

Osprey and Climate Study Central Labrador

SGE Acres & Minaskuat

IEMR

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Study Objectives

- **Examine long term and short term climate and hydrological data for the experimental and control areas**
- **Compare data to biological measures of osprey breeding success**
- **Is available long term climate data representative of study area?**
- **Is osprey breeding success related to weather?**

Available Data - Climate

Station Name	Elevation, m	Period of Record
Cartwright	14	1950-present
Churchill Falls	440	1993-present
Churchill Falls	489	1993-1998
Churchill Falls A	440	1968-1993
Goose A	49	1941-present
Blanc-Sablon	37	1977-present
Lac Eon	589	1979-present
Anne Marie Lake		June – August 2003
Park Lake		June – July 2003

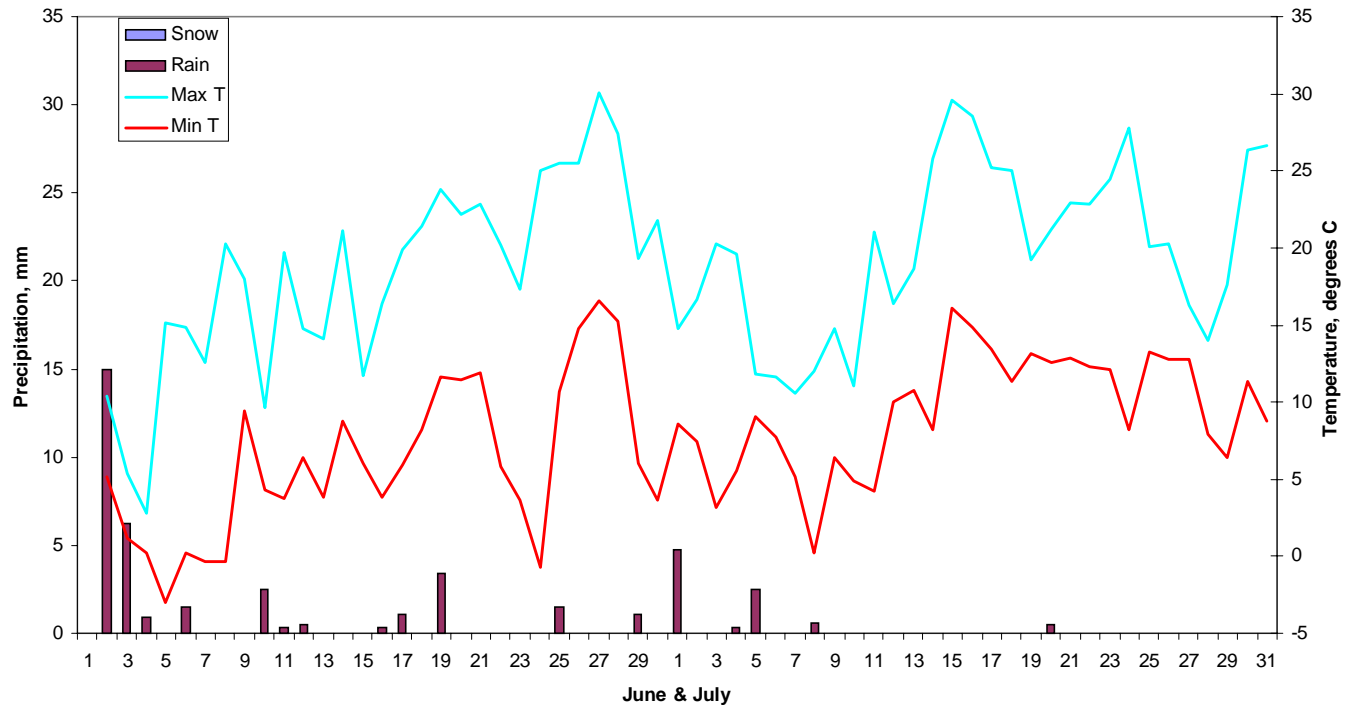
Available Data - Hydrology

Station Name	Drainage Area, km ²	Period of Record
Atikonak River above Panchia Lake	15 100	1972-present
Kempimits River below Kempimits Lake	7070	1972-2000
Atikonak River above Atikonak Lake	3680	1972-2000
Minipi River below Minipi Lake	2330	1979-present
Eagle River above Falls	10 900	1966-present
Alexis River near Port Hope Simpson	2310	1978-present
Petit Mecatina en Aval du Lac Brenton	12 100	1978-1993
Coxipi a la Sortie du Lac Coxipi	1060	1980-1993
Saint-Paul en aval de la Riviere Bujeault	6630	1967-2000

Data 2003 – AnnMarie Lake

Very Good Osprey Year (1.7/1.9)

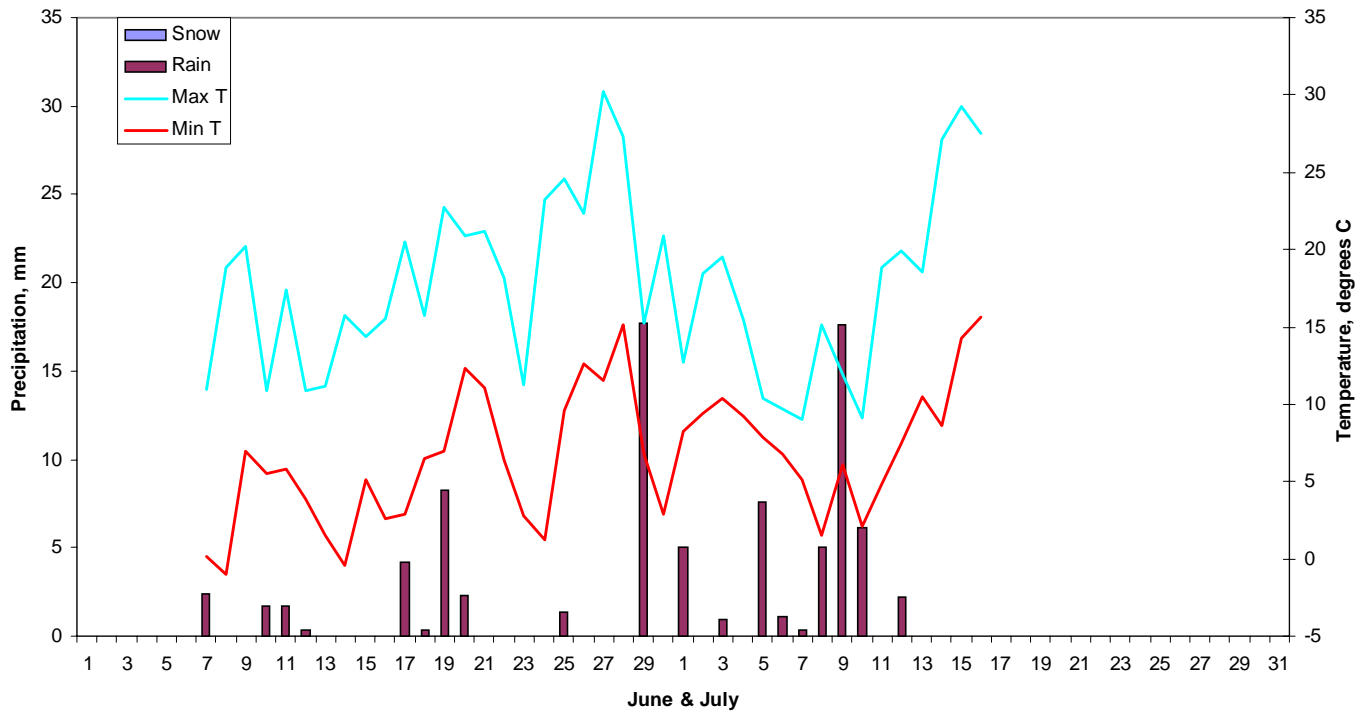
AnnMarie Lake June/July Climate
2003



Data 2003 – Park Lake

Very Good Osprey Year (1.7/1.9)

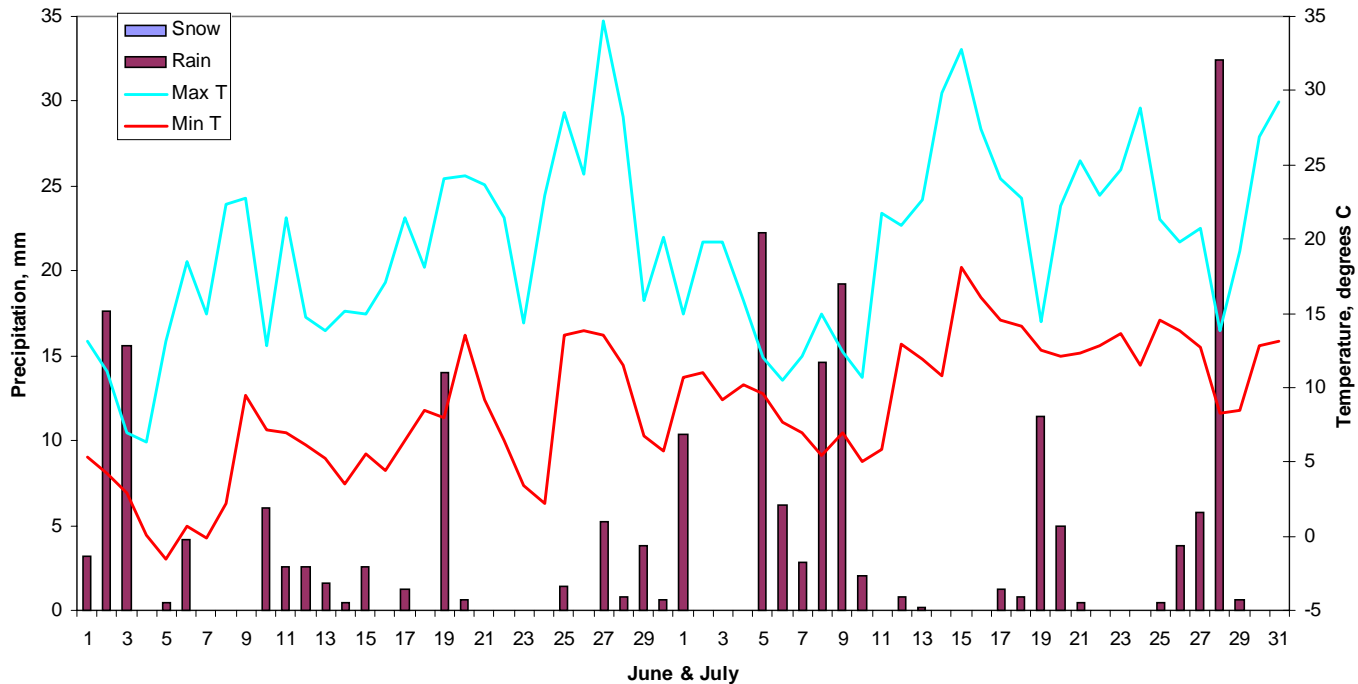
Park Lake June/July Climate
2003



Data 2003 – Goose Bay

Very Good Osprey Year (1.7/1.9)

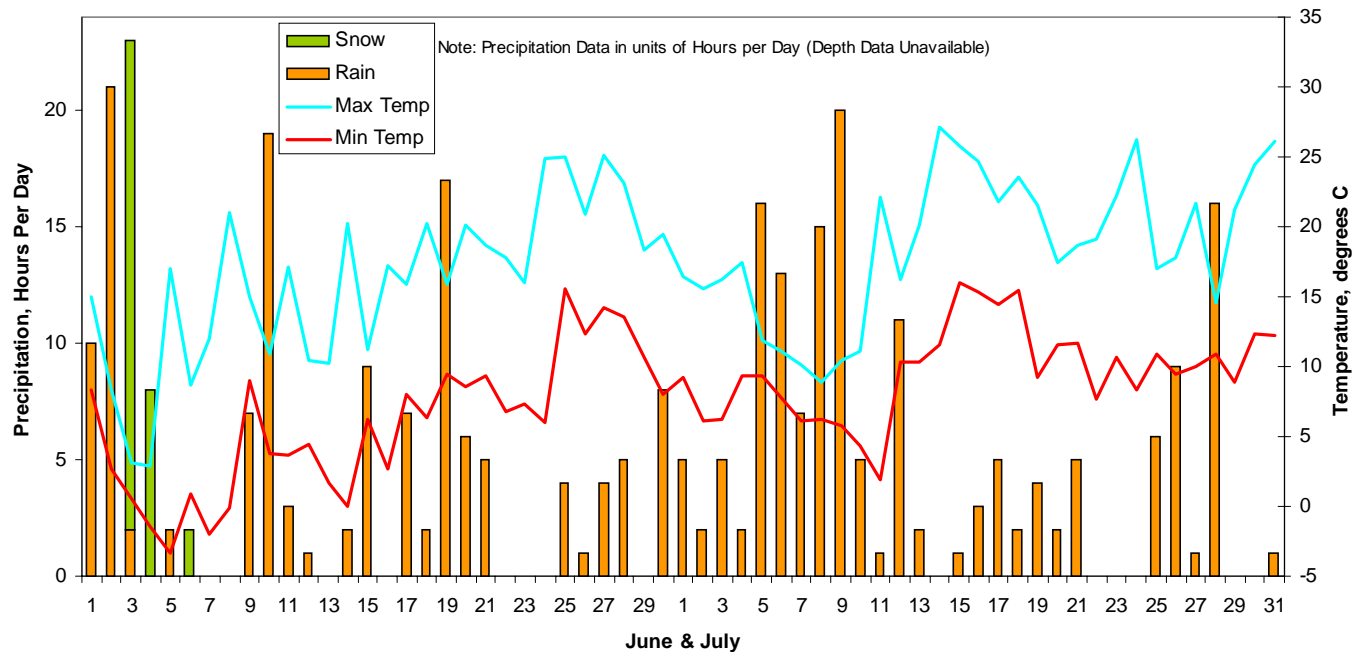
Goose Bay June/July Climate
2003



Data 2003 – Churchill Falls

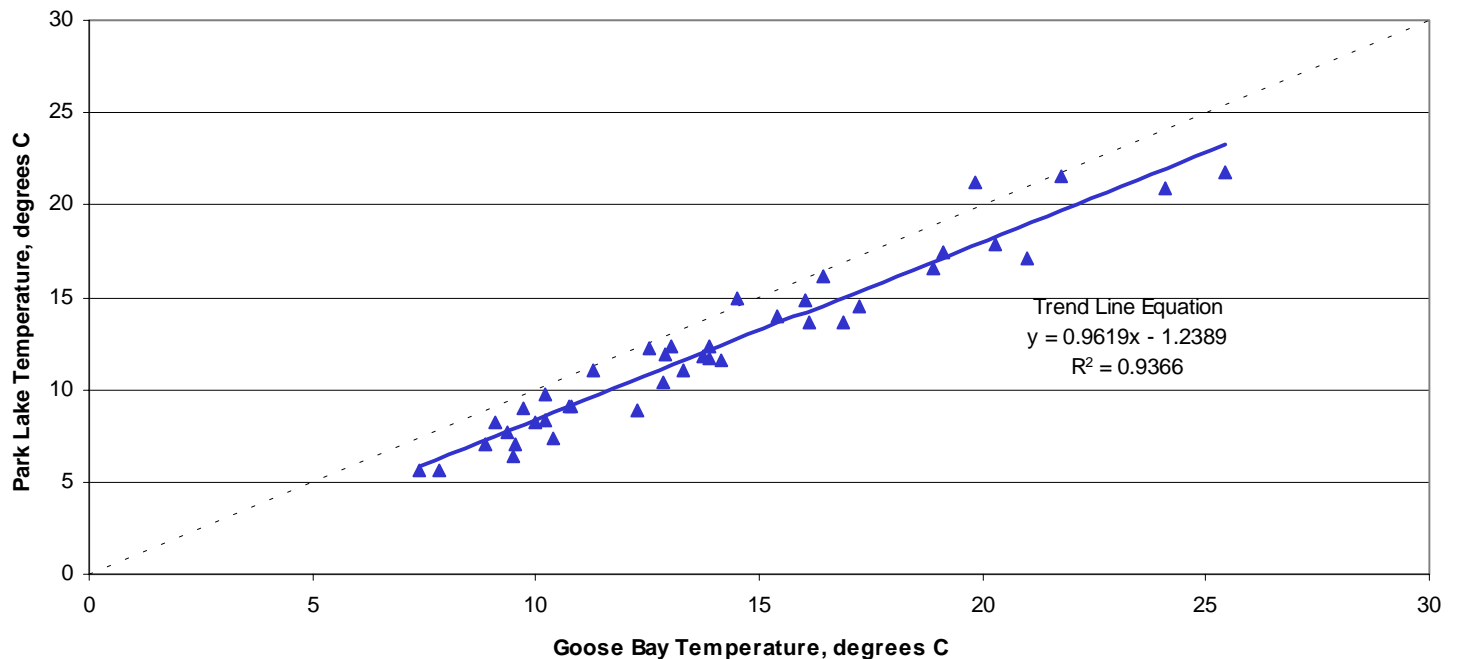
Very Good Osprey Year (1.7/1.9)

Churchill June and July Climate
2003



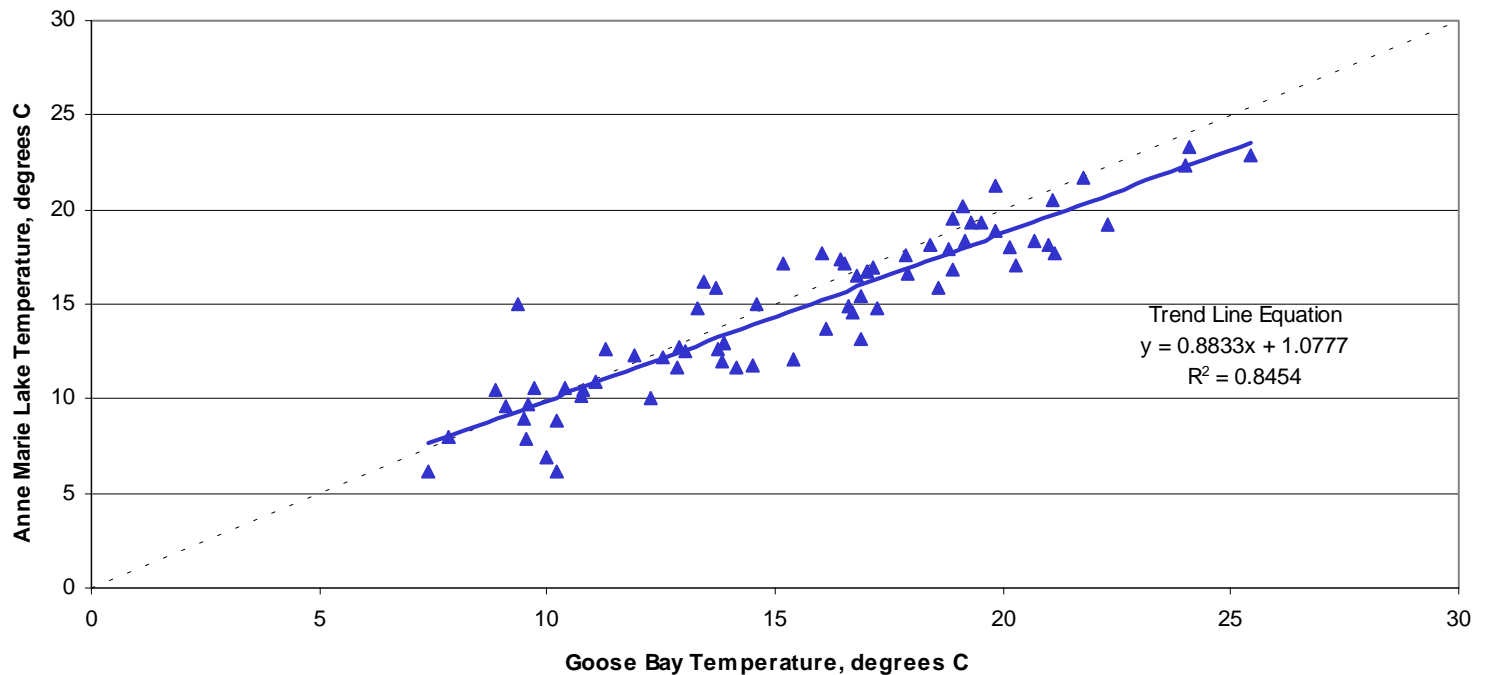
Environment Canada & Local Stations - Temperature Comparison

Mean Daily Temperature Park Lake vs Goose Bay
June 7 to July 31, 2003



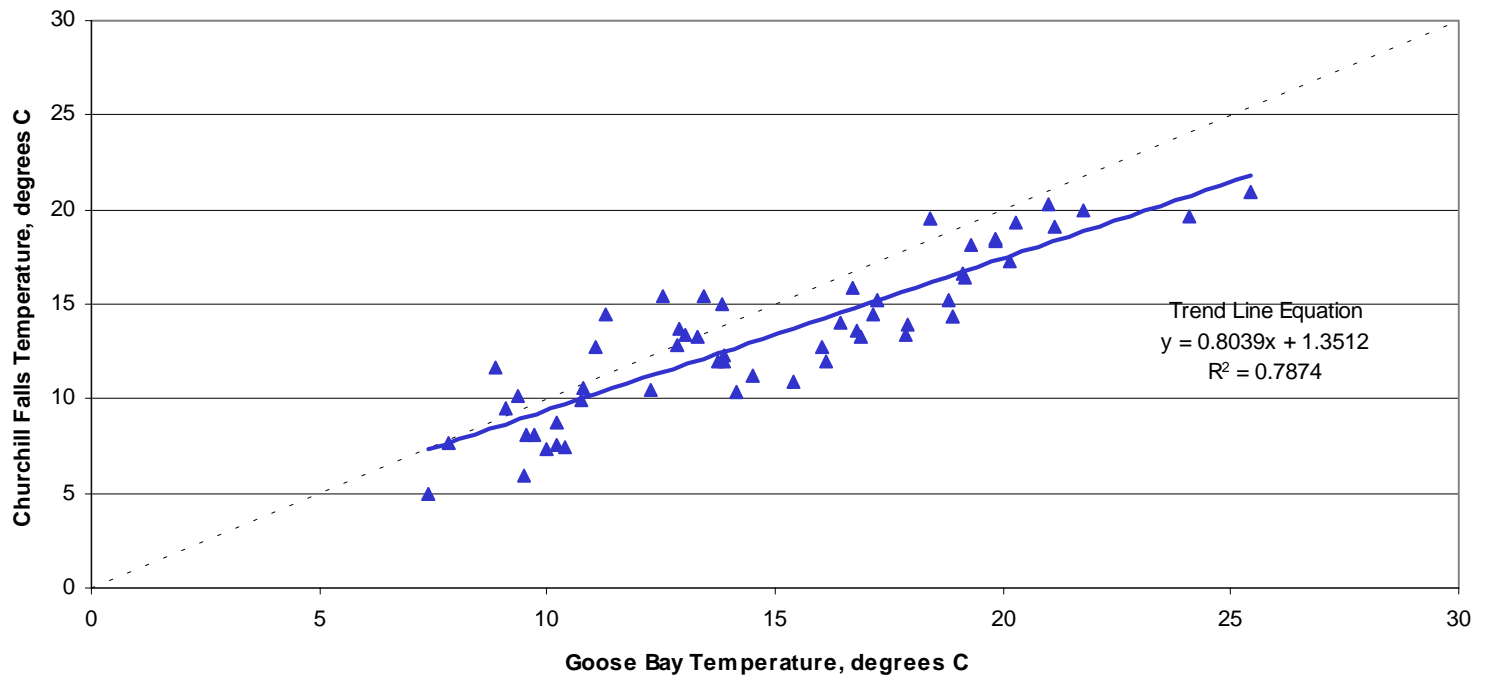
Environment Canada & Local Stations - Temperature Comparison

Mean Daily Temperature AnnMarie Lake vs Goose Bay
June 7 to August 17, 2003



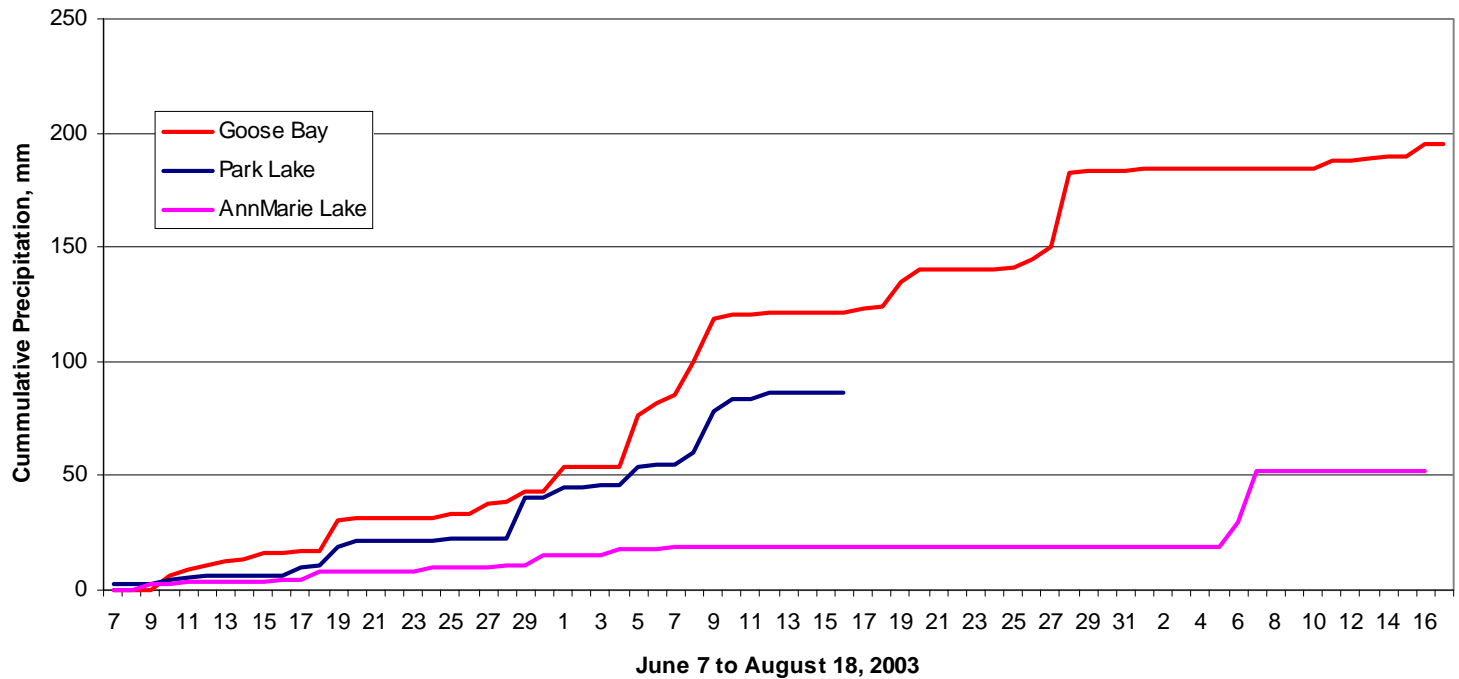
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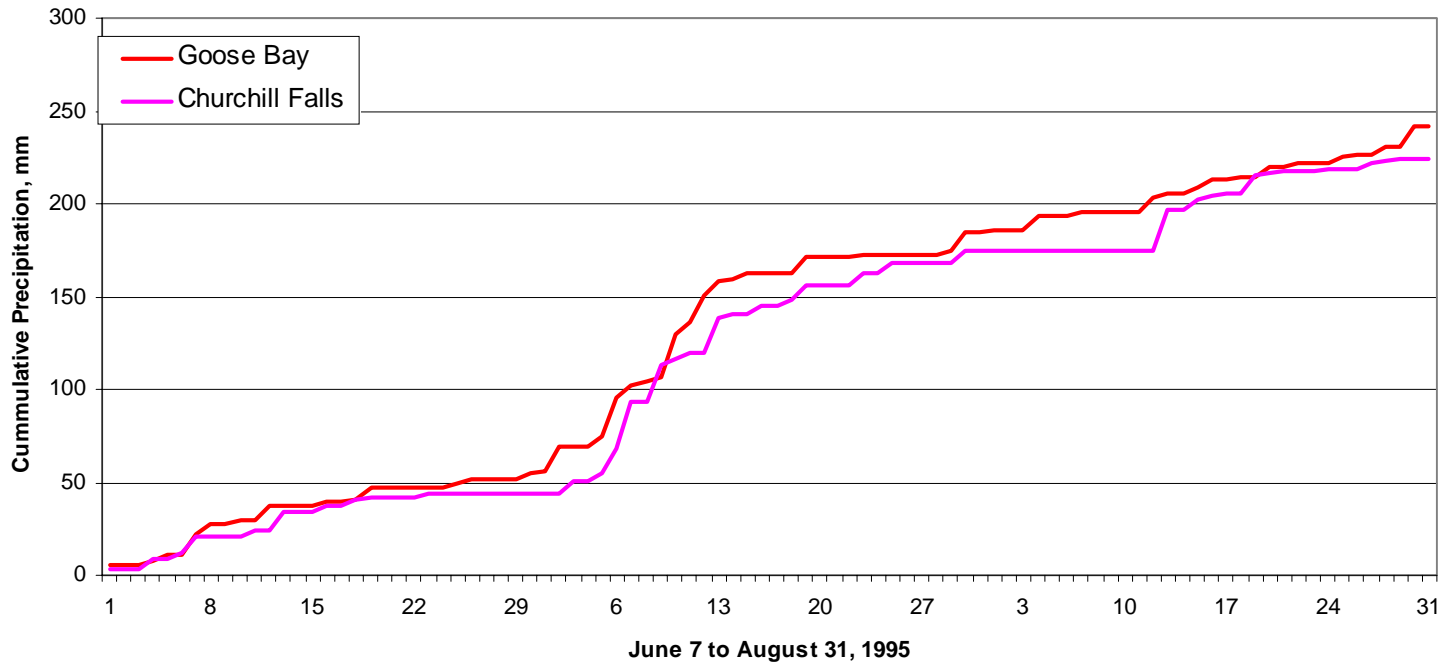
Environment Canada & Local Stations - Precipitation Comparison

Mass Curve of Precipitation



Environment Canada Stations - Precipitation Comparison (1995)

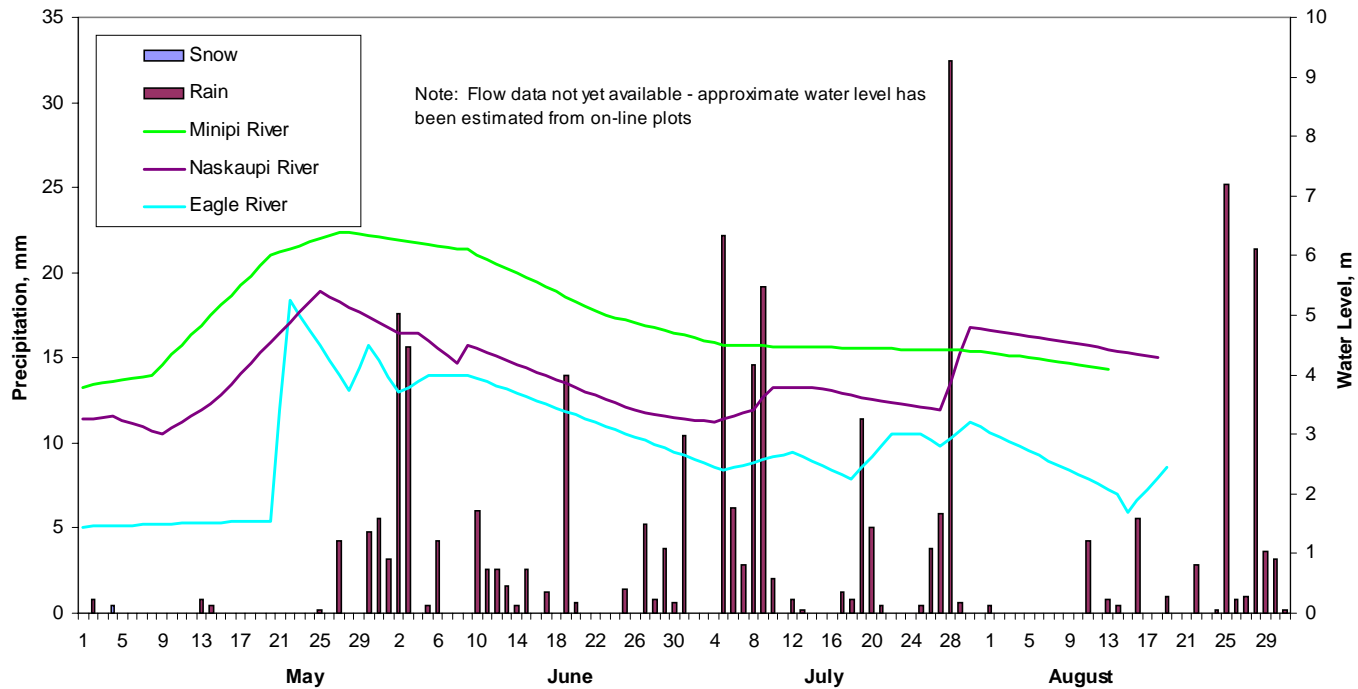
Mass Curve of Precipitation



Hydrology and Climate 2003

Goose Bay Precipitation

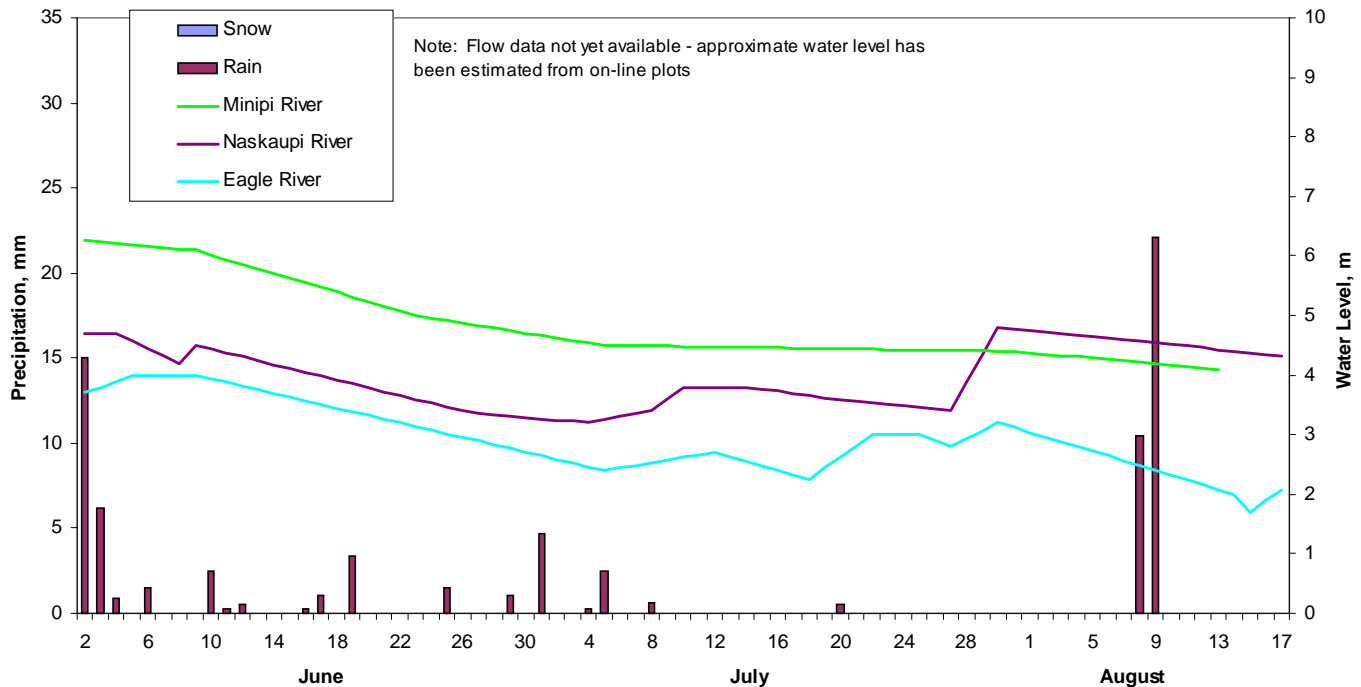
Goose Bay Precip and Regional Water Level
2003 - Osprey Success: Very Good (1.7/1.9)



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AnnMarie Lake Precipitation

AnnMarie Lake Precipitation and Regional Water Levels
2003 - Osprey Success: Very Good (1.7/1.9)



Regional Precipitation and Runoff

	Goose Bay Total Precipitation mm	Minipi River Runoff mm	Eagle River Runoff mm
1999	1188	1062	960
2000	1024	992	911
2001	867	671	662
2002	985	705	676
Long term average	915	777	744



Environment Canada & Local Stations - Conclusions

- **Temperature patterns are similar across the region, but cooler towards northwest, warmer to southeast**
- **Total annual precipitation similar across the region**
- **Local events occur over small areas**



Environment Canada & Local Stations - Conclusions

- **Long term EC data is only partially useful for interpreting weather in the study area**

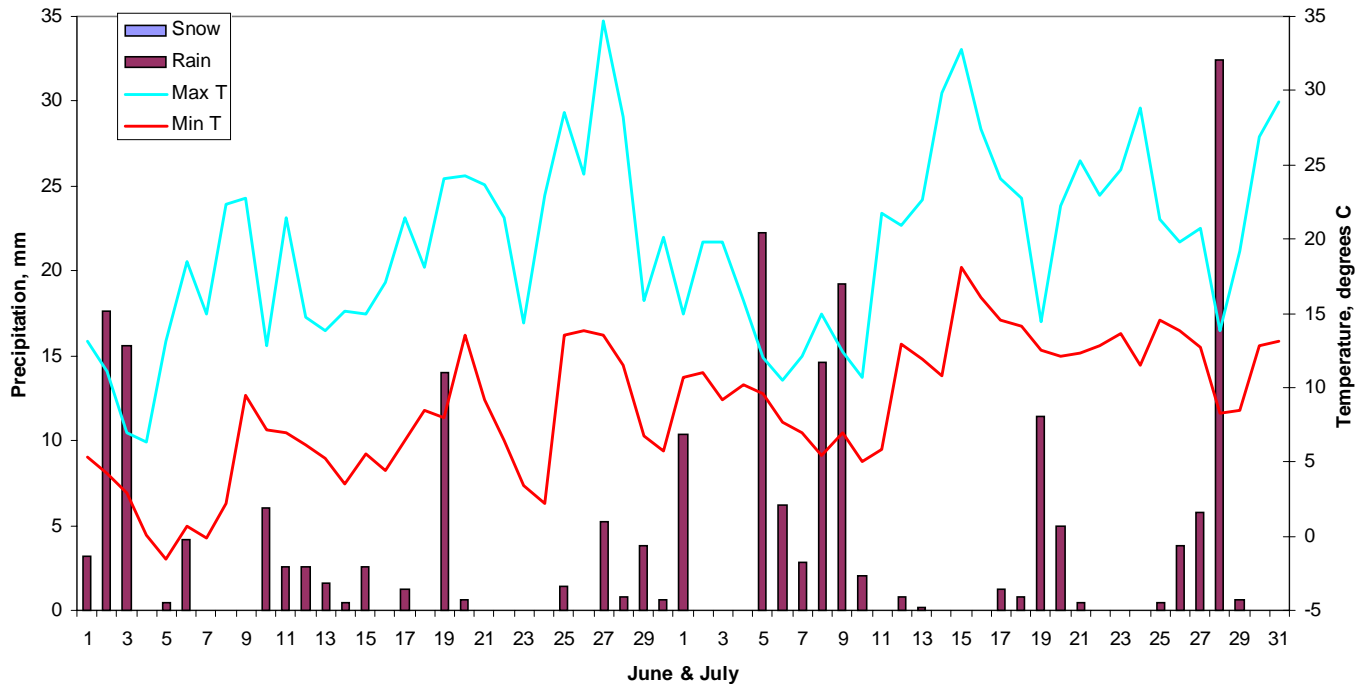
Osprey Success Data

Year	Success Rating	Young per Active Nest LLTA / Control
1993	Poor	
1994	Good	
1995	Good	
1996	Poor	
1997	Mediocre	
1998	Very Good	
1999	Very Good	1.8 / 1.6
2000	Poor	1.0 / 0.6
2001	Poor	0.6 / 0.7
2002	Poor	1.0 / 0.9
2003	Very Good	1.7 / 1.9

Historic Climate 2003

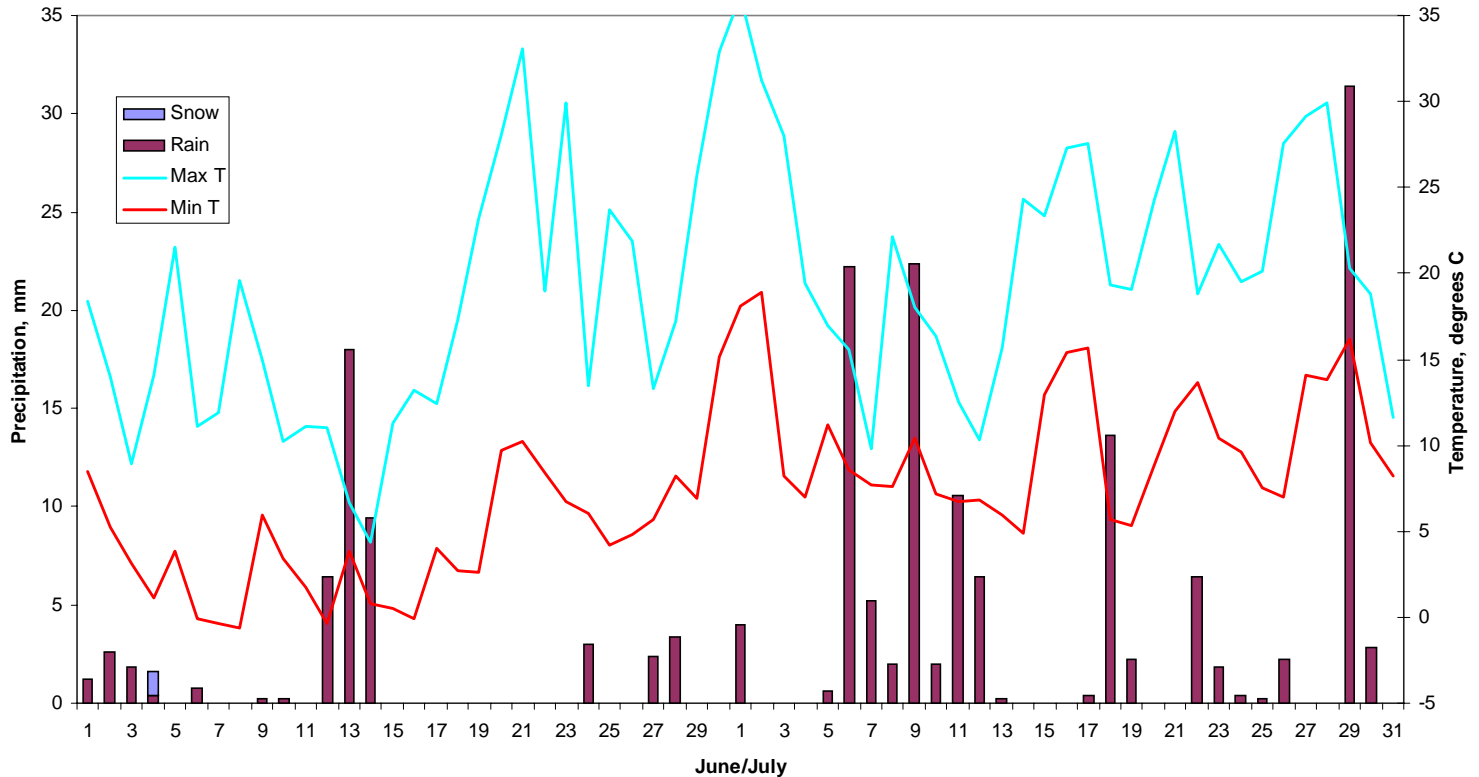
Very Good Osprey Year (1.7/1.9)

Goose Bay June/July Climate
2003



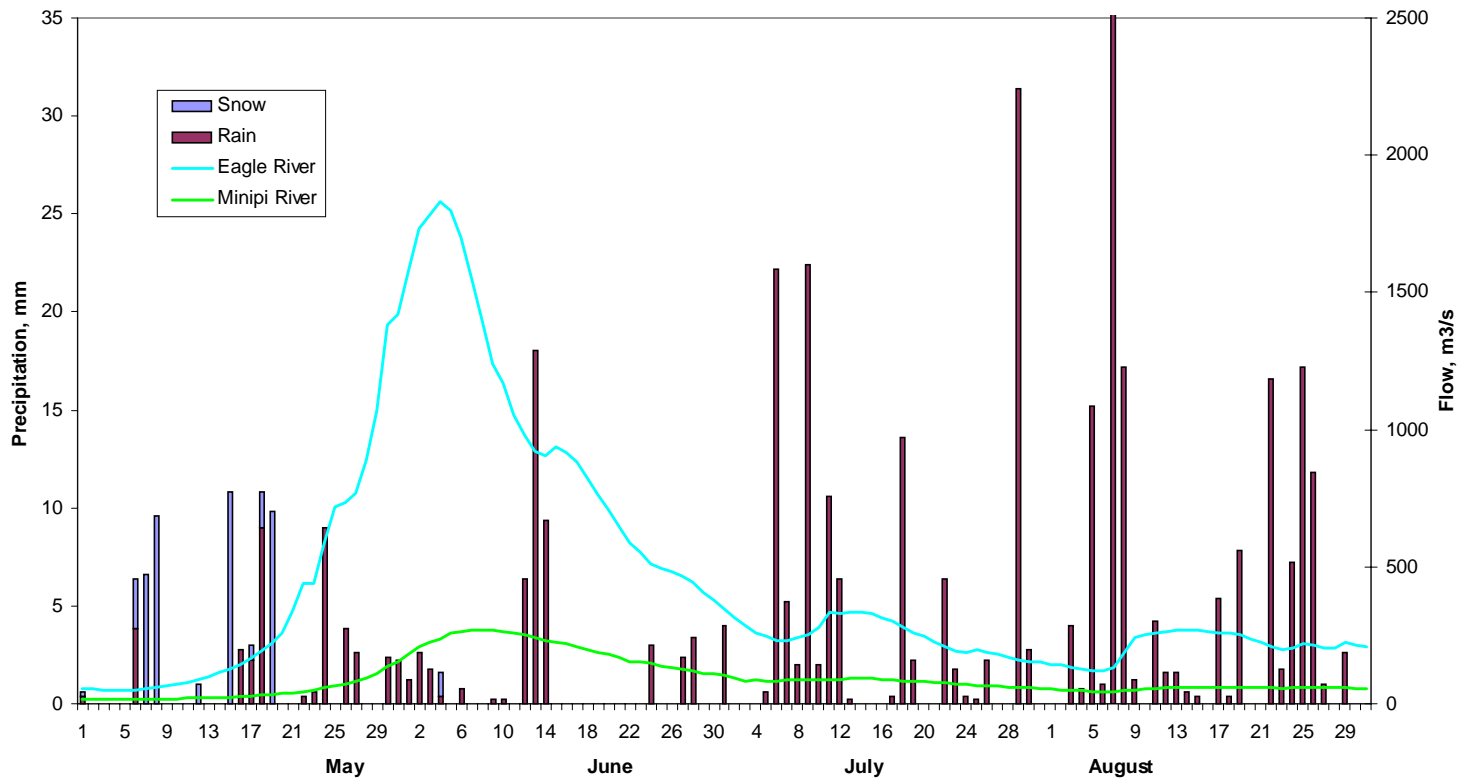
Historic Climate 2002

Poor Osprey Year (1.0/0.9)



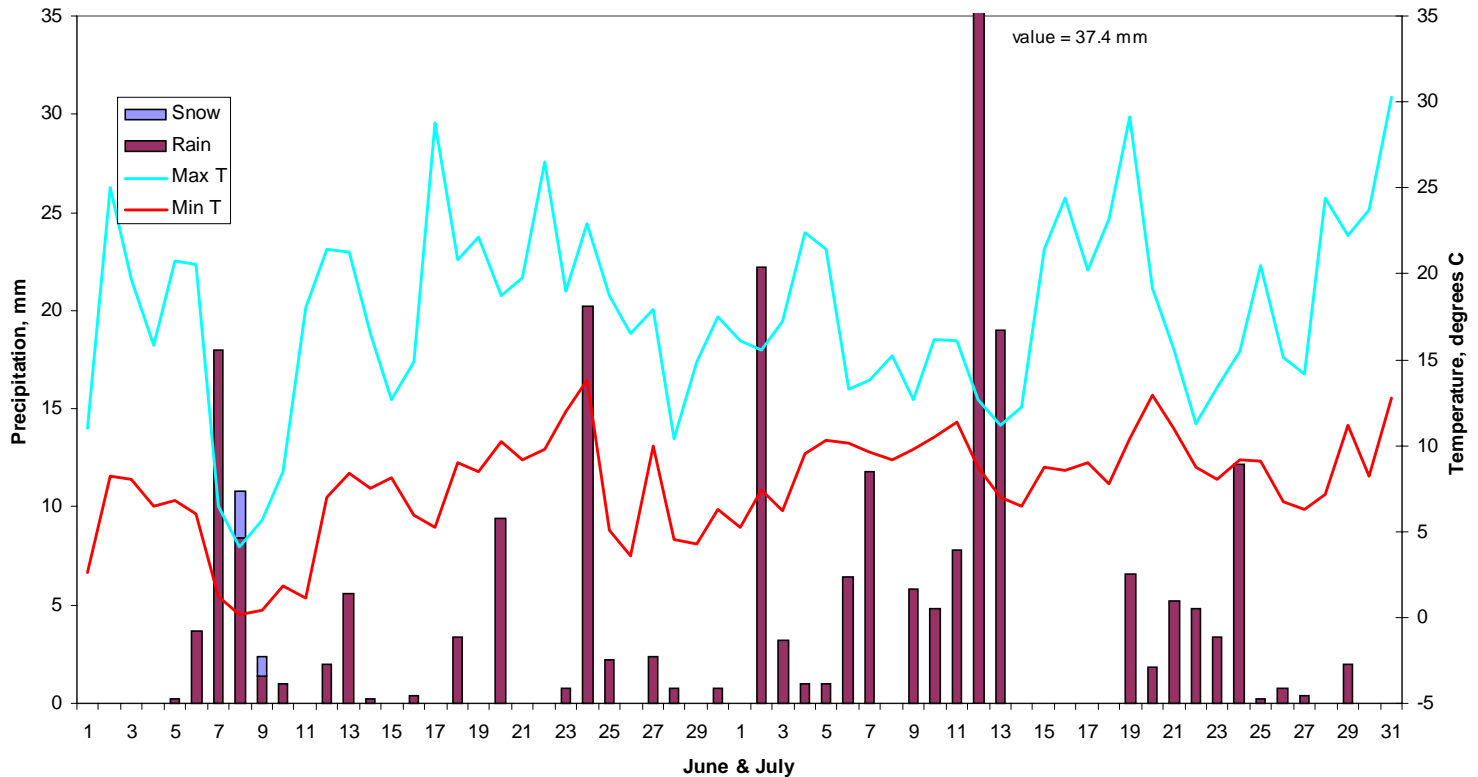
Historic Hydrology 2002

Poor Osprey Year (1.0/0.9)



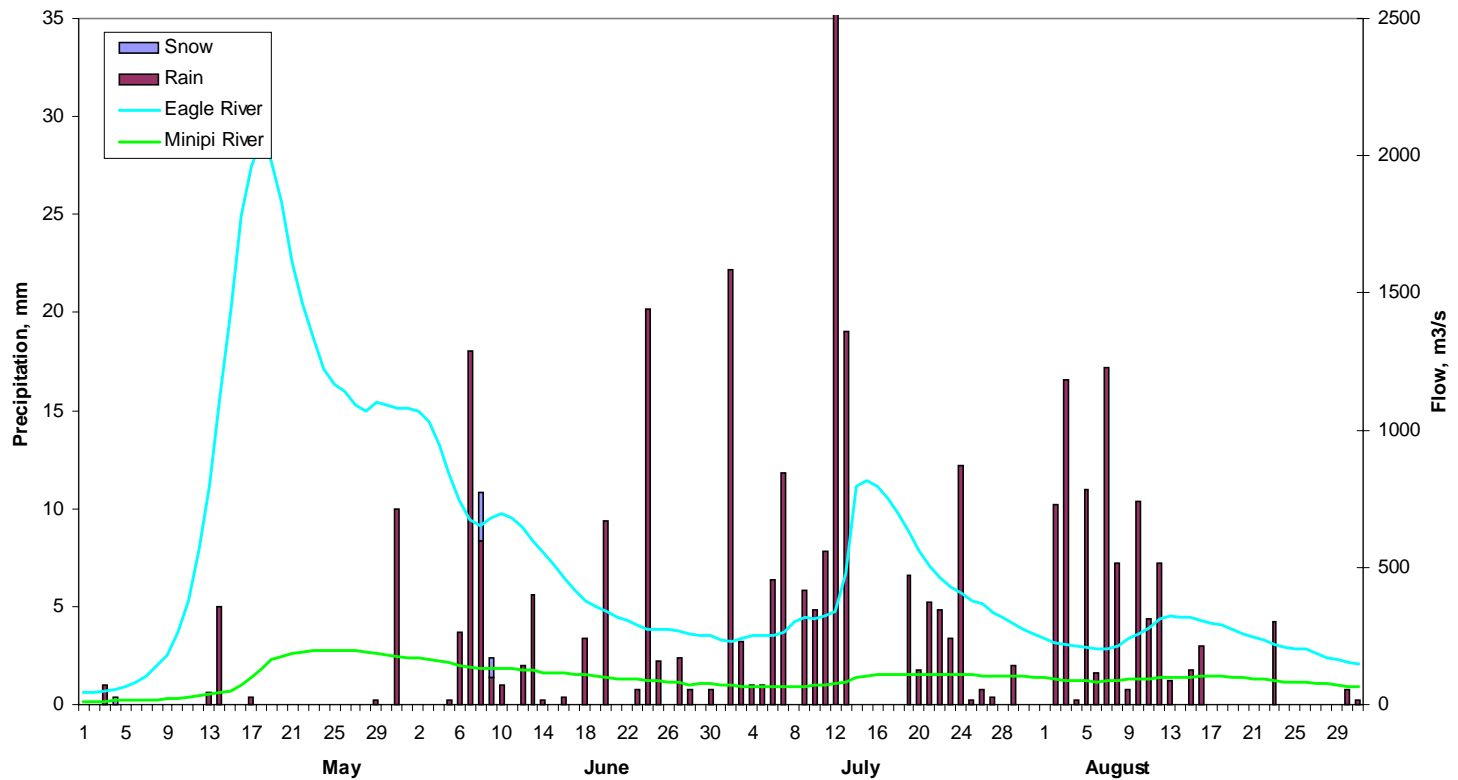
Historic Climate 2001

Poor Osprey Year (0.6/0.7)



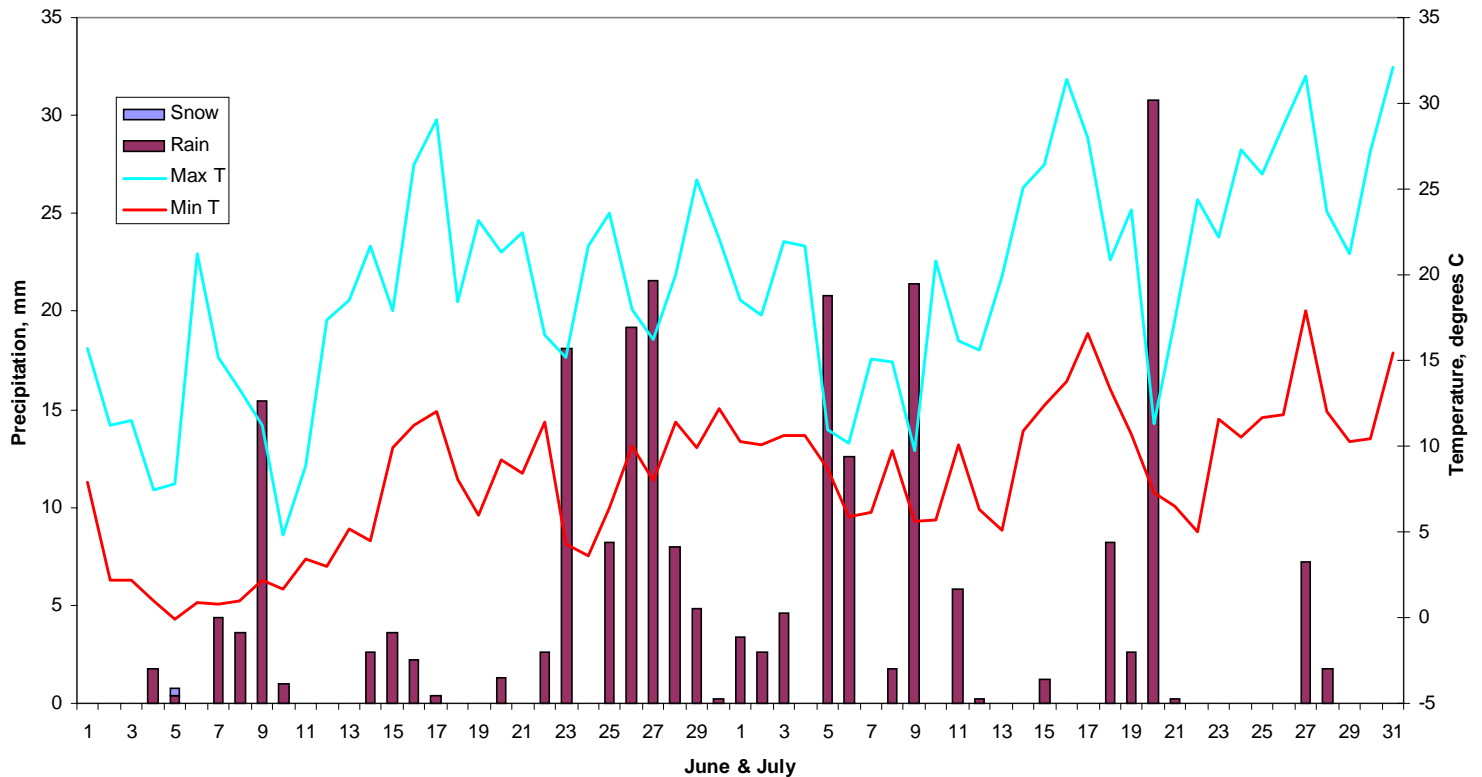
Historic Hydrology 2001

Poor Osprey Year (0.6/0.7)



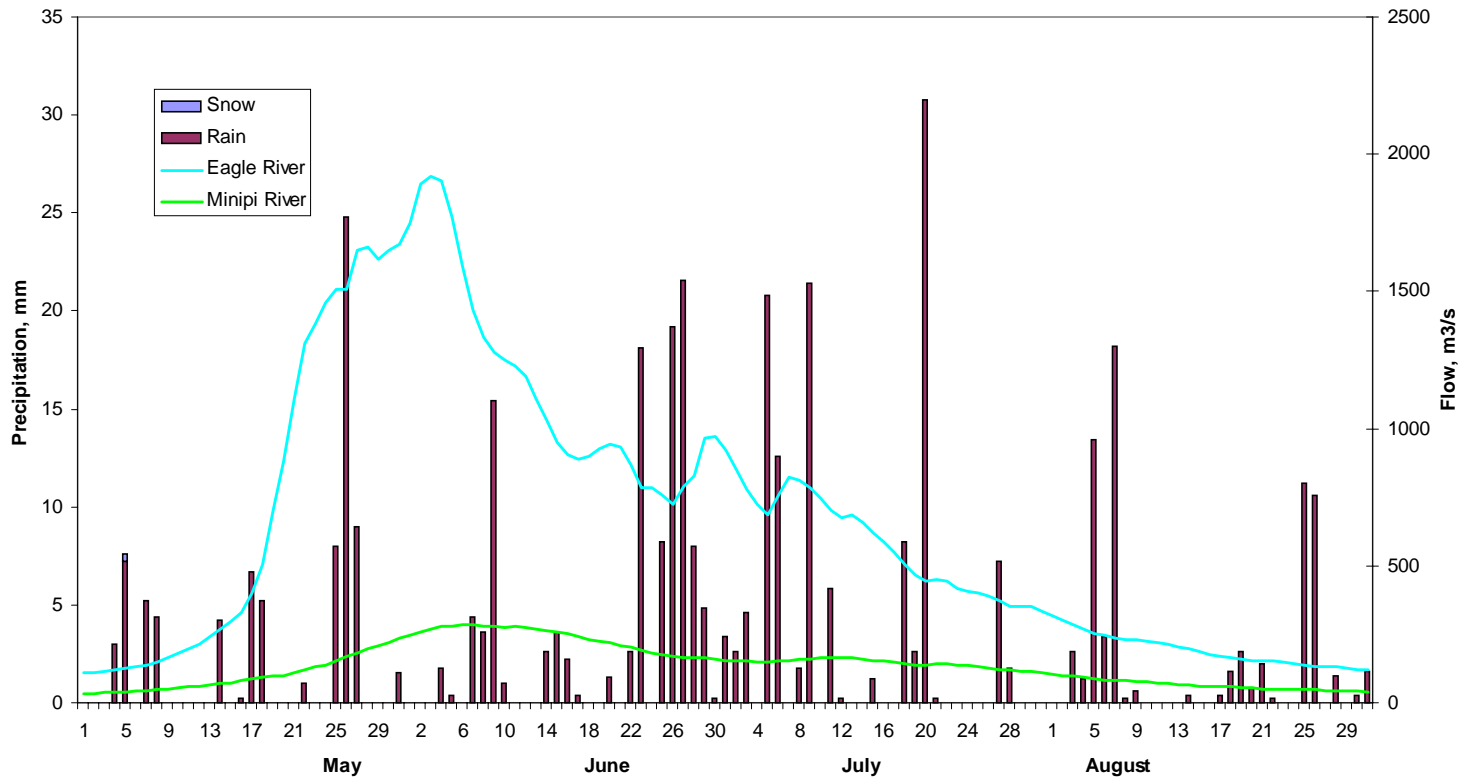
Historic Climate 2000

Poor Osprey Year (1.0/0.6)



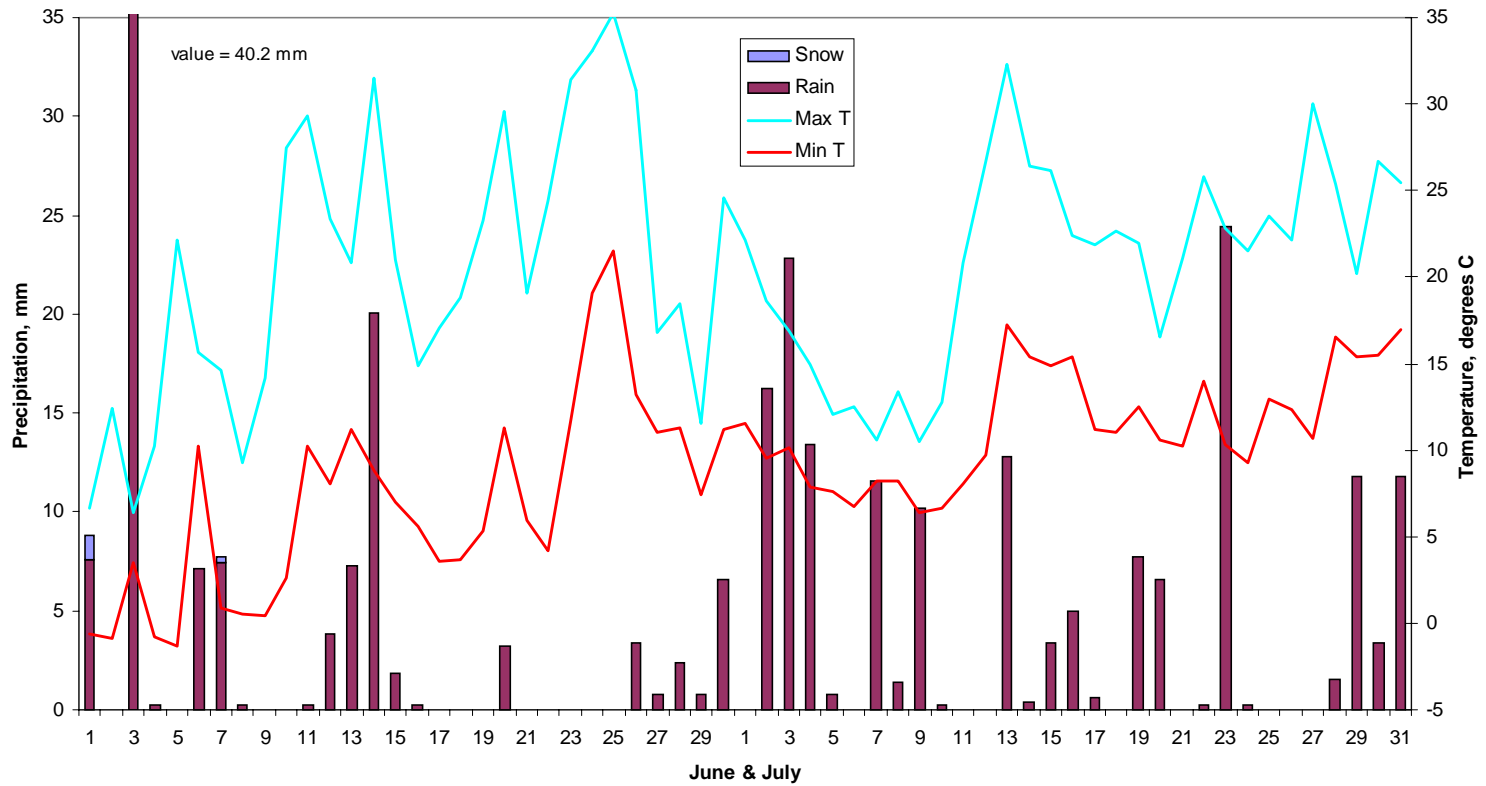
Historic Hydrology 2000

Poor Osprey Year (1.0/0.6)



Historic Climate 1999

Very Good Osprey Year (1.8/1.6)



Historic Hydrology 1999

Very Good Osprey Year (1.8/1.6)

