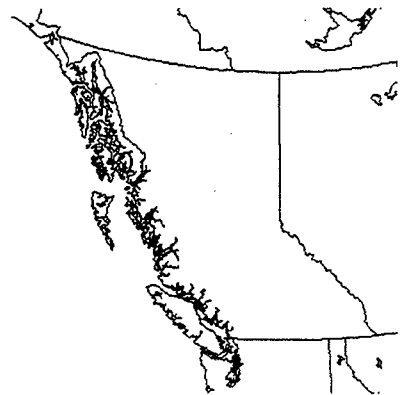




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REPORT



Pacific & Yukon Region

British Columbia Summer Temperature Trends

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BRITISH COLUMBIA: SUMMER TEMPERATURE TRENDS

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This paper provides information on trends in mean summer temperatures throughout British Columbia from 1895 - 1993. It shows that summers have warmed since 1895 in all climate regions.

The Canadian Climate Centre has divided Canada into a number of climate regions. British Columbia falls into four of these regions: Northwestern Forest, Southern BC Mountains, Pacific, and the Yukon/Northern BC Mountains. These regions are defined in the SOE report No. 92-2, "The State of Canada's Climate: Temperature Change in Canada 1895-1991". Figure 1 shows the boundaries of these regions. Summer mean temperature departures from the long-term mean for June, July and August for each of the four regions are analysed in the following section.

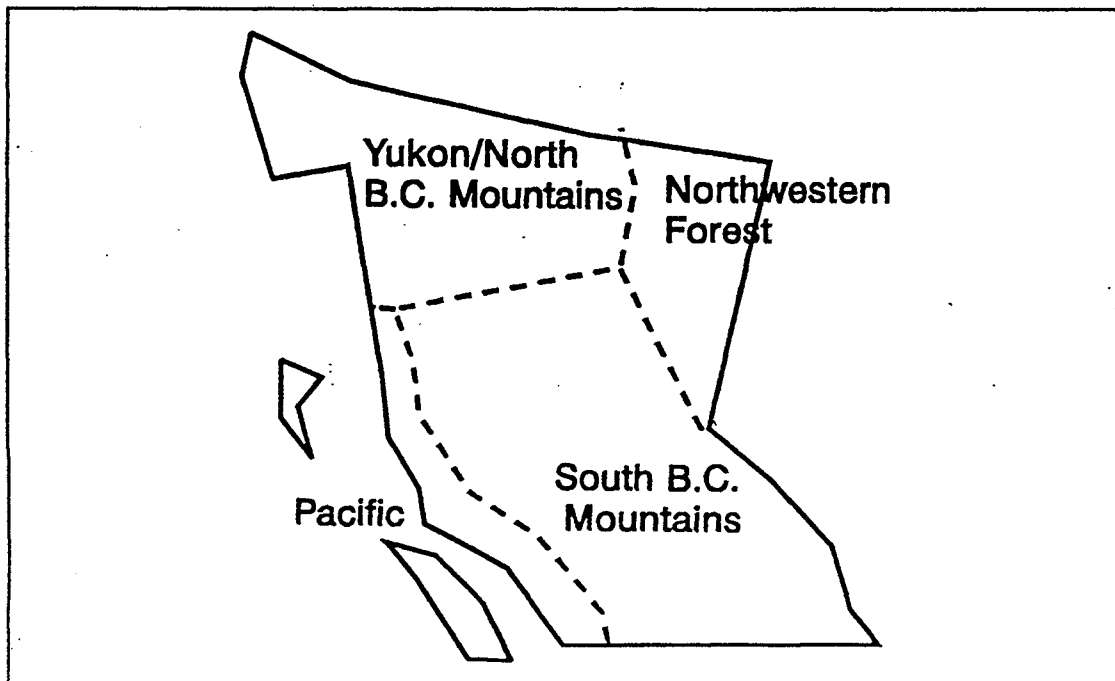


Figure 1 - Regional Boundaries

The summer mean temperature anomalies were provided by the Canadian Climate Centre. They are arrived at by averaging the departure from the long-term mean for each station in the region for June, July and August. The average of these station summer departure values is the mean departure for the region.

The four regions are comprised of from 7 to 16 stations. The regions and stations are those listed in an earlier report, *British Columbia: Winter Temperature Trends*, issued May 15, 1993 and are listed in Appendix 1 for convenience. It is important to note that in the Northwestern Forest region only 2 of the 16 stations are actually in British Columbia. In the Yukon/Northern BC Mountains region, only 1 (Dease Lake) of the 7 stations is in B.C.

Figures 2-5 show the individual summer temperature departures for the four British Columbia regions, the 10 year average and the long-term trend.

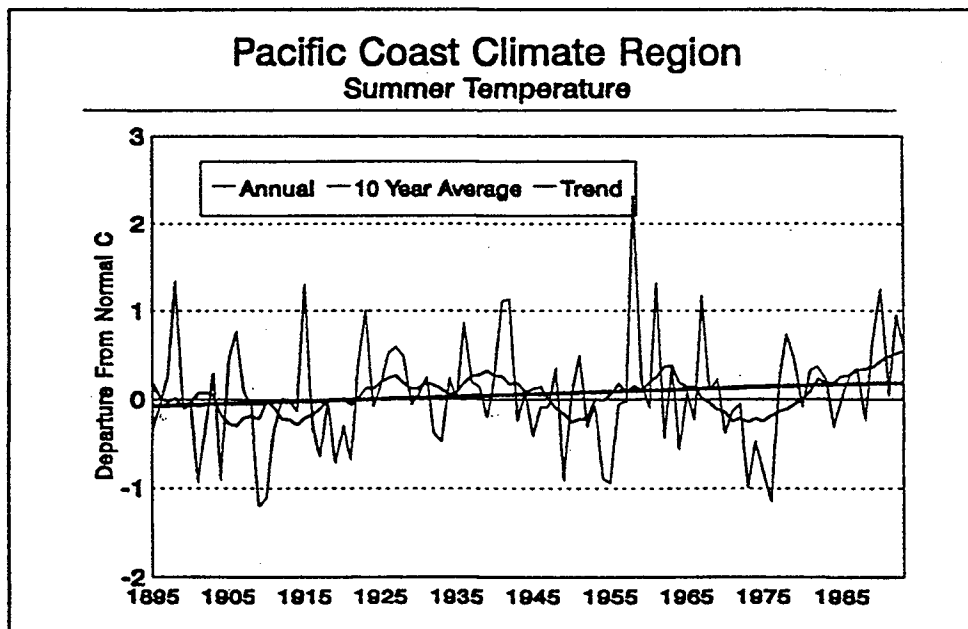


Figure 2 - Mean summer temperature departures for the Pacific Coast Climate Region over the 1951 - 1980 mean.

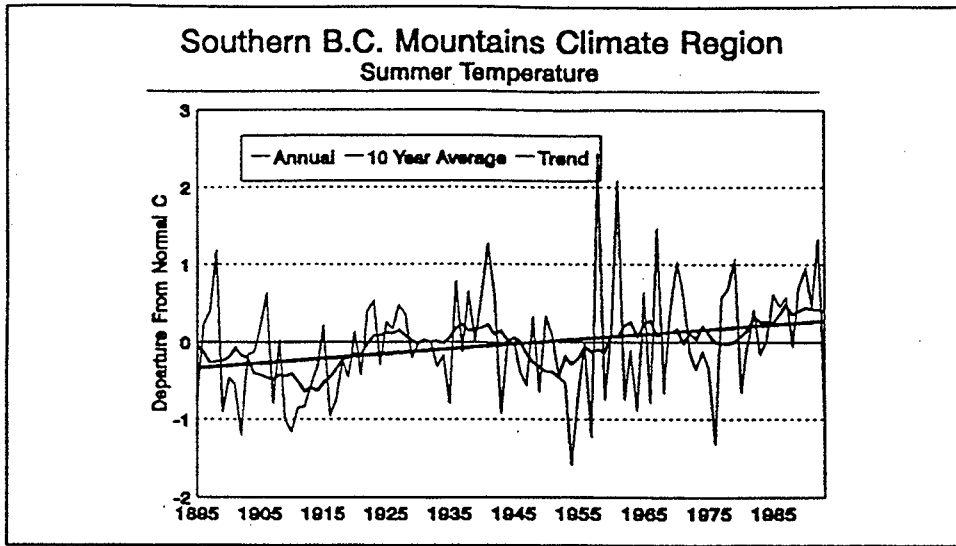


Figure 3 - Mean summer temperature departures for the Southern BC Mountains Climate region over the 1951 - 1980 mean.

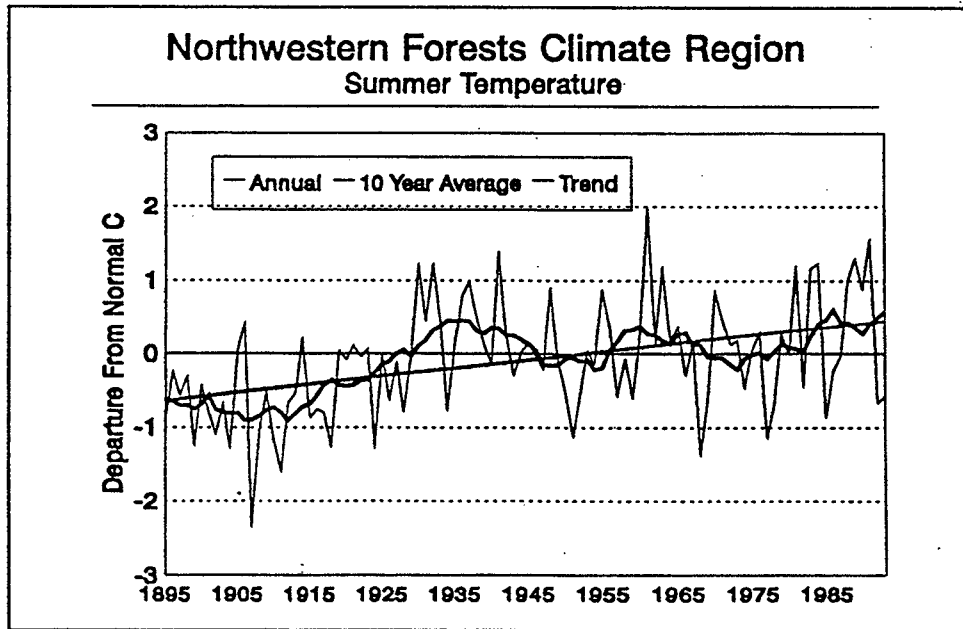


Figure 4 - Mean summer temperature departures for the Northwestern Forests Climate region over the 1951 - 1980 mean.

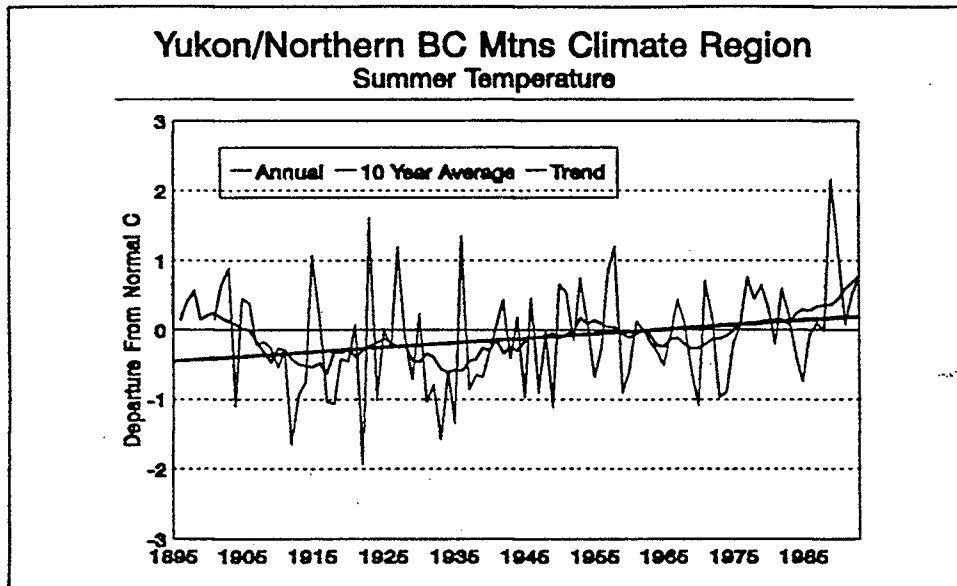


Figure 5 - Mean summer temperature departures for the Yukon/Northern BC Mountains region over the 1951 - 1980 mean.

Figures 2-5 show that summer mean temperatures in all four British Columbia climate regions appear to have warmed over the past century. A previous report showed that winters in British Columbia over the same timeframe have also warmed. This warming in the summer and winter may be a natural fluctuation, changes in the amount of cloudiness, or may be due to anthropogenic causes such as an enhanced greenhouse effect.

The average BC summer temperature increase from 1895 - 1993 for the four regions is summarized in Table 1. The average summer increase over British Columbia during this period is approximately 0.7°C . It would also appear that interior summer temperatures have warmed more than coastal temperatures likely due to the moderating effect of the ocean on coastal locations.

Table 1 - British Columbia Summer Temperature Increase 1895 - 1993.

<u>REGION</u>	<u>TEMPERATURE INCREASE</u>
Pacific Coast	0.3°C
Southern BC Mountains	0.5°C
Northwestern Forests	1.3°C
Yukon/Northern BC Mountains	0.8°C

REFERENCES

Canadian Climate Centre - SOE Report No. 92-2, *The State of Canada's Climate: Temperature Change in Canada 1895 - 1991.*

APPENDIX 1 - A listing of stations in each region: (A = airport)

PACIFIC COAST CLIMATE REGION

Victoria International A
Comox A
Port Hardy A
Amphitrite Point
Cape St. James
Sandspit A
Bella Coola A
Prince Rupert A
Stewart A
Vancouver International A

SOUTHERN BC MOUNTAINS

Smithers A
Barkerville
Fort St. James
Prince George A
Agassiz CDA
Princeton A
Castlegar A
Cranbrook A
Kamloops A
Revelstoke A
Banff

YUKON/NORTHERN BC MOUNTAINS

Dease Lake
Burwash A
Dawson A
Haines Junction
Mayo A
Watson Lake A
Whitehorse A

NORTHWESTERN FORESTS

Fort St. John A
Fort Nelson A
Edson A
Fort McMurray A
Slave Lake A
Fort Chipewyan A
High Level A
Peace River A
Cold Lake A
Prince Albert A
Cree Lake A
Island Falls
The Pas A
Lynn Lake A
Thompson A