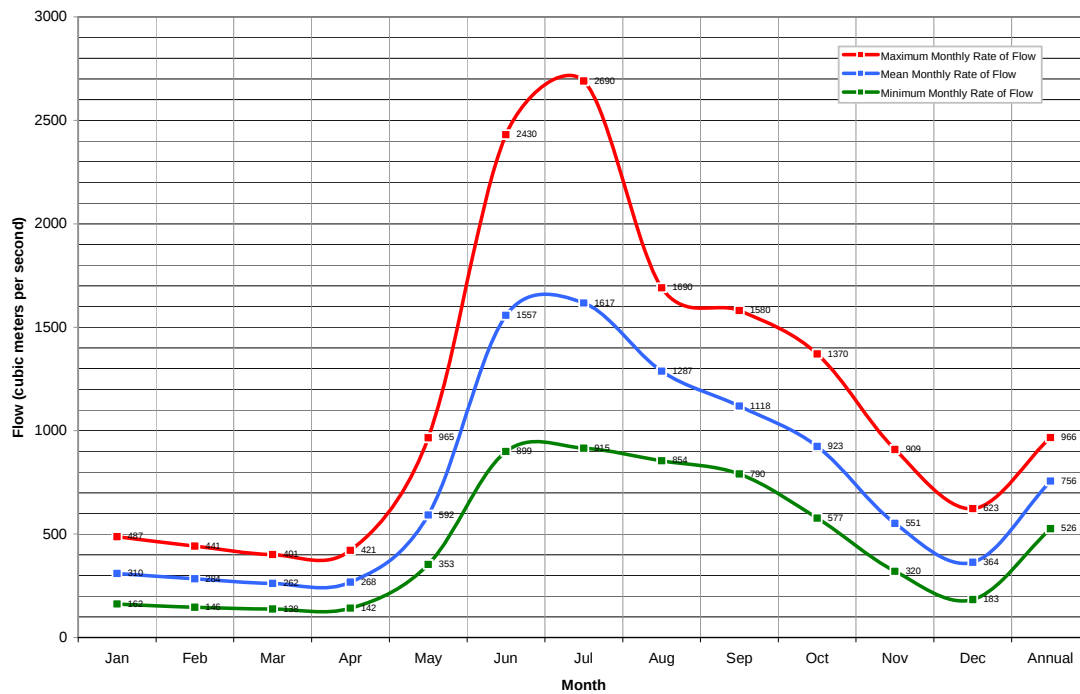
## 6R-7-1.0 HYDROGRAPH FOR CANADIAN HYDROLOGIC DATA COLLECTION STATION ON THE YUKON RIVER AT CARMACKS, YT

### Monthly Rate of Flow

Station: 09AH001 Yukon River at Carmacks, YT

(Data Range: 1951 - 1995)

Canadian Hydrologic Data (c) 1997 Environment Canada



(Source: HYDAT v2.04, 1997)

**Carmacks-Stewart / Minto Spur  
Transmission Project**

**Project Proposal Submission  
September 2006**

Carmacks  
Yukon Territory  
1961 – 1990

Latitude: 62°6' N Longitude: 136°18' W

|                                  |          |          |          |         |         |          |          |         |         |         |         |          |       |
|----------------------------------|----------|----------|----------|---------|---------|----------|----------|---------|---------|---------|---------|----------|-------|
| Temperature:                     | Jan      | Feb      | Mar      | Apr     | May     | Jun      | Jul      | Aug     | Sep     | Oct     | Nov     | Dec      | Year  |
| Daily (°C)                       | -28.6    | -18.2    | N        | N       | 7.2     | 12.9     | 14.8     | 12.5    | 6.9     | -1.6    | -14.7   | -24.7    | N     |
| Daily Maximum (°C)               | -23.8    | -12.1    | N        | N       | 14.5    | 20.3     | 21.9     | 19.6    | 13.3    | 3.1     | -10.7   | -20.1    | N     |
| Daily Minimum (°C)               | -33.6    | -25.3    | N        | N       | -0.2    | 5.3      | 7.6      | 5.3     | 0.4     | -6.3    | -19     | -29.6    | N     |
| Extreme Maximum (°C)             | 6        | 12.8     | 14.4     | 23.3    | 35      | 35       | 31.7     | 32      | 27      | 18.3    | 12.8    | 8        |       |
| Date(yyyy/dd)                    | 1980/22  | 1968/27  | 1965/09  | 1976/29 | 1983/30 | 1969/15+ | 1971/13  | 1989/13 | 1989/09 | 1964/07 | 1970/02 | 1986/09+ |       |
| Extreme Minimum (°C)             | -57.8    | -57.2    | -50      | -32     | -12.2   | -3.9     | -1.1     | -5      | -16.5   | -32.5   | -46.7   | -54.4    |       |
| Date(yyyy/dd)                    | 1966/04  | 1968/03  | 1972/09+ | 1986/10 | 1964/09 | 1965/20  | 1970/19  | 1974/24 | 1983/27 | 1982/28 | 1963/24 | 1964/30  |       |
| Precipitation:                   |          |          |          |         |         |          |          |         |         |         |         |          |       |
| Rainfall (mm)                    | 0        | 0        | 0.2      | 1.1     | 18.3    | 34.5     | 55.1     | 39.3    | 29.5    | 5.2     | 0.4     | 0        | 183.6 |
| Snowfall (cm)                    | 17.9     | 12.3     | 6.8      | 5.4     | 1.1     | 0        | 0        | 0       | 1       | 14      | 17.9    | 15.3     | 91.7  |
| Precipitation (mm)               | 17.9     | 12.3     | 7        | 6.8     | 20.1    | 34.5     | 55.1     | 39.4    | 30.6    | 19.2    | 18.3    | 15.3     | 276.7 |
| Snow Depth at Month-end (cm)     | N        | N        | N        | 2       | 0       | 0        | 0        | 0       | 0       | N       | 17      | 28       |       |
| Extreme Daily Rainfall (mm)      | 0        | 0        | 2.5      | 3.8     | 10.2    | 24.4     | 31.4     | 19.2    | 19.6    | 7.6     | 8.6     | 0        |       |
| Date(yyyy/dd)                    | 1990/31+ | 1990/28+ | 1970/31+ | 1981/27 | 1976/29 | 1983/02  | 1982/30  | 1983/10 | 1963/12 | 1977/11 | 1967/19 | 1990/31+ |       |
| Extreme Daily Snowfall (cm)      | 16       | 23       | 8.6      | 12      | 10.4    | 0        | 0        | 1       | 4.3     | 13.4    | 13.2    | 16       |       |
| Date(yyyy/dd)                    | 1990/01  | 1987/25  | 1967/03  | 1986/07 | 1965/03 | 1990/30+ | 1990/31+ | 1984/27 | 1968/23 | 1982/03 | 1966/17 | 1989/31  |       |
| Extreme Daily Precipitation (mm) | 16       | 23       | 8.6      | 12.2    | 10.4    | 24.4     | 31.4     | 19.2    | 19.6    | 13.4    | 13.2    | 16       |       |
| Date(yyyy/dd)                    | 1990/01  | 1987/25  | 1967/03  | 1975/01 | 1965/03 | 1983/02  | 1982/30  | 1983/10 | 1963/12 | 1982/03 | 1966/17 | 1989/31  |       |
| Degree Days:                     |          |          |          |         |         |          |          |         |         |         |         |          |       |
| Above 18 °C                      | 0        | 0        | N        | N       | N       | N        | 4.9      | 2.1     | 0       | N       | 0       | N        | N     |
| Above 5 °C                       | 0        | 0.2      | N        | N       | N       | N        | 301.4    | 229     | 73.8    | N       | 0.1     | N        | N     |
| Below 0 °C                       | 891.1    | 519.2    | N        | N       | N       | N        | 0        | 0       | 3.5     | N       | 436.5   | N        | N     |
| Below 18 °C                      | 1449.1   | 1026.8   | N        | N       | N       | N        | 106.5    | 176.8   | 338.4   | N       | 973.7   | N        | N     |
| Days With:                       |          |          |          |         |         |          |          |         |         |         |         |          |       |
| Maximum Temperature              | 1        | 4        | N        | N       | 31      | N        | 31       | 31      | 30      | N       | 4       | N        | N     |
| Measurable Rainfall              | 0        | 0        | *        | *       | 8       | 11       | 13       | 12      | 10      | 3       | *       | 0        | 57    |
| Measurable Snowfall              | 7        | 5        | 3        | 2       | *       | 0        | 0        | *       | *       | 6       | 8       | 7        | 39    |
| Measurable Precipitation         | 7        | 5        | 3        | 3       | 8       | 11       | 13       | 12      | 10      | 8       | 8       | 7        | 96    |

Created : 2006-03-13

Modified : 2006-04-18

Reviewed : 2006-04-18

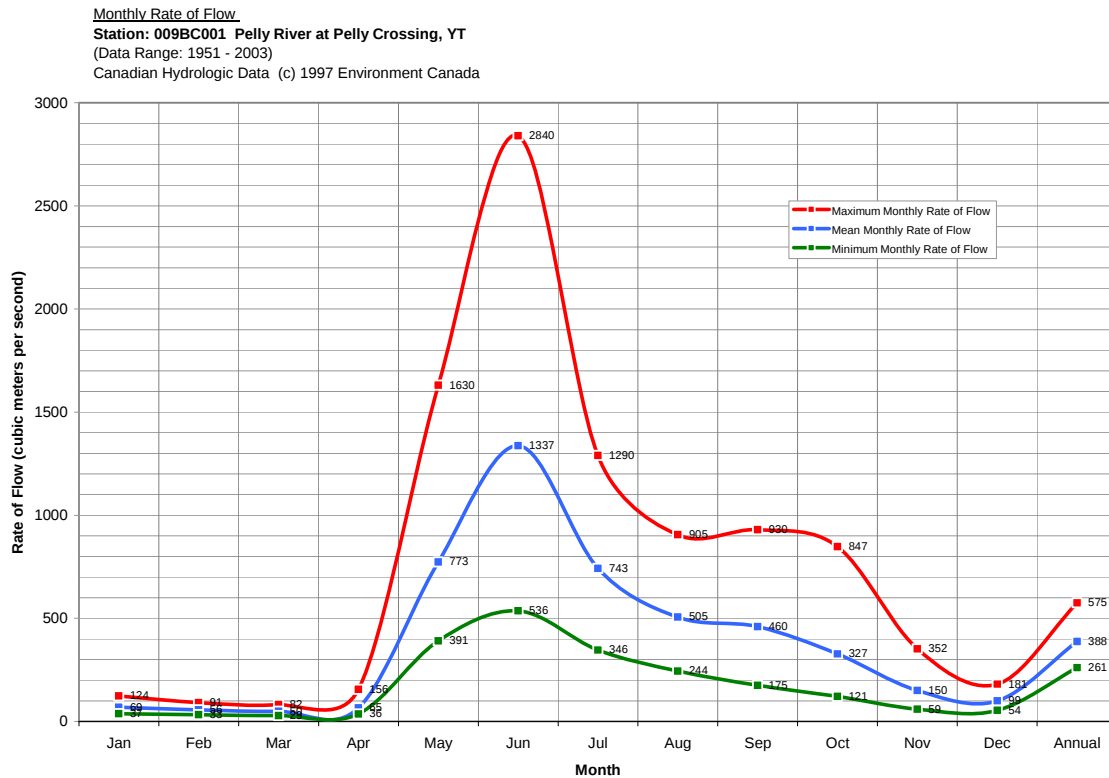
Url of this page : [http://climate.weatheroffice.ec.gc.ca/climate\\_normals/results\\_1961\\_1990\\_e.html](http://climate.weatheroffice.ec.gc.ca/climate_normals/results_1961_1990_e.html)

Environment

Canada:

14-Jul-06

## 6R-7-2.0 HYDROGRAPH FOR CANADIAN HYDROLOGIC DATA COLLECTION STATION ON THE PELLY RIVER AT PELLY CROSSING, YT



(Source: HYDAT v2.04, 1997)

**Carmacks-Stewart / Minto Spur  
Transmission Project**

**Project Proposal Submission  
September 2006**

Whitehorse Airport  
Yukon Territory  
1971-2000

Latitude: 60° 42' N Longitude: 135° 4' W Elevation: 706.20 m  
Climate ID: 2101300 WMO ID: 71964 TC ID: YXY

| Temperature:                      | Jan      | Feb      | Mar      | Apr      | May     | Jun      | Jul      | Aug      | Sep      | Oct      | Nov     | Dec     | Year  |
|-----------------------------------|----------|----------|----------|----------|---------|----------|----------|----------|----------|----------|---------|---------|-------|
| Daily Average (°C)                | -17.7    | -13.7    | -6.6     | 0.9      | 6.9     | 11.8     | 14.1     | 12.5     | 7.1      | 0.6      | -9.4    | -14.9   | -0.7  |
| Standard Deviation                | 7.3      | 5.8      | 3.2      | 2.3      | 1.3     | 1.1      | 1        | 1.5      | 1.5      | 1.9      | 5       | 5.8     | 1.6   |
| Daily Maximum (°C)                | -13.3    | -8.6     | -0.8     | 6.4      | 13.1    | 18.5     | 20.5     | 18.5     | 12.2     | 4.3      | -5.8    | -10.6   | 4.5   |
| Daily Minimum (°C)                | -22      | -18.7    | -12.3    | -4.6     | 0.7     | 5.1      | 7.7      | 6.3      | 2        | -3.1     | -13     | -19.1   | -5.9  |
| Extreme Maximum (°C)              | 9        | 11.7     | 11.7     | 20.6     | 34.1    | 34.4     | 32.8     | 31.6     | 26.7     | 18.9     | 11.7    | 9.5     |       |
| Date (yyyy/dd)                    | 1977/26  | 1968/27  | 1979/22  | 1958/27+ | 1983/30 | 1969/14  | 1951/09  | 1999/05  | 1942/03  | 1958/01+ | 1970/02 | 1986/10 |       |
| Extreme Minimum (°C)              | -52.2    | -51.2    | -40.6    | -29.4    | -11.7   | -2.8     | -0.5     | -4.4     | -19.4    | -31.1    | -40.6   | -47.8   |       |
| Date (yyyy/dd)                    | 1947/31  | 1968/02+ | 1972/08  | 1986/10  | 1964/10 | 1971/03+ | 1984/19  | 1948/25  | 1983/27  | 1982/28  | 1948/27 | 1942/19 |       |
| Precipitation:                    |          |          |          |          |         |          |          |          |          |          |         |         |       |
| Rainfall (mm)                     | 0.2      | 0.1      | 0        | 1.3      | 13      | 29.7     | 41.4     | 38.5     | 29.3     | 8.8      | 0.7     | 0.3     | 163.1 |
| Snowfall (cm)                     | 23.7     | 16.8     | 14.9     | 8        | 2.4     | 0.5      | 0        | 1        | 5.1      | 18.9     | 27.3    | 26.4    | 145   |
| Precipitation (mm)                | 16.7     | 11.4     | 10.4     | 7        | 15.2    | 30.3     | 41.4     | 39.4     | 34.1     | 23.8     | 19.2    | 18.5    | 267.4 |
| Average Snow Depth (cm)           | 28       | 33       | 31       | 13       | 0       | 0        | 0        | 0        | 0        | 1        | 10      | 20      | 11    |
| Median Snow Depth (cm)            | 28       | 33       | 31       | 12       | 0       | 0        | 0        | 0        | 0        | 0        | 11      | 19      | 11    |
| Snow Depth at Month-end (cm)      | 31       | 32       | 25       | 2        | 0       | 0        | 0        | 0        | 0        | 5        | 15      | 24      | 11    |
| Extreme Daily Rainfall (mm)       | 3.4      | 0.8      | 0.8      | 4.4      | 12.6    | 44.9     | 23.2     | 30.7     | 24.6     | 18.3     | 9.4     | 4.2     |       |
| Date (yyyy/dd)                    | 1981/03  | 1984/04  | 1944/15  | 1983/30  | 2000/26 | 1985/27  | 1991/27  | 1948/01  | 1983/04  | 1970/02  | 1949/03 | 1981/18 |       |
| Extreme Daily Snowfall (cm)       | 14       | 16.7     | 27.2     | 16.3     | 12.2    | 12.7     | 0        | 8.6      | 21.6     | 15       | 14.6    | 27      |       |
| Date (yyyy/dd)                    | 1968/03  | 1982/09  | 1967/08  | 1976/15  | 1942/04 | 1972/01  | 1942/01+ | 1974/22  | 1956/27  | 1999/23  | 1978/23 | 1980/25 |       |
| Extreme Daily Precipitation (mm)  | 9.5      | 10.4     | 10.4     | 14.2     | 12.6    | 44.9     | 23.2     | 30.7     | 25.2     | 23.6     | 11.4    | 18.7    |       |
| Date (yyyy/dd)                    | 1994/17  | 1952/28+ | 1962/07  | 1952/04  | 2000/26 | 1985/27  | 1991/27  | 1948/01  | 1986/23  | 1970/02  | 1955/06 | 1980/25 |       |
| Extreme Snow Depth (cm)           | 86       | 94       | 94       | 66       | 38      | 0        | 0        | 3        | 20       | 21       | 52      | 69      |       |
| Date (yyyy/dd)                    | 1972/30+ | 1972/16+ | 1972/01+ | 1967/13+ | 1972/01 | 1955/01+ | 1955/01+ | 1969/11  | 1956/28+ | 1982/31  | 1978/25 | 1980/29 |       |
| Wind:                             |          |          |          |          |         |          |          |          |          |          |         |         |       |
| Speed (km/h)                      | 12.9     | 13.5     | 12.7     | 12.7     | 12.6    | 11.5     | 10.4     | 11.1     | 13       | 14.7     | 14.1    | 13.9    | 12.7  |
| Most Frequent Direction           | S        | S        | SE       | SE       | SE      | SE       | SE       | SE       | SE       | SE       | S       | S       | SE    |
| Maximum Hourly Speed              | 72       | 68       | 64       | 60       | 64      | 56       | 63       | 52       | 72       | 63       | 68      | 72      |       |
| Date (yyyy/dd)                    | 1962/09  | 1957/15  | 1953/14+ | 1966/09  | 1965/06 | 1965/16  | 1959/30  | 1998/29  | 1967/17  | 1961/28  | 1962/18 | 1954/17 |       |
| Direction of Maximum Hourly Speed | SE       | SE       | S        | N        | SE      | SE       | E        | S        | S        | SE       | SE      | SE      | SE    |
| Maximum Gust Speed                | 100      | 106      | 93       | 89       | 85      | 90       | 91       | 84       | 101      | 97       | 106     | 97      |       |
| Date (yyyy/dd)                    | 1965/17  | 1964/19  | 1965/10  | 1965/16+ | 1965/02 | 1963/26  | 1982/07  | 1960/11+ | 1967/18  | 1958/01  | 1962/18 | 1960/14 |       |
| Direction of Maximum Gust         | SE       | SE       | SW       | N        | SE      | W        | SE       | SE       | S        | S        | SE      | SE      | SE    |
| Days with Winds >= 52 km/hr       | 1.1      | 0.9      | 0.3      | 0.3      | 0.1     | 0        | 0.1      | 0.1      | 0.4      | 0.6      | 0.9     | 0.9     | 5.7   |
| Days with Winds >= 63 km/hr       | 0.1      | 0.2      | 0        | 0        | 0       | 0        | 0        | 0        | 0.1      | 0        | 0.1     | 0.1     | 0.8   |

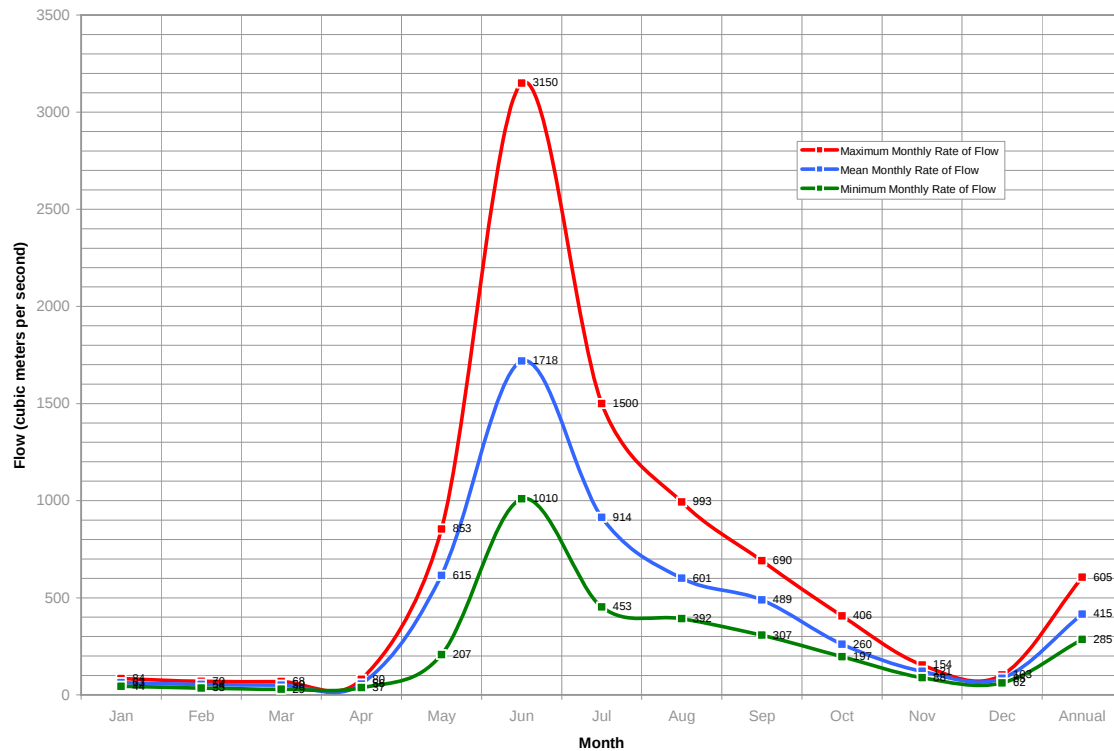
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Modified : 2004-02-25  
Reviewed : 2004-02-25  
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Environment Canada

7-Jun-06

## 6R-7-3.0 HYDROGRAPH FOR CANADIAN HYDROLOGIC DATA COLLECTION STATION ON THE STEWART RIVER AT STEWART CROSSING, YT

### Monthly Rate of Flow

Station: 09DD002 Stewart River at Stewart Crossing, YT  
(Data Range: 1960 - 1973)  
Canadian Hydrologic Data (c) 1997 Environment Canada



(Source: HYDAT v2.04, 1997)

# Carmacks-Stewart / Minto Spur Transmission Project

Project Proposal Submission  
September 2006

Mayo Airport  
Yukon Territory  
1971-2000

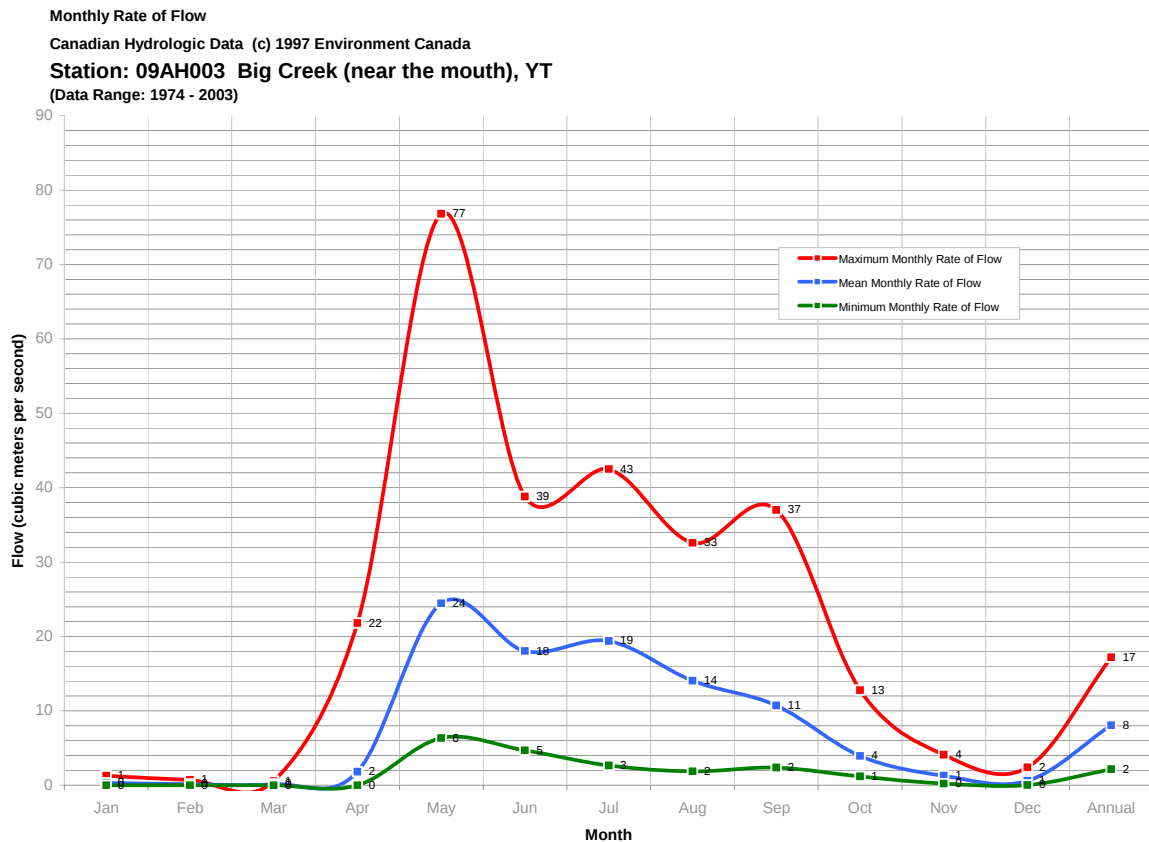
Latitude: 63° 37' N Longitude: 135° 52' W Elevation: 503.80 m  
Climate ID: 2100700 WMO ID: 71965 TC ID: YMA

| Temperature:                      | Jan      | Feb      | Mar      | Apr     | May     | Jun      | Jul      | Aug      | Sep      | Oct     | Nov      | Dec     | Year  |
|-----------------------------------|----------|----------|----------|---------|---------|----------|----------|----------|----------|---------|----------|---------|-------|
| Daily Average (°C)                | -25.7    | -19      | -9.6     | 0.9     | 8.4     | 14       | 16       | 13.1     | 6.4      | -2.9    | -15.9    | -22.3   | -3.1  |
| Standard Deviation                | 8.3      | 6.6      | 3.6      | 2.3     | 1.5     | 1        | 0.9      | 1.5      | 1.8      | 2.6     | 6        | 6.9     | 2.4   |
| Daily Maximum (°C)                | -20.5    | -12.7    | -2.8     | 6.8     | 14.8    | 20.8     | 22.7     | 19.6     | 12.1     | 1.1     | -11.2    | -17     | 2.8   |
| Daily Minimum (°C)                | -31      | -25.3    | -16.4    | -5.1    | 2       | 7.1      | 9.3      | 6.4      | 0.8      | -6.9    | -20.5    | -27.6   | -8.9  |
| Extreme Maximum (°C)              | 10.1     | 12.2     | 12.2     | 22.8    | 33.5    | 36.1     | 35.6     | 32.6     | 26.7     | 22.6    | 13.9     | 11.8    |       |
| Date (yyyy/dd)                    | 1981/15  | 1968/27  | 1930/26  | 1976/29 | 1983/31 | 1969/14  | 1951/20  | 1999/06  | 1938/02  | 2003/03 | 1970/02  | 1999/23 |       |
| Extreme Minimum (°C)              | -58.3    | -62.2    | -48.9    | -41.1   | -21.7   | -3.3     | -2.8     | -10.6    | -15.6    | -36.7   | -50.6    | -57.8   |       |
| Date (yyyy/dd)                    | 1947/28+ | 1947/03  | 1951/05  | 1944/01 | 1964/11 | 1951/26  | 1928/23  | 1993/28  | 1946/28+ | 1935/27 | 1950/26  | 1946/13 |       |
| Precipitation:                    |          |          |          |         |         |          |          |          |          |         |          |         |       |
| Rainfall (mm)                     | 0.1      | 0        | 0.5      | 2.8     | 22.3    | 40.4     | 54.4     | 41.6     | 33       | 9.8     | 0.1      | 0.3     | 205.3 |
| Snowfall (cm)                     | 23.5     | 19.4     | 13.2     | 8.2     | 1.2     | 0.1      | 0        | 0.4      | 3.5      | 24.9    | 27       | 25.6    | 147   |
| Precipitation (mm)                | 16.6     | 13.5     | 10       | 9.2     | 23.5    | 40.5     | 54.4     | 41.8     | 36.6     | 29.5    | 19.2     | 18.1    | 312.9 |
| Average Snow Depth (cm)           | 31       | 38       | 36       | 17      | 0       | 0        | 0        | 0        | 0        | 3       | 15       | 24      | 14    |
| Median Snow Depth (cm)            | 31       | 38       | 36       | 18      | 0       | 0        | 0        | 0        | 0        | 2       | 15       | 24      | 14    |
| Snow Depth at Month-end (cm)      | 35       | 38       | 31       | 2       | 0       | 0        | 0        | 0        | 1        | 9       | 20       | 27      | 14    |
| Extreme Daily Rainfall (mm)       | 1.4      | 0.3      | 14.5     | 20.3    | 25.4    | 27.9     | 29.2     | 31.8     | 23.6     | 12      | 6.6      | 5       |       |
| Date (yyyy/dd)                    | 1985/02  | 1938/24  | 1947/17  | 1926/13 | 1939/26 | 1976/18  | 1976/14  | 1932/27  | 1959/19  | 1980/03 | 1947/22  | 1985/20 |       |
| Extreme Daily Snowfall (cm)       | 35.6     | 16.8     | 16       | 12.2    | 15      | 2.8      | 0        | 3.6      | 24.9     | 25.6    | 21       | 15.7    |       |
| Date (yyyy/dd)                    | 1949/09  | 1974/07  | 1939/18  | 1964/01 | 1964/09 | 1992/07  | 1925/01+ | 1984/28  | 1970/21  | 1982/25 | 2003/22  | 1958/15 |       |
| Extreme Daily Precipitation (mm)  | 35.6     | 16.5     | 16       | 21.6    | 25.4    | 27.9     | 29.2     | 31.8     | 23.6     | 22.4    | 16.3     | 15.7    |       |
| Date (yyyy/dd)                    | 1949/09  | 1965/12  | 1939/18  | 1928/29 | 1939/26 | 1976/18  | 1976/14  | 1932/27  | 1959/19  | 1958/04 | 1966/04  | 1958/15 |       |
| Extreme Snow Depth (cm)           | 81       | 109      | 117      | 94      | 28      | 0        | 0        | 0        | 20       | 41      | 64       | 71      |       |
| Date (yyyy/dd)                    | 2004/19  | 1967/24+ | 1967/04+ | 1967/01 | 1964/01 | 1934/18+ | 1955/01+ | 1955/01+ | 1993/26  | 1982/26 | 1956/20+ | 1958/31 |       |
| Wind:                             |          |          |          |         |         |          |          |          |          |         |          |         |       |
| Speed (km/h)                      | 4.5      | 6.4      | 9.1      | 9.2     | 8.1     | 6.1      | 5        | 4.9      | 6.3      | 8.3     | 5.9      | 5.3     | 6.6   |
| Most Frequent Direction           | N        | N        | N        | N       | N       | N        | N        | SW       | N        | N       | N        | N       | N     |
| Maximum Hourly Speed              | 41       | 43       | 40       | 56      | 42      | 64       | 42       | 50       | 43       | 72      | 43       | 50      |       |
| Date (yyyy/dd)                    | 2001/03+ | 1979/02+ | 1966/09  | 1965/18 | 1965/25 | 1961/12  | 1961/13  | 1984/26  | 1977/22  | 1962/27 | 1978/26  | 1998/26 |       |
| Direction of Maximum Hourly Speed | N        | N        | NE       | NE      | SW      | S        | W        | N        | N        | SE      | N        | N       | SE    |
| Maximum Gust Speed                | 69       | 74       | 65       | 126     | 70      | 117      | 65       | 74       | 65       | 67      | 67       | 61      |       |
| Date (yyyy/dd)                    | 1981/19  | 1986/26  | 1994/04  | 2002/20 | 1985/31 | 1998/14  | 1985/01+ | 1998/02  | 1977/22  | 1989/07 | 1999/01  | 1980/14 |       |
| Direction of Maximum Gust         | S        | S        | SE       | SW      | E       | E        | W        | S        | N        | S       | S        | SW      |       |
| Days with Winds >= 52 km/hr       | 0        | 0        | 0        | 0       | 0       | 0.1      | 0        | 0        | 0        | 0       | 0        | 0       | 0.3   |
| Days with Winds >= 63 km/hr       | 0        | 0        | 0        | 0       | 0       | 0        | 0        | 0        | 0        | 0       | 0        | 0       | 0     |

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Modified : 2004-02-25  
Reviewed : 2004-02-25  
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Environment Canada

7-Jun-06

## 6R-7-4.0 HYDROGRAPH FOR CANADIAN HYDROLOGIC DATA COLLECTION STATION ON BIG CREEK (NEAR THE MOUTH), YT



(Source: HYDAT v2.04, 1997)