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Daily flow statistics of Alaskan streams

DAILY FLOW STATISTICS OF ALASKAN STREAMS

David L. Chapman
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Anchorage, Alaska

National Weather Service, Regional Headquarters
Anchorage, Alaska
October 1982

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Atmospheric Administration
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DAILY FLOW STATISTICS OF ALASKAN STREAMS

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ABSTRACT

Frequent requests to compare current river flow to the normal flow, when to expect spring breakup, when to expect the highest flow of the year, etc., led to a statistical analysis of daily flows at all Alaskan stations for which sufficient discharge records were available. Some of the results were plotted and are presented graphically for quick-look reference.

For any given day of the year, the mean flow and the flows that are exceeded ten percent and ninety percent of the time were plotted. The values were taken from a log-normal distribution computed for each calendar day. Examples illustrate some of the uses and interpretations of the graphs.

INTRODUCTION

Hydrologists in the Alaskan River Forecast Center are frequently asked such questions as: Is today's flow on the Kenai River higher than normal? When does breakup occur on the North Slope? When would the flow on the Tanana River be expected to be less than 25,000 cfs? The answers to these and other questions are used to make decisions ranging from trivial to critical, some involving large financial risk. They are used in planning activities such as commercial navigation, construction, mining, aerial photography, surveying, moving heavy equipment across ice, recreational boating, fishing, documentary and news photography, and others.

The purpose of this report is to present full-year hydrographs of the mean flow for each date, the flow that can be expected to be exceeded nine times out of ten on average for each date, and the flow that can be expected to be exceeded only one time in ten. A secondary purpose is to demonstrate, by examples, how to interpret the hydrographs for guidance in answering questions like the above.

METHOD

For a given date, say June 15, all the June 15th flows for the number of years of record constitute a sample. No reference to this kind of data set was found in a search of the literature; hence no recommended distribution function was found. Several distribution functions were tested for applicability. The log-normal distribution was selected for a number of reasons, the primary reason being that it fit most samples reasonably well. The Smirnov-Kolmogorov Δ -test (Reference 1) for goodness of fit was applied, and very nearly 100 percent of the results were within acceptable limits. Those few that fell outside the limits were thought to be caused by samples not representative of their respective populations.

The mean and standard deviation were computed using the equations (Reference 2):

$$\bar{X} = \frac{\sum x}{N}$$
$$S = \left[\frac{(\sum x^2) - (\sum x)^2/N}{N - 1} \right]^{0.5}$$

where x = logarithm of flow
 N = number of items in data set
 \bar{X} = mean logarithm
 S = standard deviation of logarithms

Flows that would be exceeded 10 percent and 90 percent of the time were computed using the equation:

$$\log Q_{10} = \bar{X} + 1.282S$$
$$\log Q_{90} = \bar{X} - 1.282S$$

where Q_{10} = flow that would be exceeded 10 percent of the time
 Q_{90} = flow that would be exceeded 90 percent of the time

The values 1.282 and -1.282 were obtained from standard tables of area under the normal distribution curve. Thus, for each date, three discharge estimates were obtained and plotted.

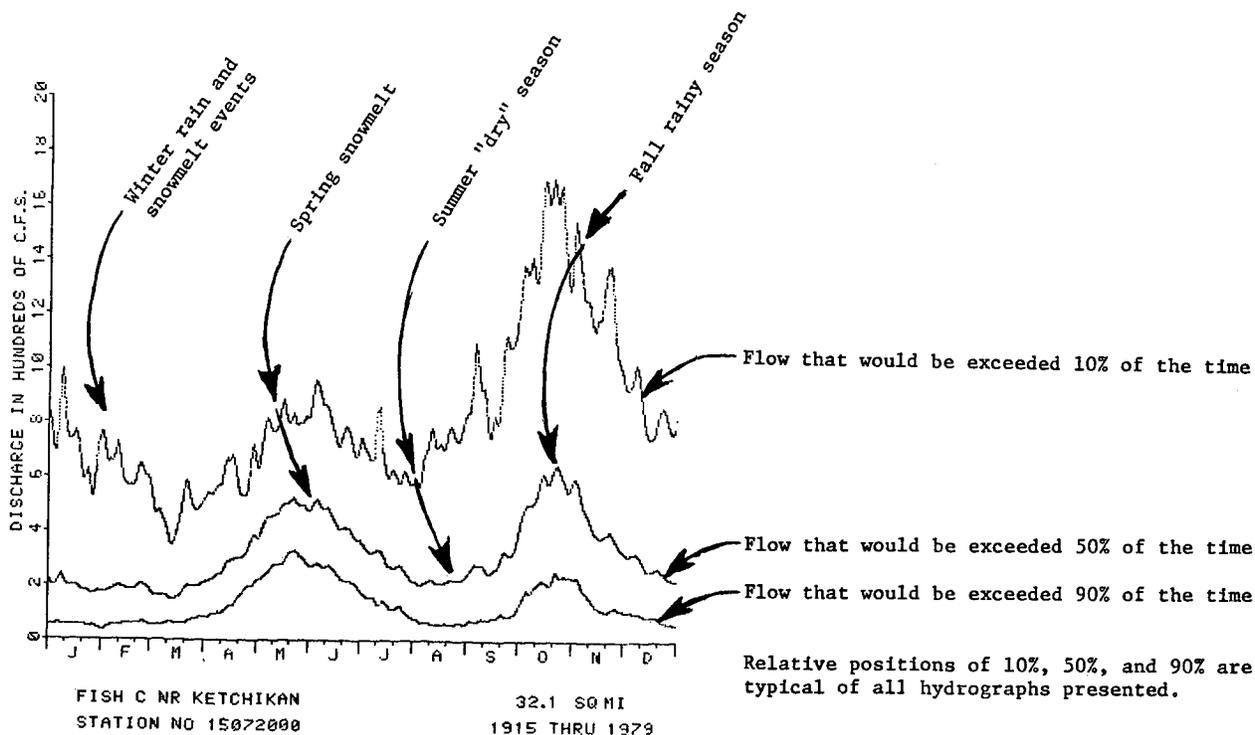
Some hydrographs contained many sharp peaks and varied greatly from day to day. In most cases this was caused by unrepresentative, small samples from short records, resulting in poor estimates of the true mean, Q_{10} , etc. Some smoothing was appropriate, but had to be limited so as not to mask features such as the sharp upturn at spring breakup. This limited smoothing was done by taking the sample not only from the record of flows for the given date, but also for the day before and the day after. Thus, for a 5-year record, 15 flow values would be associated with each date; and those 15 values would constitute the sample. Those values would not all be independent; they would only be five triplets of independent items. Nevertheless, this procedure accomplishes desirable smoothing, and has its greatest effect on small

samples. It was recognized that a 5-year record is usually too small to yield reliable results from statistical analysis; however, the smoothing procedure tends to make each day's statistics approach its bracketing days' statistics as it seems reasonable to assume would be true of the population's statistics. Five years of record was therefore selected as the minimum. For simplicity, February 29th was skipped (or leaped) as not being very important with regard to flows in Alaska.

All the work, from looking up the flow records to plotting the results of the statistical analysis, was done by computer. No adjustments based on judgement were made.

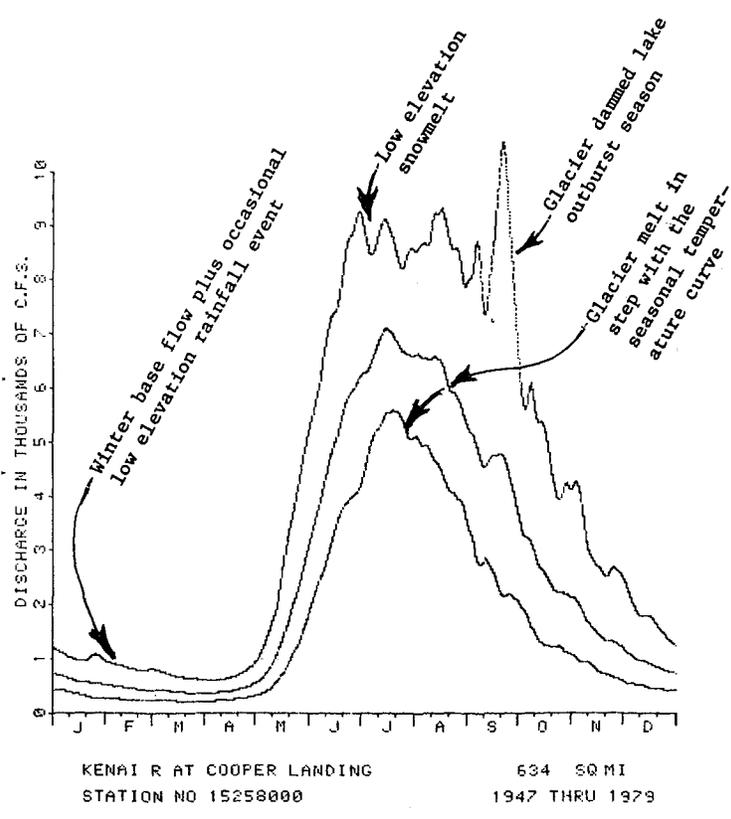
INTERPRETATION OF HYDROGRAPHS

Shown on the hydrographs in figures 1 and 2 are features that are in common with many other locations in their respective areas. It can be properly deduced that the flow on any given date will lie between the bounding graphs eight times out of ten. If the flow were outside the bounds, the event would be notable, at least. It is not correct to interpret the highest point of the 10%-of-the-time hydrograph as the 10-year flood. The 10-year flood is usually much higher, sometimes several times higher. Conversely, the opposite may be true of the 90%-of-the-time hydrograph and the 10-year drought.

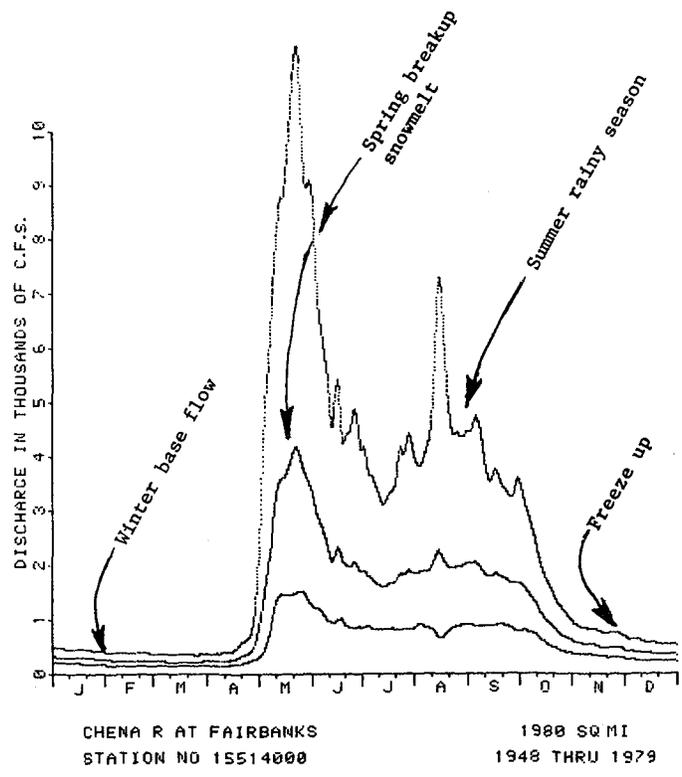


Southeast Alaska - coastal drainage - low elevation - no glaciers - warm winter
 - year-round rainy season - annual precipitation 200+ in/yr

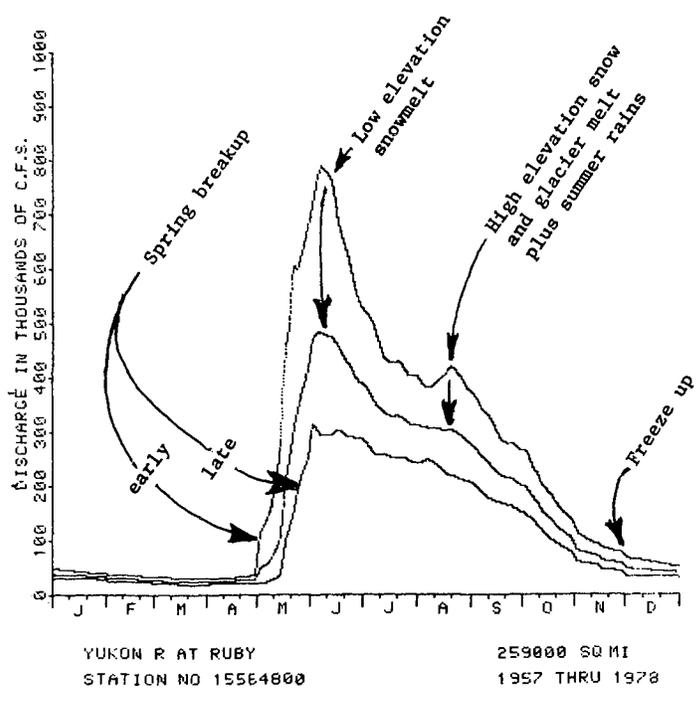
Figure 1. Example of Hydrograph Interpretation.



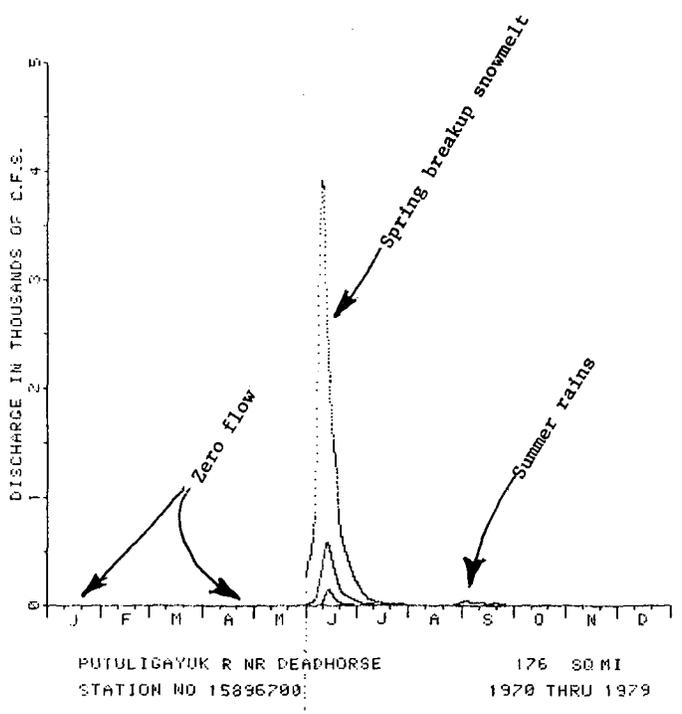
Kenai Peninsula - coastal drainage - high elevation - glacier fed - moderate winter - annual precipitation 100 in/yr



Interior drainage - low to moderate elevation - no glaciers - cold winter - summer rains only - annual precipitation 20 in/yr



Interior basin - combination of glacier and rainfall runoff - cold winter - warm summer - basin-wide annual precipitation 20 in/yr



North Slope - arctic drainage - low elevation - no glaciers - long cold winter - brief summer - annual precipitation 6 in/yr

Figure 2. More Examples of Hydrograph Interpretation.

Despite the smoothing procedure described earlier, many of the hydrographs still exhibit sharp peaks. It seems reasonable that the graphs derived from the populations instead of the samples would be smooth and would likely pass through something like the middle of the zig-zags. In general, that would be true, but examination of some notable peaks suggests caution. In the examples in figure 2, it was thought that the large September peak at Cooper Landing might be unduly influenced by the record jokulhlaup of 1974, and the August peak at Fairbanks might similarly be a result of the famous 1967 flood. Omitting these events from the samples and recomputing the hydrographs did indeed produce differences. The peaks were only slightly smaller, however, and that suggests that the peaks shown are fair estimates of the true values and should not be smoothed out. On the other hand, the very sharp peak on the Chakachatna River hydrograph (page 43) was caused entirely by one event - one that may occur only once in a geologic age and would be extremely unlikely to recur on the same date. Properly, it should have no influence on a 10%-of-the-time hydrograph. Incidentally, this is one of the very few samples not satisfactorily fitted by a log-normal distribution, which explains the false dip in the 90%-of-the-time hydrograph directly below the sharp peak in the top graph.

ACKNOWLEDGEMENTS

Thanks to Gerald J. Nibler, Regional Hydrologist, for his many suggestions and encouragement in preparing this report.

REFERENCES

1. Vujica Yevjevich, 1972: Probability and Statistics in Hydrology, Water Resources Publications, Fort Collins, Colorado.
2. Bulletin #17B of the Hydrology Committee, 1981: Guidelines for Determining Flood Flow Frequency, United States Water Resources Council, Washington, D.C.

STATION INDEX

Downstream Order

PAGE	STATION NAME	STATION NO	AREA	PERIOD OF RECORD
14	Salmon R nr Hyder	15008000	94.0	1963 thru 1973
14	Davis R nr Hyder	15010000	80.0	1931 thru 1940
14	Red R nr Metlakatla	15011500	45.3	1963 thru 1978
14	Winstanley C nr Ketchikan	15012000	15.5	1937 thru 1976
15	Klahini R nr Bell Island	15015600	58.0	1967 thru 1973
15	Tyee C at mouth nr Wrangell	15020100	16.1	1963 thru 1969
15	Harding R nr Wrangell	15022000	67.4	1952 thru 1979
15	Cascade C nr Petersburg	15026000	23.0	1918 thru 1973
16	Long R ab Long LK nr Juneau	15031000	8.3	1966 thru 1975
16	Long R nr Juneau	15034000	32.5	1916 thru 1974
16	Speel R nr Juneau	15036000	226.0	1917 thru 1975
16	Crater C nr Juneau	15038000	11.4	1918 thru 1932
17	Dorothy C nr Juneau	15040000	15.2	1930 thru 1968
17	Carlson C nr Juneau	15044000	24.3	1952 thru 1961
17	Sheep C nr Juneau	15048000	4.6	1919 thru 1973
17	Gold C at Juneau	15050000	9.8	1918 thru 1979
18	Lemon C nr Juneau	15052000	12.1	1952 thru 1973
18	Mendenhall R nr Auke Bay	15052500	85.1	1965 thru 1979
18	Montana C nr Auke Bay	15052800	15.5	1965 thru 1976
18	Lake C at Auke Bay	15053800	2.5	1964 thru 1974
19	Auke C at Auke Bay	15054000	4.0	1962 thru 1976
19	Herbert R nr Auke Bay	15054200	56.9	1967 thru 1971
19	Skagway R at Skagway	15056100	145.0	1964 thru 1979
19	West C nr Skagway	15056200	43.2	1962 thru 1978
20	Taiya R nr Skagway	15056210	179.0	1970 thru 1978
20	Chilkat R at gorge nr Klukwan	15056400	190.0	1962 thru 1968
20	Purple LK outlet nr Metlakatla	15058000	6.8	1948 thru 1956
20	Whipple C nr Ward Cove	15059500	5.3	1968 thru 1979
21	Penseverance C nr Wacker	15060000	2.8	1932 thru 1970
21	Beaver Falls C nr Ketchikan	15066000	5.8	1921 thru 1951
21	Mahoney C nr Ketchikan	15068000	5.7	1923 thru 1979
21	Falls C nr Ketchikan	15070000	36.5	1916 thru 1959
22	Fish C nr Ketchikan	15072000	32.1	1915 thru 1979
22	Ella C nr Ketchikan	15074000	19.7	1928 thru 1958
22	Manzanita C nr Ketchikan	15076000	33.9	1928 thru 1967
22	Grace C nr Ketchikan	15078000	30.2	1928 thru 1969
23	Orchard C nr Bell Island	15080000	59.0	1915 thru 1927
23	Traitors C nr Bell Island	15080500	20.8	1964 thru 1968
23	Stanley C nr Craig	15081500	51.6	1909 thru 1979
23	NB Trocadero C nr Hydaburg	15081800	17.4	1967 thru 1974
24	Old Tom C nr Kasaan	15085100	5.9	1949 thru 1979
24	Indian C nr Hollis	15085600	8.8	1949 thru 1964
24	Harris R nr Hollis	15085700	28.7	1949 thru 1964
24	Maybeso C at Hollis	15085800	15.1	1949 thru 1963
25	Neck C nr Point Baker	15086500	17.0	1960 thru 1967
25	Big C nr Point Baker	15086600	11.2	1964 thru 1979
25	Sawmill C nr Sitka	15088000	39.0	1921 thru 1957
25	Green LK outlet nr Sitka	15090000	28.8	1916 thru 1925
26	Sashin C nr Big Port Walter	15093400	3.7	1965 thru 1979
26	Deer LK outlet nr Port Alexander	15094000	7.4	1952 thru 1968
26	Baranof R at Baranof	15098000	32.0	1915 thru 1974
26	Hasselborg C nr Angoon	15102000	56.2	1952 thru 1968
27	Kadashan R ab Hook C nr Tenakee	15106920	10.2	1968 thru 1979
27	Hook C ab trib nr Tenakee	15106940	4.5	1967 thru 1979
27	Hook C nr Tenakee	15106960	8.0	1967 thru 1979
27	Tonalite C nr Tenakee	15106980	14.5	1909 thru 1979
28	Kadashan R nr Tenakee	15107000	37.7	1964 thru 1979
28	Pavlov R nr Tenakee	15108000	24.3	1958 thru 1979

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28	Hilda C nr Douglas	15108600	2.6	1967 thru 1972
28	Lawson C at Douglas	15108800	3.0	1967 thru 1971
29	Fish C nr Auke Bay	15109000	13.6	1959 thru 1978
29	Dick C nr Cordova	15195000	8.0	1970 thru 1979
29	Gakona R at Gakona	15200000	620.0	1950 thru 1970
29	Gulkana R at Sourdough	15200280	1770.0	1973 thru 1978
30	Tazlina R nr Glenallen	15202000	2670.0	1950 thru 1972
30	Klutina R at Copper Center	15206000	880.0	1950 thru 1970
30	Little Tonsina R nr Tonsina	15207800	22.7	1972 thru 1978
30	Tonsina R at Tonsina	15208000	420.0	1951 thru 1979
31	Squirrel C at Tonsina	15208100	70.5	1965 thru 1975
31	Copper R nr Chitina	15212000	20600.0	1956 thru 1979
31	Power C nr Cordova	15216000	20.5	1948 thru 1979
31	West Fork Olsen Bay C nr Cordova	15219000	4.8	1964 thru 1979
32	Solomon Gulch nr Valdez	15226000	19.0	1950 thru 1956
32	Wolverine C nr Lawing	15236900	9.5	1967 thru 1978
32	Spruce C nr Seward	15238600	9.3	1967 thru 1979
32	Barbara C nr Seldovia	15238820	20.7	1972 thru 1979
33	Bradley R nr Homer	15239000	56.1	1958 thru 1979
33	Anchor R nr Anchor Point	15239900	137.0	1965 thru 1979
33	Anchor R at Anchor Point	15240000	224.0	1953 thru 1966
33	Ninilchik R at Ninilchik	15241600	131.0	1963 thru 1979
34	Kasilof R at Kasilof	15242000	738.0	1949 thru 1970
34	Ptarmigan C at Lawing	15244000	32.6	1947 thru 1958
34	Grant C nr Moose Pass	15246000	44.2	1947 thru 1958
34	Trail R nr Lawing	15248000	181.0	1947 thru 1974
35	Crescent C nr Cooper Landing	15254000	31.7	1949 thru 1966
35	Kenai R at Cooper Landing	15258000	634.0	1947 thru 1979
35	Cooper C nr Cooper Landing	15260000	31.8	1949 thru 1959
35	Stetson C nr Cooper Landing	15260500	8.6	1958 thru 1963
36	Cooper C at mouth nr Cooper Landing	15261000	48.0	1958 thru 1965
36	Russian R nr Cooper Landing	15264000	61.8	1947 thru 1954
36	Kenai R at Soldotna	15266300	2010.0	1965 thru 1979
36	Beaver C nr Kenai	15266500	51.0	1968 thru 1978
37	Resurrection C nr Hope	15267900	149.0	1968 thru 1979
37	Glacier C at Girdwood	15272550	62.0	1965 thru 1978
37	SF Campbell at canyon mo nr Anchorage	15273900	25.2	1967 thru 1979
37	SF Campbell C nr Anchorage	15274000	30.4	1947 thru 1972
38	NF Campbell C nr Anchorage	15274300	13.4	1974 thru 1979
38	Campbell C nr Spenard	15274600	69.7	1966 thru 1979
38	Chester C at Anchorage	15275000	20.0	1958 thru 1976
38	Chester C at Arctic Blvd at Anchorage	15275100	27.2	1966 thru 1979
39	Ship C nr Anchorage	15276000	90.5	1947 thru 1979
39	Ship C at Elmendorf AFB nr Anchorage	15276500	113.0	1963 thru 1971
39	Ship C bl power plant at Elmendorf AFB	15276570	115.0	1971 thru 1979
39	Eagle R at Eagle River	15277100	192.0	1966 thru 1979
40	Peters C nr Birchwood	15277410	87.8	1973 thru 1979
40	Eklutna R nr Palmer	15280000	119.0	1947 thru 1962
40	Knik R nr Palmer	15281000	1180.0	1960 thru 1979
40	Caribou C nr Sutton	15282000	289.0	1955 thru 1978
41	Matanuska R at Palmer	15284000	2070.0	1949 thru 1974
41	Cottonwood C nr Wasilla	15286000	28.5	1949 thru 1954
41	L Susitna R nr Palmer	15290000	61.9	1948 thru 1979
41	Susitna R nr Denali	15291000	950.0	1957 thru 1979
42	Maclaren R nr Paxson	15291200	280.0	1958 thru 1979
42	Susitna R nr Cantwell	15291500	4140.0	1961 thru 1972
42	Susitna R at Gold Creek	15292000	6160.0	1949 thru 1979
42	Chulitna R nr Talkeetna	15292400	2570.0	1958 thru 1972

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43	Skwentna R nr Skwentna	15294300	2250.0	1960 thru 1979
43	Susitna R at Susitna Station	15294350	19400.0	1975 thru 1979
43	Chakachatna R nr Tyonek	15294500	1120.0	1959 thru 1972
44	Terror R nr Kodiak	15295600	15.0	1962 thru 1979
44	Terror R at mouth nr Kodiak	15295700	46.0	1964 thru 1968
44	Uganik R nr Kodiak	15296000	123.0	1952 thru 1978
44	Upper Thunb R nr Larsen Bay	15296550	18.8	1974 thru 1979
45	Myrtle C nr Kodiak	15297200	4.7	1963 thru 1979
45	Limpet C on Amchitka Is	15297640	1.7	1968 thru 1972
45	Eskimo C at King Salmon	15297900	16.1	1974 thru 1979
45	Tanalian R nr Port Alsworth	15298000	200.0	1951 thru 1956
46	Newhalen R nr Iliamna	15300000	3478.0	1952 thru 1967
46	Nuyakuk R nr Dillingham	15302000	1490.0	1954 thru 1979
46	Grant LK outlet nr Aleknagik	15302800	34.3	1959 thru 1965
46	Wood R nr Aleknagik	15303000	1110.0	1958 thru 1970
47	Snake R nr Dillingham	15303150	113.0	1973 thru 1979
47	Kuskokwim R at McGrath	15303600	11700.0	1963 thru 1973
47	Kuskokwim R at Crooked Creek	15304000	31100.0	1952 thru 1979
47	Yukon R at Eagle	15356000	113000.0	1951 thru 1979
48	Porcupine R nr Fort Yukon	15389000	29500.0	1964 thru 1979
48	Chandalar R nr Venetie	15389500	9330.0	1963 thru 1973
48	Boulder C nr Central	15439800	31.3	1966 thru 1979
48	Hess C nr Livengood	15457800	662.0	1970 thru 1978
49	Yukon R at Rampart	15468000	199400.0	1956 thru 1967
49	Chisana R at Northway	15470000	3280.0	1950 thru 1971
49	Tanana R nr Tanacross	15476000	8550.0	1954 thru 1979
49	Berry C nr Dot Lake	15476300	65.1	1971 thru 1979
50	Tanana R at Big Delta	15478000	13500.0	1949 thru 1957
50	Phelan C nr Paxson	15478040	12.2	1967 thru 1978
50	Salcha R nr Salchaket	15484000	2170.0	1949 thru 1979
50	Tanana R nr Fairbanks	15485500	Undefined	1973 thru 1979
51	Chena R nr Two Rivers	15493000	941.0	1968 thru 1979
51	Chena R nr North Pole	15493500	1430.0	1972 thru 1979
51	L Chena R nr Fairbanks	15511000	372.0	1966 thru 1979
51	Chena R at Fairbanks	15514000	1980.0	1948 thru 1979
52	Wood R nr Fairbanks	15514500	855.0	1968 thru 1979
52	Tanana R at Nenana	15515500	25600.0	1962 thru 1979
52	Seattle C nr Cantwell	15515800	36.2	1966 thru 1975
52	Nenana R nr Windy	15516000	710.0	1951 thru 1973
53	Nenana R nr Healy	15518000	1910.0	1951 thru 1979
53	Teklanika R nr Lignite	15518350	490.0	1965 thru 1974
53	Poker C nr Chatanika	15534900	23.1	1971 thru 1978
53	Caribou C nr Chatanika	15535000	8.2	1970 thru 1979
54	Melozitna R nr Ruby	15564600	2693.0	1961 thru 1973
54	Yukon R nr Ruby	15564800	259000.0	1957 thru 1978
54	MF Koyukuk R nr Wiseman	15564875	1200.0	1970 thru 1978
54	Wiseman C at Wiseman	15564877	49.2	1970 thru 1978
55	Jim R nr Bettles	15564885	465.0	1970 thru 1977
55	Koyukuk R at Hughes	15564900	18700.0	1961 thru 1979
55	Yukon R nr Kaltag	15565200	296000.0	1957 thru 1966
55	Snake R nr Nome	15621000	85.7	1965 thru 1979
56	Kuzitrin R nr Nome	15712000	1720.0	1962 thru 1973
56	Kobuk R at Ambler	15744000	6570.0	1965 thru 1978
56	Noatak R at Noatak	15746000	12000.0	1965 thru 1971
56	Kuparuk R nr Deadhorse	15896000	3130.0	1971 thru 1979
57	Putuligayuk R nr Deadhorse	15896700	176.0	1970 thru 1979
57	Sagavanirktok R nr Sagwon	15910000	2208.0	1970 thru 1978

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Alphabetical

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33	Anchor R nr Anchor Point	15239900	137.0	1965 thru 1979
19	Auke C at Auke Bay	15054000	4.0	1962 thru 1976
26	Baranof R at Baranof	15098000	32.0	1915 thru 1974
32	Barbara C nr Seldovia	15238820	20.7	1972 thru 1979
36	Beaver C nr Kenai	15266500	51.0	1968 thru 1978
21	Beaver Falls C nr Ketchikan	15066000	5.8	1921 thru 1951
49	Berry C nr Dot Lake	15476300	65.1	1971 thru 1979
25	Big C nr Point Baker	15086600	11.2	1964 thru 1979
48	Boulder C nr Central	15439800	31.3	1966 thru 1979
33	Bradley R nr Homer	15239000	56.1	1958 thru 1979
38	Campbell C nr Spenard	15274600	69.7	1966 thru 1979
53	Caribou C nr Chatanika	15535000	8.2	1970 thru 1979
40	Caribou C nr Sutton	15282000	289.0	1955 thru 1978
17	Carlson C nr Juneau	15044000	24.3	1952 thru 1961
15	Cascade C nr Petersburg	15026000	23.0	1918 thru 1973
43	Chakachatna R nr Tyonek	15294500	1120.0	1959 thru 1972
48	Chandalar R nr Venetie	15389500	9330.0	1963 thru 1973
51	Chena R at Fairbanks	15514000	1980.0	1948 thru 1979
51	Chena R nr North Pole	15493500	1430.0	1972 thru 1979
51	Chena R nr Two Rivers	15493000	941.0	1968 thru 1979
38	Chester C at Anchorage	15275000	20.0	1958 thru 1976
38	Chester C at Arctic Blvd at Anchorage	15275100	27.2	1966 thru 1979
20	Chilkat R at gorge nr Klukwan	15056400	190.0	1962 thru 1968
49	Chisana R at Northway	15470000	3280.0	1950 thru 1971
42	Chulitna R nr Talkeetna	15292400	2570.0	1958 thru 1972
36	Cooper C at mouth nr Cooper Landing	15261000	48.0	1958 thru 1965
35	Cooper C nr Cooper Landing	15260000	31.8	1949 thru 1959
31	Copper R nr Chitina	15212000	20600.0	1956 thru 1979
41	Cottonwood C nr Wasilla	15286000	28.5	1949 thru 1954
16	Crater C nr Juneau	15038000	11.4	1918 thru 1932
35	Crescent C nr Cooper Landing	15254000	31.7	1949 thru 1966
14	Davis R nr Hyder	15010000	80.0	1931 thru 1940
26	Deer LK outlet nr Port Alexander	15094000	7.4	1952 thru 1968
29	Dick C nr Cordova	15195000	8.0	1970 thru 1979
17	Dorothy C nr Juneau	15040000	15.2	1930 thru 1968
39	Eagle R at Eagle River	15277100	192.0	1966 thru 1979
40	Eklutna R nr Palmer	15280000	119.0	1947 thru 1962
22	Ella C nr Ketchikan	15074000	19.7	1928 thru 1958
45	Eskimo C at King Salmon	15297900	16.1	1974 thru 1979
21	Falls C nr Ketchikan	15070000	36.5	1916 thru 1959
29	Fish C nr Auke Bay	15109000	13.6	1959 thru 1978
22	Fish C nr Ketchikan	15072000	32.1	1915 thru 1979
29	Gakona R at Gakona	15200000	620.0	1950 thru 1970
37	Glacier C at Girdwood	15272550	62.0	1965 thru 1978
17	Gold C at Juneau	15050000	9.8	1918 thru 1979
22	Grace C nr Ketchikan	15078000	30.2	1928 thru 1969
34	Grant C nr Moose Pass	15246000	44.2	1947 thru 1958
46	Grant LK outlet nr Aleknagik	15302800	34.3	1959 thru 1965
25	Green LK outlet nr Sitka	15090000	28.8	1916 thru 1925
29	Gulkana R at Sourdough	15200280	1770.0	1973 thru 1978
15	Harding R nr Wrangell	15022000	67.4	1952 thru 1979
24	Harris R nr Hollis	15085700	28.7	1949 thru 1964
26	Hasselborg C nr Angoon	15102000	56.2	1952 thru 1968
19	Herbert R nr Auke Bay	15054200	56.9	1967 thru 1971
48	Hess C nr Livengood	15457800	662.0	1970 thru 1978
28	Hilda C nr Douglas	15108600	2.6	1967 thru 1972
27	Hook C ab trib nr Tenakee	15106940	4.5	1967 thru 1979

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Alphabetical

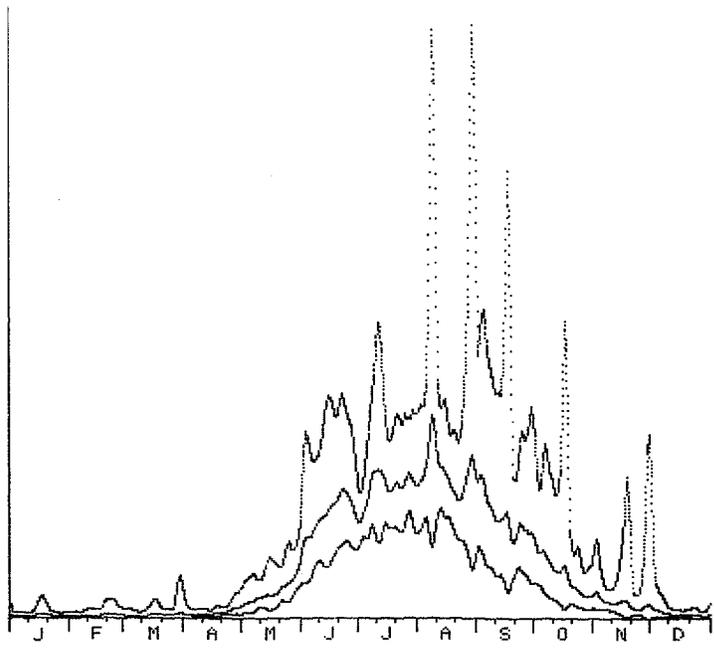
PAGE	STATION NAME	STATION NO	AREA	PERIOD OF RECORD
27	Hook C nr Tenakee	15106960	8.0	1967 thru 1979
24	Indian C nr Hollis	15085600	8.8	1949 thru 1964
55	Jim R nr Bettles	15564885	465.0	1970 thru 1977
27	Kadashan R ab Hook C nr Tenakee	15106920	10.2	1968 thru 1979
28	Kadashan R nr Tenakee	15107000	37.7	1964 thru 1979
34	Kasilof R at Kasilof	15242000	738.0	1949 thru 1970
35	Kenai R at Cooper Landing	15258000	634.0	1947 thru 1979
36	Kenai R at Soldotna	15266300	2010.0	1965 thru 1979
15	Klahini R nr Bell Island	15015600	58.0	1967 thru 1973
30	Klutina R at Copper Center	15206000	880.0	1950 thru 1970
40	Knik R nr Palmer	15281000	1180.0	1960 thru 1979
56	Kobuk R at Ambler	15744000	6570.0	1965 thru 1978
55	Koyukuk R at Hughes	15564900	18700.0	1961 thru 1979
56	Kuparuk R nr Deadhorse	15896000	3130.0	1971 thru 1979
47	Kuskokwim R at Crooked Creek	15304000	31100.0	1952 thru 1979
47	Kuskokwim R at McGrath	15303600	11700.0	1963 thru 1973
56	Kuzitrin R nr Nome	15712000	1720.0	1962 thru 1973
51	L Chena R nr Fairbanks	15511000	372.0	1966 thru 1979
41	L Susitna R nr Palmer	15290000	61.9	1948 thru 1979
18	Lake C at Auke Bay	15053800	2.5	1964 thru 1974
28	Lawson C at Douglas	15108800	3.0	1967 thru 1971
18	Lemon C nr Juneau	15052000	12.1	1952 thru 1973
45	Limpet C on Amchitka Is	15297640	1.7	1968 thru 1972
30	Little Tonsina R nr Tonsina	15207800	22.7	1972 thru 1978
16	Long R ab Long LK nr Juneau	15031000	8.3	1966 thru 1975
16	Long R nr Juneau	15034000	32.5	1916 thru 1974
54	MF Koyukuk R nr Wiseman	15564875	1200.0	1970 thru 1978
42	Maclaren R nr Paxson	15291200	280.0	1958 thru 1979
21	Mahoney C nr Ketchikan	15068000	5.7	1923 thru 1979
22	Manzanita C nr Ketchikan	15076000	33.9	1928 thru 1967
41	Matanuska R at Palmer	15284000	2070.0	1949 thru 1974
24	Maybeso C at Hollis	15085800	15.1	1949 thru 1963
54	Melozitna R nr Ruby	15564600	2693.0	1961 thru 1973
18	Mendenhall R nr Auke Bay	15052500	85.1	1965 thru 1979
18	Montana C nr Auke Bay	15052800	15.5	1965 thru 1976
45	Myrtle C nr Kodiak	15297200	4.7	1963 thru 1979
23	NB Trocadero C nr Hydaburg	15081800	17.4	1967 thru 1974
38	NF Campbell C nr Anchorage	15274300	13.4	1974 thru 1979
25	Neck C nr Point Baker	15086500	17.0	1960 thru 1967
53	Nenana R nr Healy	15518000	1910.0	1951 thru 1979
52	Nenana R nr Windy	15516000	710.0	1951 thru 1973
46	Newhalen R nr Iliamna	15300000	3478.0	1952 thru 1967
33	Ninilchik R at Ninilchik	15241600	131.0	1963 thru 1979
56	Noatak R at Noatak	15746000	12000.0	1965 thru 1971
46	Nuyakuk R nr Dillingham	15302000	1490.0	1954 thru 1979
24	Old Tom C nr Kasaan	15085100	5.9	1949 thru 1979
23	Orchard C nr Bell Island	15080000	59.0	1915 thru 1927
28	Pavlov R nr Tenakee	15108000	24.3	1958 thru 1979
21	Perseverance C nr Wacker	15060000	2.8	1932 thru 1970
40	Peters C nr Birchwood	15277410	87.8	1973 thru 1979
50	Phelan C nr Paxson	15478040	12.2	1967 thru 1978
53	Poker C nr Chatanika	15534900	23.1	1971 thru 1978
48	Porcupine R nr Fort Yukon	15389000	29500.0	1964 thru 1979
31	Power C nr Cordova	15216000	20.5	1948 thru 1979
34	Ptarmigan C at Lawing	15244000	32.6	1947 thru 1958
20	Purple Lk outlet nr Metlakatla	15058000	6.8	1948 thru 1956
57	Putuligayuk R nr Deadhorse	15896700	176.0	1970 thru 1979
14	Red R nr Metlakatla	15011500	45.3	1963 thru 1978

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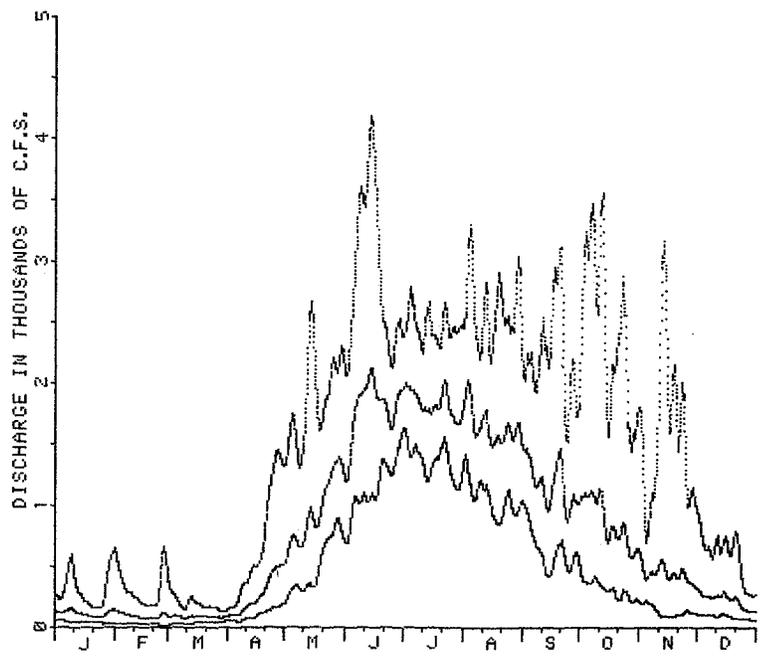
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PAGE	STATION NAME	STATION NO	AREA	PERIOD OF RECORD
37	Resurrection C nr Hope	15267900	149.0	1968 thru 1979
36	Russian R nr Cooper Landing	15264000	61.8	1947 thru 1954
37	SF Campbell C nr Anchorage	15274000	30.4	1947 thru 1972
37	SF Campbell at canyon mo nr Anchorage	15273900	25.2	1967 thru 1979
57	Sagavanirktok R nr Sagwon	15910000	2208.0	1970 thru 1978
50	Salcha R nr Salchaket	15484000	2170.0	1949 thru 1979
14	Salmon R nr Hyder	15008000	94.0	1963 thru 1973
26	Sashin C nr Big Port Walter	15093400	3.7	1965 thru 1979
25	Sawmill C nr Sitka	15088000	39.0	1921 thru 1957
52	Seattle C nr Cantwell	15515800	36.2	1966 thru 1975
17	Sheep C nr Juneau	15048000	4.6	1919 thru 1973
39	Ship C at Elmendorf AFB nr Anchorage	15276500	113.0	1963 thru 1971
39	Ship C bl power plant at Elmendorf AFB	15276570	115.0	1971 thru 1979
39	Ship C nr Anchorage	15276000	90.5	1947 thru 1979
19	Skagway R at SKagway	15056100	145.0	1964 thru 1979
43	Skwentna R nr Skwentna	15294300	2250.0	1960 thru 1979
47	Snake R nr Dillingham	15303150	113.0	1973 thru 1979
55	Snake R nr Nome	15621000	85.7	1965 thru 1979
32	Solomon Gulch nr Valdez	15226000	19.0	1950 thru 1956
16	Speel R nr Juneau	15036000	226.0	1917 thru 1975
32	Spruce C nr Seward	15238600	9.3	1967 thru 1979
31	Squirrel C at Tonsina	15208100	70.5	1965 thru 1975
23	Stanley C nr Craig	15081500	51.6	1909 thru 1979
35	Stetson C nr Cooper Landing	15260500	8.6	1958 thru 1963
42	Susitna R at Gold Creek	15292000	6160.0	1949 thru 1979
43	Susitna R at Susitna Station	15294350	19400.0	1975 thru 1979
42	Susitna R nr Cantwell	15291500	4140.0	1961 thru 1972
41	Susitna R nr Denali	15291000	950.0	1957 thru 1979
20	Taiya R nr SKagway	15056210	179.0	1970 thru 1978
43	Talkeetna R nr Talkeetna	15292700	2006.0	1964 thru 1979
45	Tanalian R nr Port Alsworth	15298000	200.0	1951 thru 1956
50	Tanana R at Big Delta	15478000	13500.0	1949 thru 1957
52	Tanana R at Nenana	15515500	25600.0	1962 thru 1979
50	Tanana R nr Fairbanks	15485500	Undefined	1973 thru 1979
49	Tanana R nr Tanacross	15476000	8550.0	1954 thru 1979
30	Tazlina R nr Glenallen	15202000	2670.0	1950 thru 1972
53	Teklanika R nr Lignite	15518350	490.0	1965 thru 1974
44	Terror R at mouth nr Kodiak	15295700	46.0	1964 thru 1968
44	Terror R nr Kodiak	15295600	15.0	1962 thru 1979
27	Tonalite C nr Tenakee	15106980	14.5	1909 thru 1979
30	Tonsina R at Tonsina	15208000	420.0	1951 thru 1979
34	Trail R nr Lawing	15248000	181.0	1947 thru 1974
23	Traitors C nr Bell Island	15080500	20.8	1964 thru 1968
15	Tyee C at mouth nr Wrangell	15020100	16.1	1963 thru 1969
44	Uganik R nr Kodiak	15296000	123.0	1952 thru 1978
44	Upper Thunb R nr Larsen Bay	15296550	18.8	1974 thru 1979
19	West C nr SKagway	15056200	43.2	1962 thru 1978
31	West Fork Olsen Bay C nr Cordova	15219000	4.8	1964 thru 1979
20	Whipple C nr Ward Cove	15059500	5.3	1968 thru 1979
14	Winstanley C nr Ketchikan	15012000	15.5	1937 thru 1976
54	Wiseman C at Wiseman	15564877	49.2	1970 thru 1978
32	Wolverine C nr Lawing	15236900	9.5	1967 thru 1978
46	Wood R nr Aleknagik	15303000	1110.0	1958 thru 1970
52	Wood R nr Fairbanks	15514500	855.0	1968 thru 1979
47	Yukon R at Eagle	15356000	113000.0	1951 thru 1979
49	Yukon R at Rampart	15468000	199400.0	1956 thru 1967
55	Yukon R nr Kaltag	15565200	296000.0	1957 thru 1966
54	Yukon R nr Ruby	15564800	259000.0	1957 thru 1978

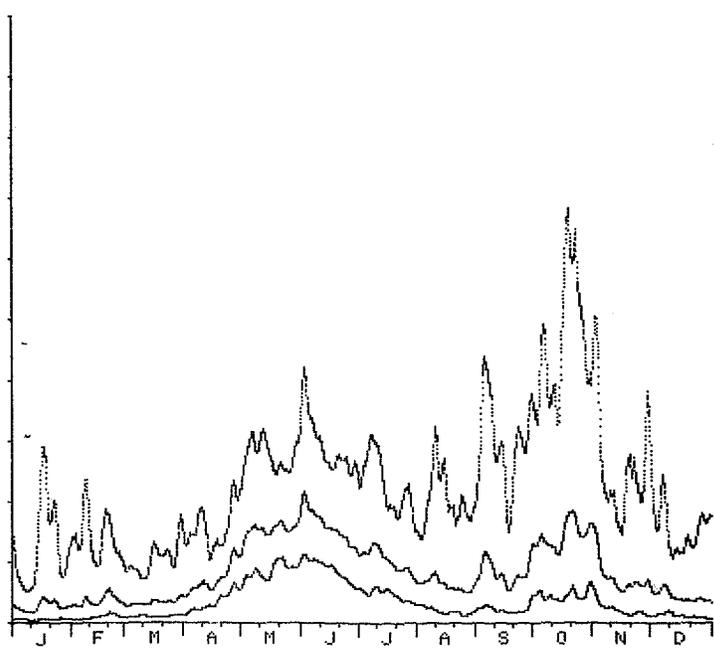
HYDROGRAPHS OF DAILY FLOW STATISTICS



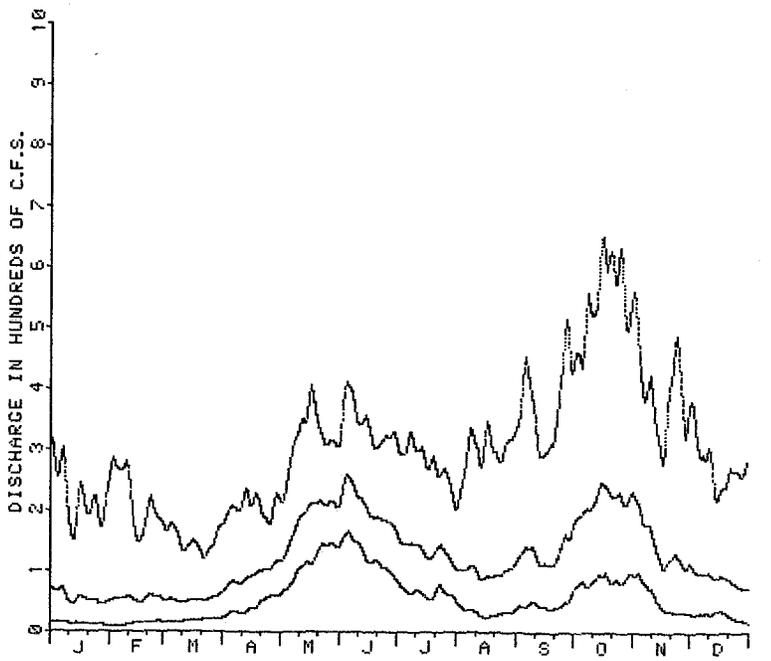
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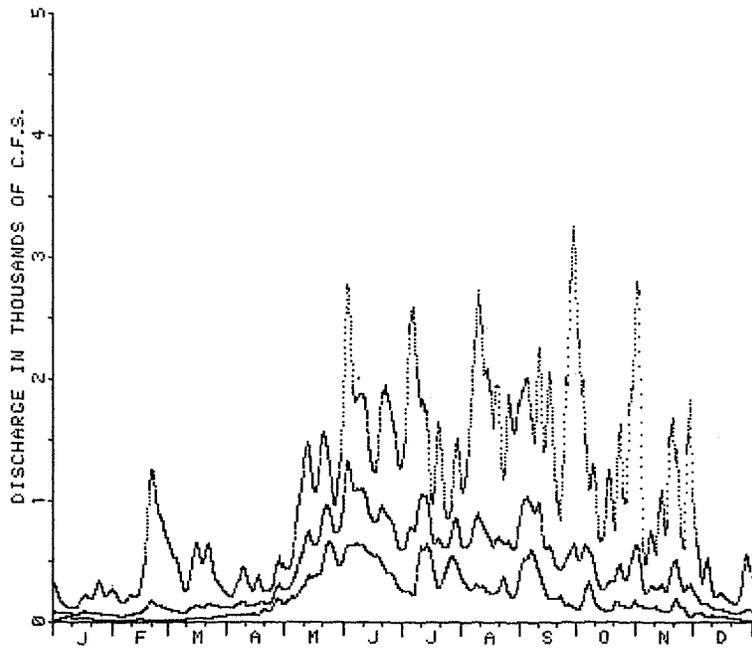
DAVIS R NR HYDER 80.0 SQ MI
STATION NO 15010000 1931 THRU 1940



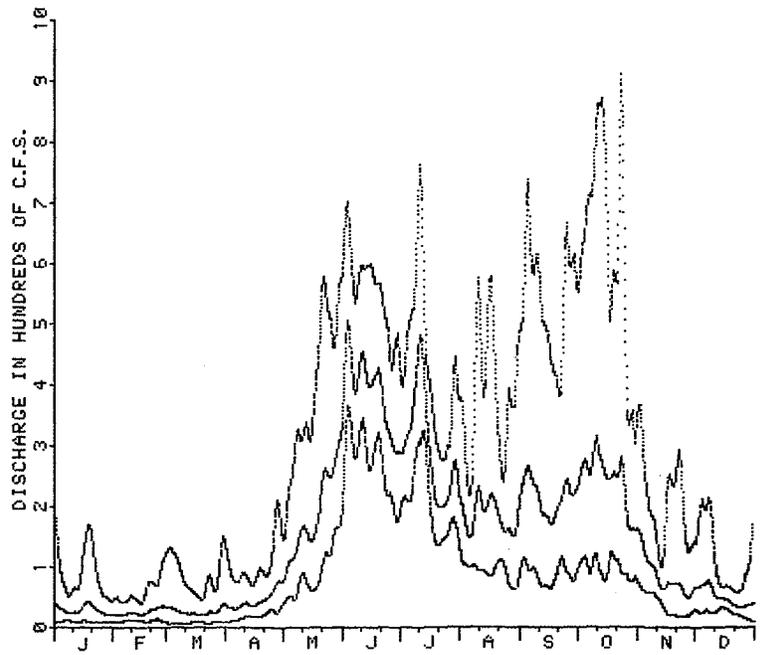
RED R NR METLAKATLA 45.3 SQ MI
STATION NO 15011500 1963 THRU 1970



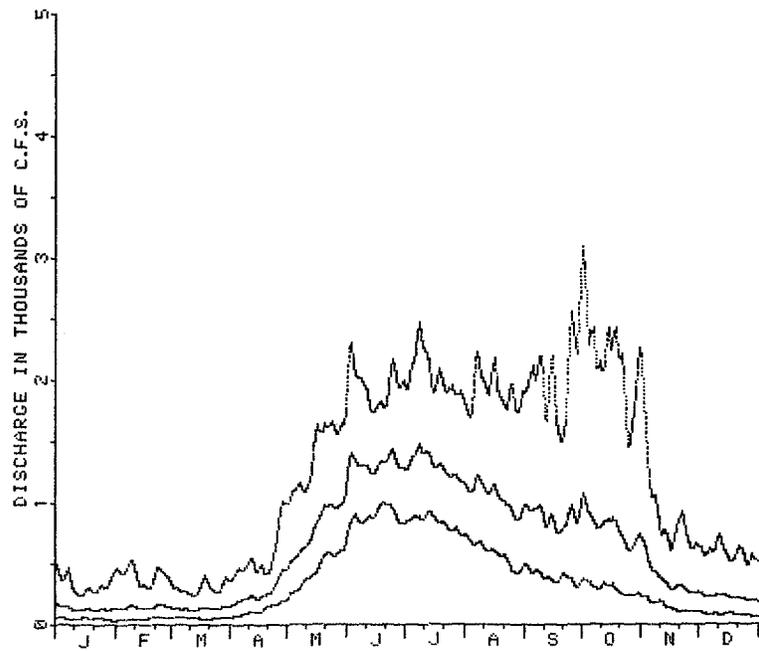
WINSTANLEY C NR KETCHIKAN 15.5 SQ MI
STATION NO 15012000 1937 THRU 1976



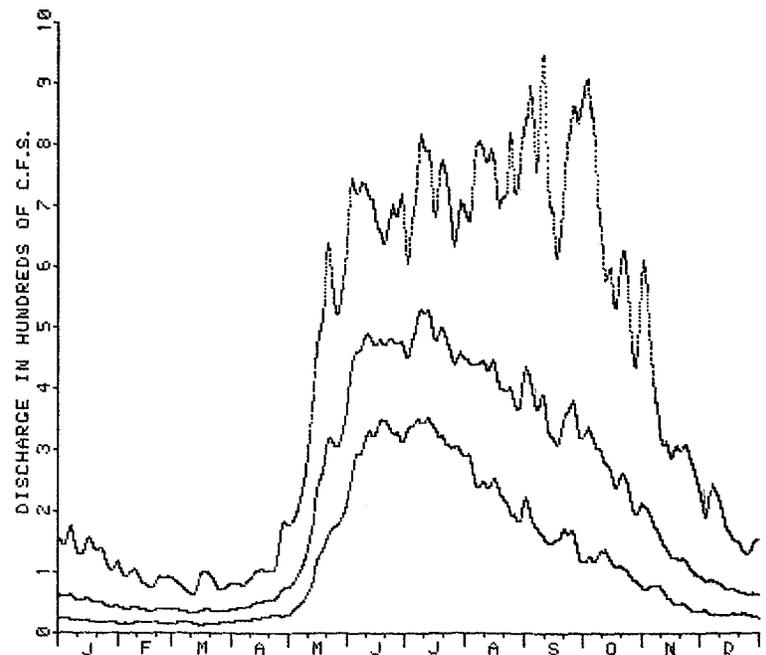
KLAHINI R NR BELL ISLAND 58.0 SQ MI
 STATION NO 15015600 1967 THRU 1973



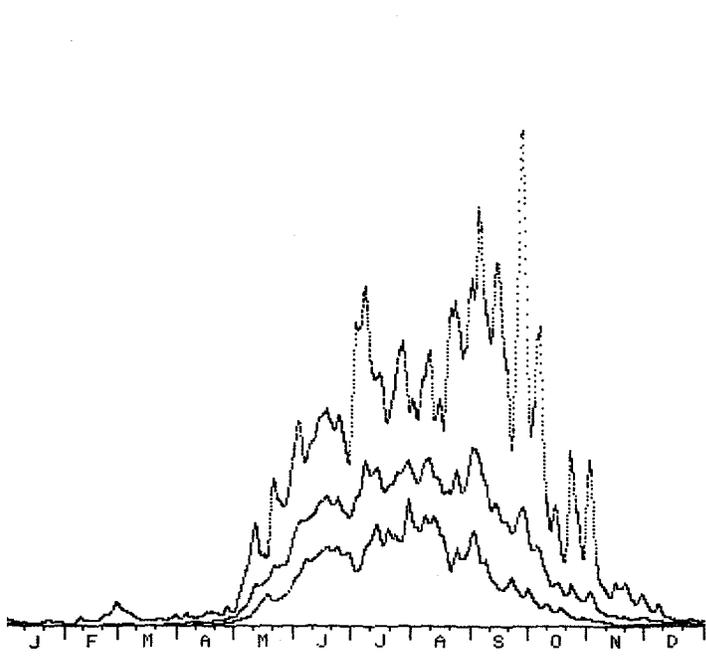
TYEE C AT MOUTH NR WRANGELL 16.1 SQ MI
 STATION NO 15020100 1963 THRU 1969



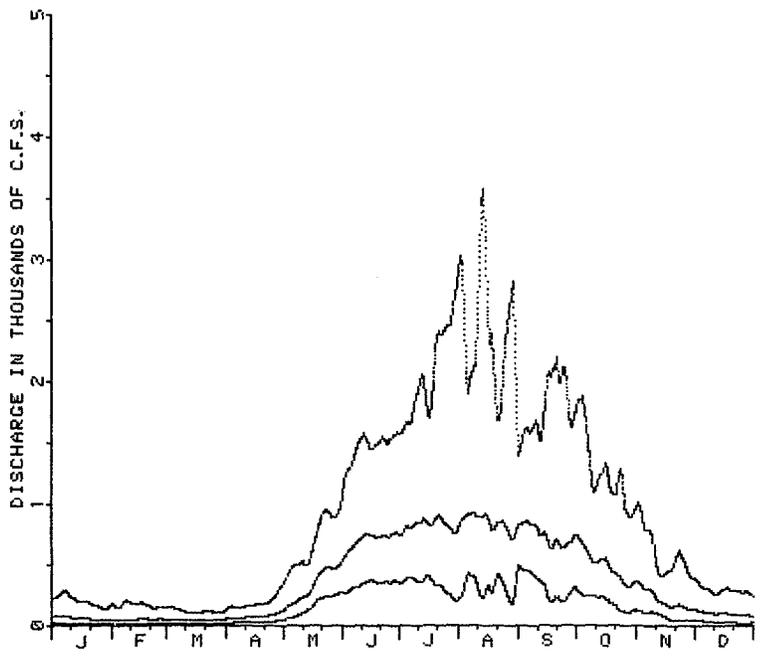
HARDING R NR WRANGELL 67.4 SQ MI
 STATION NO 15022000 1952 THRU 1979



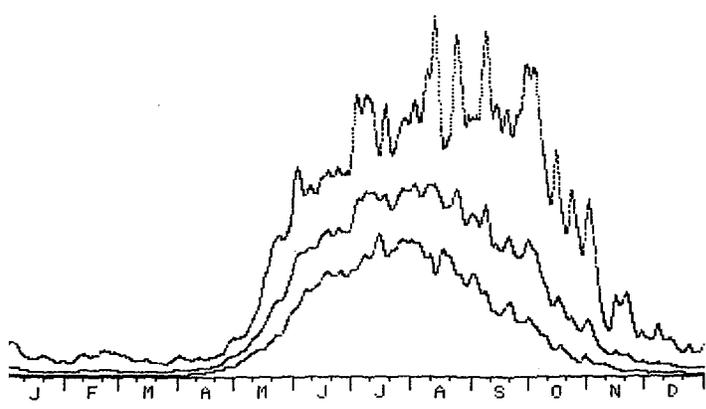
CASCADE C NR PETERSBURG 23.0 SQ MI
 STATION NO 15026000 1918 THRU 1973



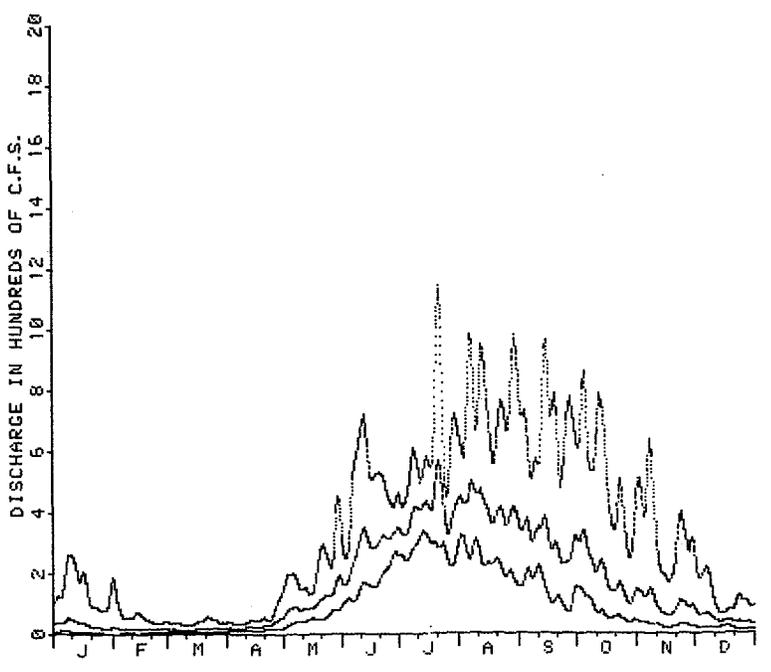
LONG R AB LONG LK NR JUNEAU
STATION NO 15031000
8.3 SQ MI
1966 THRU 1975



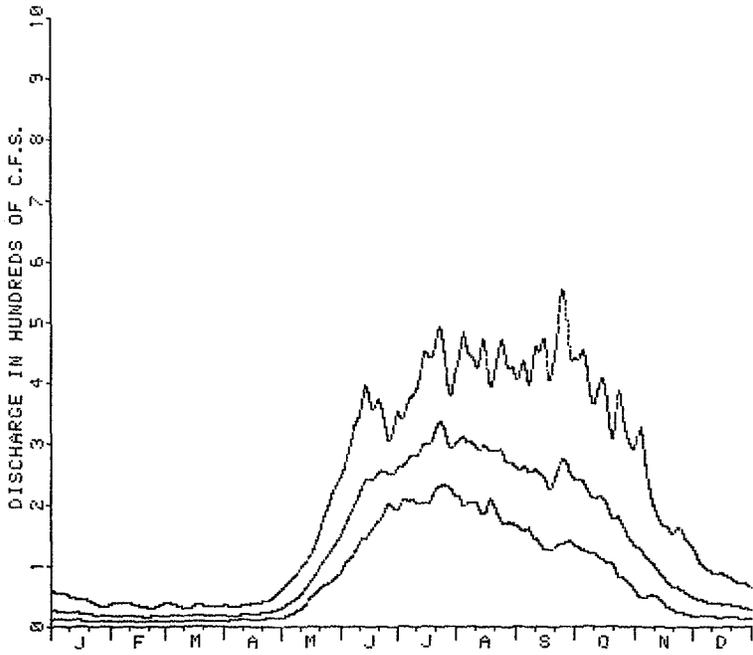
LONG R NR JUNEAU
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32.5 SQ MI
1916 THRU 1974



SPEEL R NR JUNEAU
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226 SQ MI
1917 THRU 1975

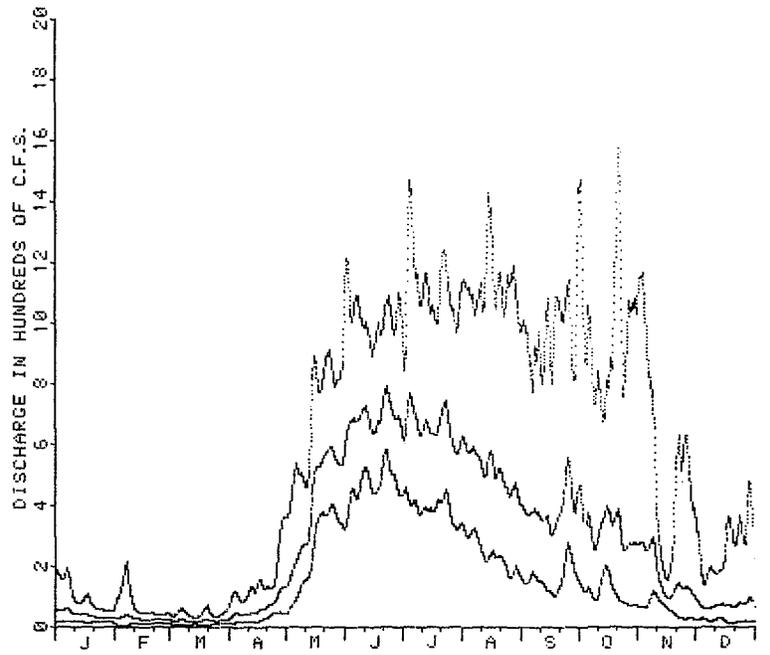


CRATER C NR JUNEAU
STATION NO 15038000
11.4 SQ MI
1918 THRU 1932



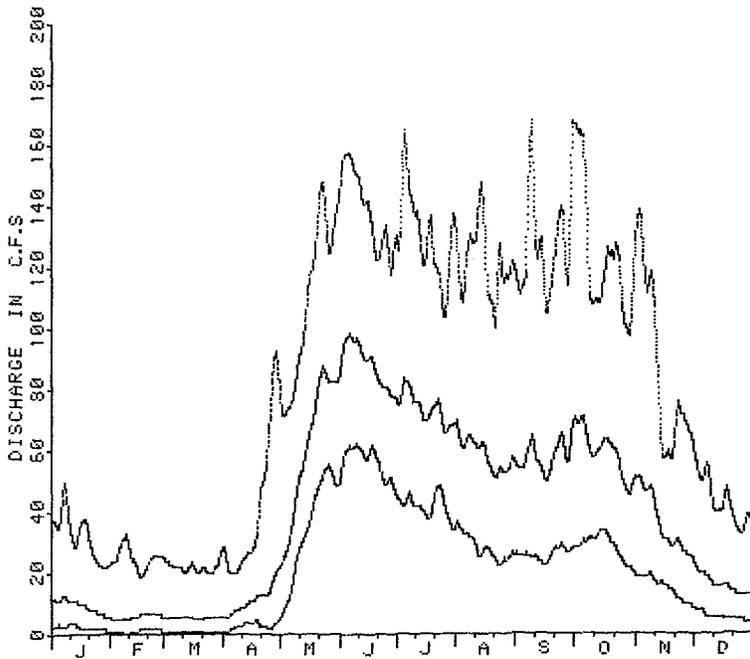
DOROTHY C NR JUNEAU
STATION NO 15040000

15.2 SQ MI
1930 THRU 1968



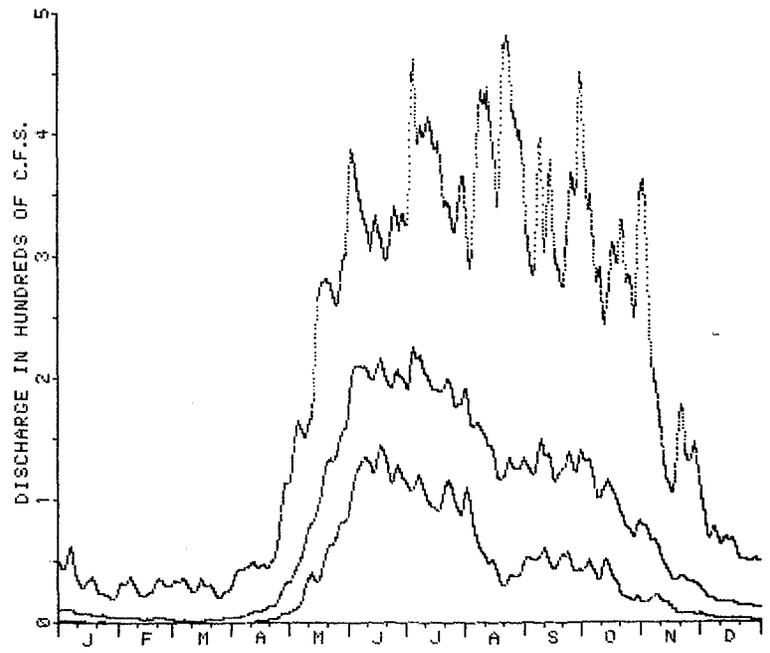
CARLSON C NR JUNEAU
STATION NO 15044000

24.3 SQ MI
1952 THRU 1961



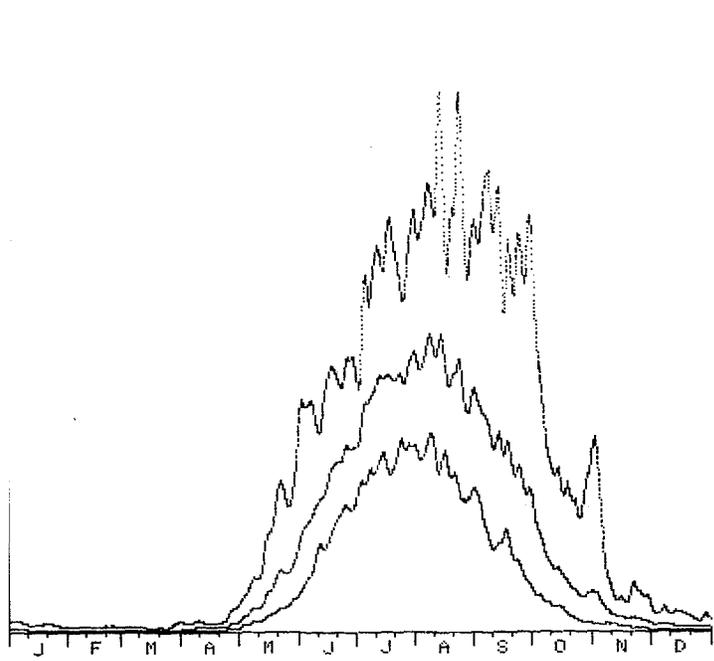
SHEEP C NR JUNEAU
STATION NO 15048000

4.6 SQ MI
1919 THRU 1973

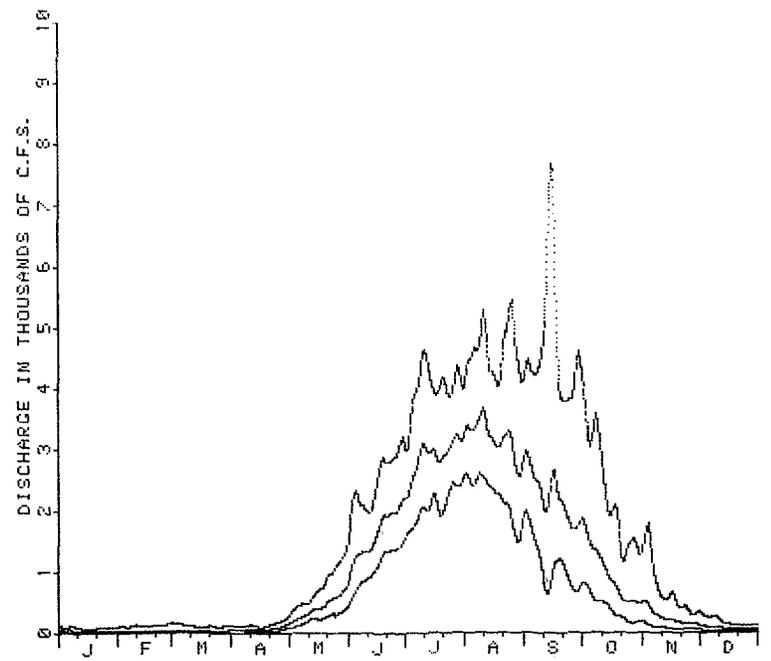


GOLD C AT JUNEAU
STATION NO 15050000

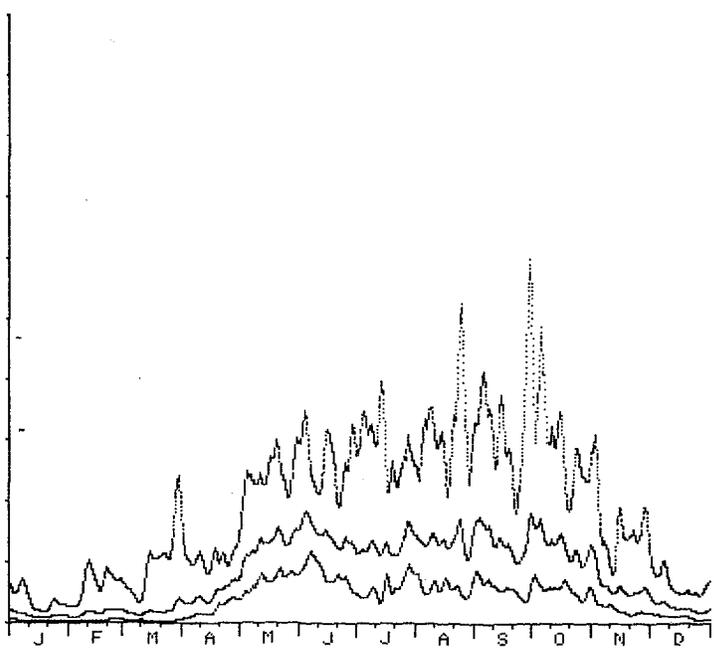
9.8 SQ MI
1918 THRU 1979



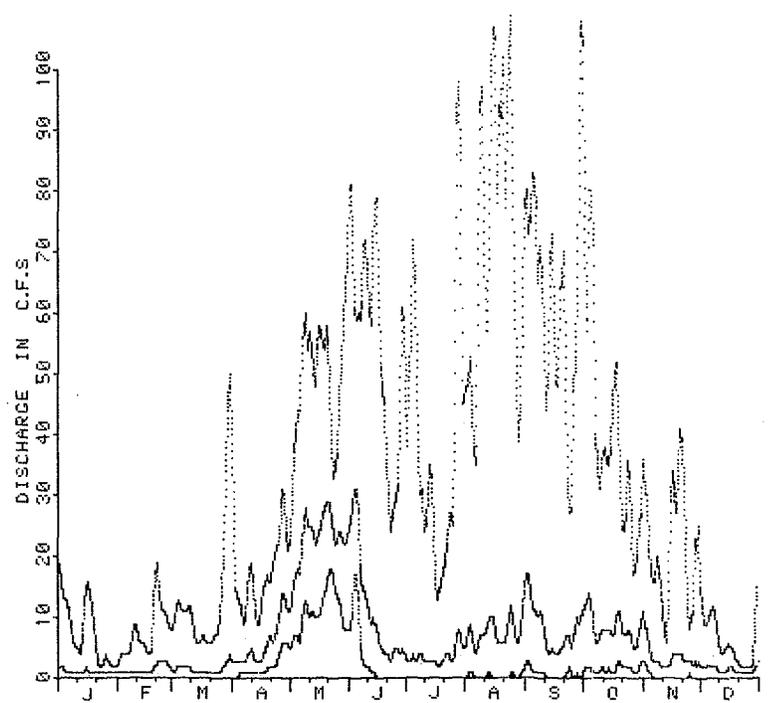
LEMON C NR JUNEAU 12.1 SQ MI
STATION NO 15052000 1952 THRU 1973



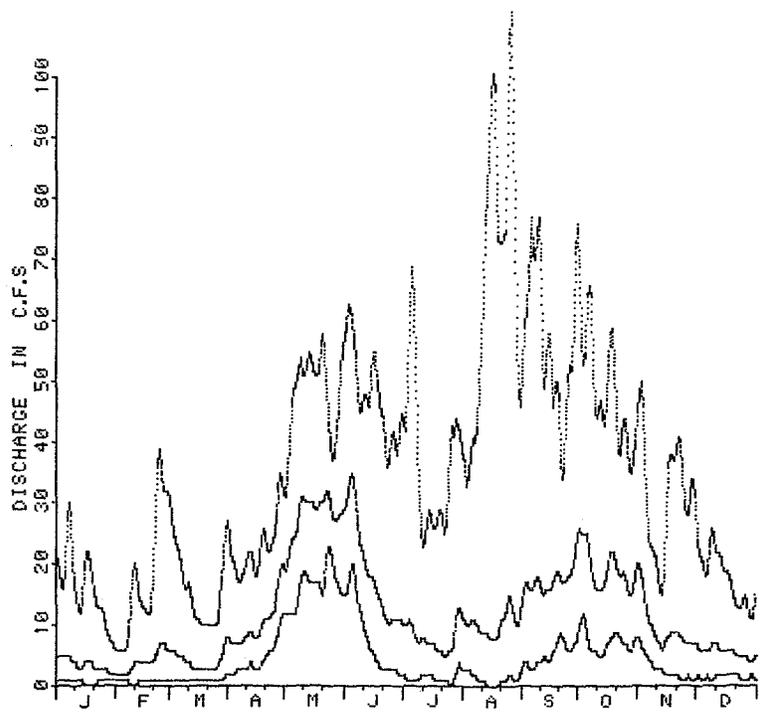
MENDENHALL R NR AUKE BAY 85.1 SQ MI
STATION NO 15052500 1965 THRU 1979



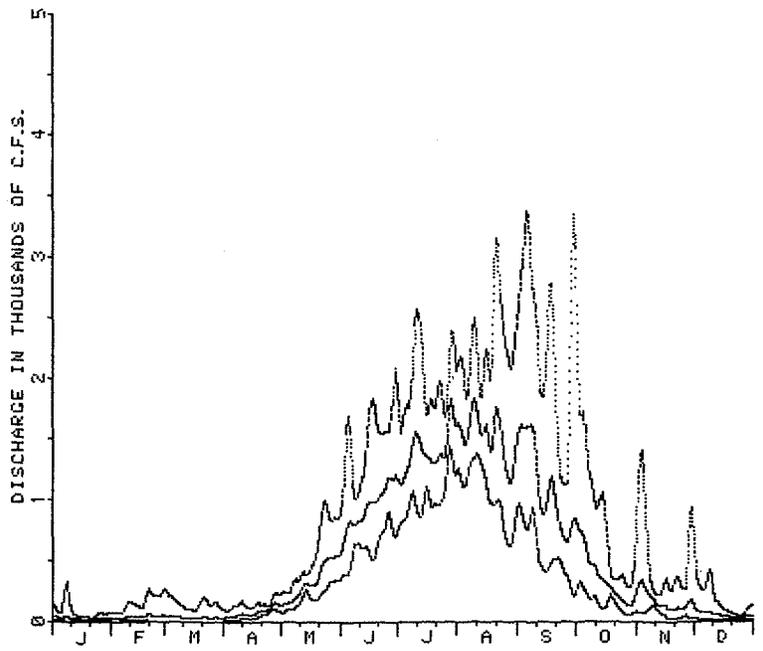
MONTANA C NR AUKE BAY 15.5 SQ MI
STATION NO 15052800 1965 THRU 1976



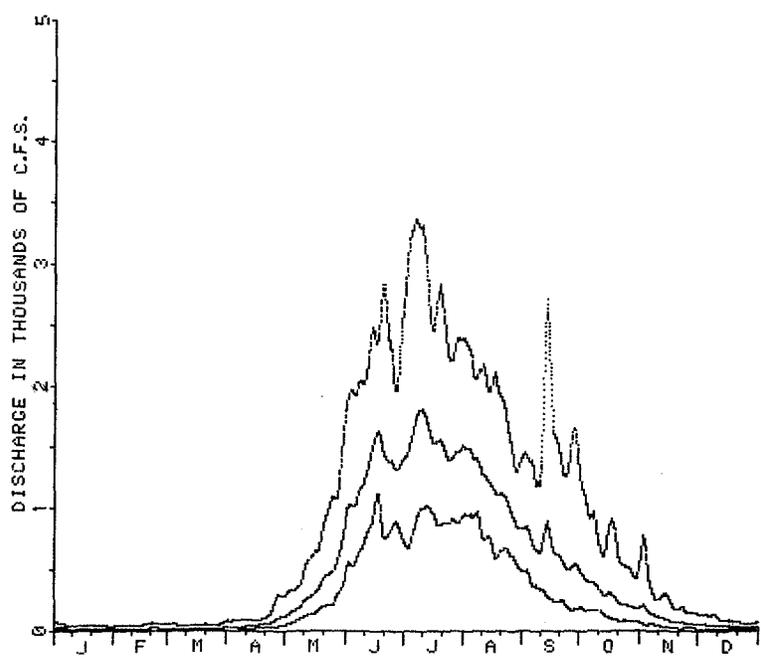
LAKE C AT AUKE BAY 2.5 SQ MI
STATION NO 15053800 1964 THRU 1974



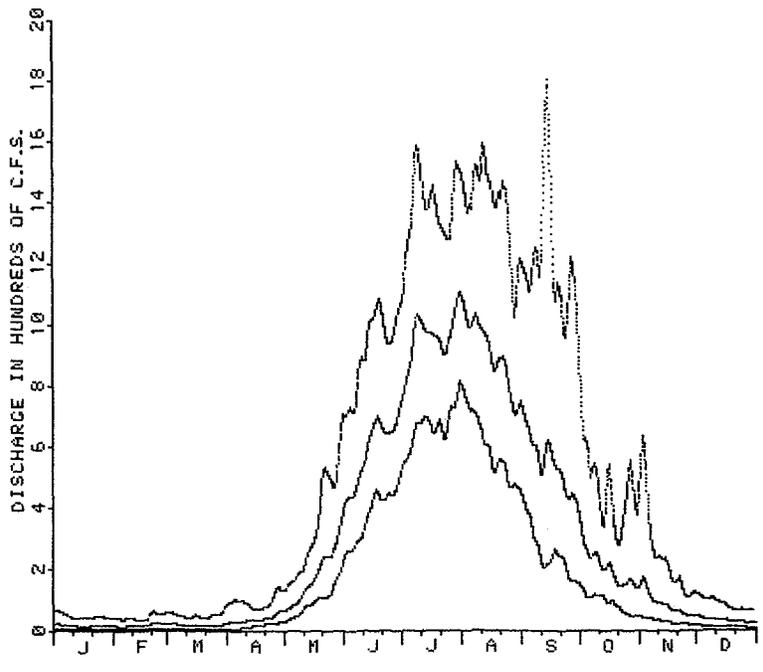
AUKE C AT AUKE BAY
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4.0 SQ MI
1962 THRU 1976



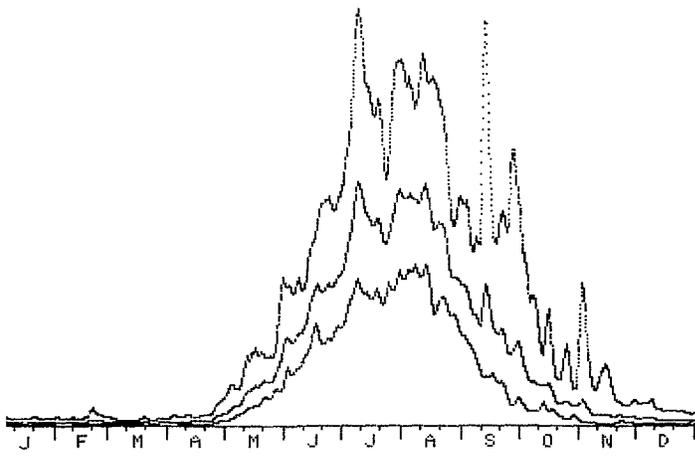
HERBERT R NR AUKE BAY
STATION NO 15054200
56.9 SQ MI
1967 THRU 1971



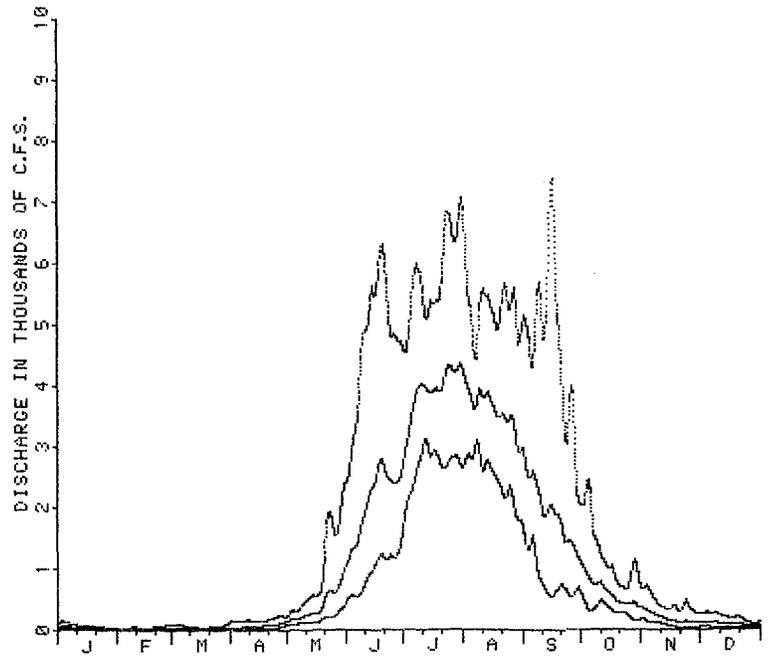
SKAGWAY R AT SKAGWAY
STATION NO 15056100
145 SQ MI
1964 THRU 1979



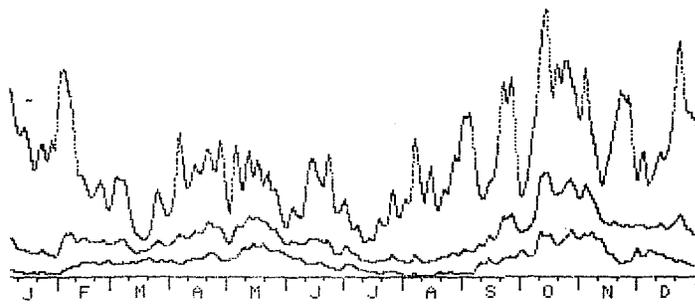
WEST C NR SKAGWAY
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43.2 SQ MI
1962 THRU 1978



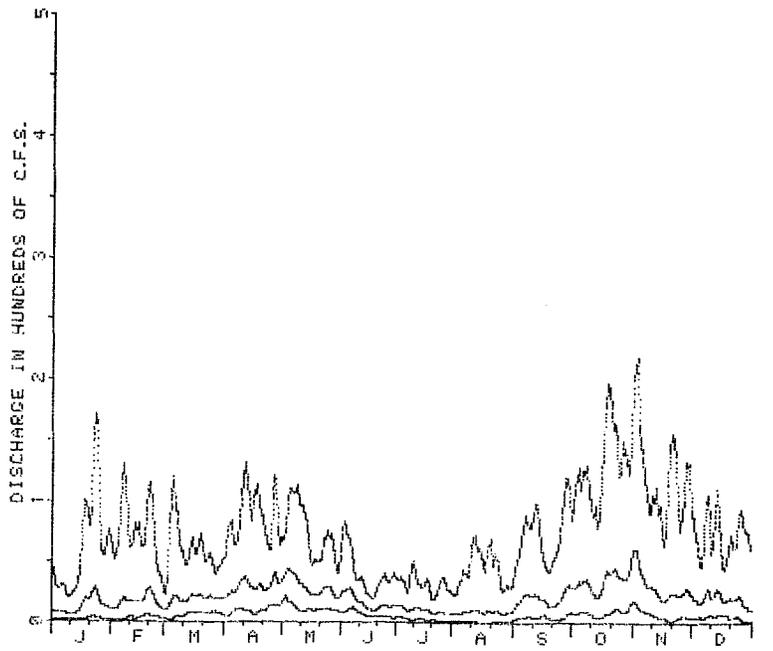
TAIYA R NR SKAGWAY 179 SQ MI
STATION NO 15056210 1970 THRU 1978



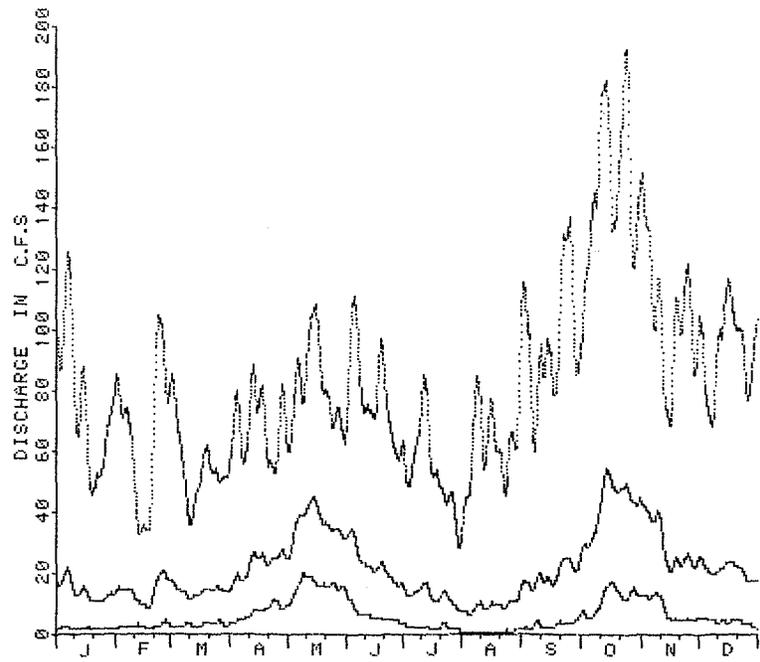
CHILKAT R AT GORGE NR KLUKWAN 190 SQ MI
STATION NO 15056400 1962 THRU 1968



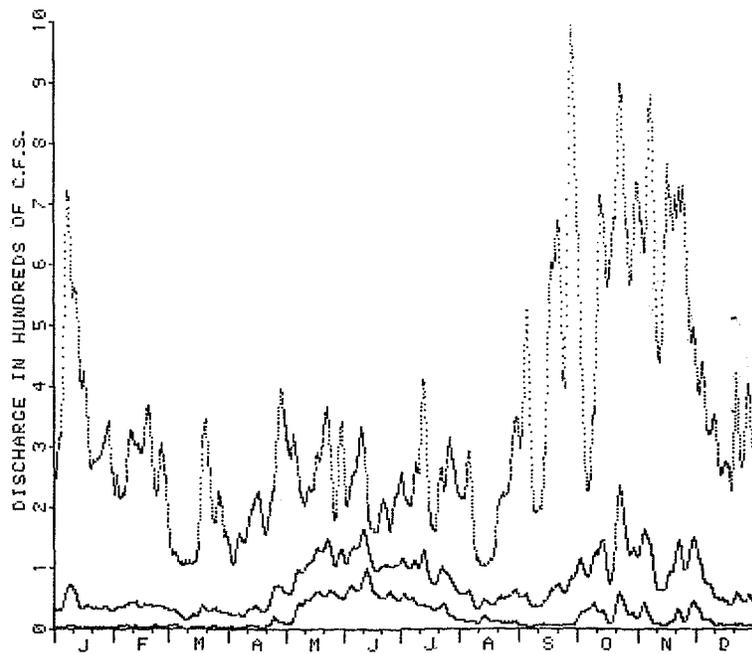
PURPLE LK OUTLET NR METLAKATLA 6.8 SQ MI
STATION NO 15058000 1948 THRU 1956



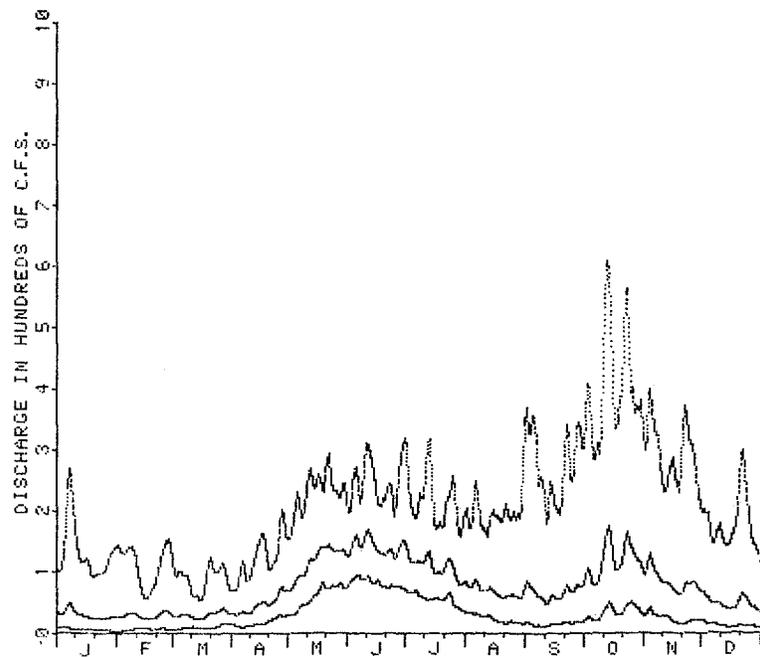
WHIPPLE C NR WARD COVE 5.3 SQ MI
STATION NO 15059500 1968 THRU 1979



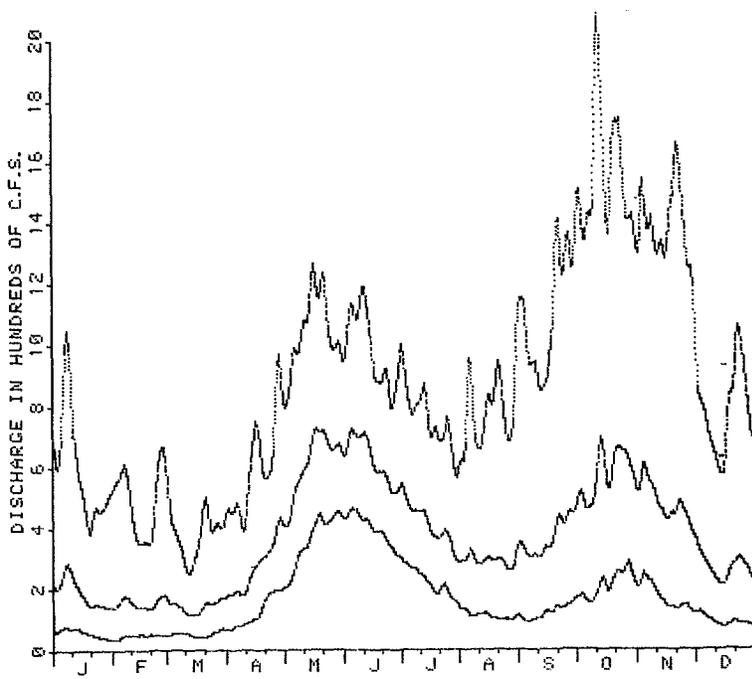
PERSEVERANCE C NR WACKER 2.8 SQ MI
STATION NO 15060000 1932 THRU 1970



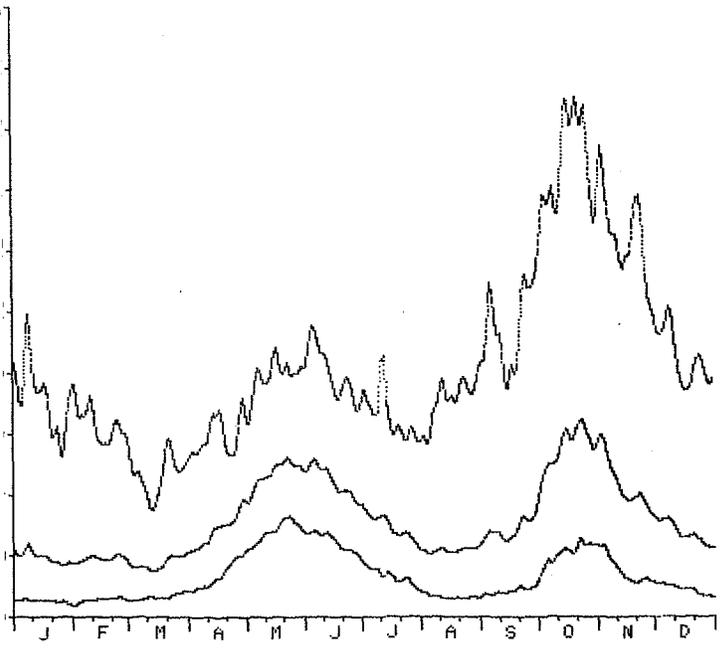
BEAVER FALLS C NR KETCHIKAN 5.8 SQ MI
STATION NO 15066000 1921 THRU 1951



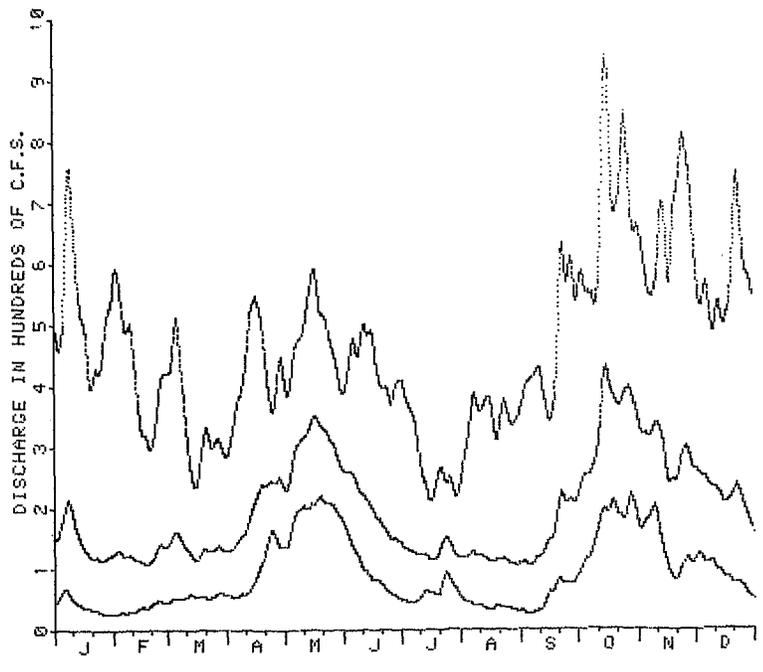
MAHONEY C NR KETCHIKAN 5.7 SQ MI
STATION NO 15068000 1923 THRU 1979



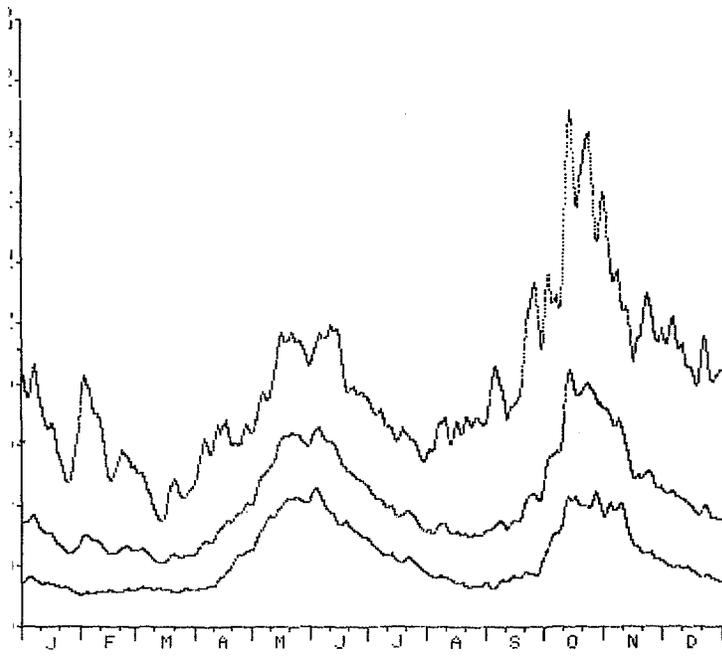
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STATION NO 15070000 1916 THRU 1959



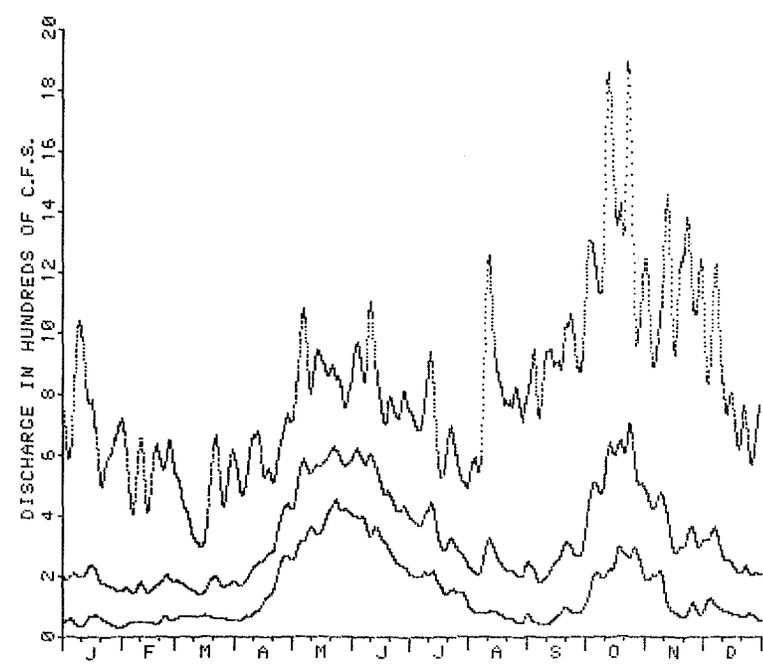
FISH C NR KETCHIKAN
STATION NO 15072000
32.1 SQ MI
1915 THRU 1979



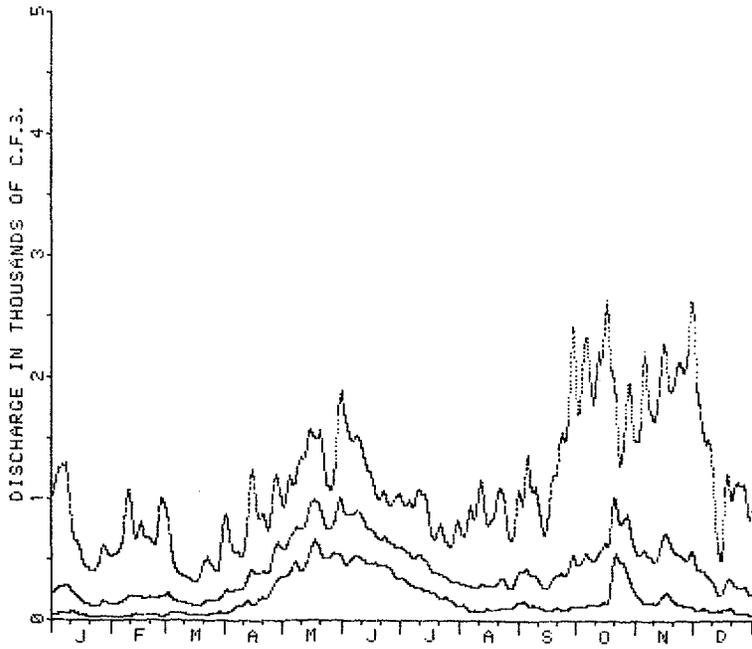
ELLA C NR KETCHIKAN
STATION NO 15074000
19.7 SQ MI
1928 THRU 1958



MANZANITA C NR KETCHIKAN
STATION NO 15076000
33.9 SQ MI
1928 THRU 1967

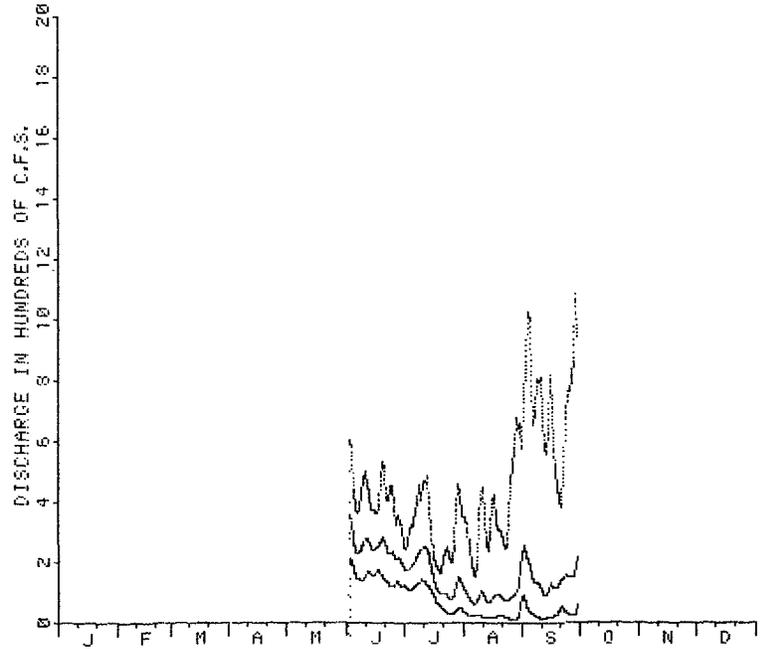


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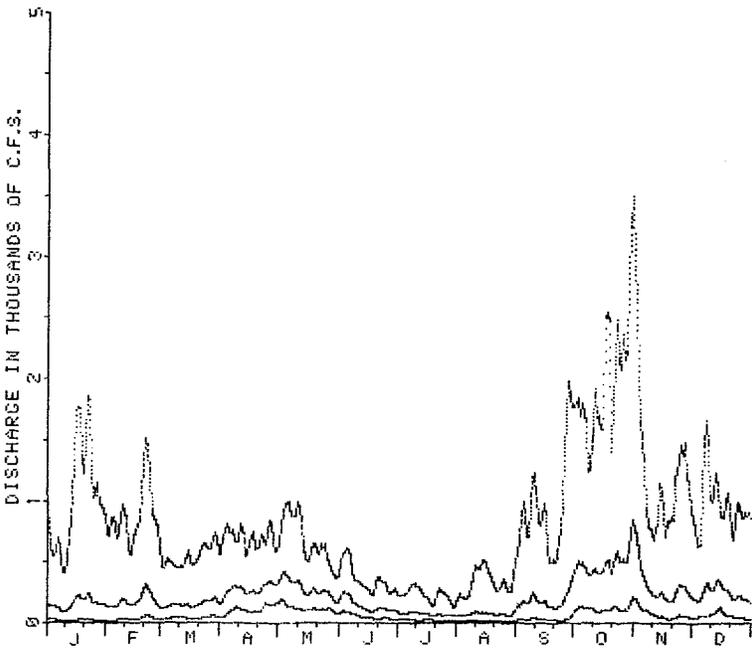
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STATION NO 15080000

59.0 SQ MI
1915 THRU 1927



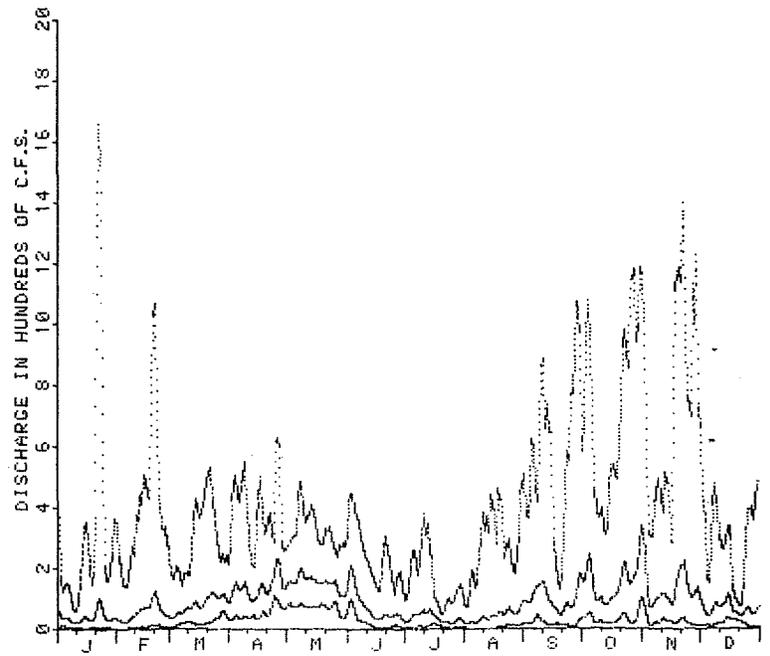
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20.8 SQ MI
1964 THRU 1968



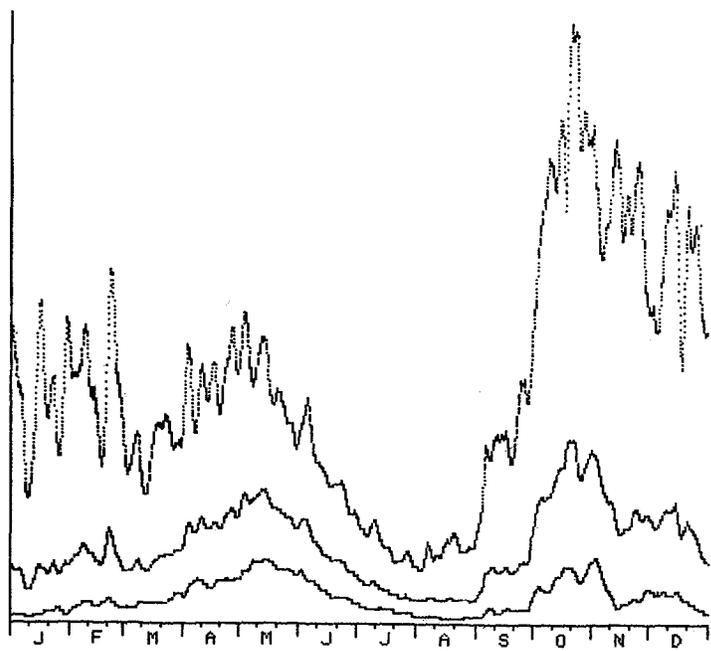
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STATION NO 15081500

51.6 SQ MI
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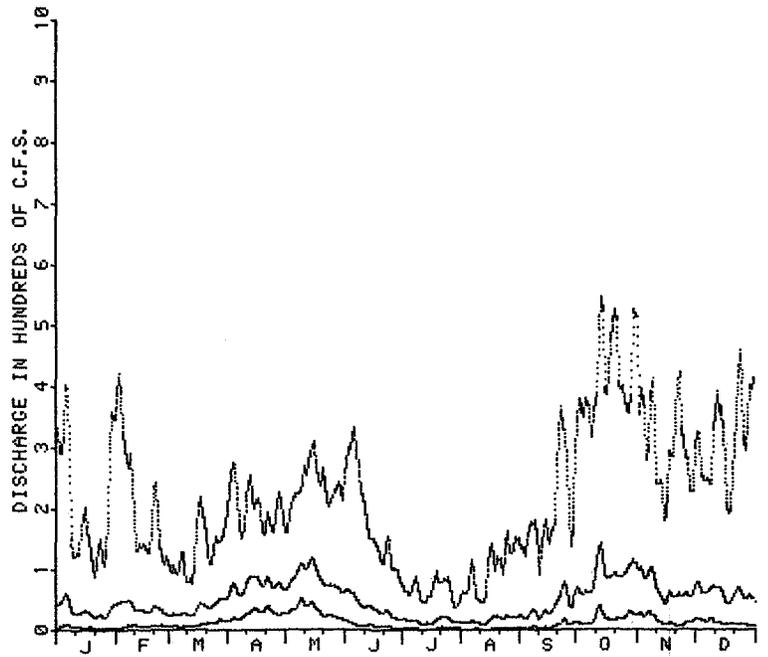
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17.4 SQ MI
1967 THRU 1974



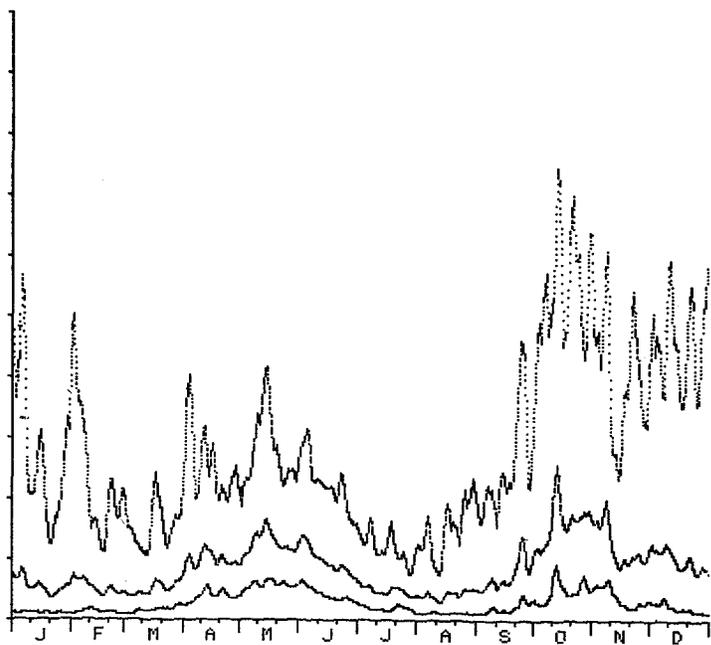
OLD TOM C NR KASAAN
STATION NO 15085100

5.9 SQ MI
1949 THRU 1979



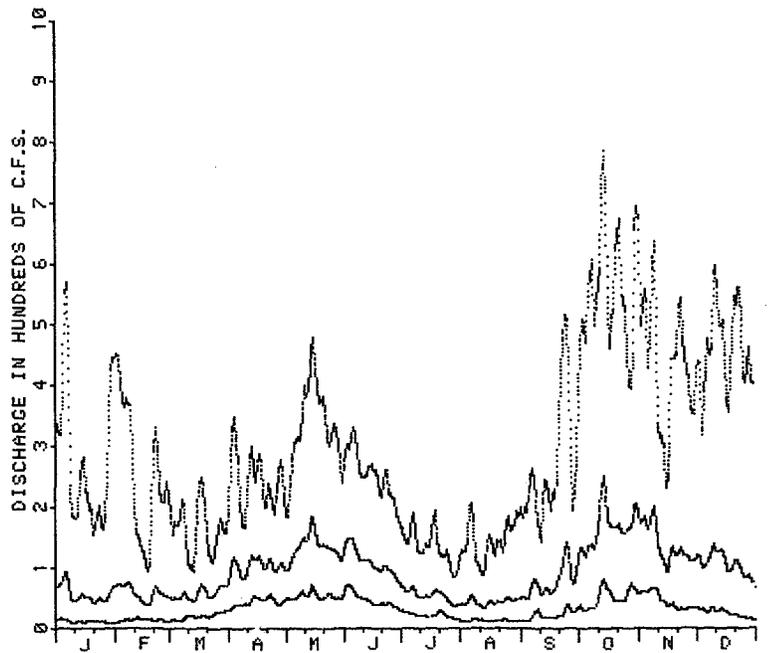
INDIAN C NR HOLLIS
STATION NO 15085600

8.8 SQ MI
1949 THRU 1964



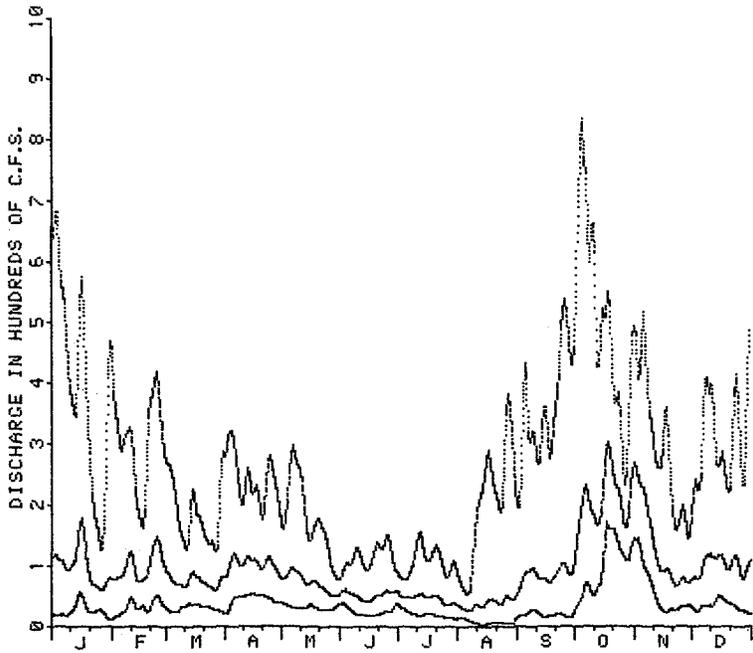
HARRIS R NR HOLLIS
STATION NO 15085700

28.7 SQ MI
1949 THRU 1964



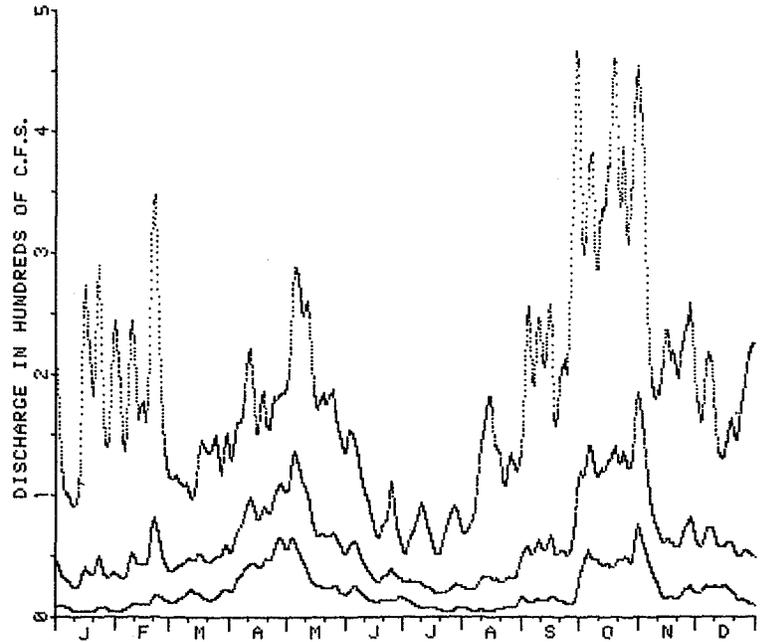
MAYBESO C AT HOLLIS
STATION NO 15085800

15.1 SQ MI
1949 THRU 1963



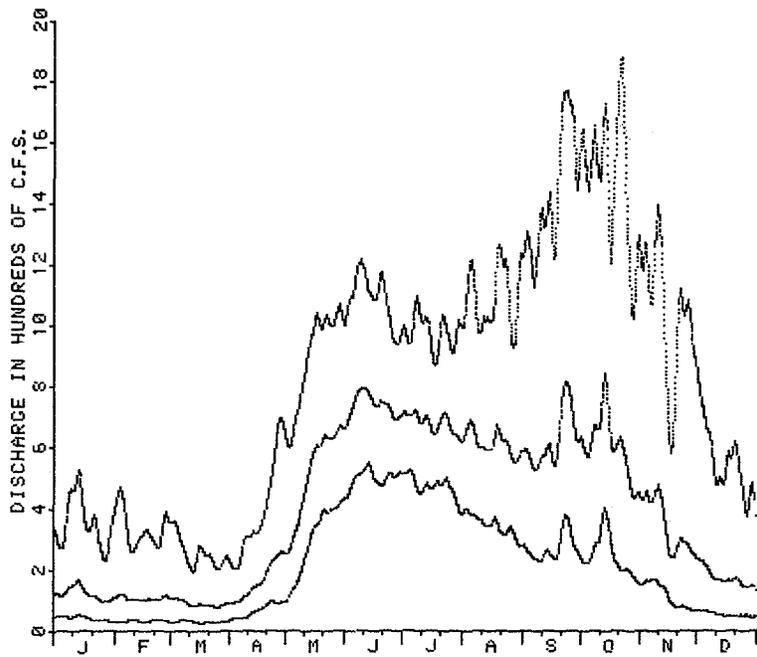
NECK C NR POINT BAKER
STATION NO 15086500

17.0 SQ MI
1960 THRU 1967



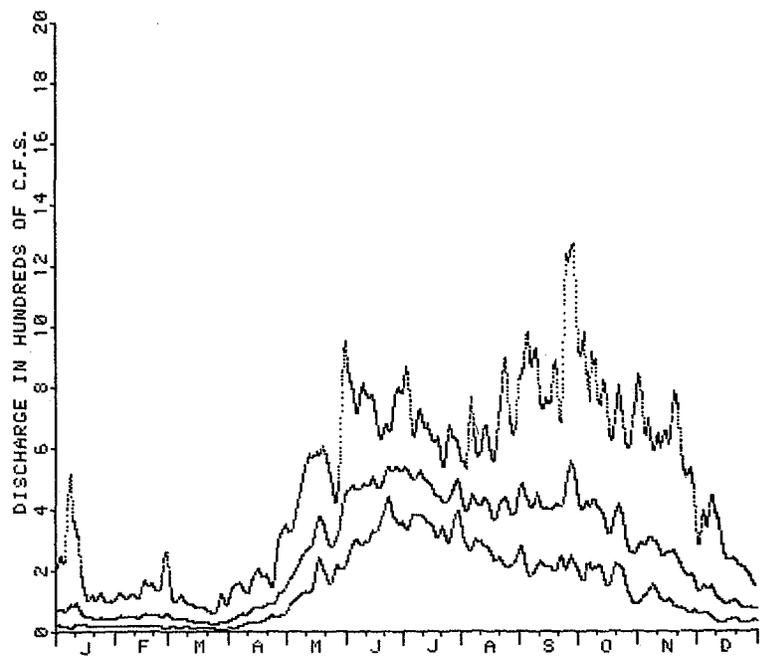
BIG C NR POINT BAKER
STATION NO 15086500

11.2 SQ MI
1964 THRU 1979



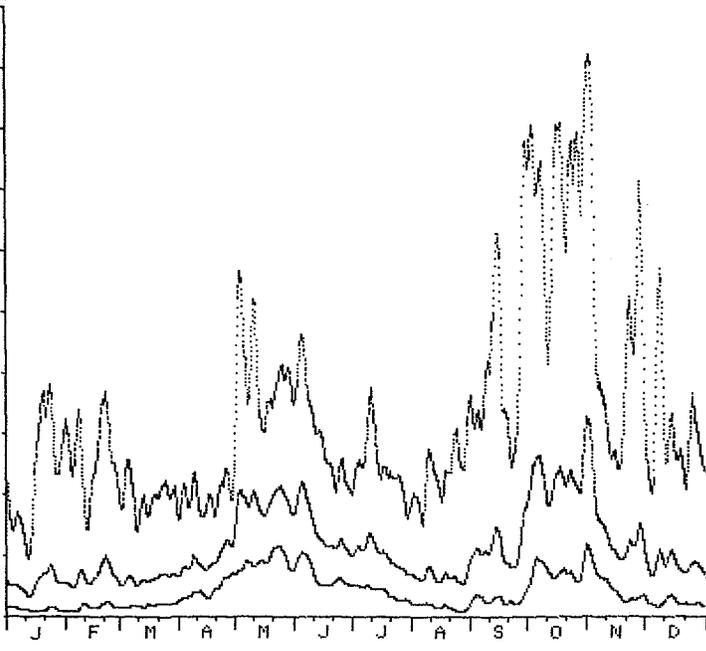
SAWMILL C NR SITKA
STATION NO 15088000

39.0 SQ MI
1921 THRU 1957

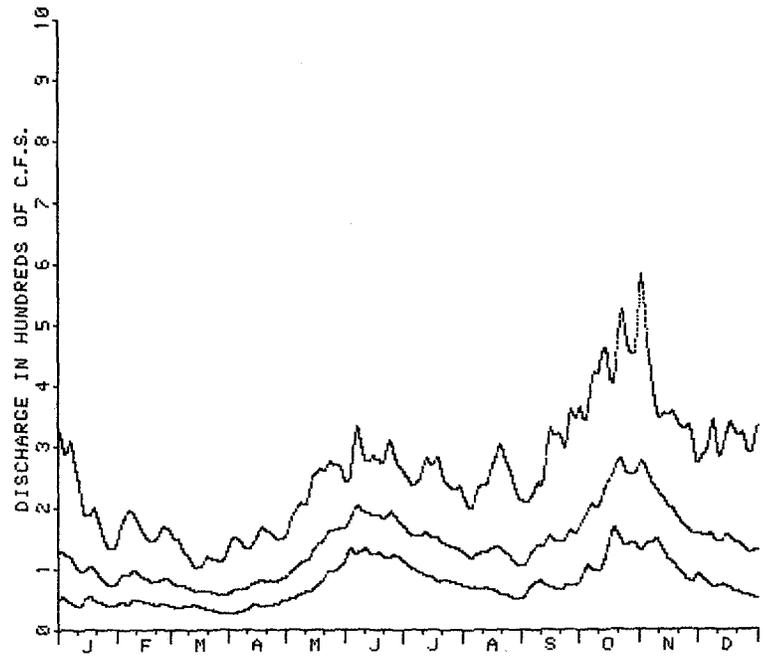


GREEN LK OUTLET NR SITKA
STATION NO 15090000

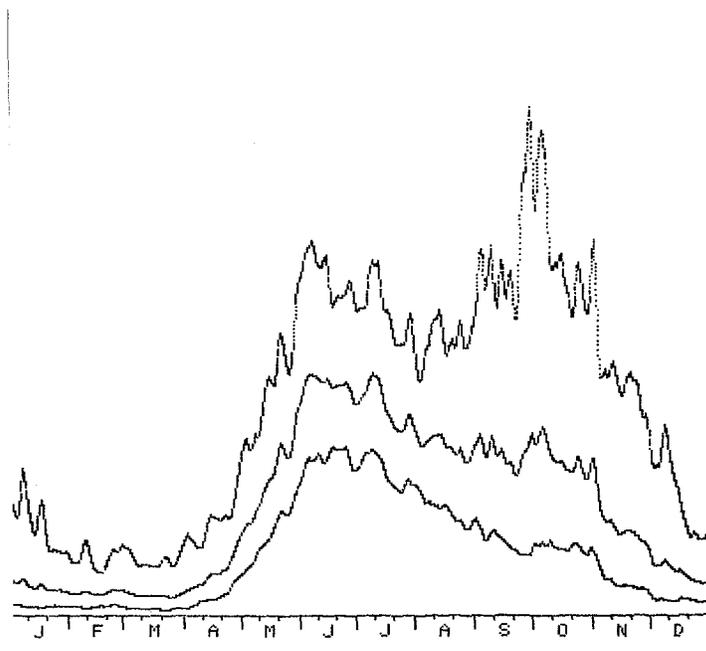
28.8 SQ MI
1916 THRU 1925



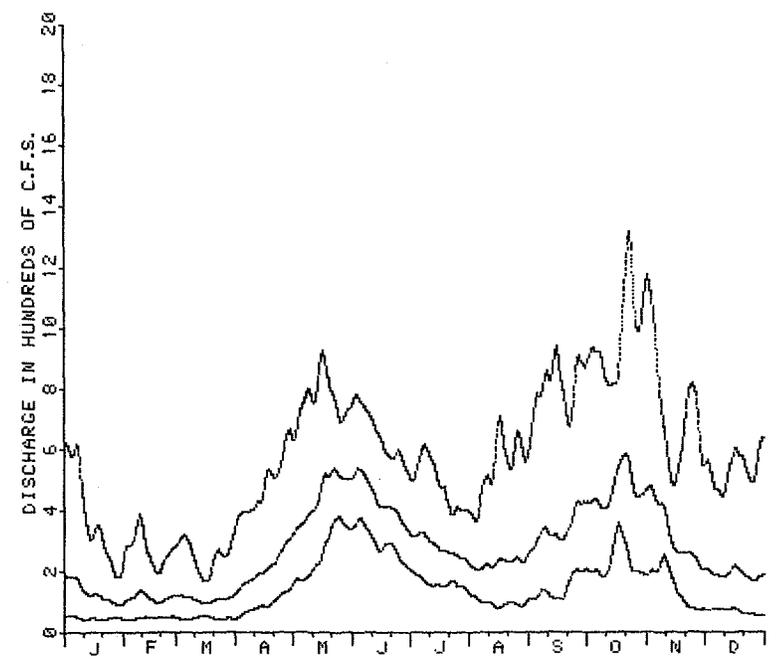
SASHIN C NR BIG PORT WALTER 3.7 SQ MI
 STATION NO 15093400 1965 THRU 1979



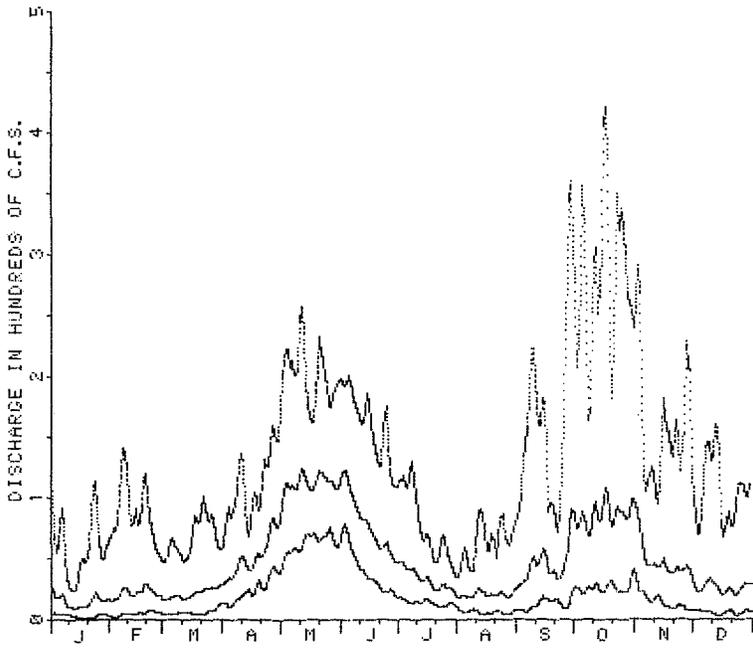
DEER LK OUTLET NR PORT ALEXANDER 7.4 SQ MI
 STATION NO 15094000 1952 THRU 1968



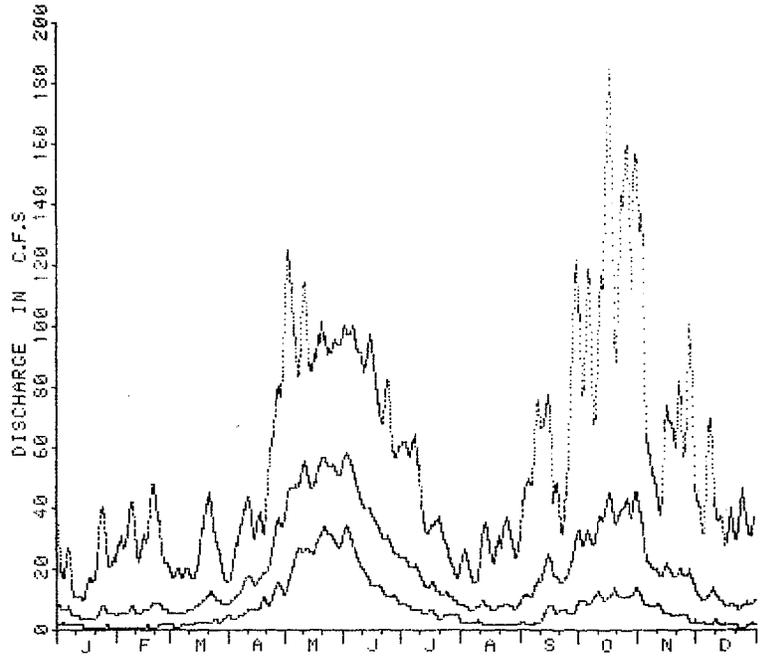
BARANOF R AT BARANOF 32.0 SQ MI
 STATION NO 15098000 1915 THRU 1974



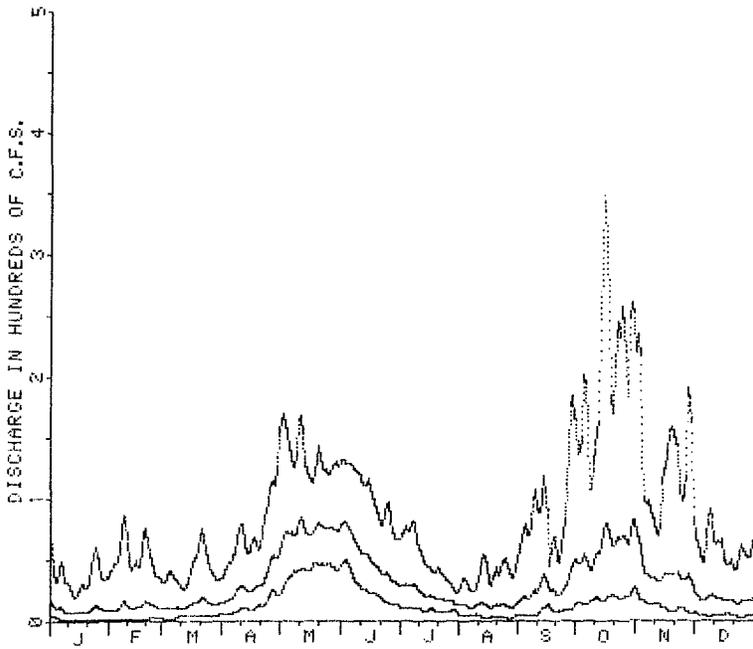
HASSELBORG C NR ANGOON 56.2 SQ MI
 STATION NO 15102000 1952 THRU 1968



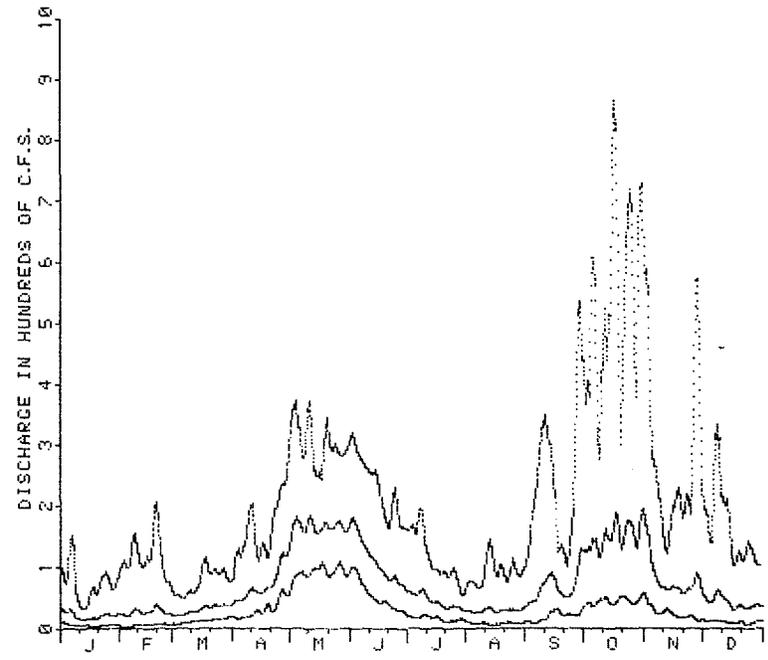
KADASHAN R AB HOOK C NR TENAKEE 10.2 SQ MI
STATION NO 15106920 1968 THRU 1979



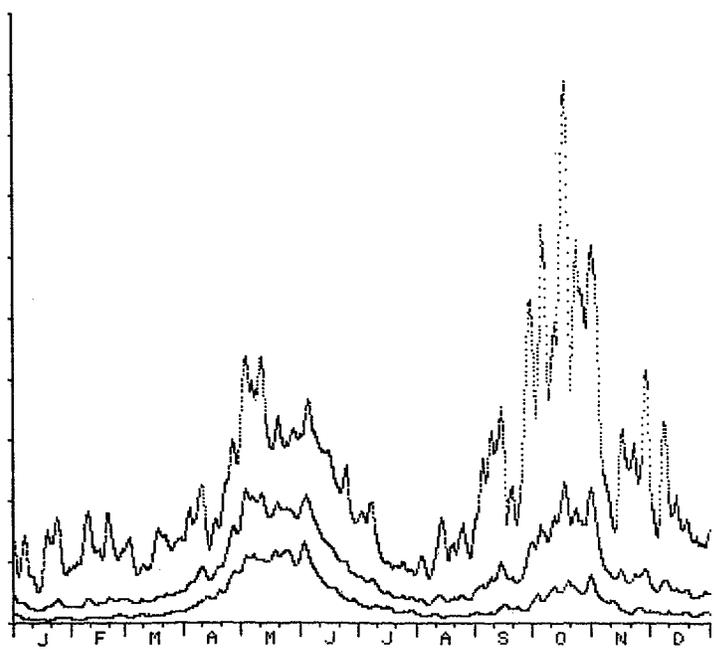
HOOK C AB TR NR TENAKEE 4.5 SQ MI
STATION NO 15106940 1967 THRU 1979



HOOK C NR TENAKEE 8.0 SQ MI
STATION NO 15106960 1967 THRU 1979

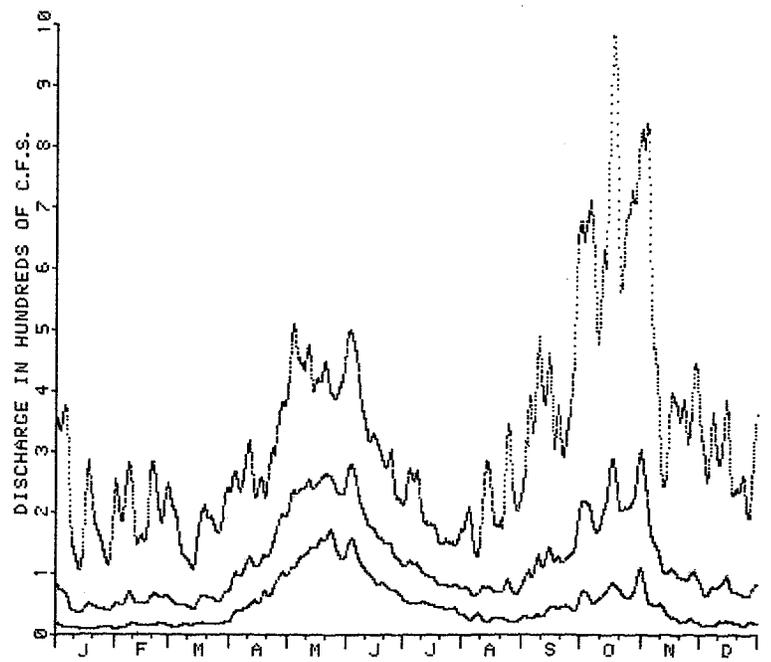


TONALITE C NR TENAKEE 14.5 SQ MI
STATION NO 15106980 1969 THRU 1979



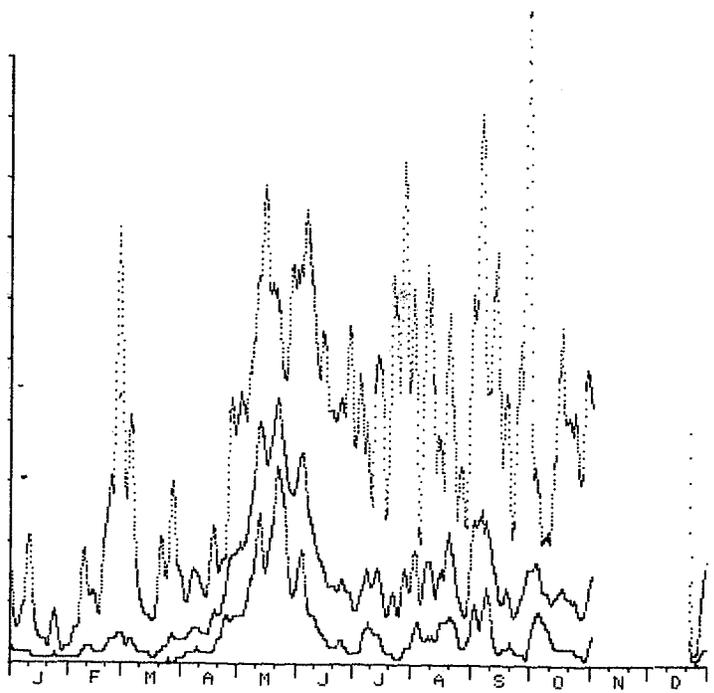
KADASHAN R NR TENAKEE
STATION NO 15107000

37.7 SQ MI
1964 THRU 1979



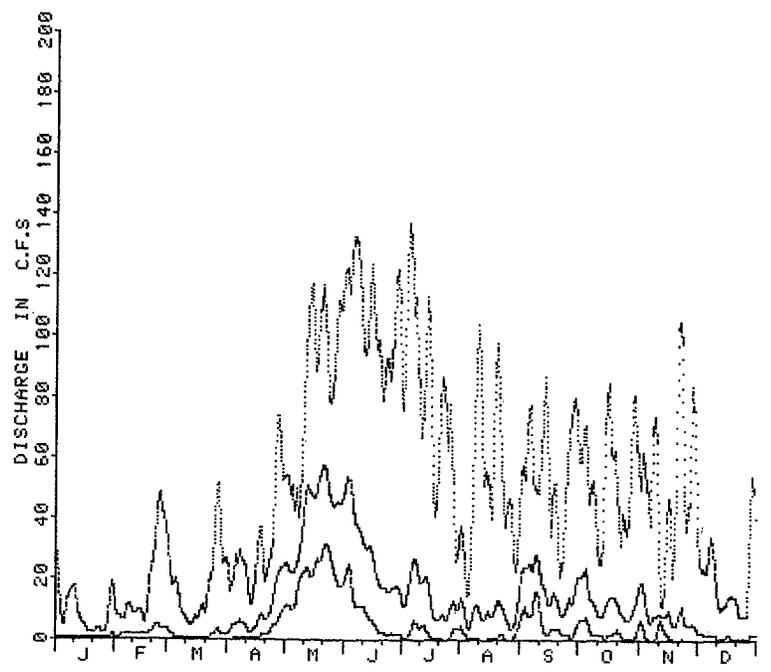
PAVLOF R NR TENAKEE
STATION NO 15108000

24.3 SQ MI
1958 THRU 1979



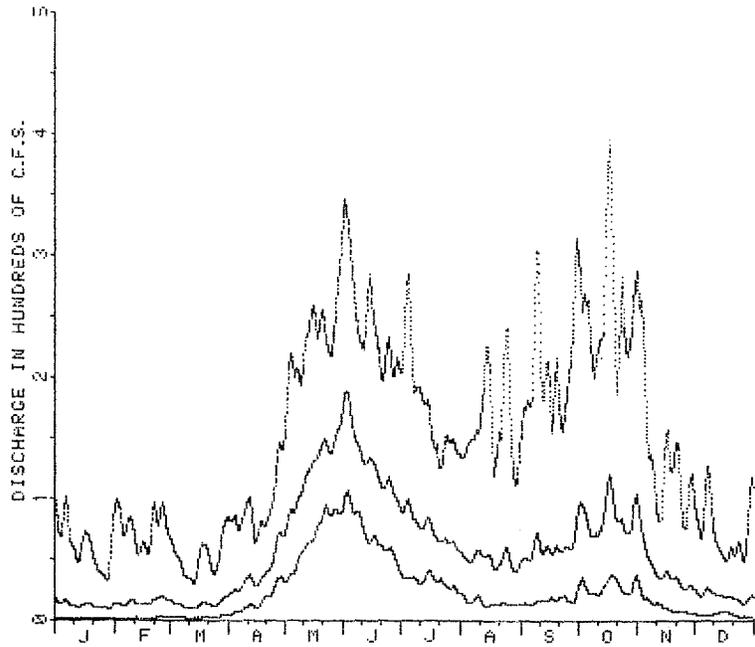
HILDA C NR DOUGLAS
STATION NO 15108600

2.6 SQ MI
1967 THRU 1972



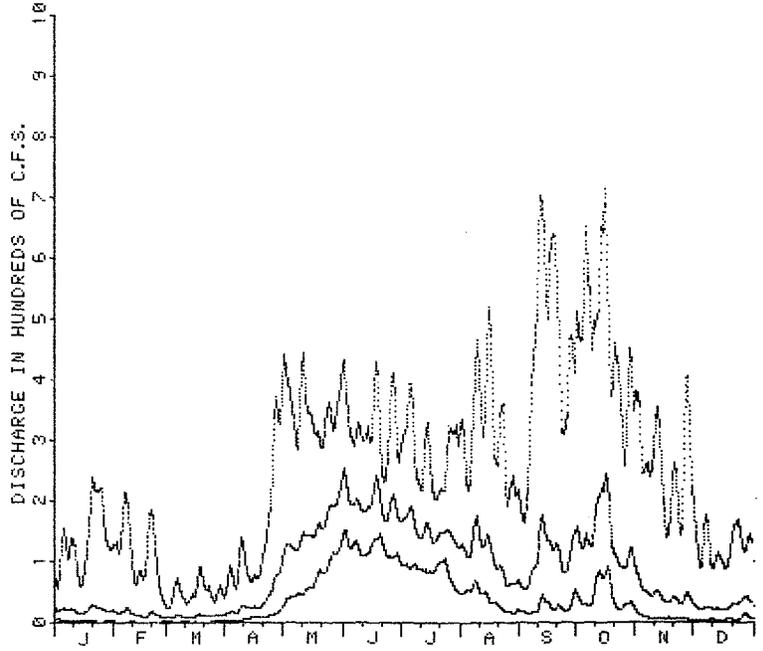
LAWSON C AT DOUGLAS
STATION NO 15108800

3.0 SQ MI
1967 THRU 1971



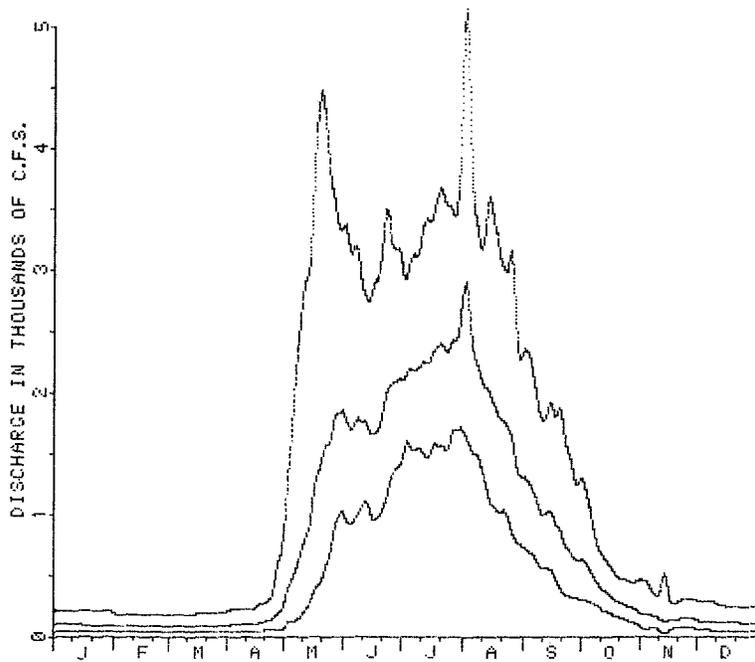
FISH C NR AUKE BAY
STATION NO 15109000

13.6 SQ MI
1959 THRU 1978



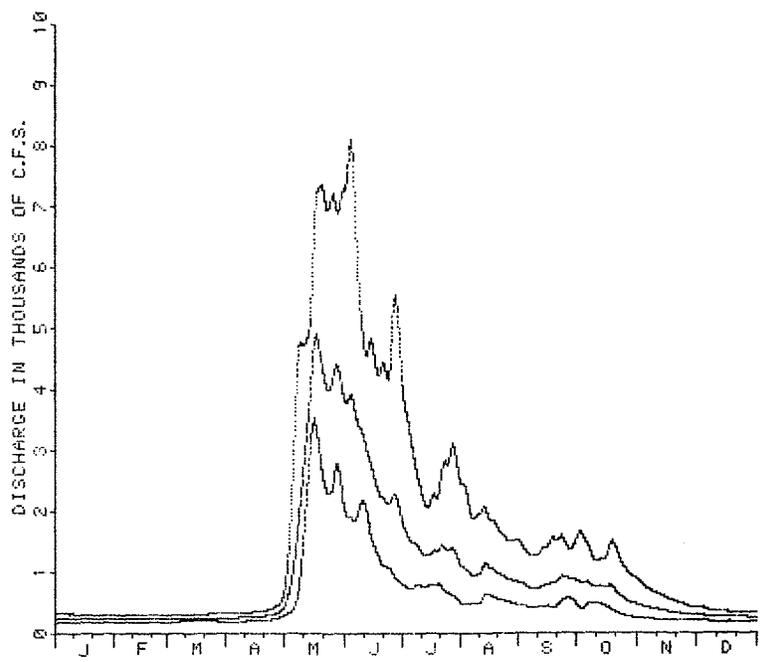
DICK C NR CORDOVA
STATION NO 15195000

8.0 SQ MI
1970 THRU 1979



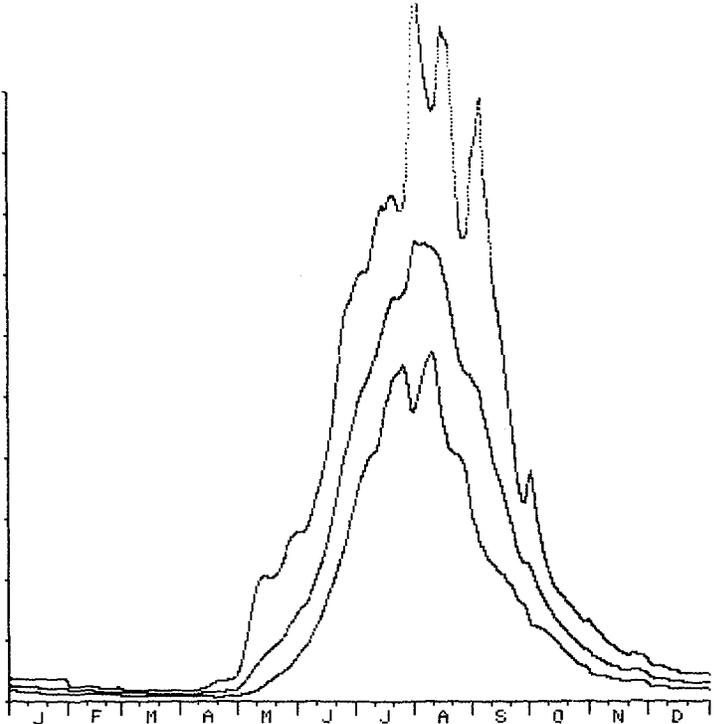
GAKONA R AT GAKONA
STATION NO 15200000

620 SQ MI
1950 THRU 1970



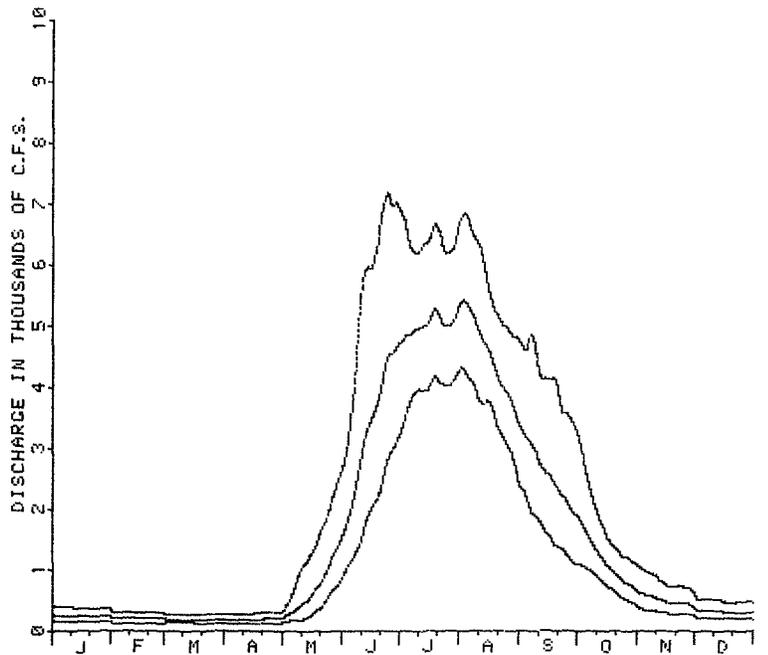
GULKANA R AT SOURDOUGH
STATION NO 15200200

1770 SQ MI
1973 THRU 1978



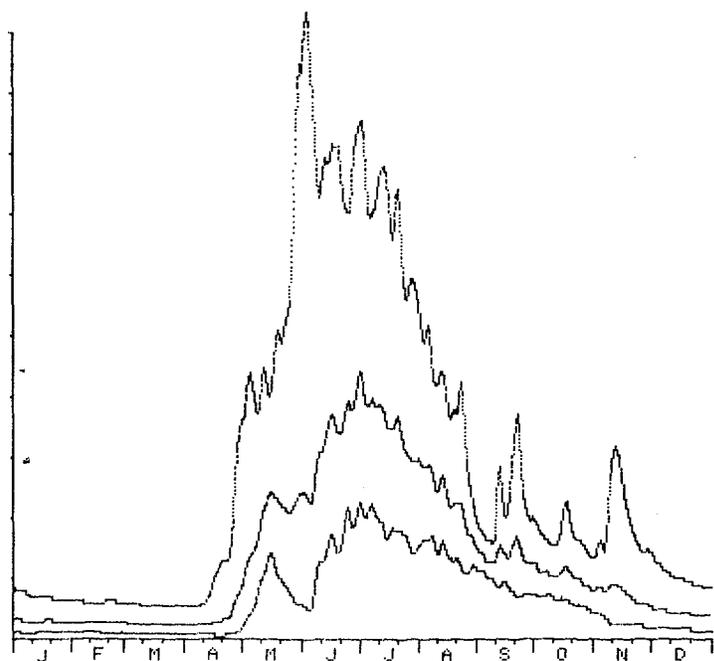
TAZLINA R NR GLENALLEN
STATION NO 15202000

2670 SQ MI
1950 THRU 1972



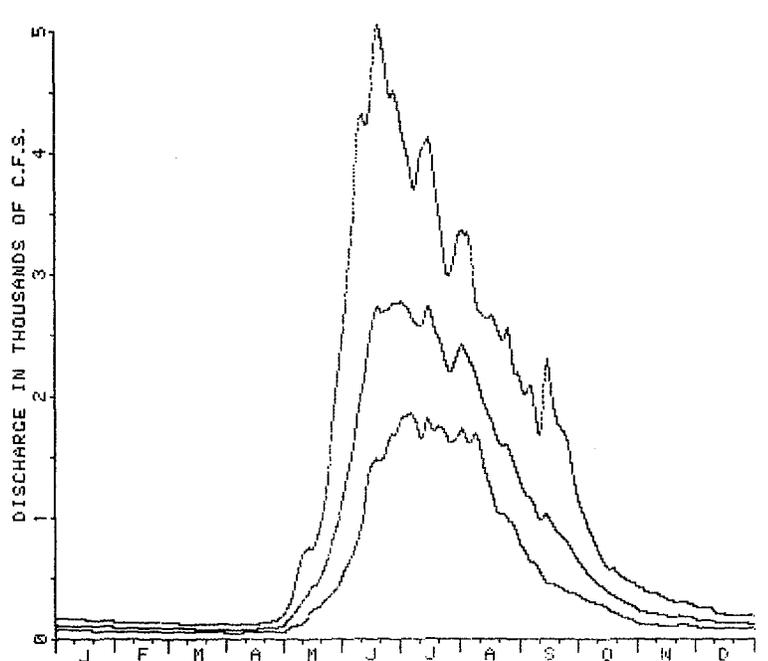
KLUTINA R AT COPPER CENTER
STATION NO 15206000

880 SQ MI
1950 THRU 1970



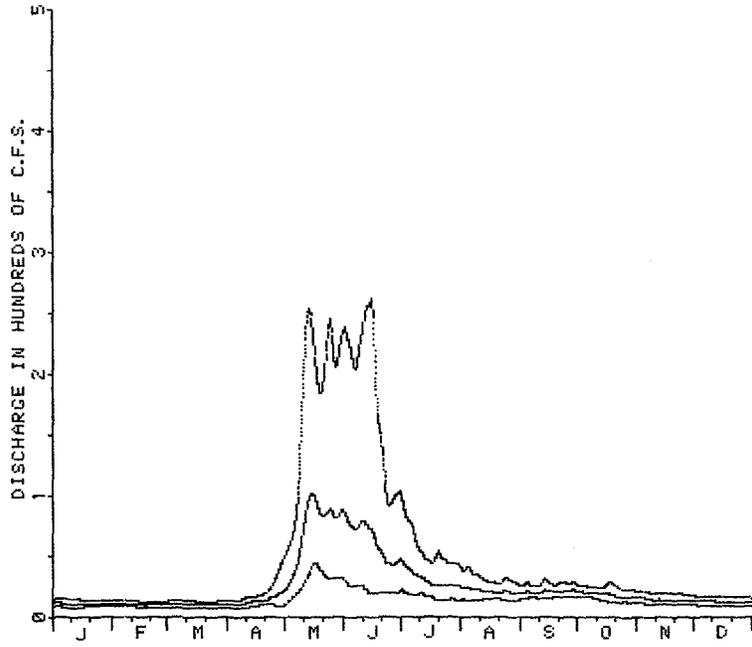
LITTLE TONSINA R NR TONSINA
STATION NO 15207800

22.7 SQ MI
1972 THRU 1978



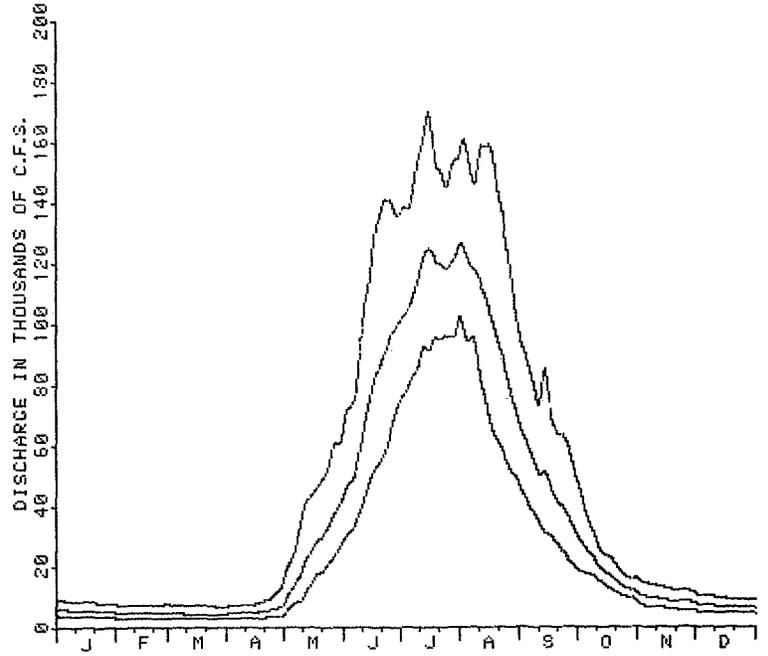
TONSINA R AT TONSINA
STATION NO 15208000

420 SQ MI
1951 THRU 1979



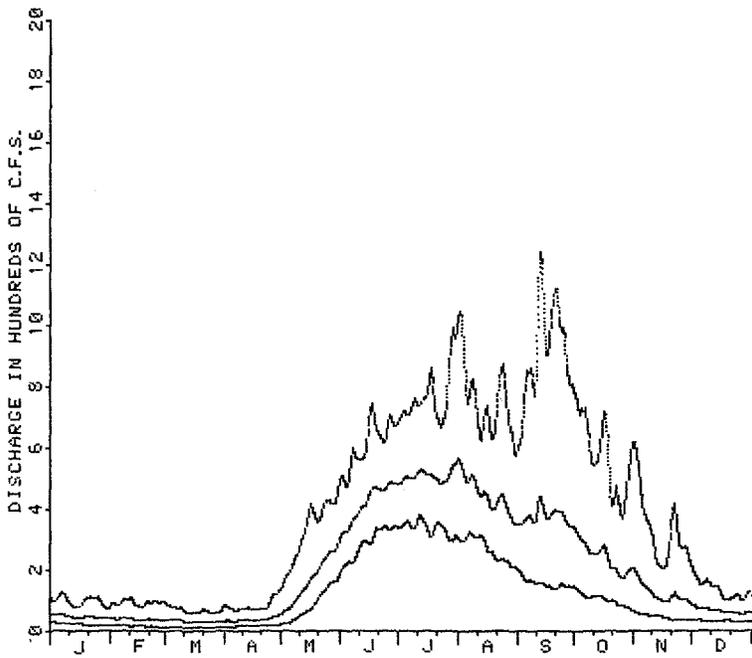
SQUIRREL C AT TONSINA
STATION NO 15208100

70.5 SQ MI
1965 THRU 1975



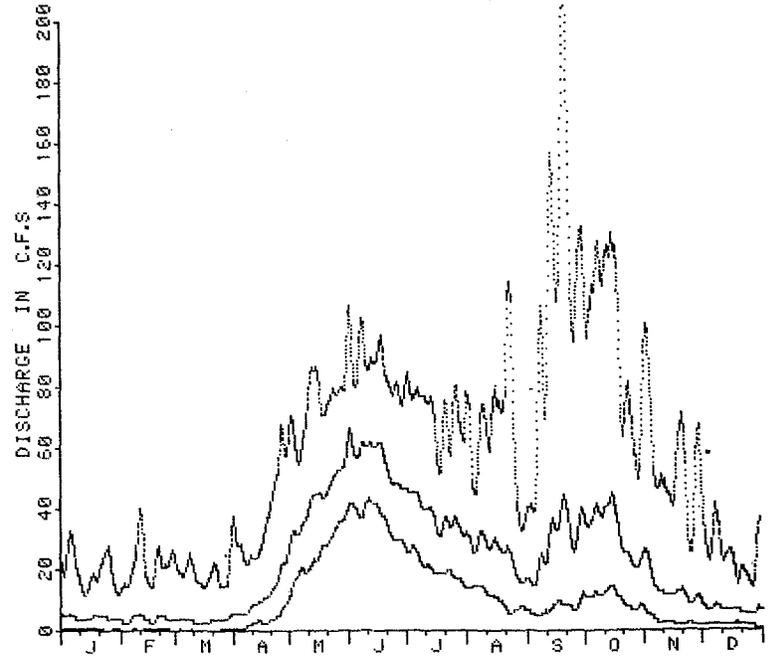
COPPER R NR CHITINA
STATION NO 15212000

20600SQ MI
1956 THRU 1979



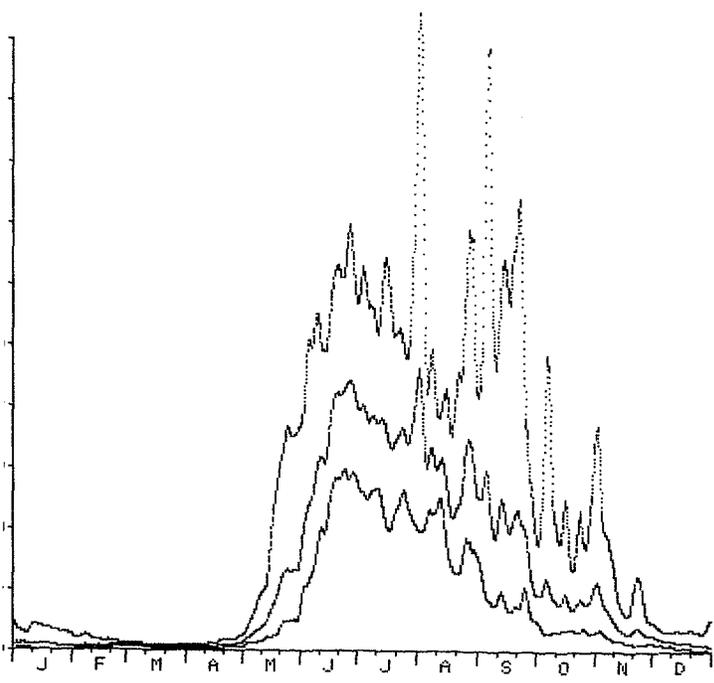
POWER C NR CORDOVA
STATION NO 15216000

20.5 SQ MI
1948 THRU 1979

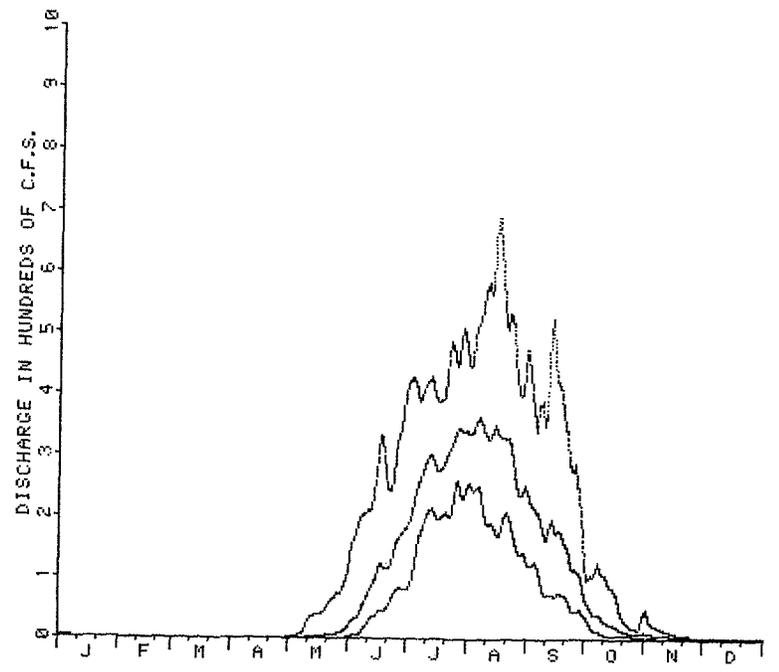


WEST FORK OLSEN BAY C NR CORDOVA
STATION NO 15219000

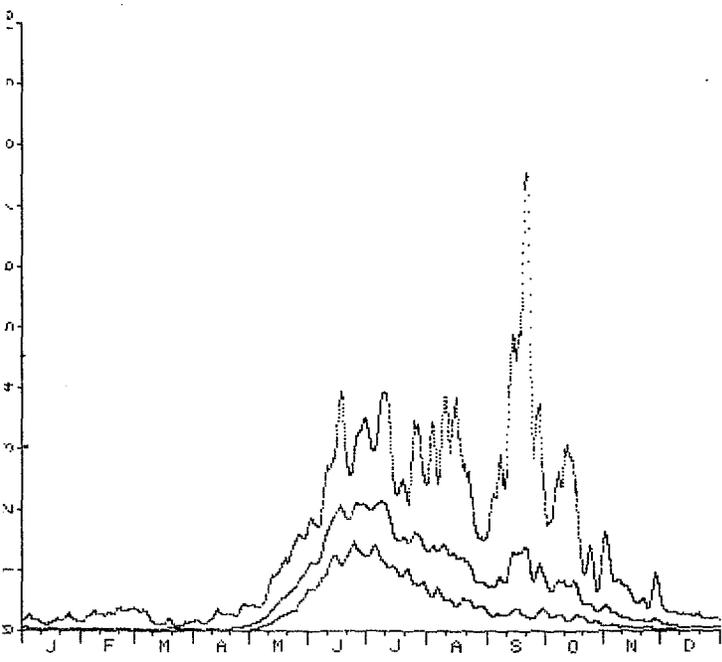
4.8 SQ MI
1964 THRU 1979



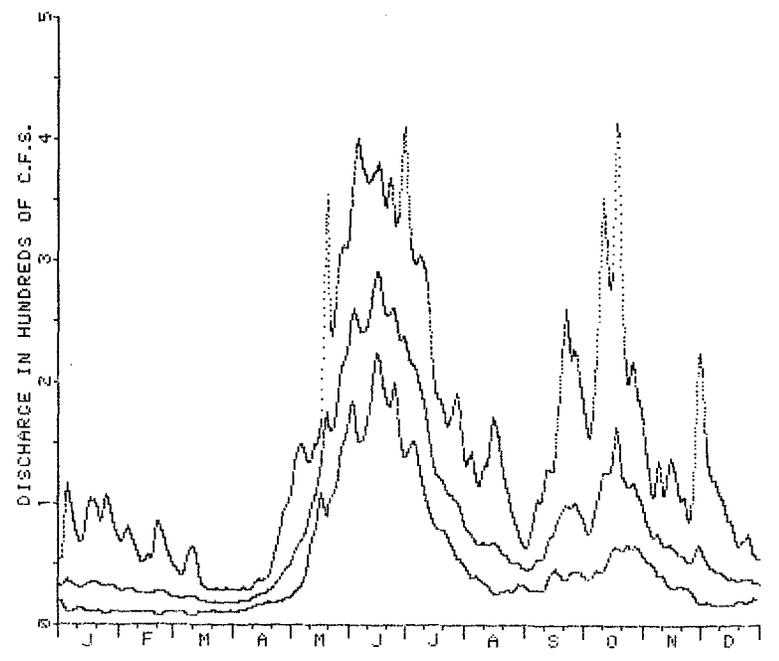
SOLOMON GULCH NR VALDEZ
STATION NO 15226000
19.0 SQ MI
1950 THRU 1956



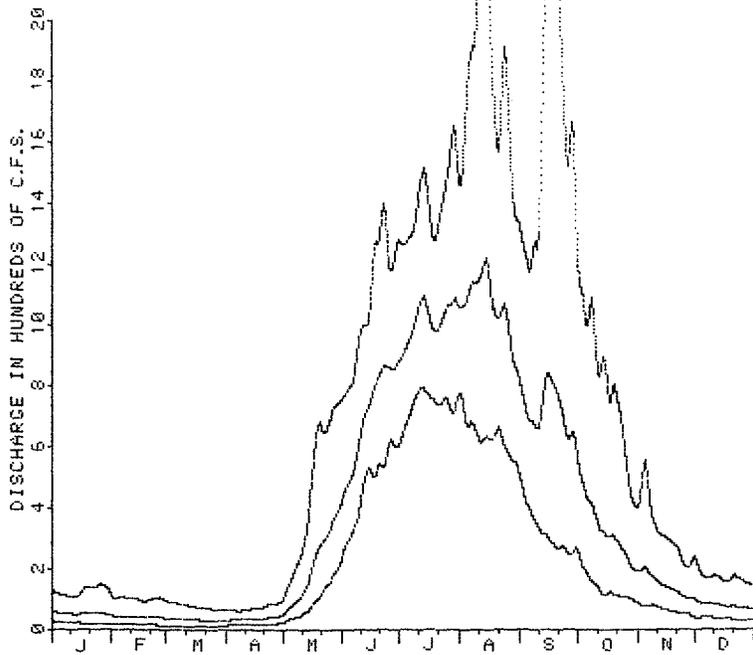
WOLVERINE C NR LAWING
STATION NO 15236900
9.5 SQ MI
1967 THRU 1978



SPRUCE C NR SEWARD
STATION NO 15238600
9.3 SQ MI
1967 THRU 1979

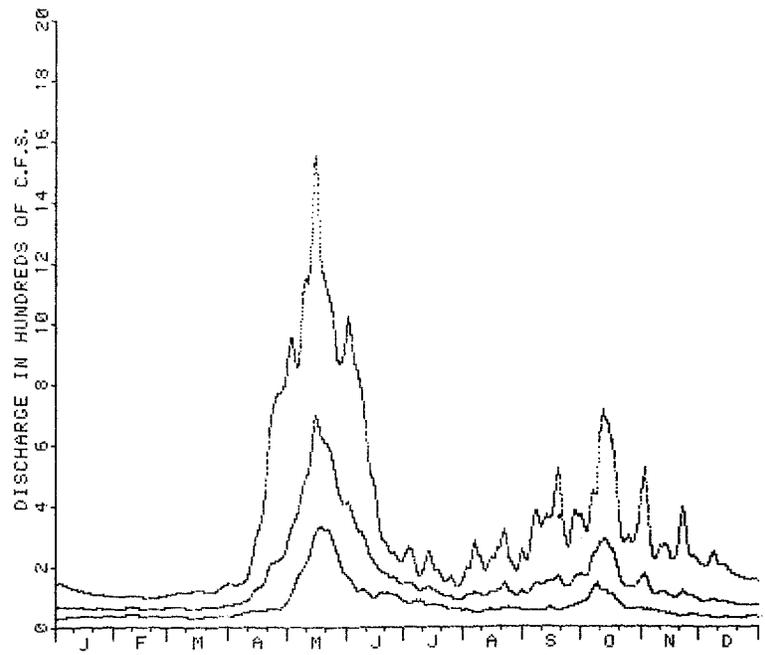


BARBARA C NR SELDOVIA
STATION NO 15238820
28.7 SQ MI
1972 THRU 1979



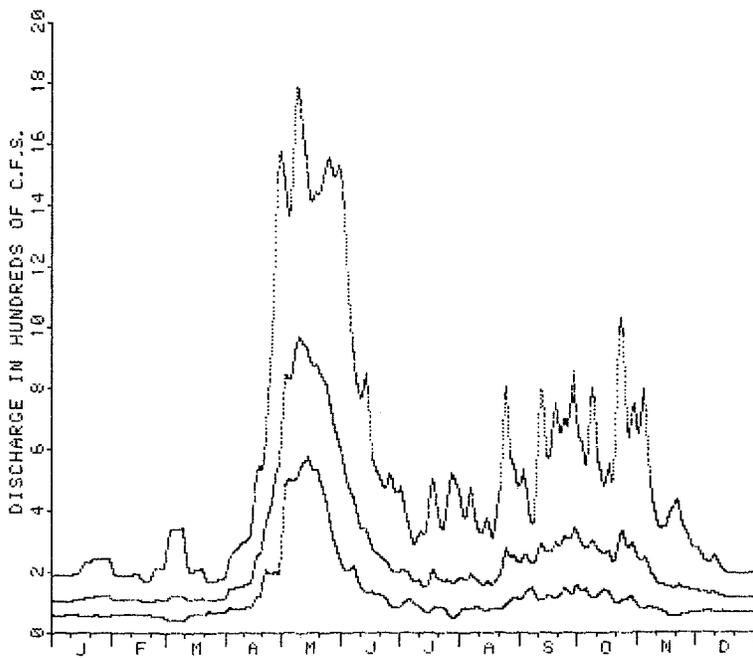
BRADLEY R NR HOMER
STATION NO 15239000

56.1 SQ MI
1958 THRU 1979



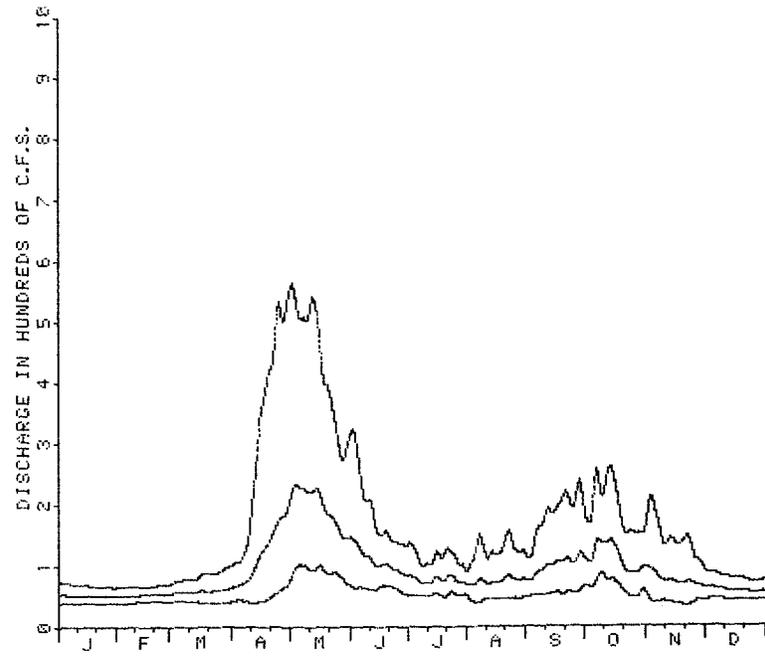
ANCHOR R NR ANCHOR POINT
STATION NO 15239900

137 SQ MI
1965 THRU 1979



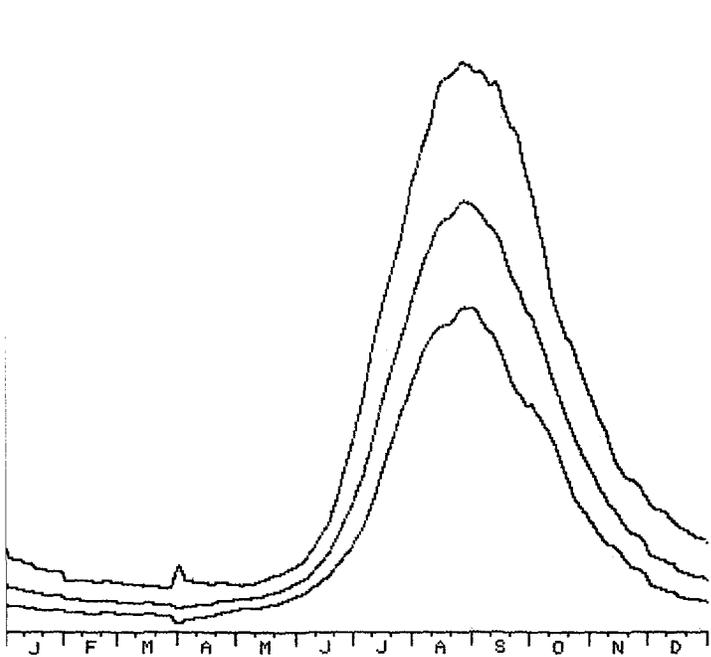
ANCHOR R AT ANCHOR POINT
STATION NO 15240000

224 SQ MI
1953 THRU 1966

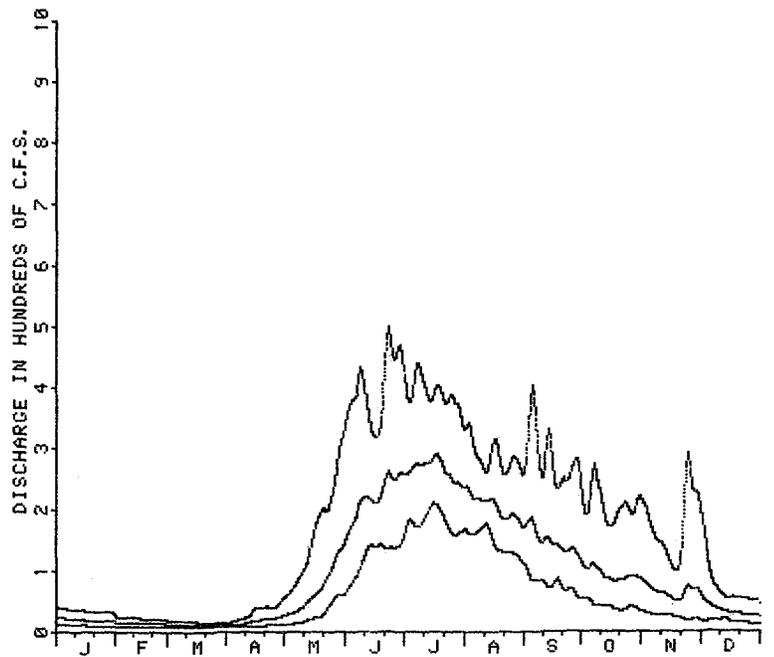


NINILCHIK R AT NINILCHIK
STATION NO 15241600

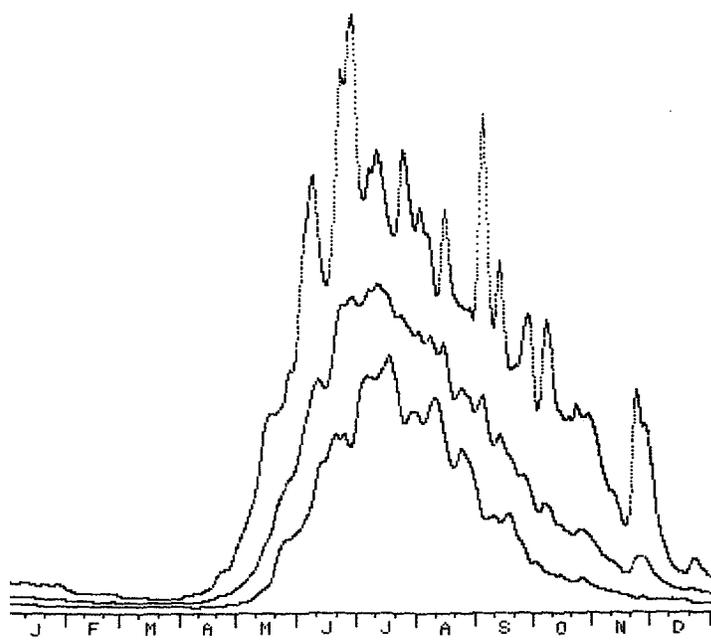
131 SQ MI
1963 THRU 1979



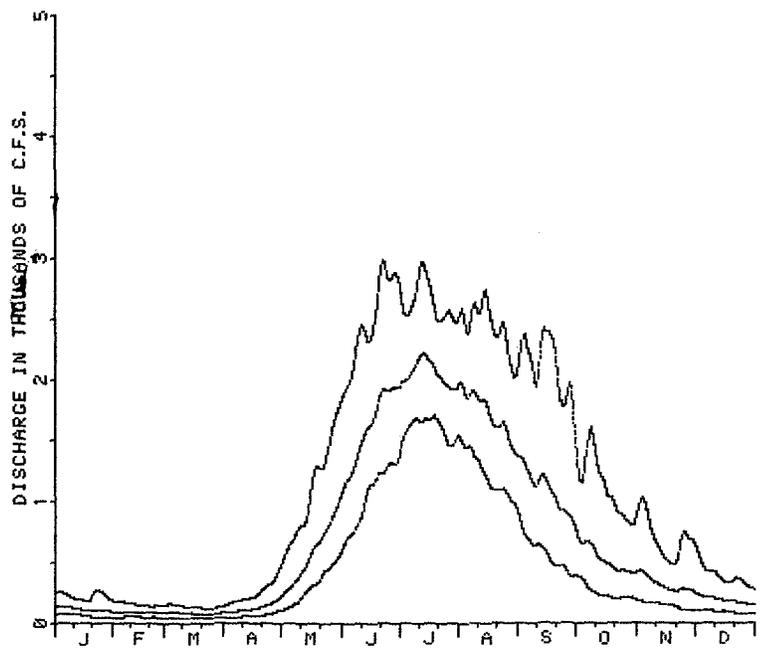
KASILOF R NR KASILOF 738 SQ MI
STATION NO 15242000 1949 THRU 1970



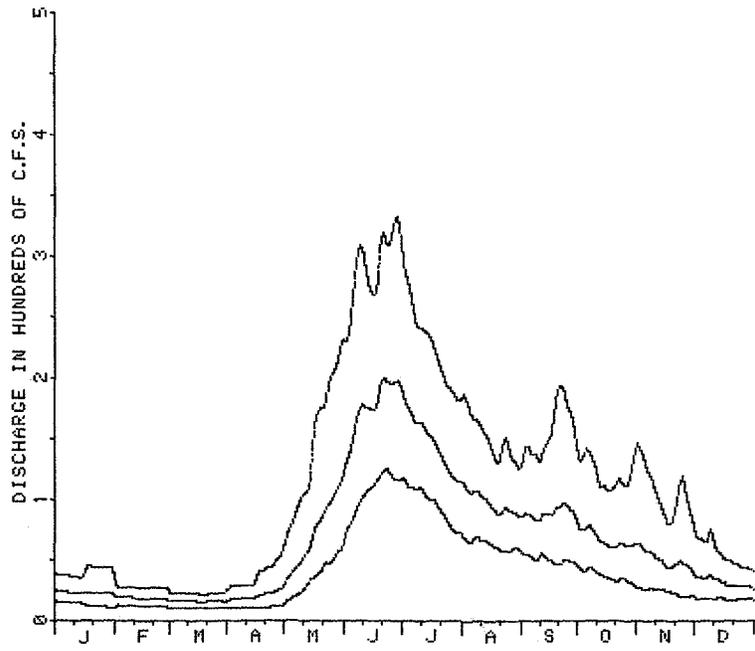
PTARMIGAN C AT LAWING 32.6 SQ MI
STATION NO 15244000 1947 THRU 1958



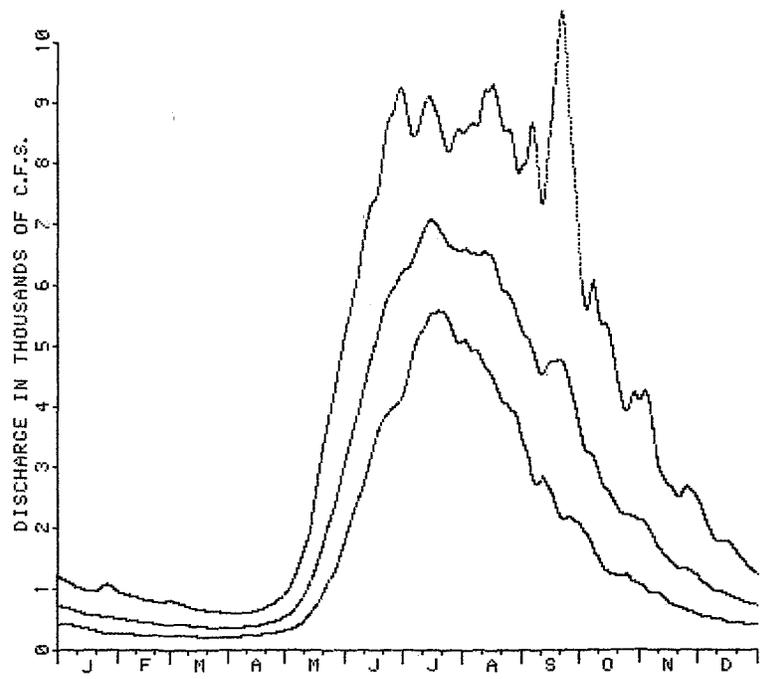
GRANT C NR MOOSE PASS 44.2 SQ MI
STATION NO 15246000 1947 THRU 1958



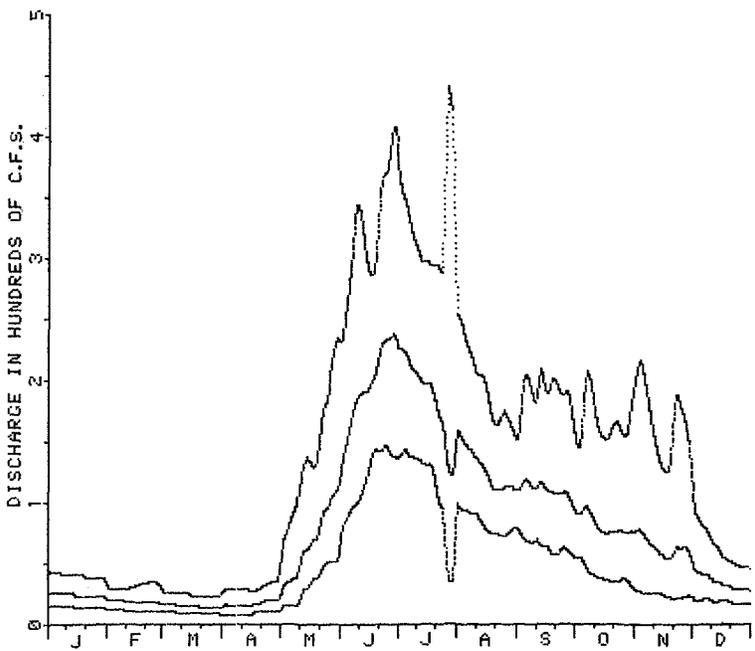
TRAIL R NR LAWING 181 SQ MI
STATION NO 15248000 1947 THRU 1974



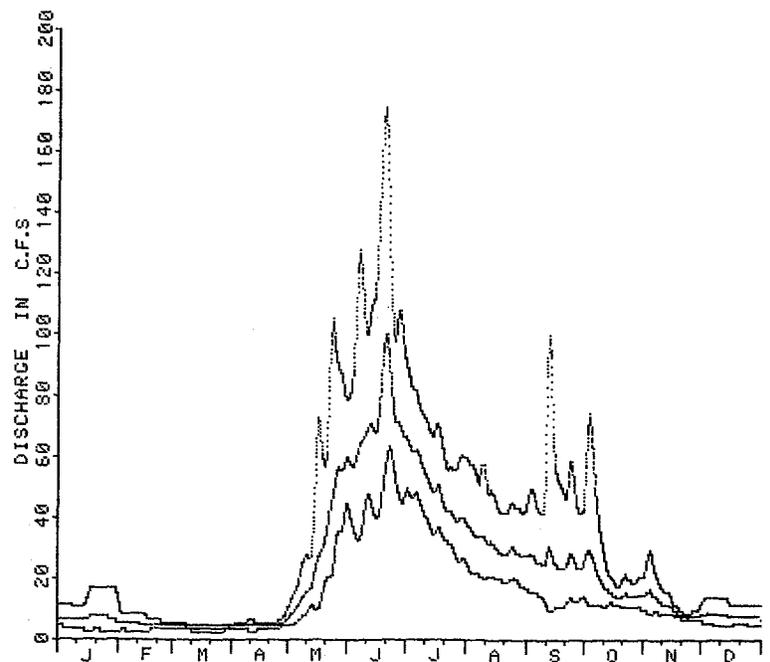
CRESCENT C NR COOPER LANDING 31.7 SQ MI
STATION NO 15254000 1949 THRU 1966



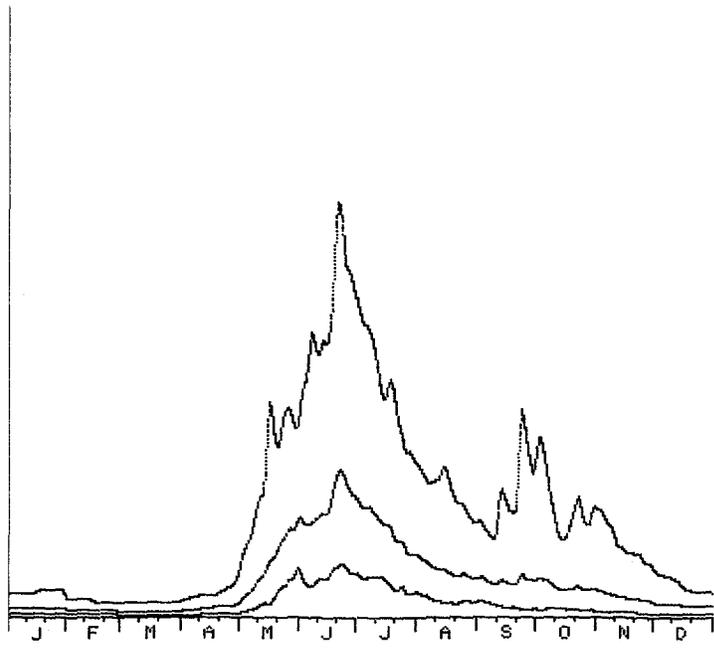
KENAI R AT COOPER LANDING 634 SQ MI
STATION NO 15258000 1947 THRU 1979



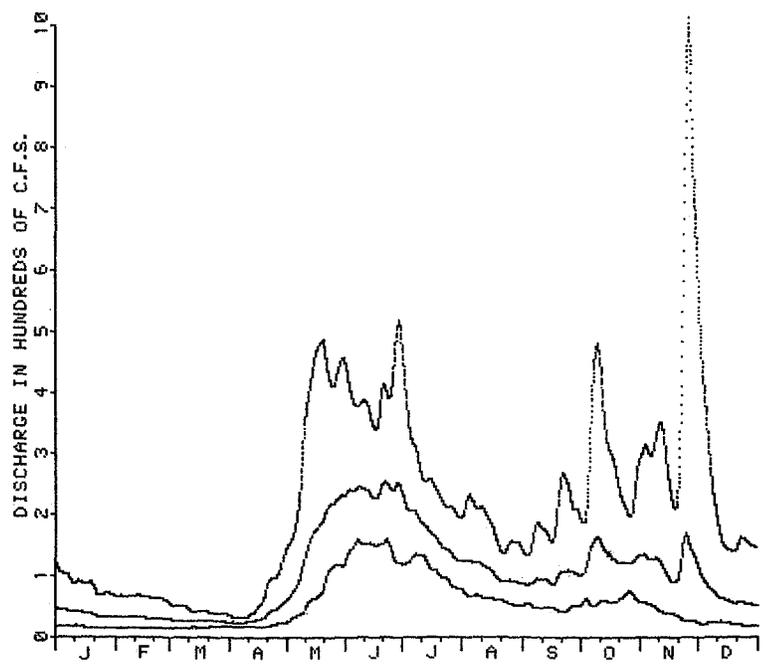
COOPER C NR COOPER LANDING 31.8 SQ MI
STATION NO 15260000 1949 THRU 1959



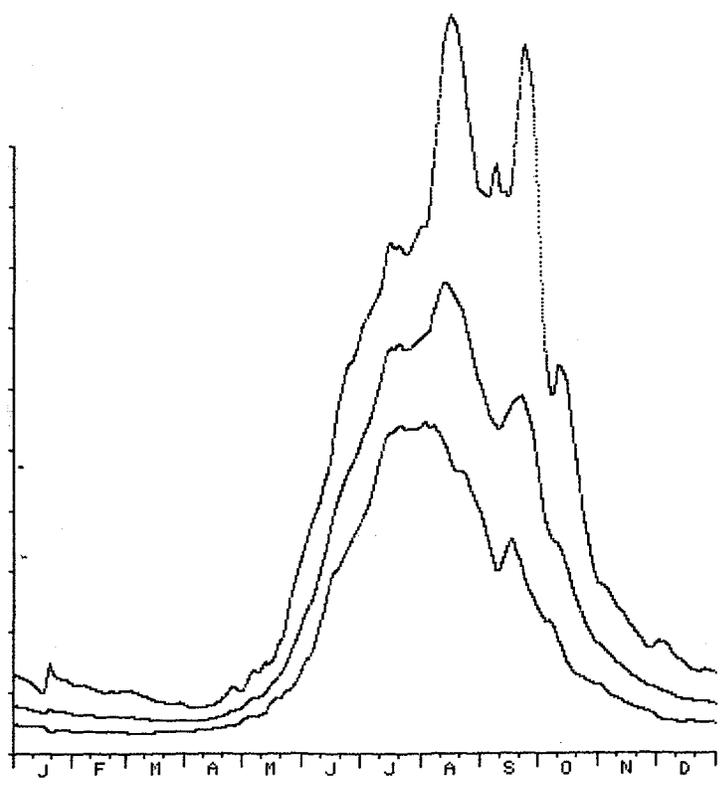
STETSON C NR COOPER LANDING 8.6 SQ MI
STATION NO 15260500 1958 THRU 1963



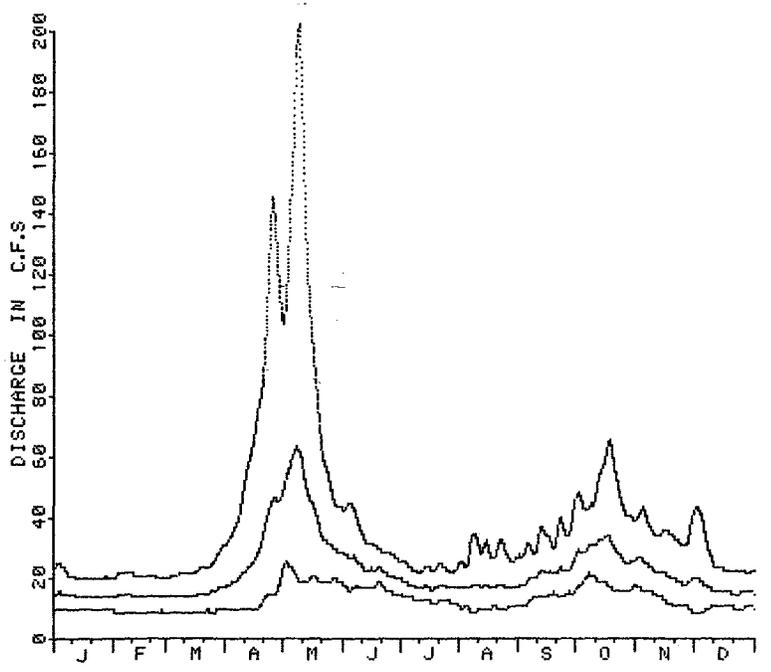
COOPER C AT MOUTH NR COOPER LANDING 48.0 SQ MI
STATION NO 15261000 1958 THRU 1965



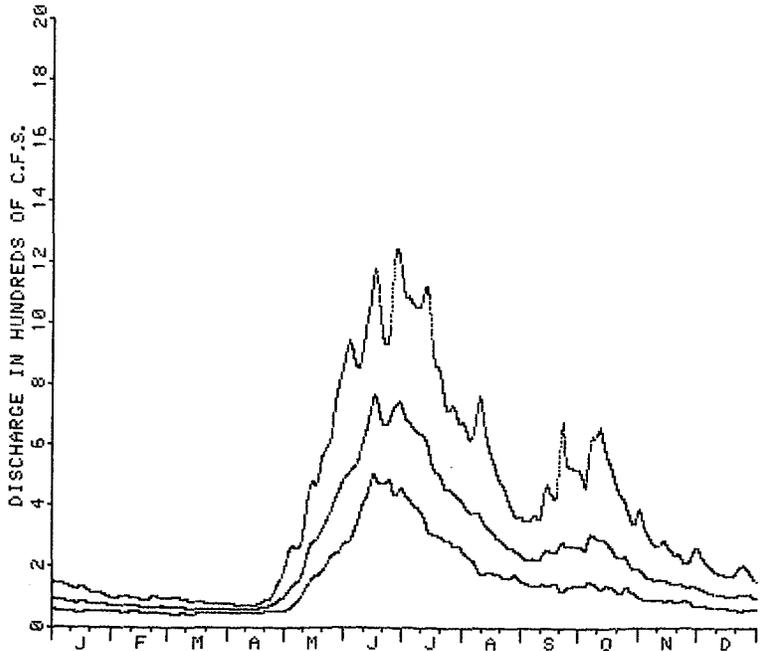
RUSSIAN R NR COOPER LANDING 61.8 SQ MI
STATION NO 15264000 1947 THRU 1954



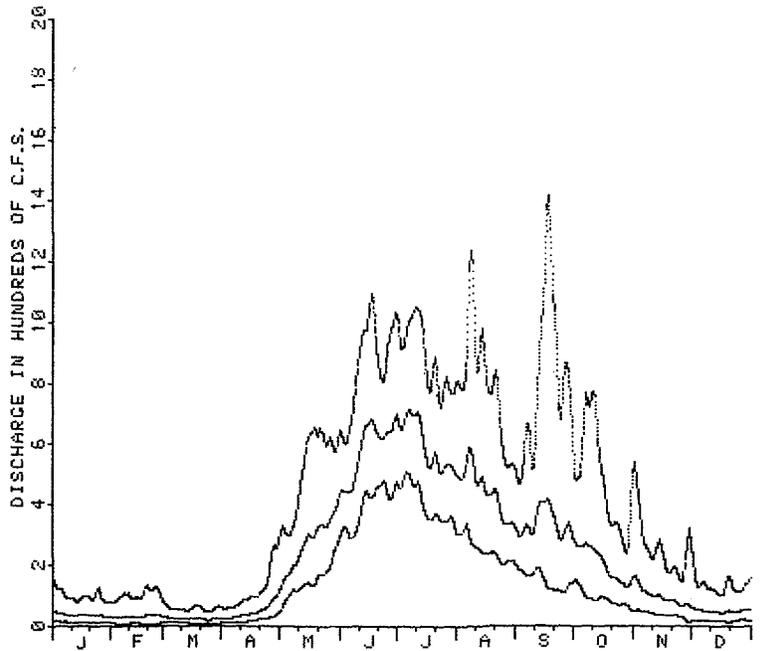
KENAI R AT SOLDOTNA 2010 SQ MI
STATION NO 15266300 1965 THRU 1979



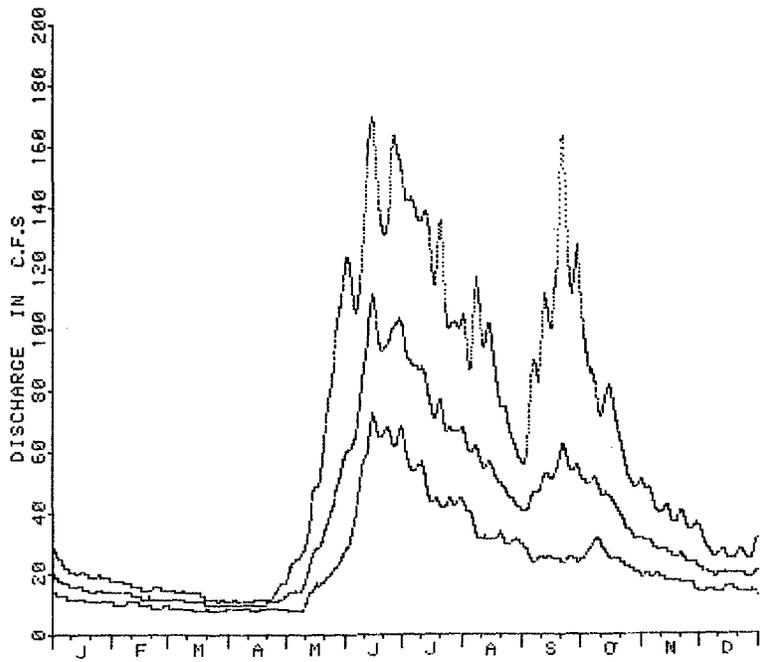
BEAVER C NR KENAI 51.0 SQ MI
STATION NO 15266500 1968 THRU 1978



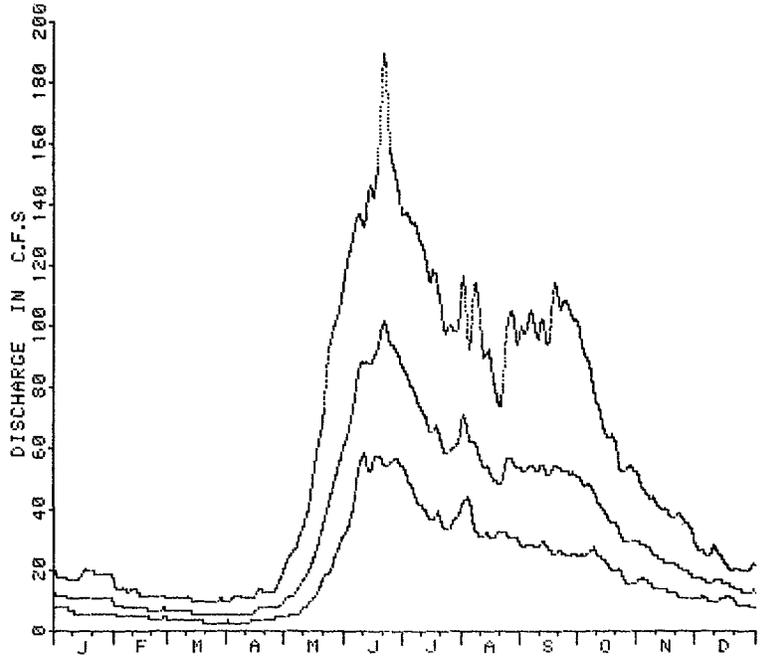
RESURRECTION C NR HOPE
STATION NO 15267900
149 SQ MI
1968 THRU 1979



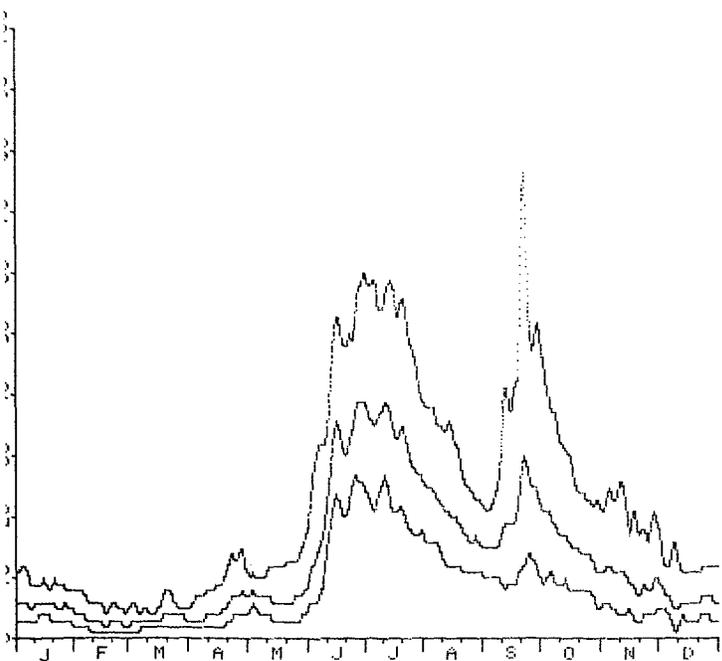
GLACIER C AT GIRDWOOD
STATION NO 15272550
62.0 SQ MI
1965 THRU 1978



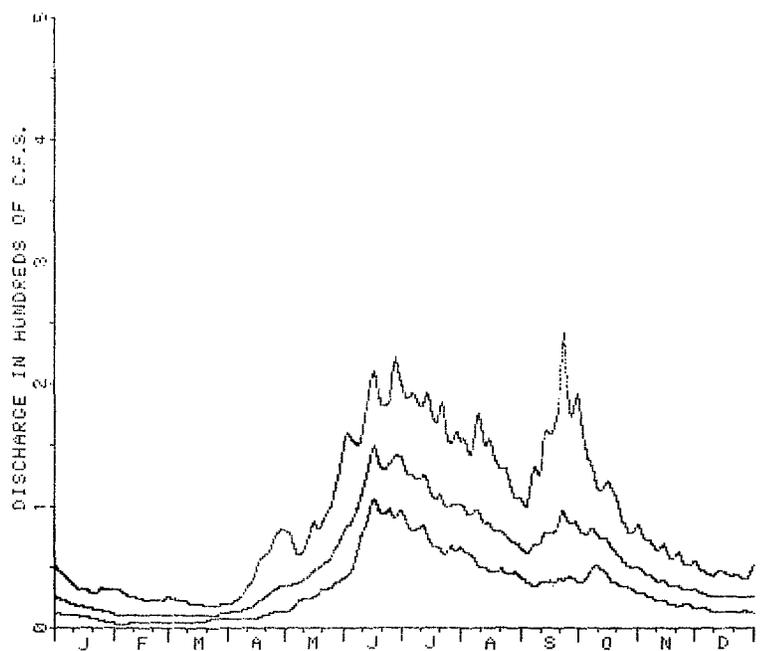
SF CAMPBELL C AT CANYON MOUTH NR ANCHORAGE
STATION NO 15273900
29.2 SQ MI
1967 THRU 1979



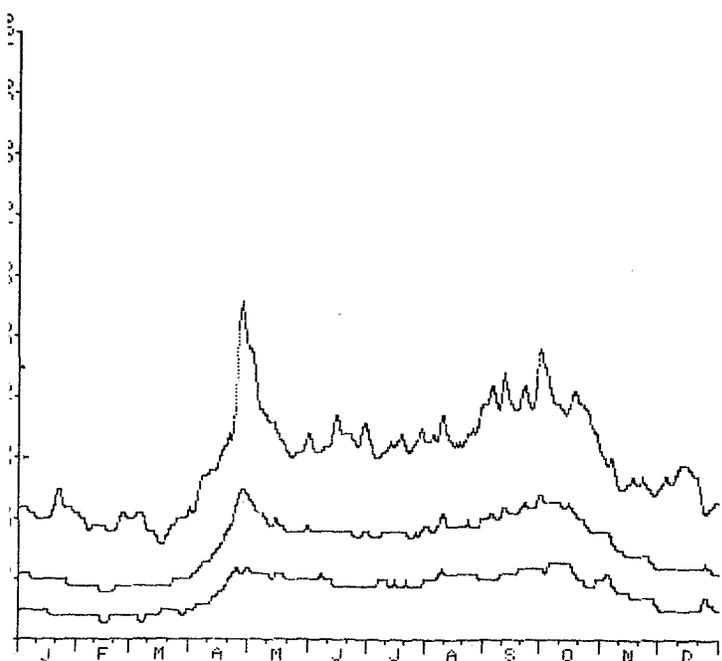
SF CAMPBELL C NR ANCHORAGE
STATION NO 15274000
38.4 SQ MI
1947 THRU 1972



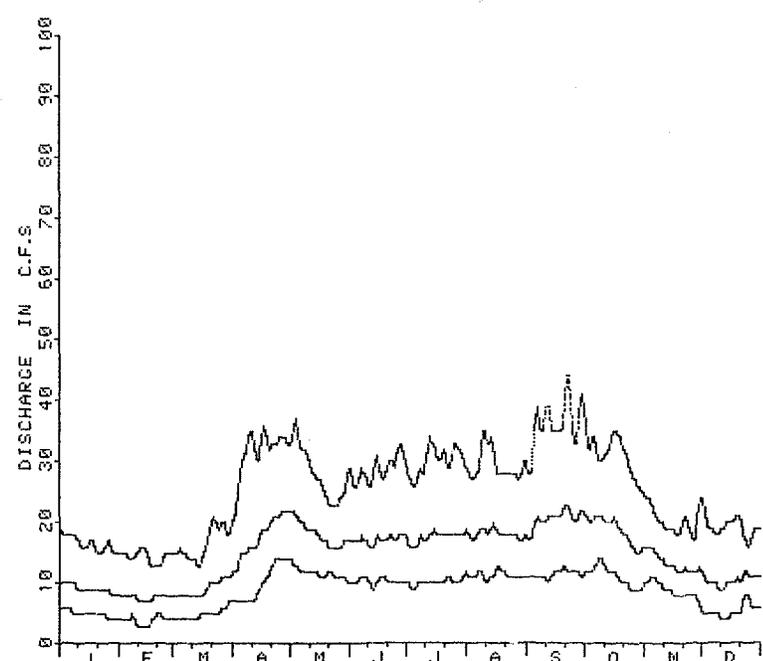
NF CAMPBELL C NR ANCHORAGE 13.4 SQ MI
STATION NO 15274300 1974 THRU 1979



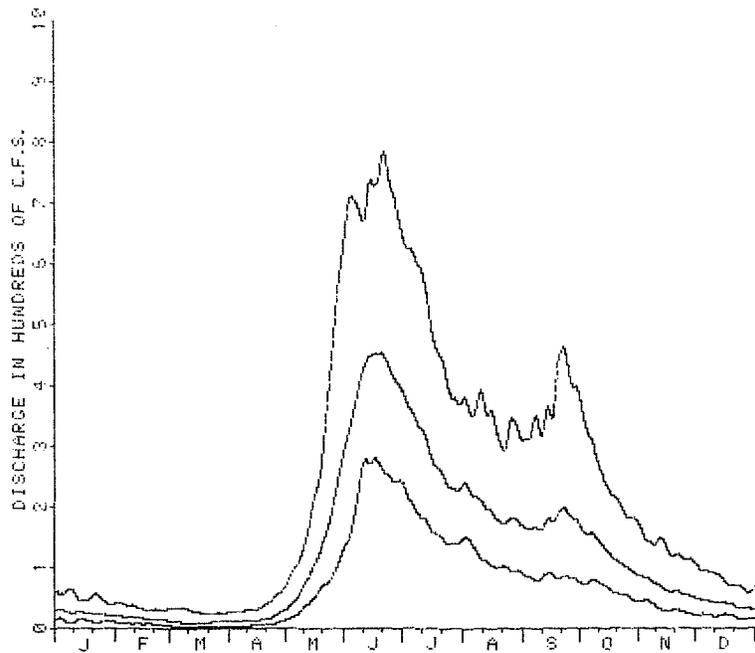
CAMPBELL C NR SPENARD 69.7 SQ MI
STATION NO 15274600 1966 THRU 1979



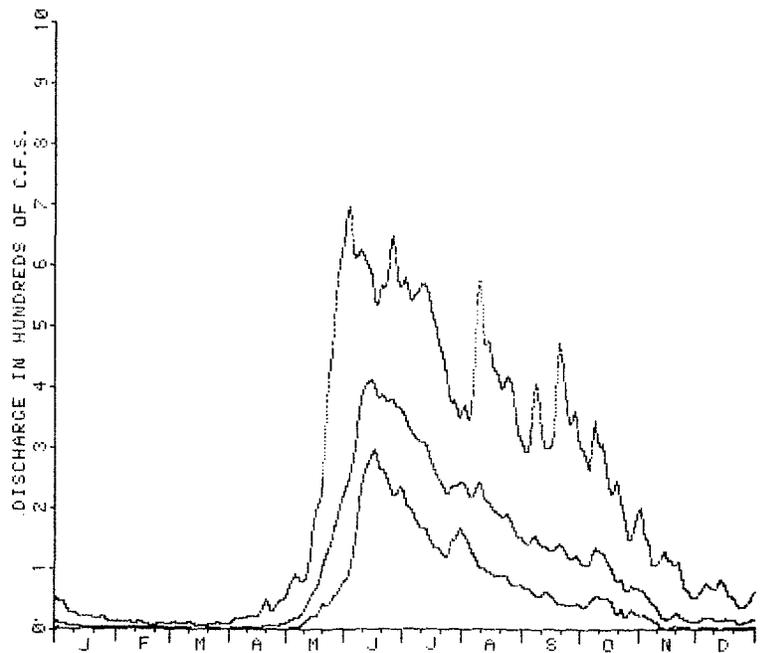
CHESTER C AT ANCHORAGE 20.0 SQ MI
STATION NO 15275000 1958 THRU 1976



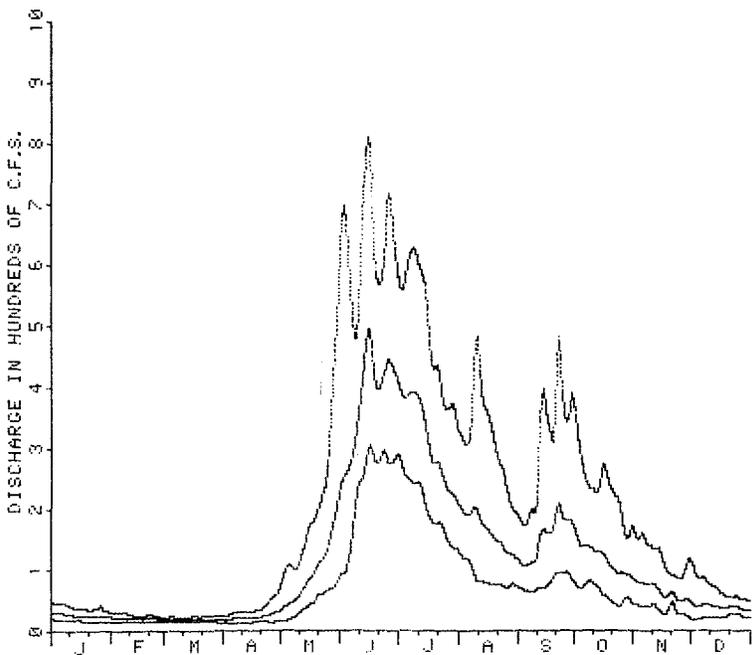
CHESTER C AT ARCTIC BLVD AT ANCHORAGE 27.2 SQ MI
STATION NO 15275100 1966 THRU 1979



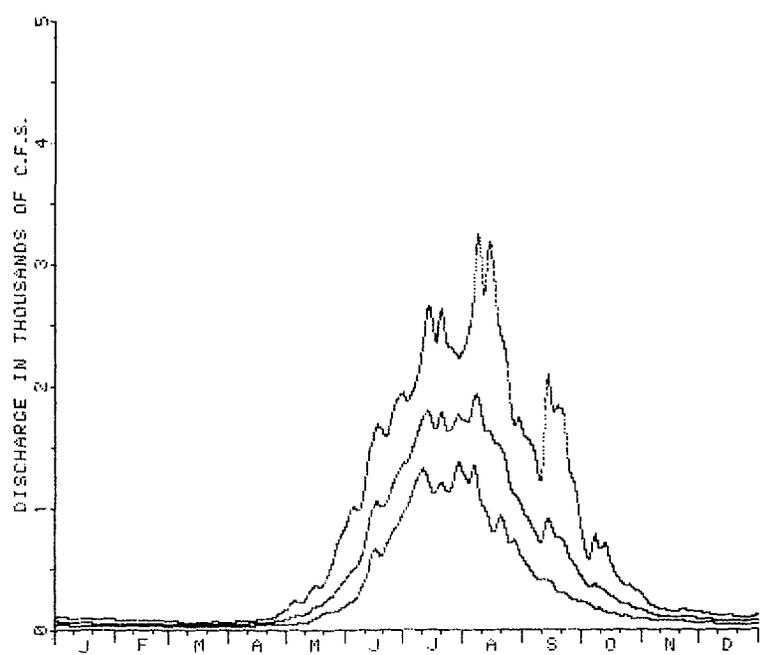
SHIP C NR ANCHORAGE 98.5 SQ MI
STATION NO 15276000 1947 THRU 1979



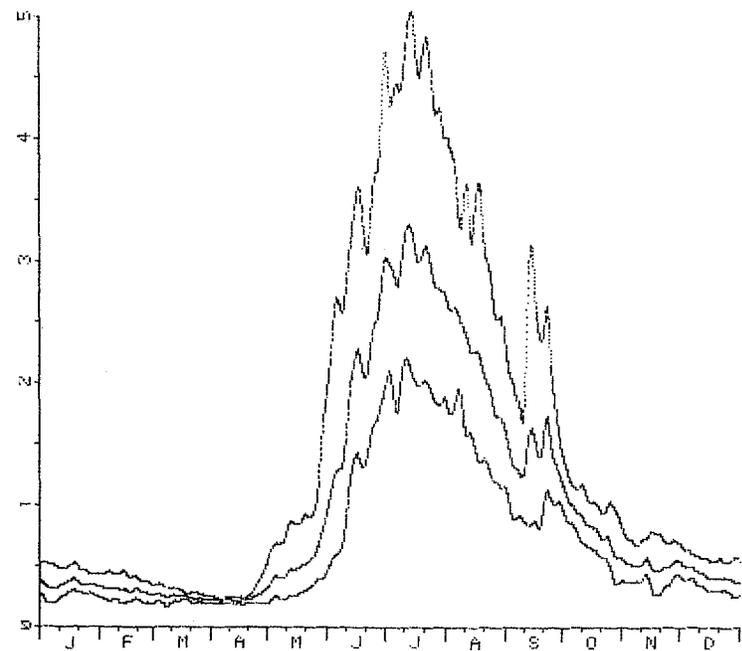
SHIP C AT ELMENDORF AFB NR ANCHORAGE 113 SQ MI
STATION NO 15276500 1963 THRU 1971



SHIP C BL POWER PLANT AT ELMENDORF AFB 15 SQ MI
STATION NO 15276570 1971 THRU 1979

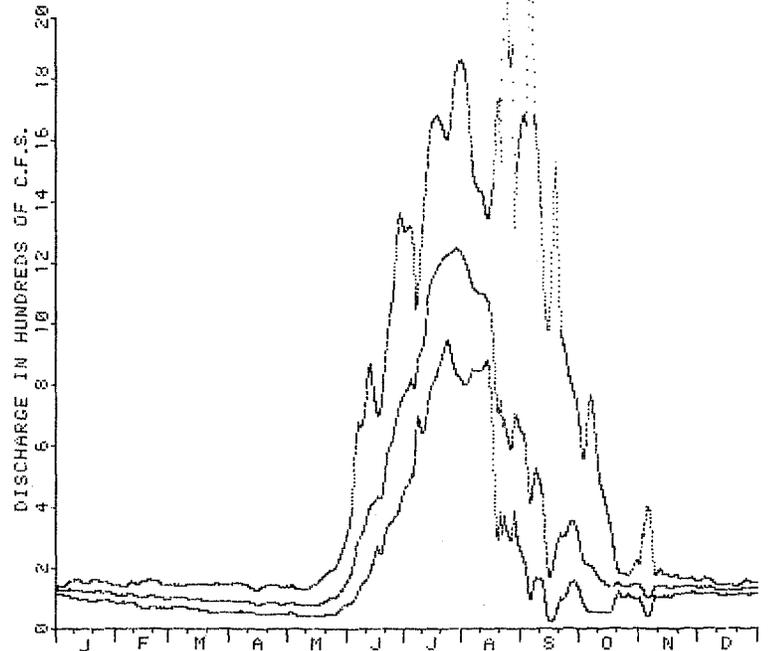


EAGLE R AT EAGLE RIVER 192 SQ MI
STATION NO 15277100 1966 THRU 1979



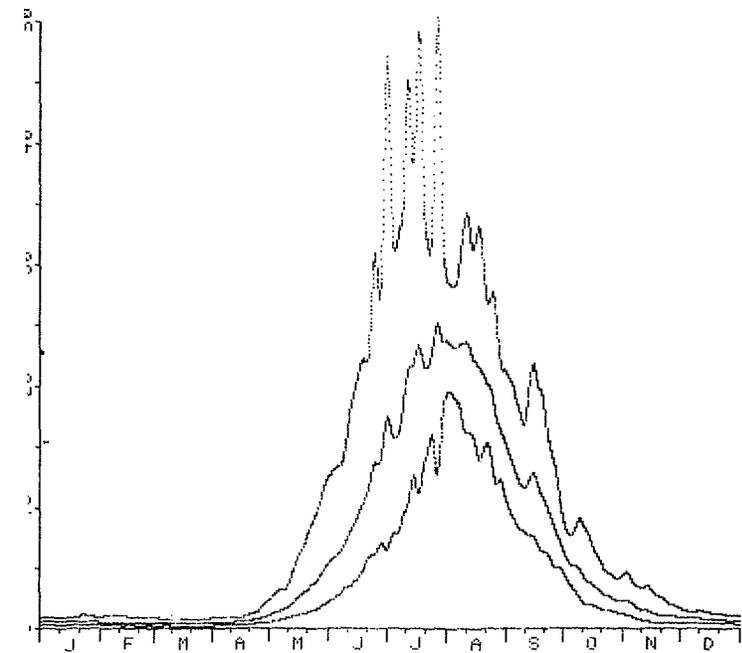
PETERS C NR BIRCHWOOD
STATION NO 15277410

87.8 SQ MI
1973 THRU 1979



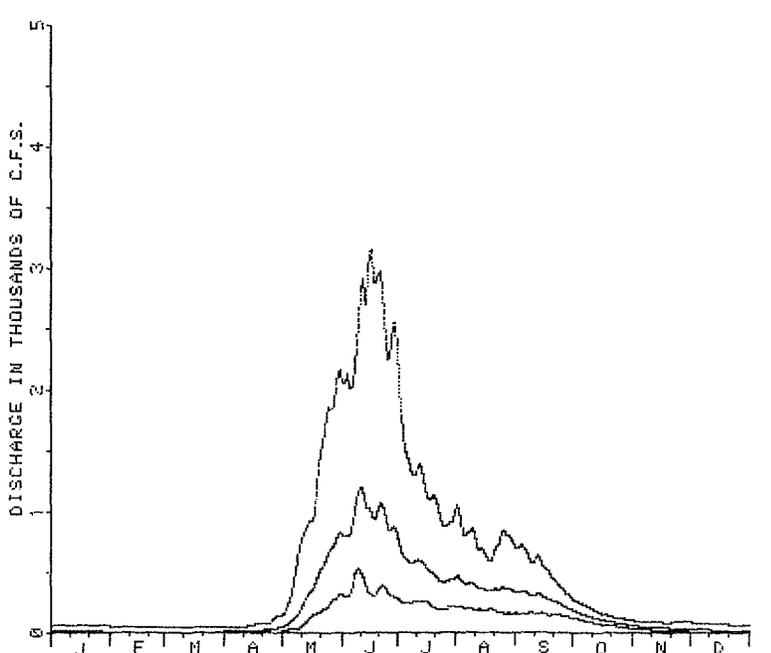
EKLUTNA C NR PALMER
STATION NO 15280000

119 SQ MI
1947 THRU 1962



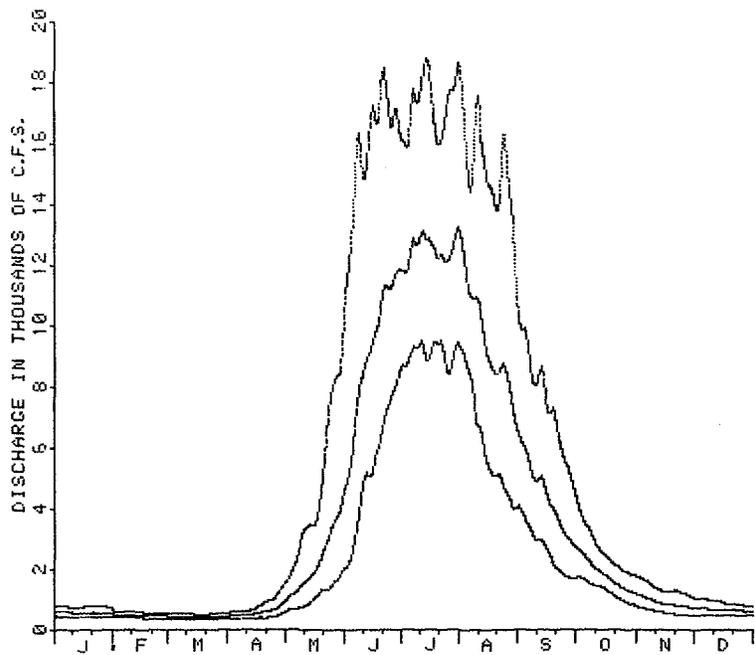
KNIK R NR PALMER
STATION NO 15281000

1180 SQ MI
1960 THRU 1979



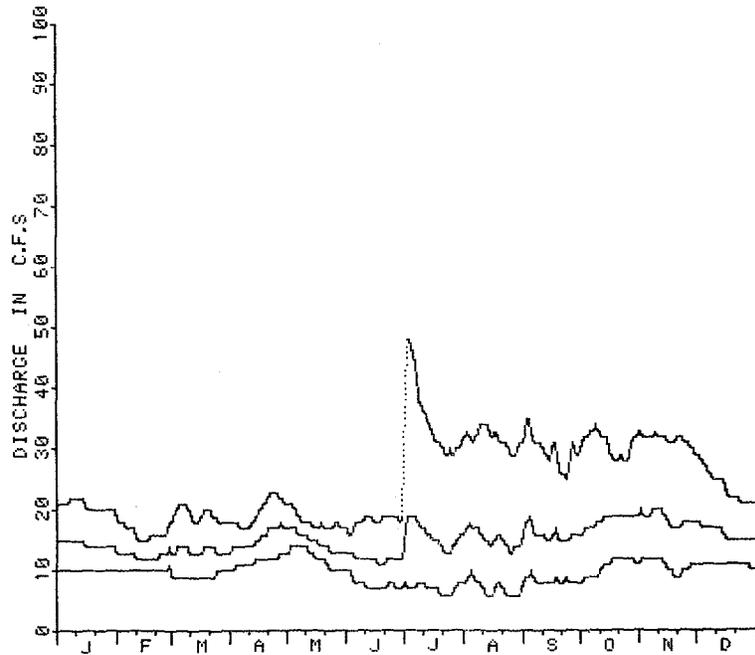
CARIBOU C NR SUTTON
STATION NO 15282000

289 SQ MI
1955 THRU 1978



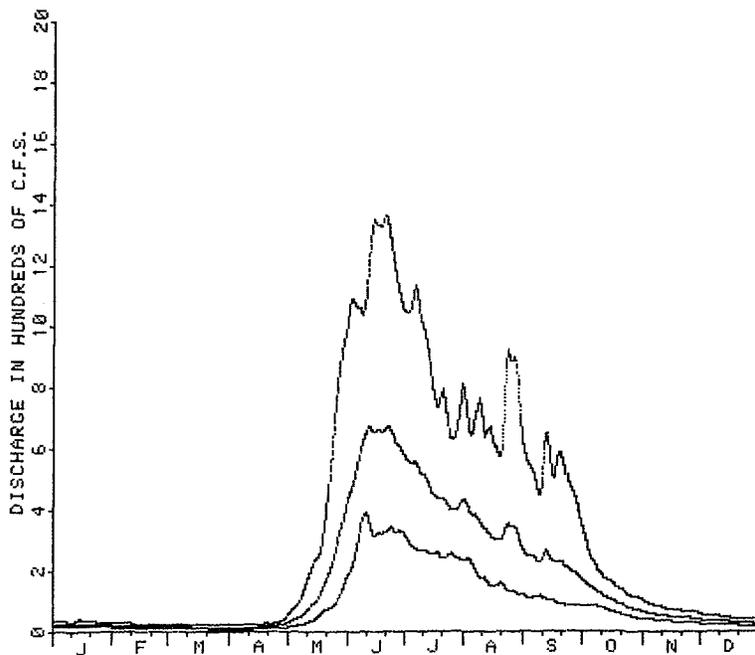
MATANUSKA R AT PALMER
STATION NO 15284000

2070 SQ MI
1949 THRU 1974



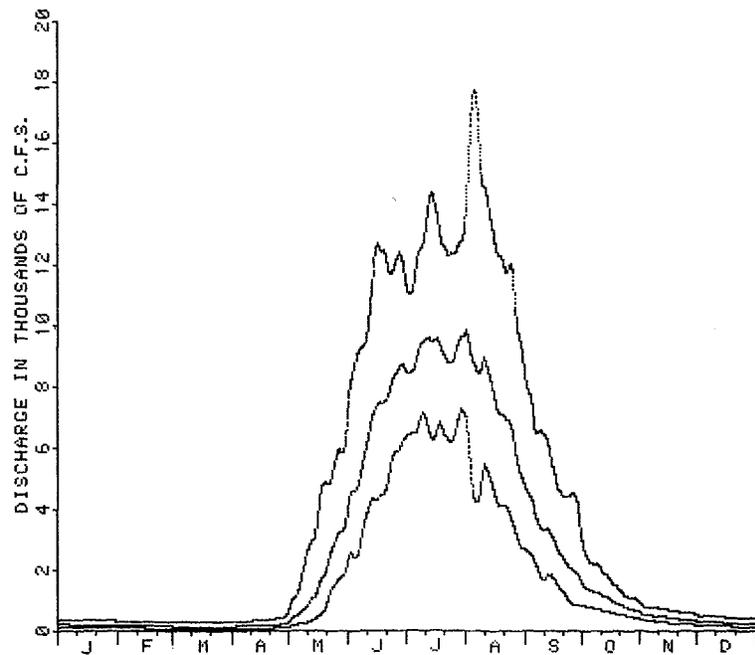
COTTONWOOD C NR WASILLA
STATION NO 15286000

28.5 SQ MI
1949 THRU 1954



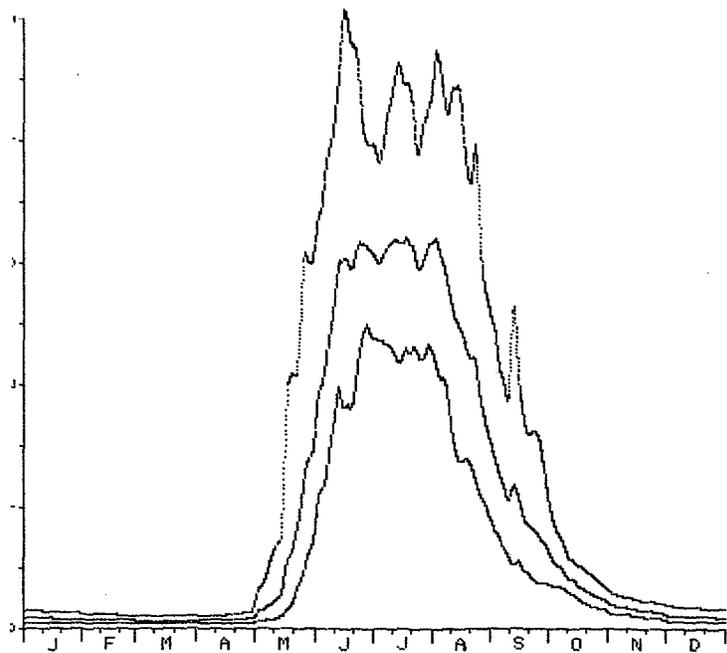
L SUSITNA R NR PALMER
STATION NO 15290000

61.9 SQ MI
1948 THRU 1979



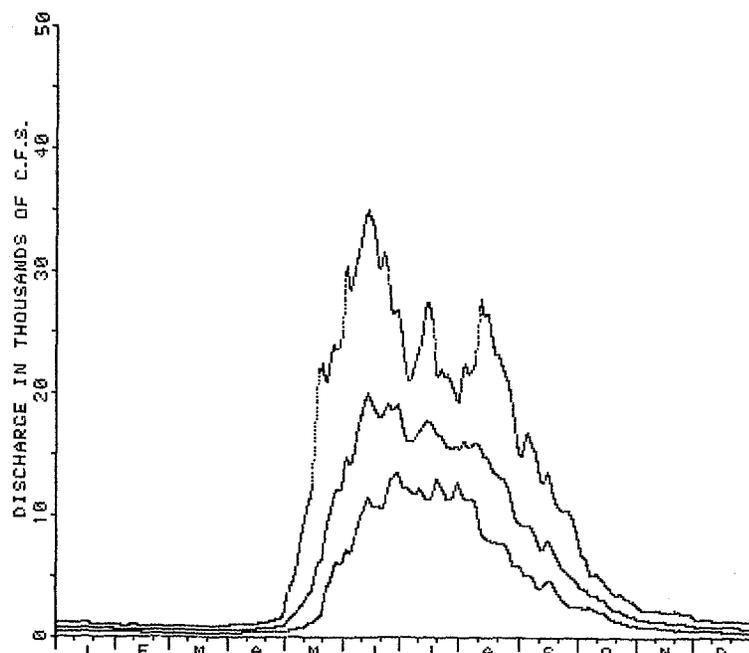
SUSITNA R NR DENALI
STATION NO 15291000

950 SQ MI
1957 THRU 1979



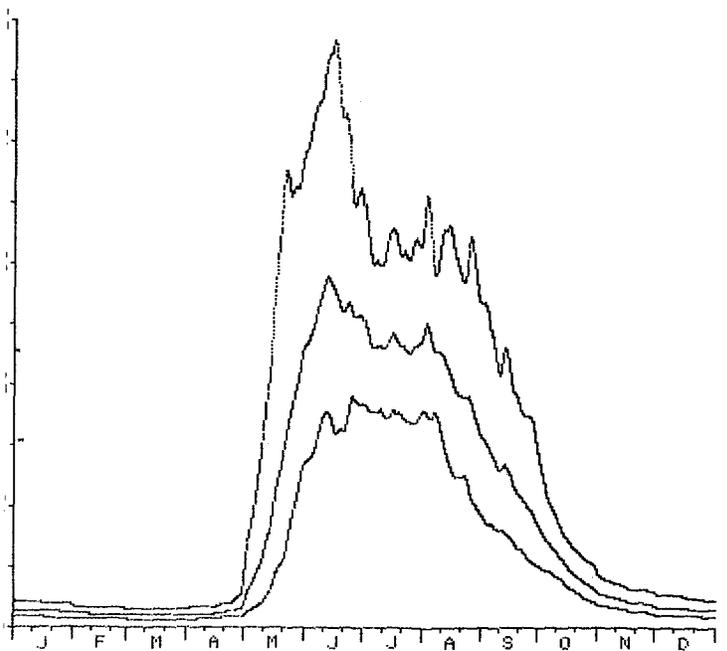
MACLAREN R NR PAXSON
STATION NO 15291200

280 SQ MI
1958 THRU 1979



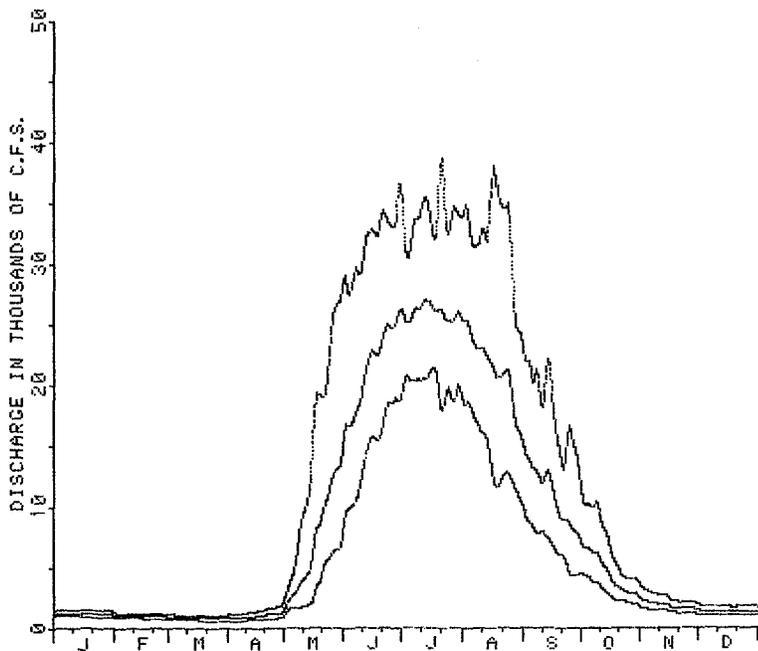
SUSITNA R NR CANTWELL
STATION NO 15291500

4140 SQ MI
1961 THRU 1972



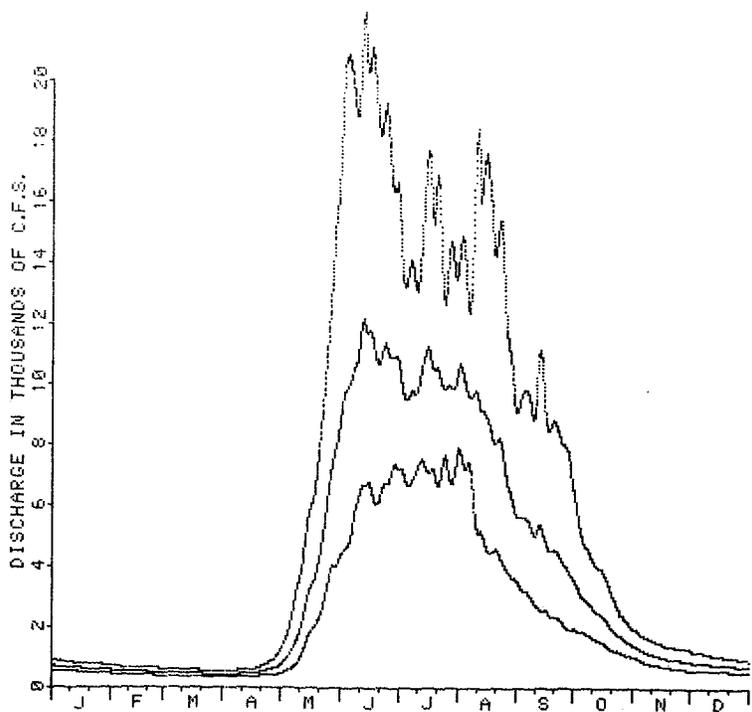
SUSITNA R AT GOLD CREEK
STATION NO 15292000

6160 SQ MI
1949 THRU 1979



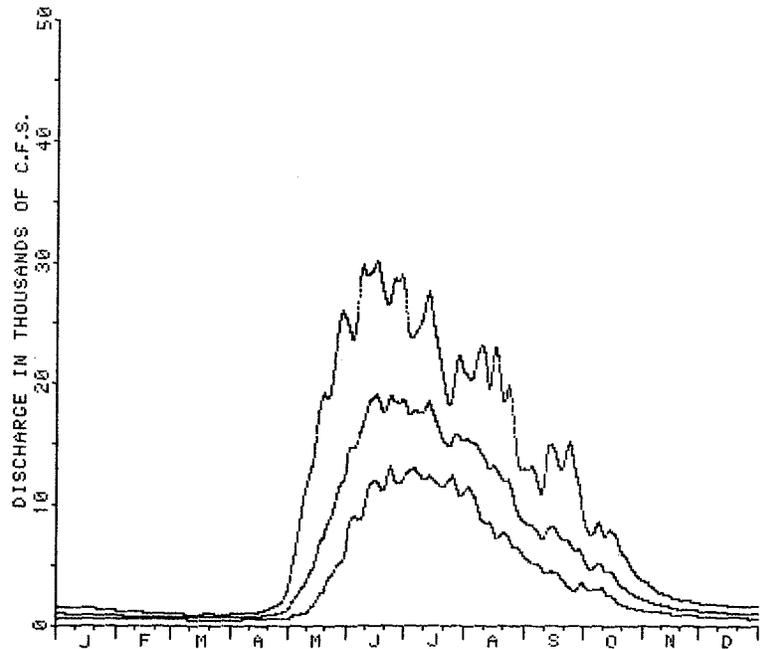
CHULITNA R NR TALKEETNA
STATION NO 15292400

2570 SQ MI
1958 THRU 1972



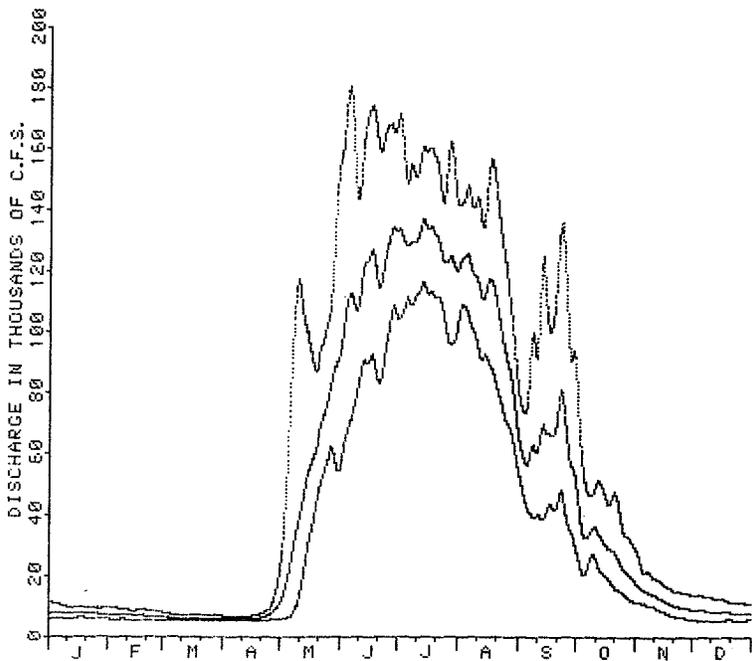
TALKEETNA R NR TALKEETNA
STATION NO 15292700

2006 SQ MI
1964 THRU 1979



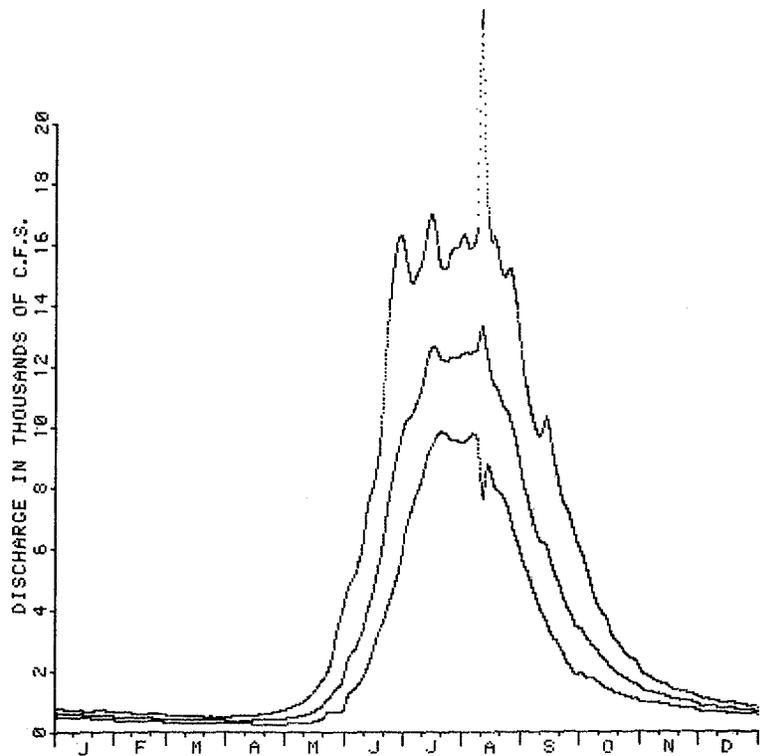
SKWENTNA R NR SKWENTNA
STATION NO 15294300

2250 SQ MI
1960 THRU 1979



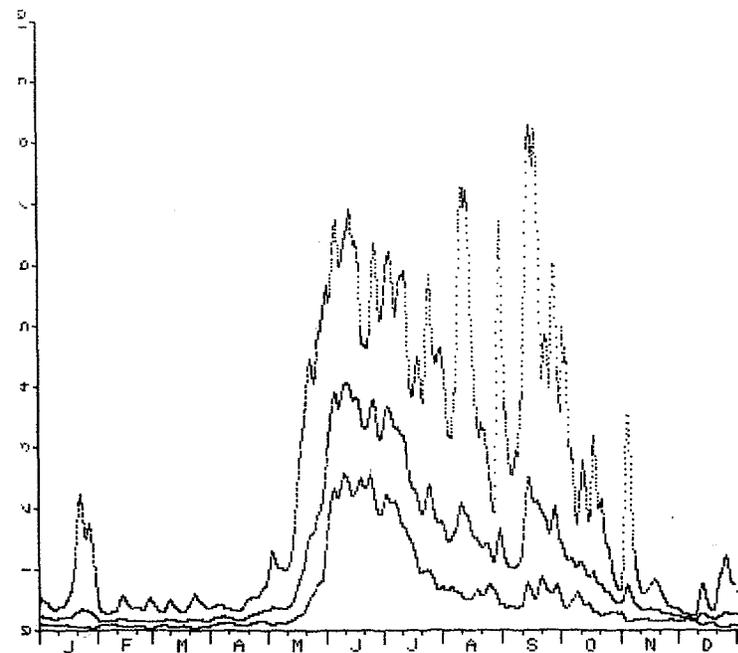
SUSITNA R AT SUSITNA STATION
STATION NO 15294350

19400 SQ MI
1975 THRU 1979



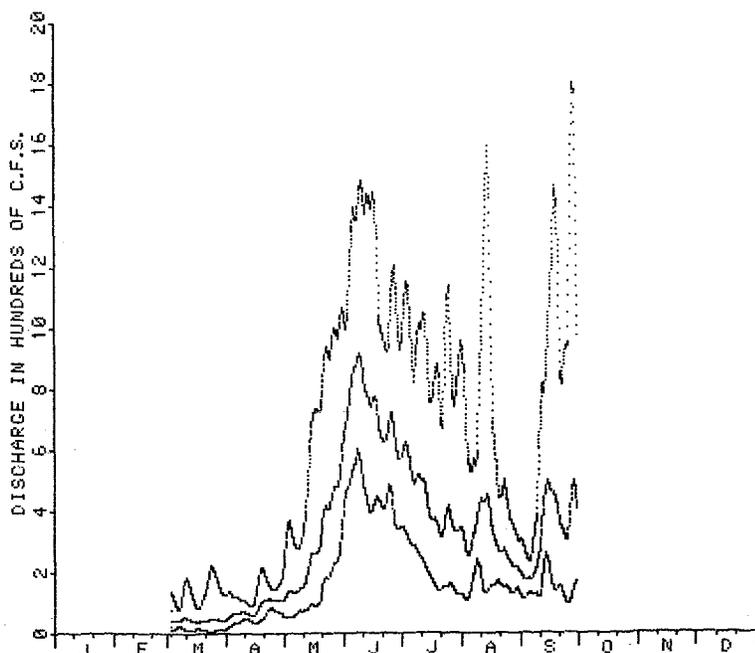
CHAKACHATNA R NR TYONEK
STATION NO 15294500

1120 SQ MI
1959 THRU 1972



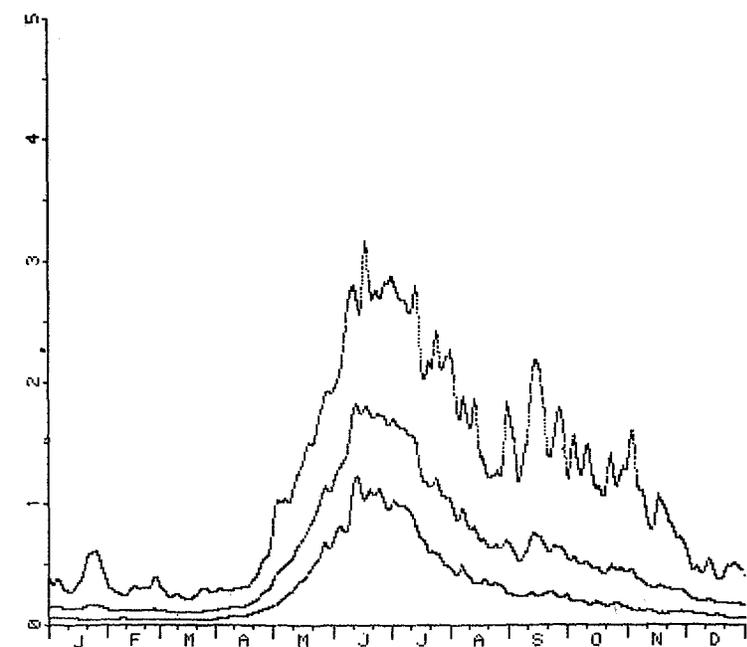
TERROR R NR KODIAK
STATION NO 15295600

15.0 SQ MI
1962 THRU 1979



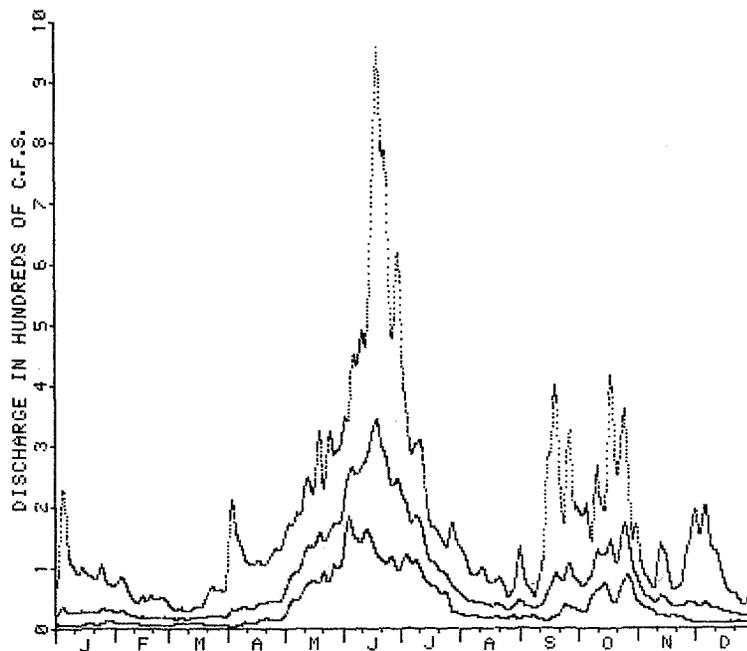
TERROR R AT MOUTH NR KODIAK
STATION NO 15295700

46.0 SQ MI
1964 THRU 1968



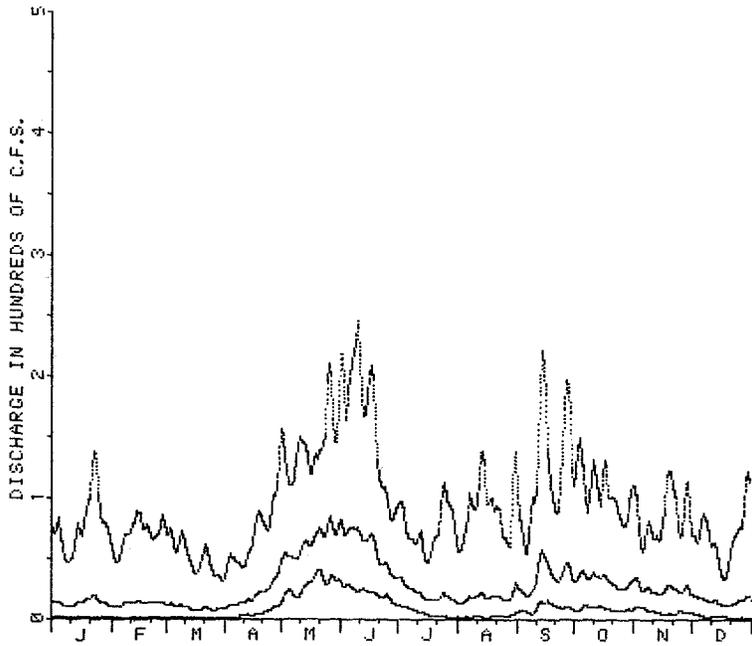
UGANIK R NR KODIAK
STATION NO 15296000

123 SQ MI
1952 THRU 1978

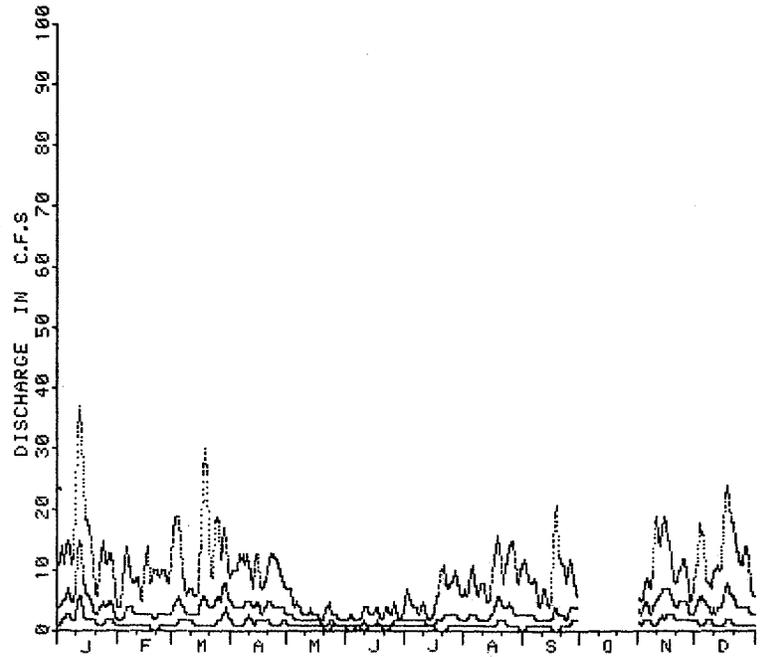


UPPER THUMB R NR LARSEN BAY
STATION NO 15296550

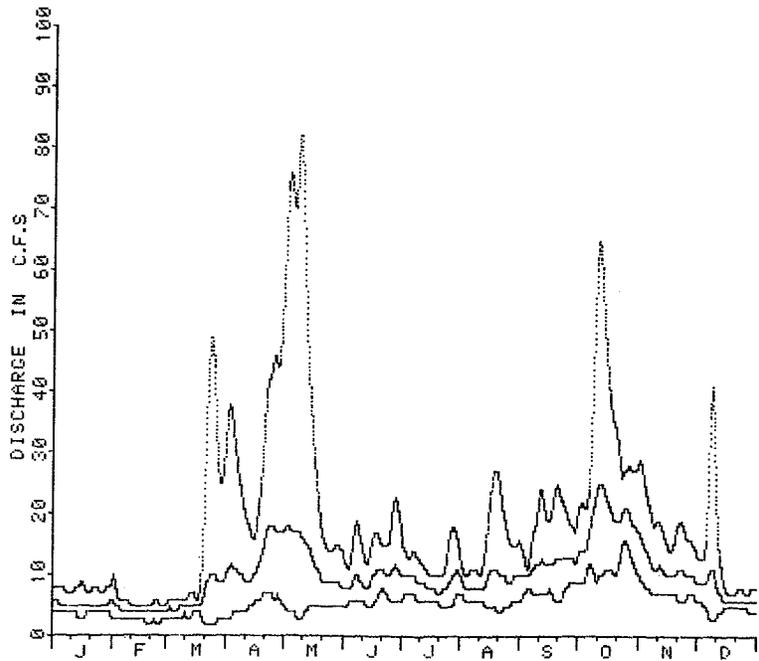
18.8 SQ MI
1974 THRU 1979



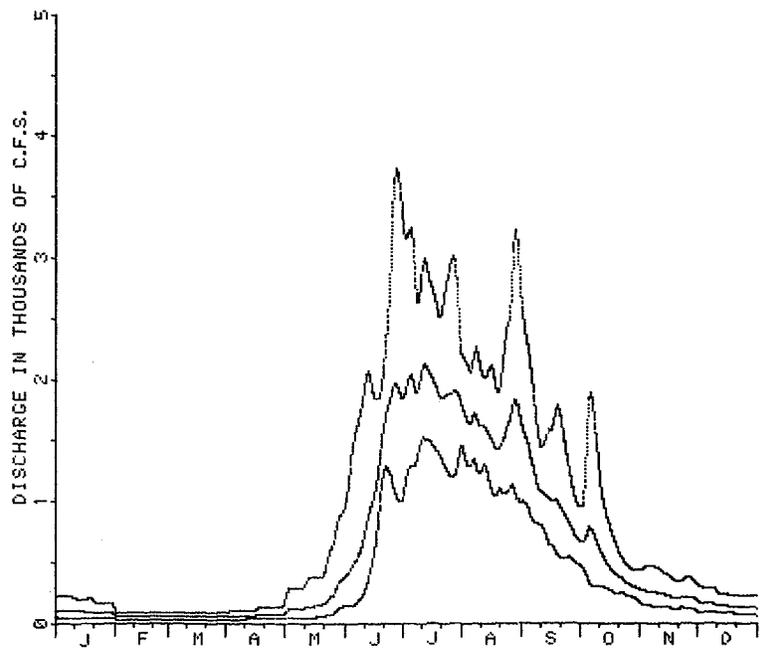
MYRTLE C NR KODIAK 4.7 SQ MI
STATION NO 15297200 1963 THRU 1979



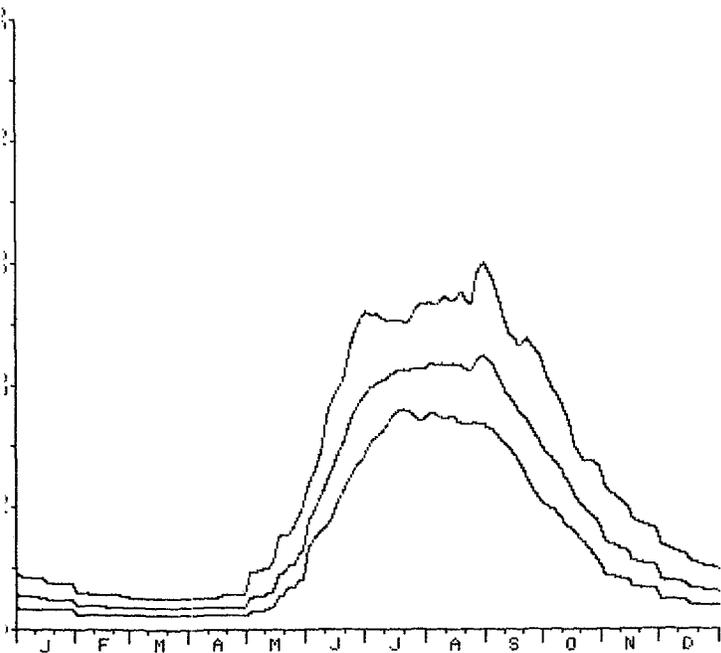
LIMPET C ON AMCHITKA IS 1.7 SQ MI
STATION NO 15297640 1968 THRU 1972



ESKIMO C AT KING SALMON 16.1 SQ MI
STATION NO 15297900 1974 THRU 1979

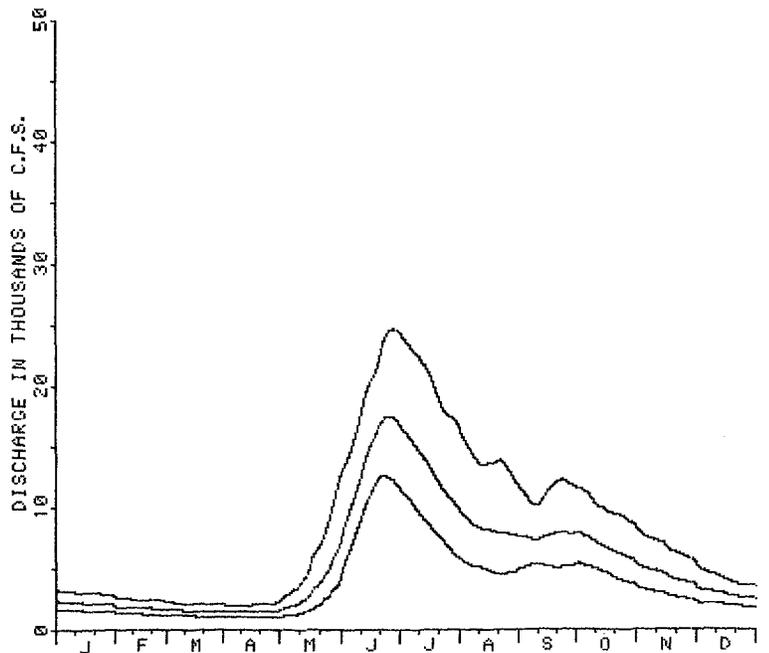


TANALIAN R NR PORT ALSWORTH 200 SQ MI
STATION NO 15298000 1951 THRU 1956



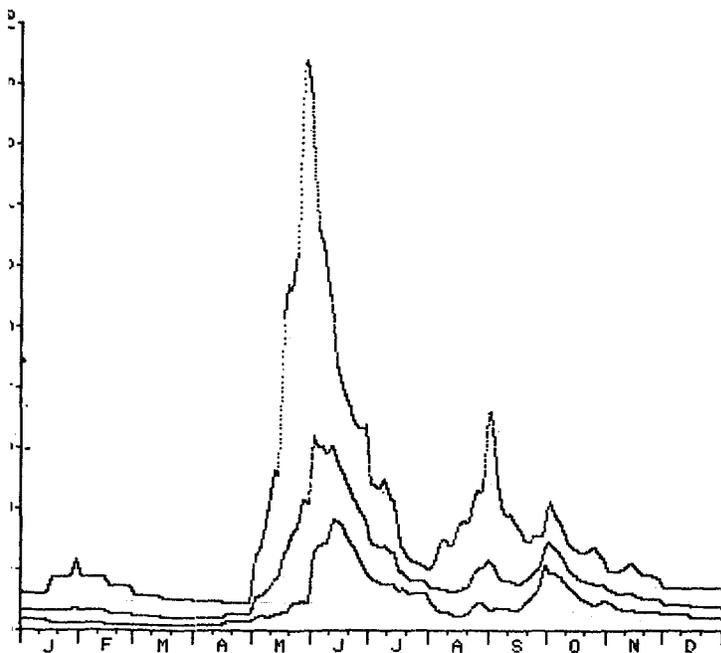
NEWHALEN R NR ILIAMNA
STATION NO 15300000

3478 SQ MI
1952 THRU 1967



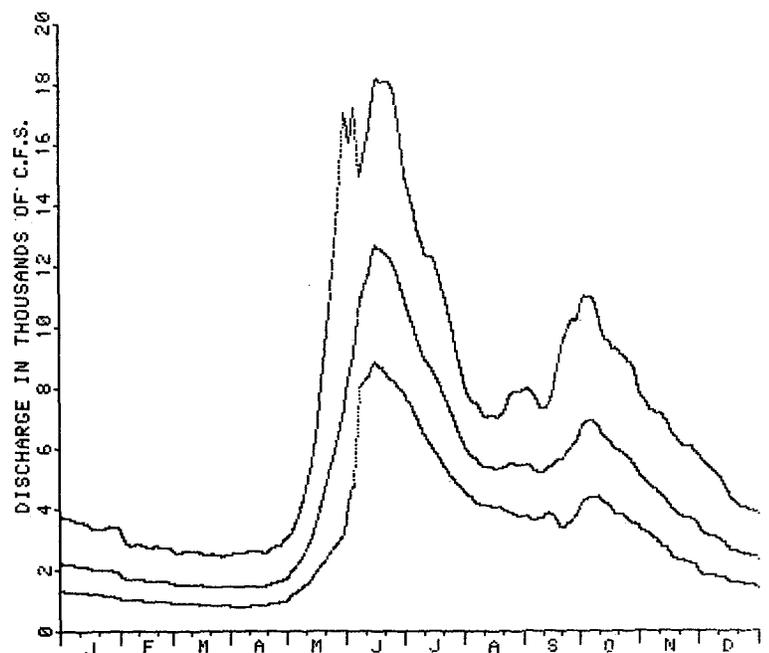
NUYAKUK R NR DILLINGHAM
STATION NO 15302000

1490 SQ MI
1954 THRU 1979



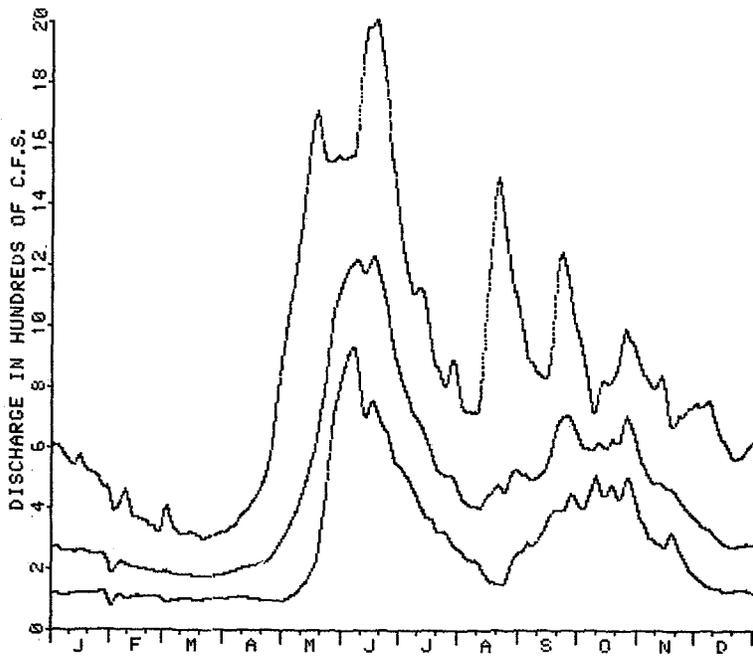
GRANT LK OUTLET NR ALEKNAGIK
STATION NO 15302800

34.3 SQ MI
1959 THRU 1965



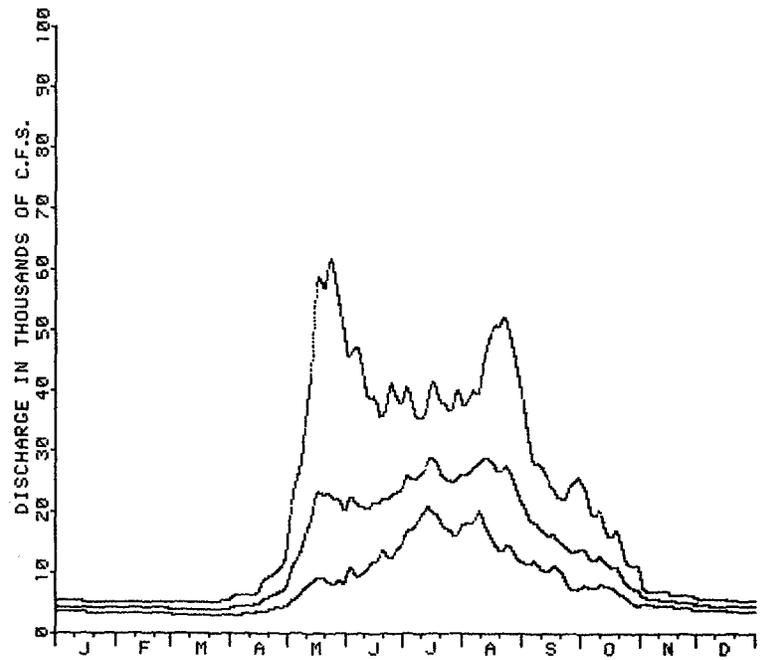
WOOD R NR ALEKNAGIK
STATION NO 15303000

1110 SQ MI
1958 THRU 1970



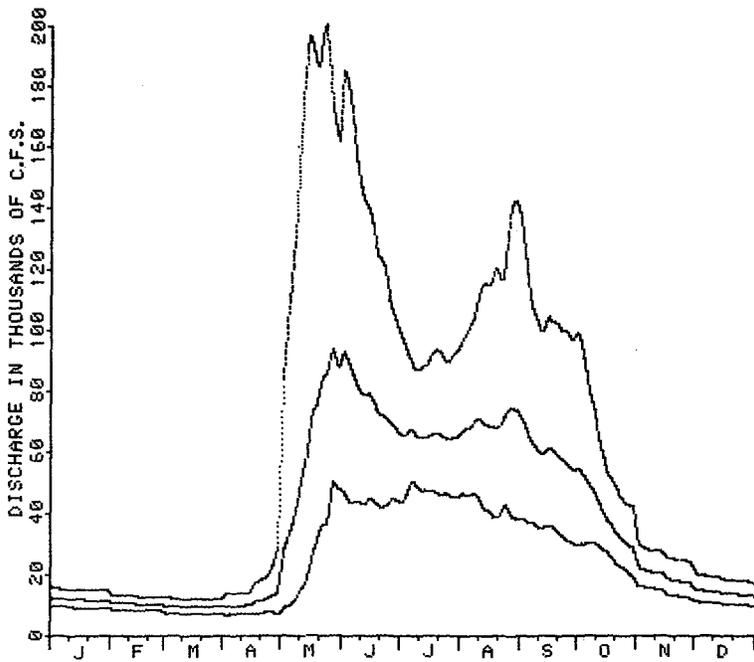
Snake R nr Dillingham
Station No 15303150

113 SQ MI
1973 thru 1979



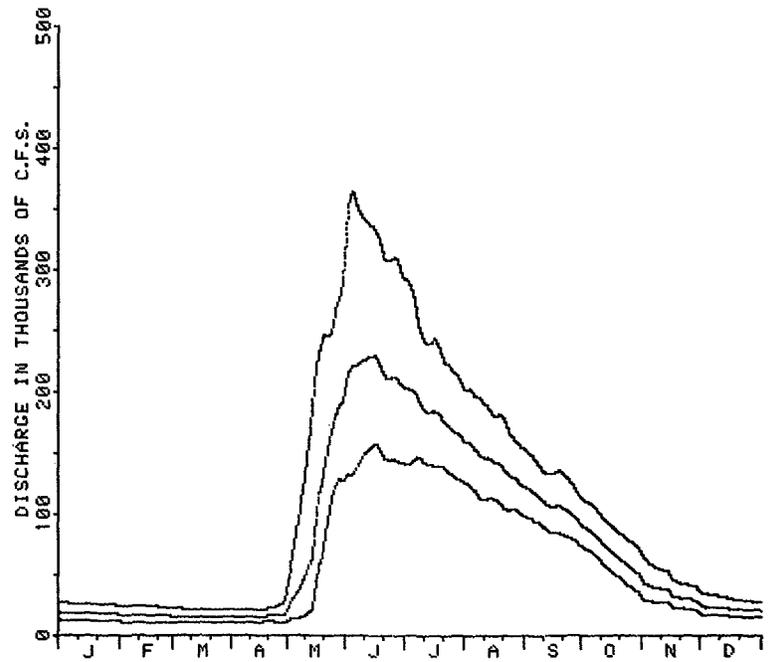
Kuskokwim R at McGrath
Station No 15303600

1700SQ MI
1963 thru 1973



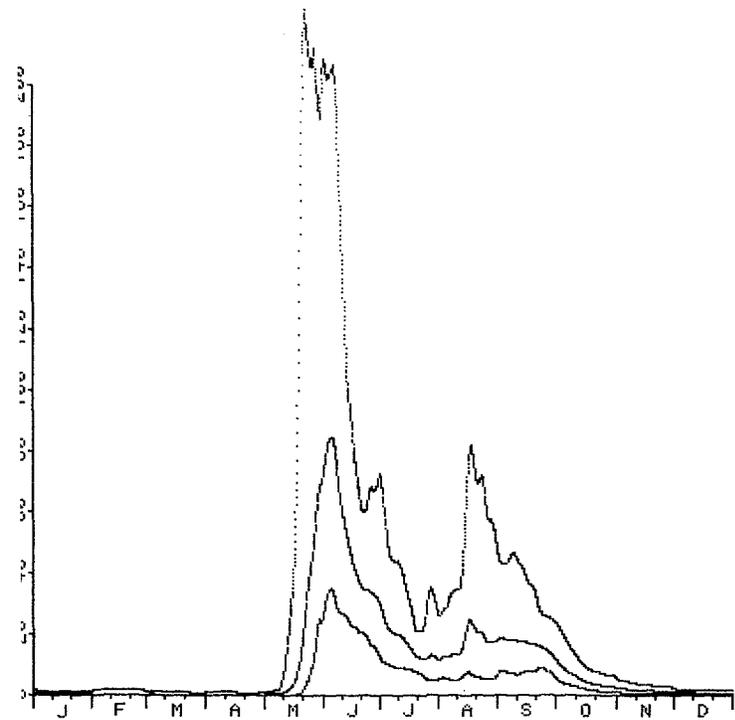
Kuskokwim R at Crooked Creek
Station No 15304000

31100SQ MI
1952 thru 1979



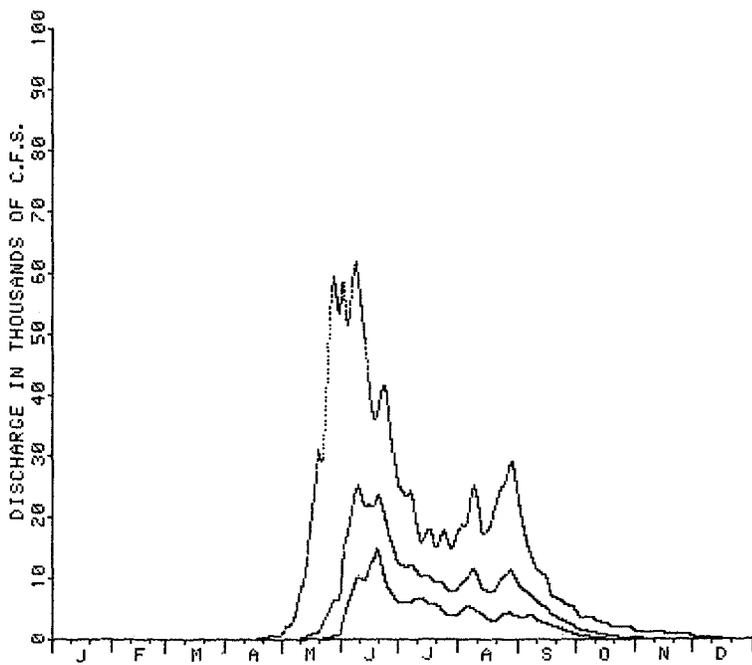
Yukon R at Eagle
Station No 15356000

113500 SQ MI
1951 thru 1979



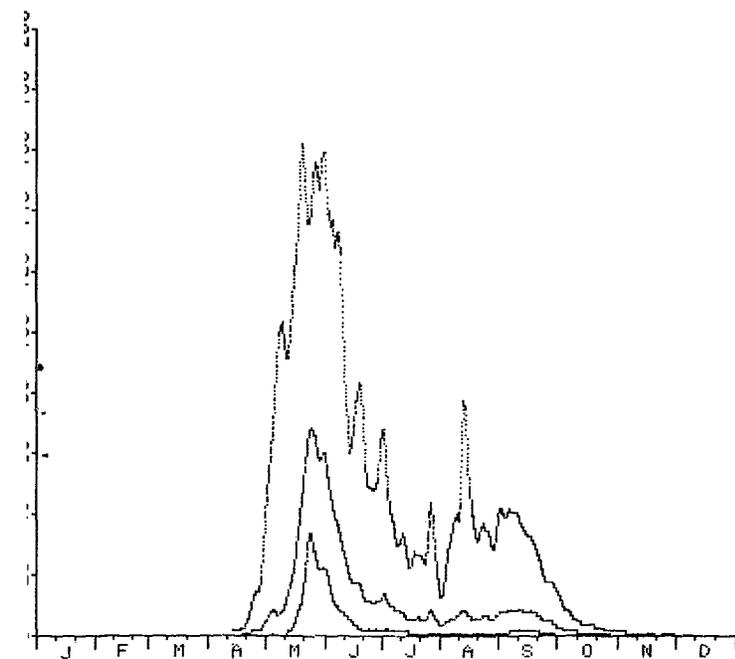
PORCUPINE R NR FORT YUKON
STATION NO 15389000

29500 SQ MI
1964 THRU 1979



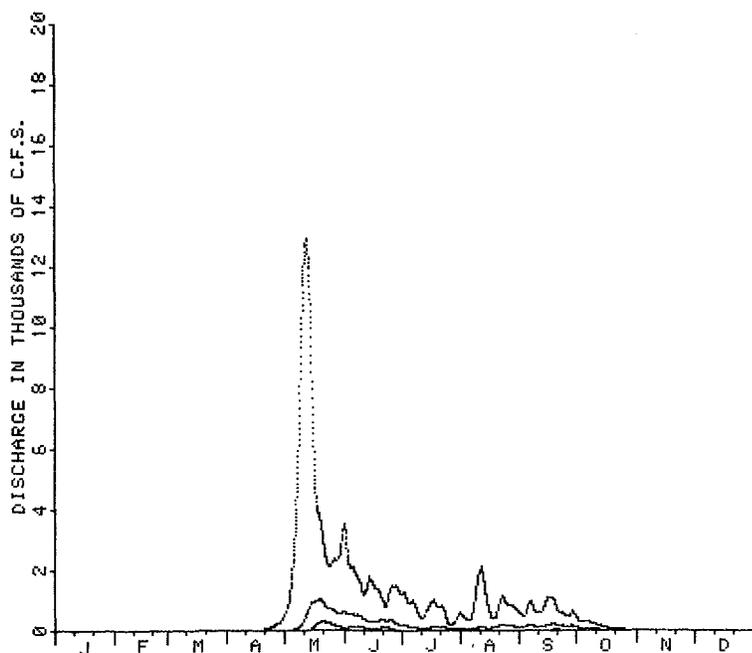
CHANDALAR R NR VENETIE
STATION NO 15389500

9300 SQ MI
1963 THRU 1973



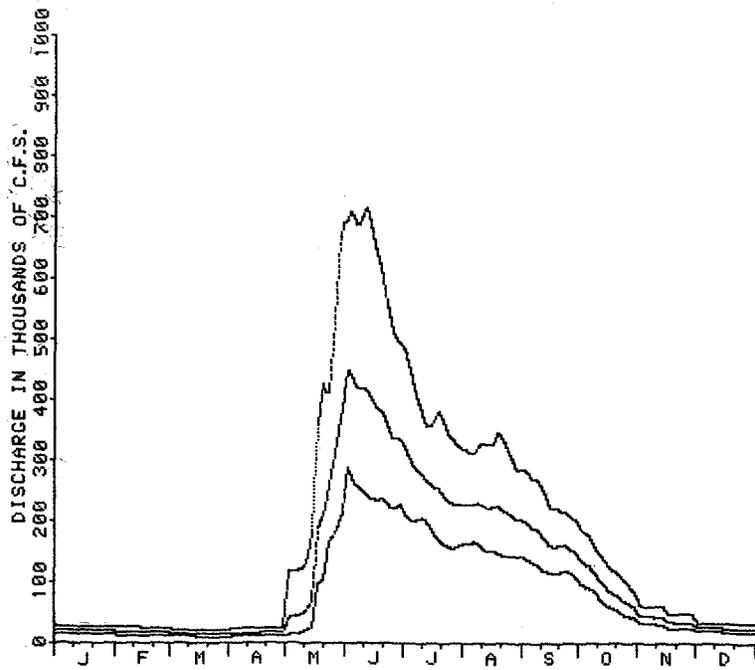
BOULDER C NR CENTRAL
STATION NO 15439800

31.3 SQ MI
1966 THRU 1979



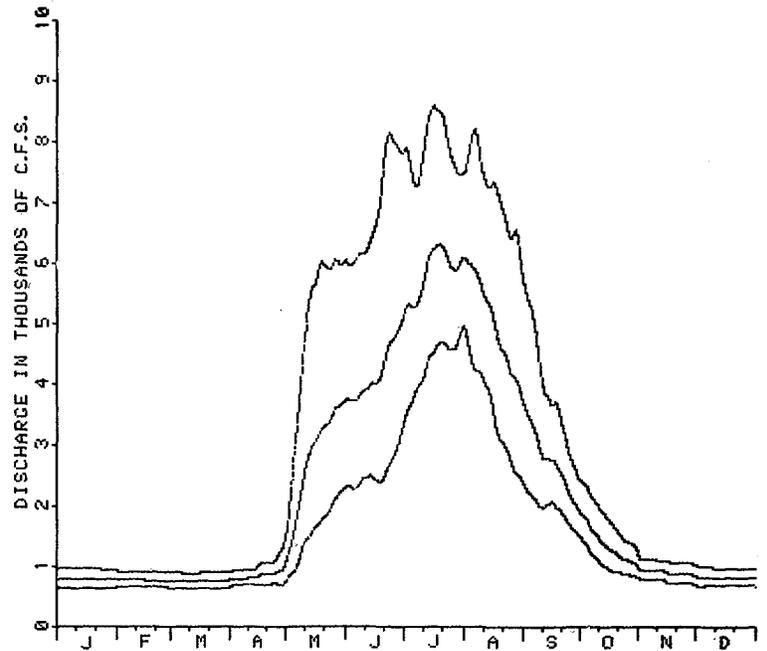
HESS C NR LIVENGOOD
STATION NO 15457800

662 SQ MI
1970 THRU 1978



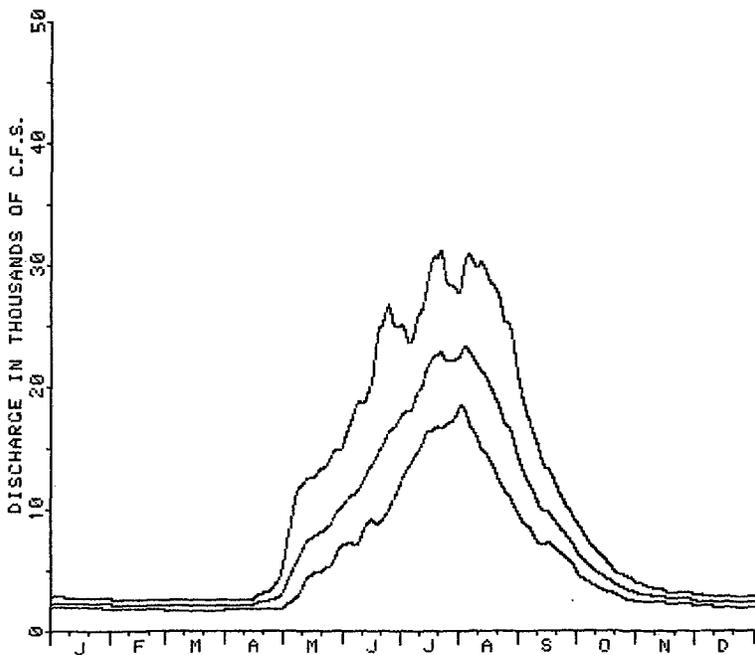
YUKON R AT RAMPART
STATION NO 15468000

139400 SQ MI
1956 THRU 1967



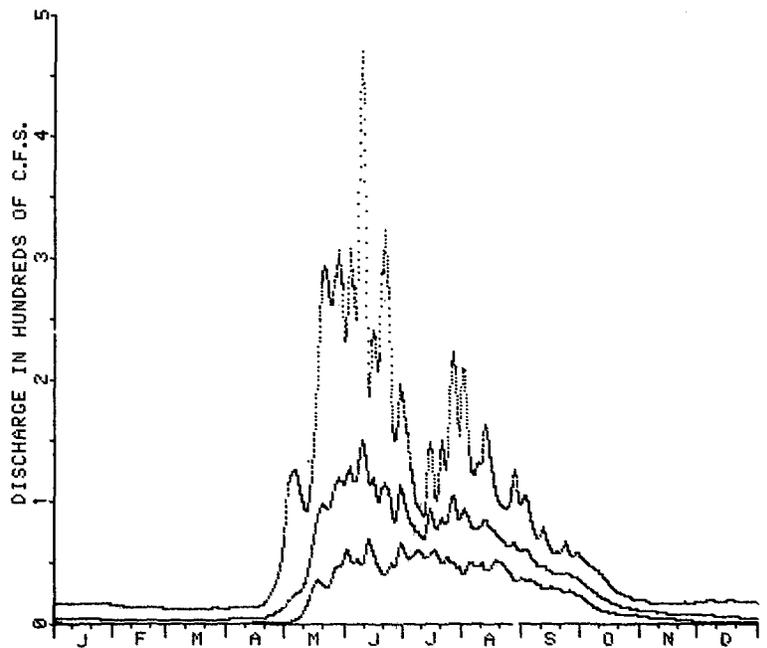
CHISANA R AT NORTHWAY
STATION NO 15470000

3200 SQ MI
1950 THRU 1971



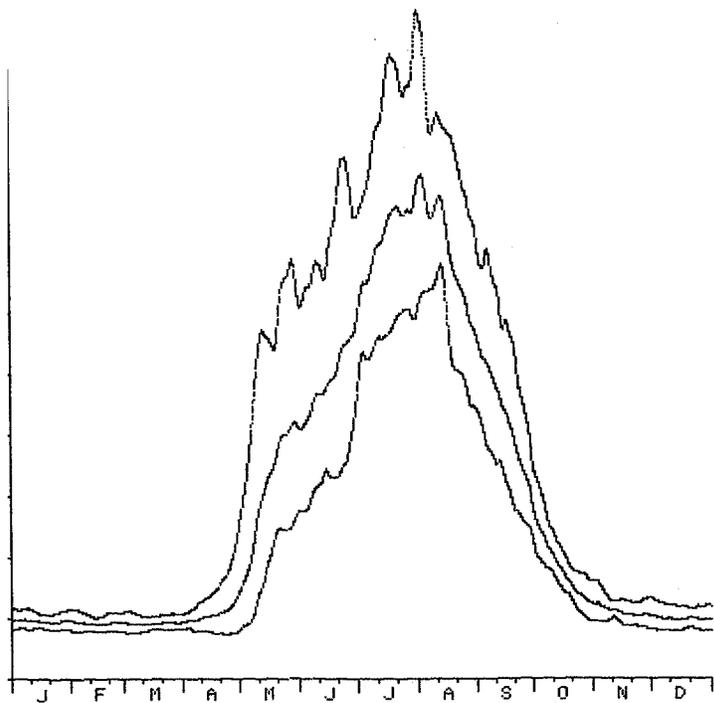
TANANA R NR TANACROSS
STATION NO 15476000

8550 SQ MI
1954 THRU 1979

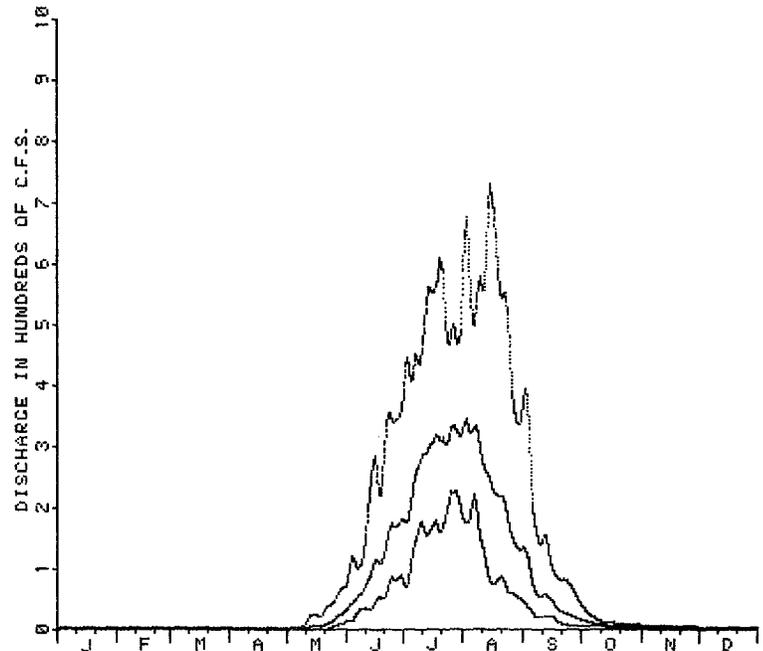


BERRY C NR DOT LAKE
STATION NO 15476300

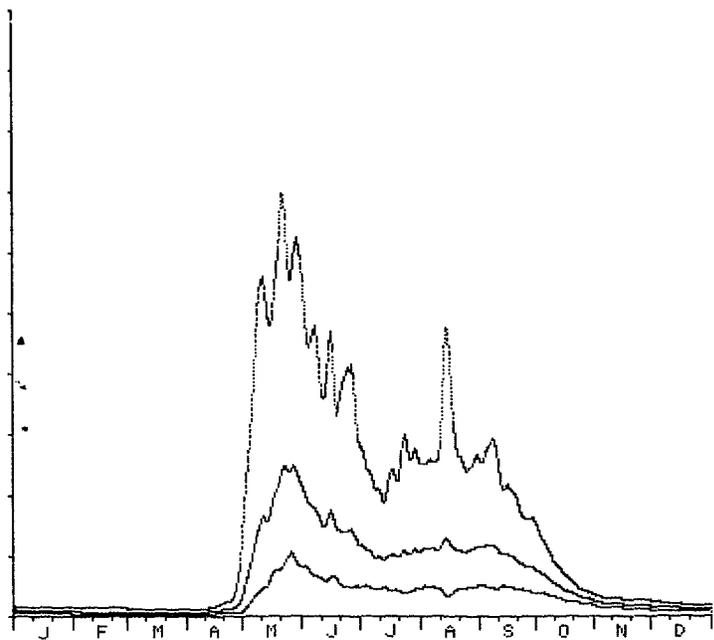
65.1 SQ MI
1971 THRU 1979



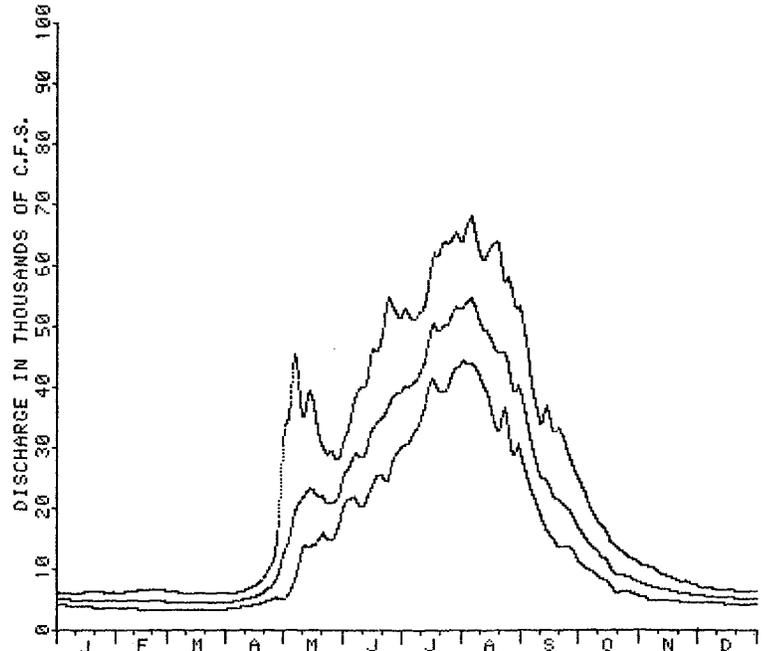
TANANA R AT BIG DELTA 13500 SQ MI
STATION NO 15478000 1949 THRU 1957



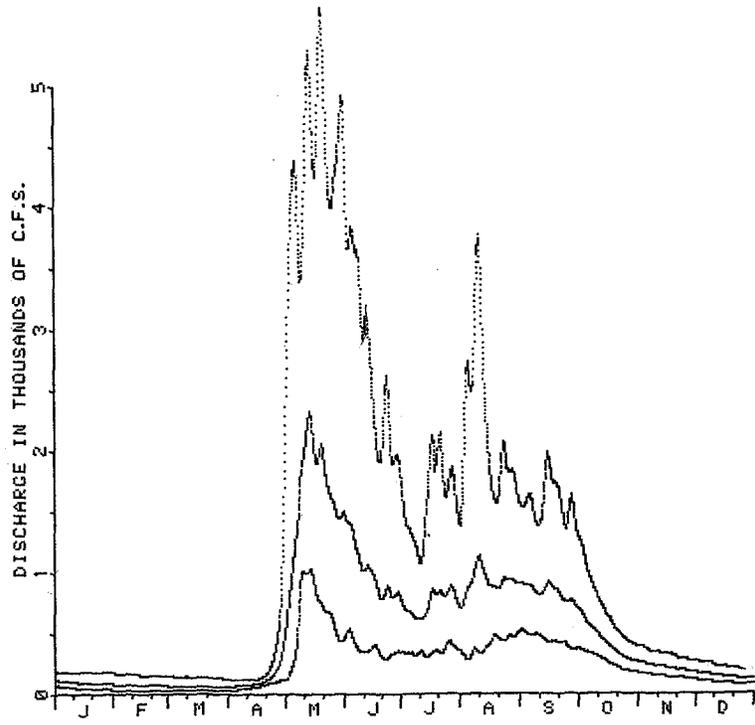
PHELAN C NR PAXSON 12.2 SQ MI
STATION NO 15478040 1967 THRU 1978



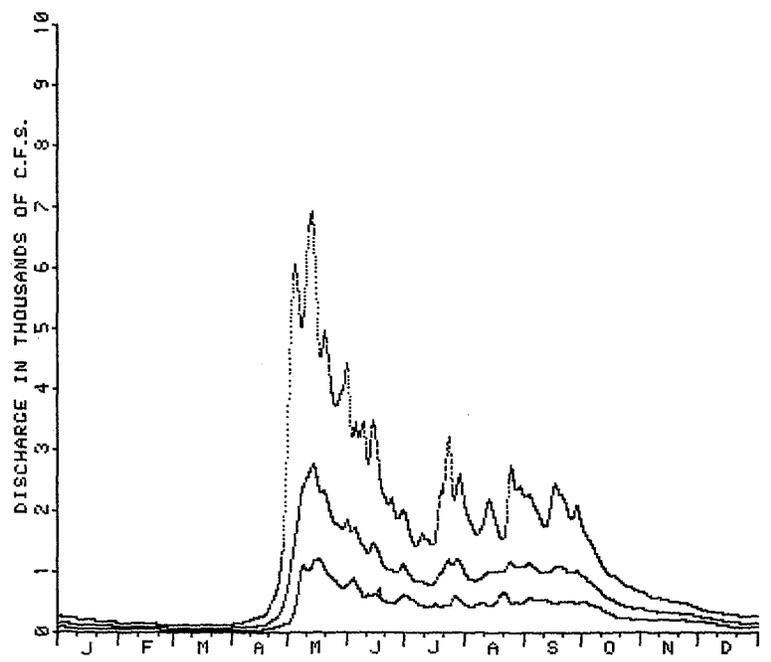
SALCHA R NR SALCHAKET 2170 SQ MI
STATION NO 15484000 1949 THRU 1979



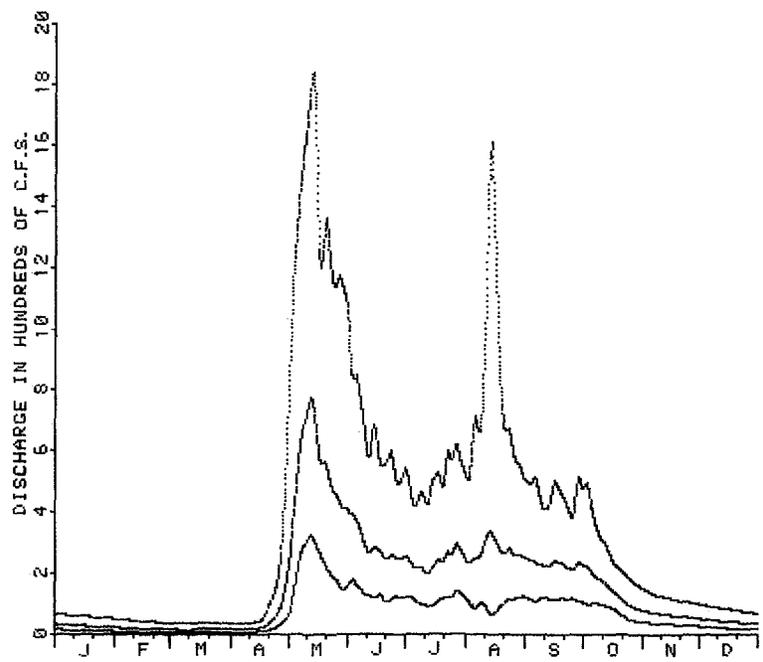
TANANA R AT FAIRBANKS XXXXX SQ MI
STATION NO 15485500 1973 THRU 1979



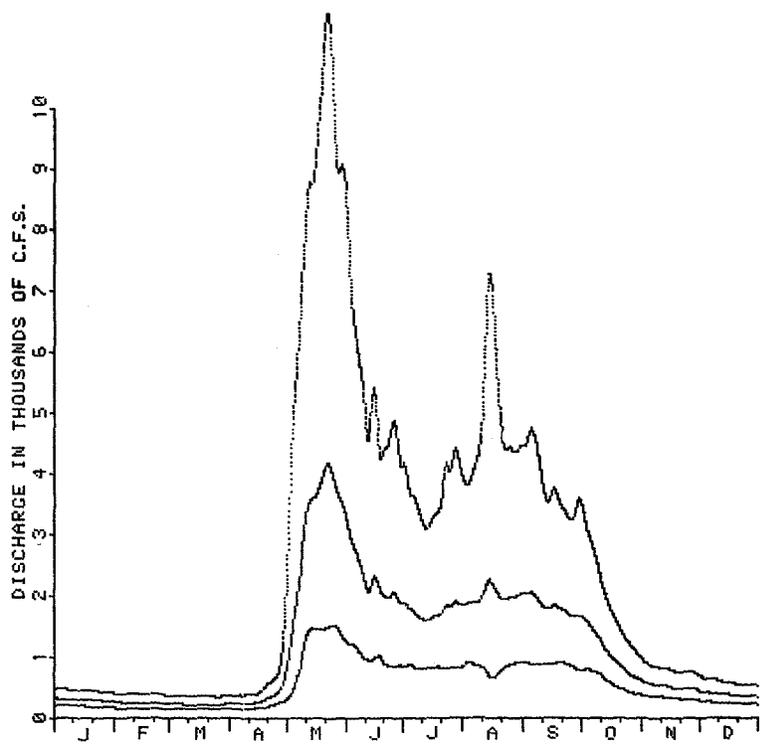
CHENA R NR TWO RIVERS 941 SQ MI
STATION NO 15493000 1968 THRU 1979



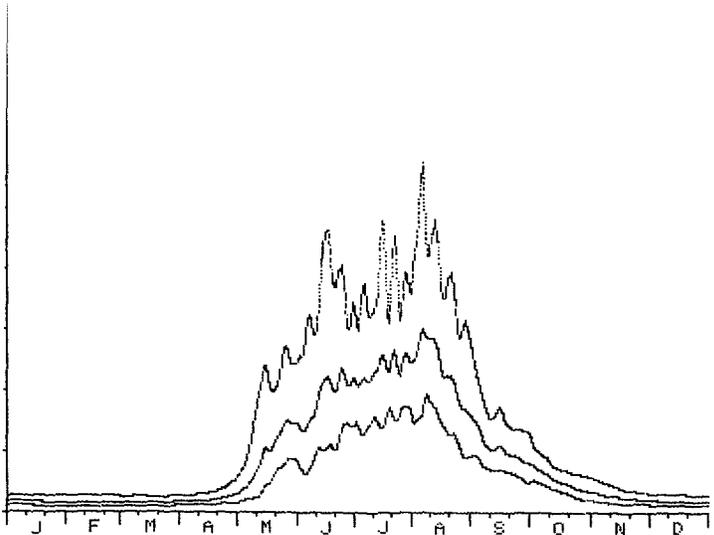
CHENA R NR NORTH POLE 1430 SQ MI
STATION NO 15493500 1972 THRU 1979



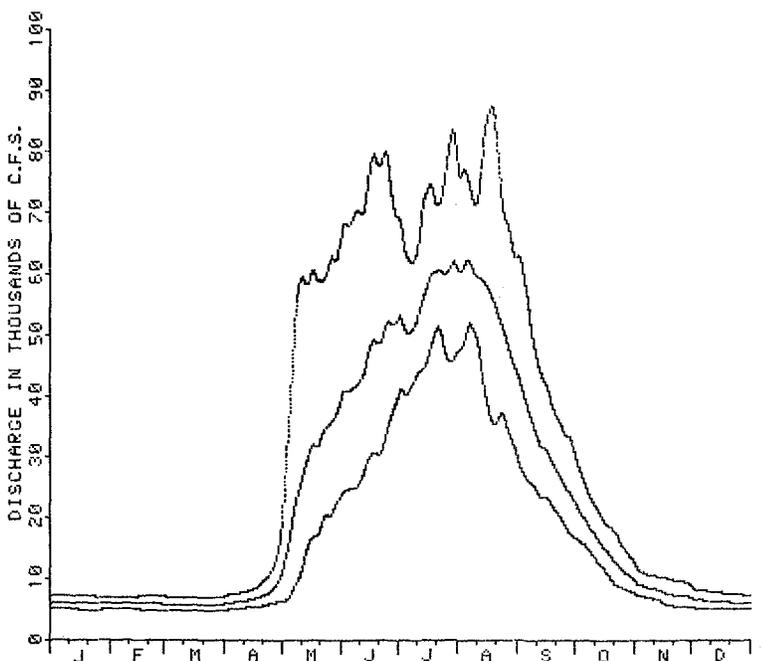
L CHENA R NR FAIRBANKS 372 SQ MI
STATION NO 15511000 1966 THRU 1979



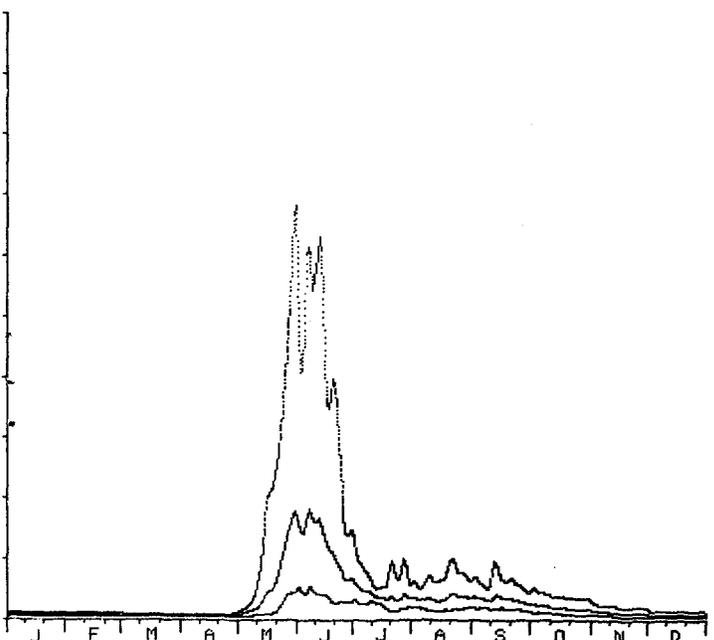
CHENA R AT FAIRBANKS 1980 SQ MI
STATION NO 15514000 1948 THRU 1979



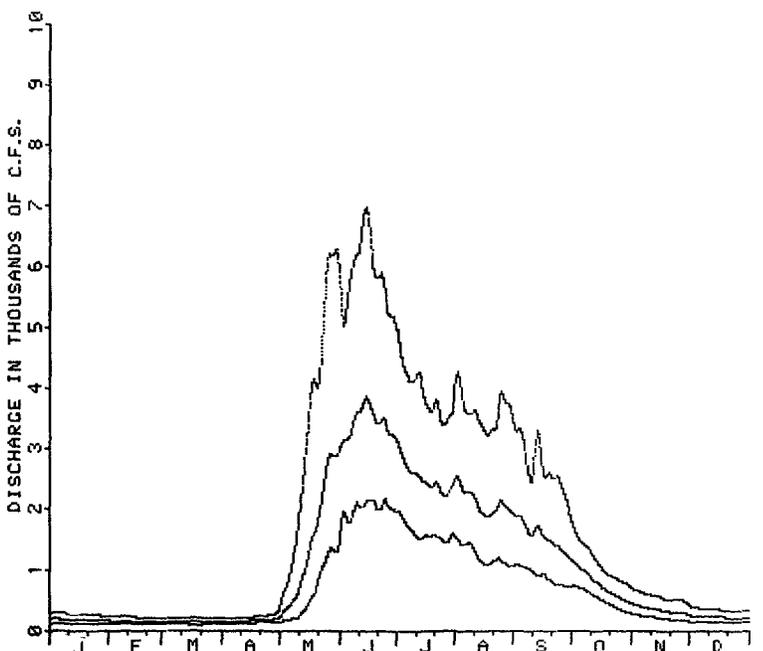
WOOD R NR FAIRBANKS
STATION NO 15514500
855 SQ MI
1968 THRU 1979



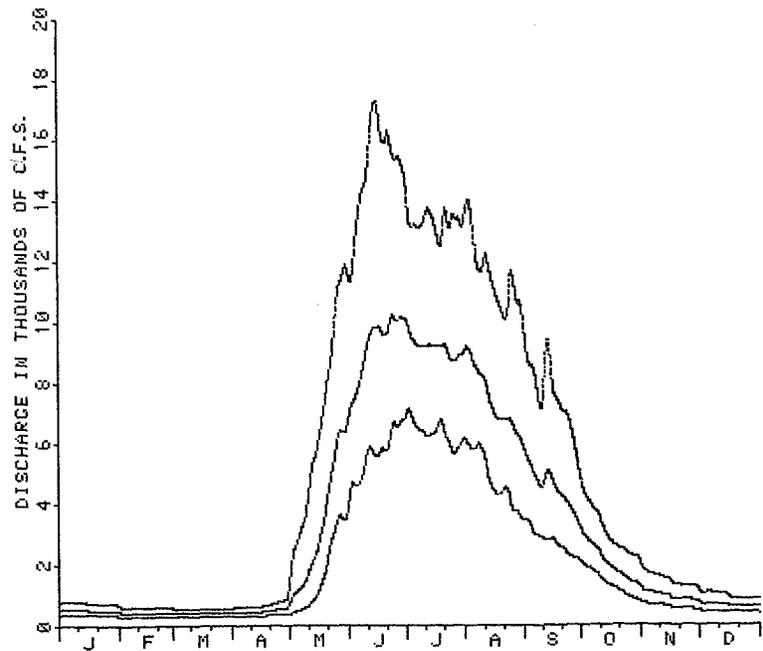
TANANA R AT NENANA
STATION NO 15515500
25600 SQ MI
1962 THRU 1979



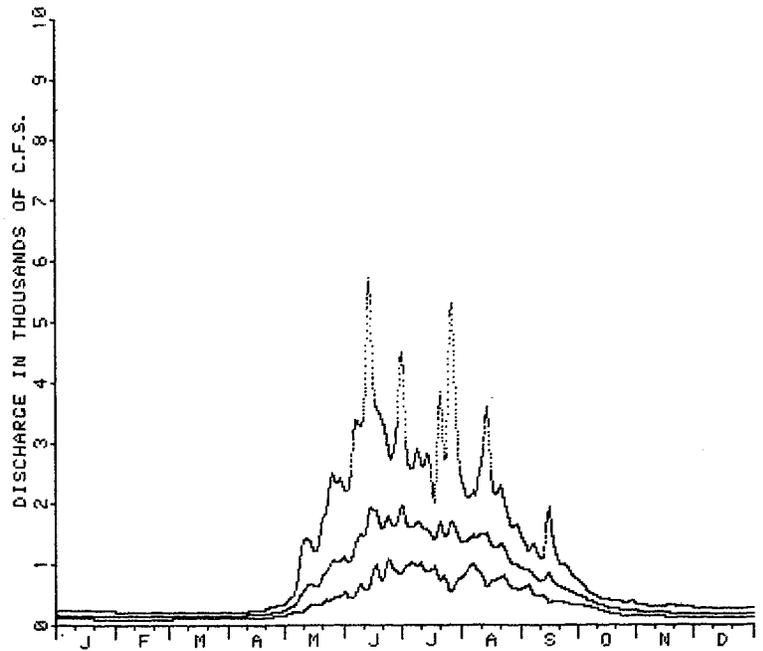
SEATTLE C NR CANTWELL
STATION NO 15515000
36.2 SQ MI
1966 THRU 1975



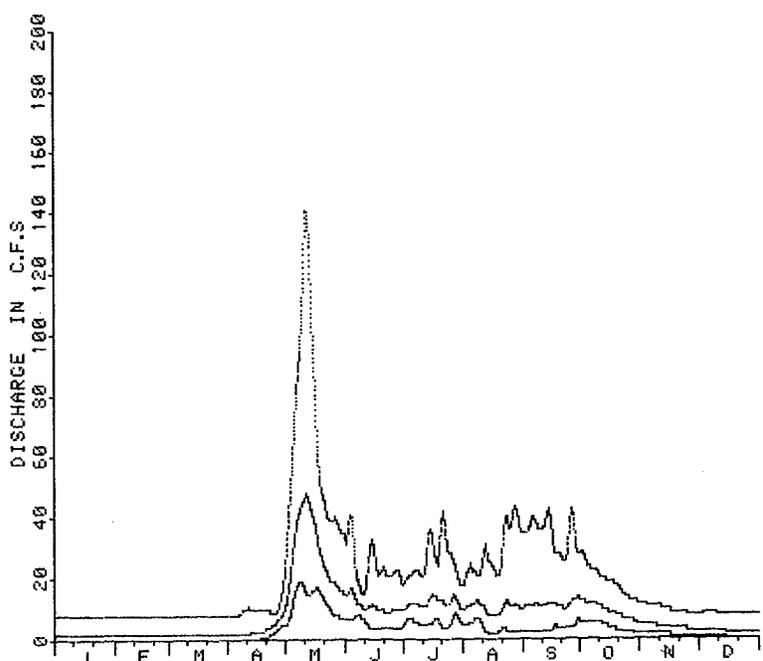
NENANA R NR WINDY
STATION NO 15516000
710 SQ MI
1951 THRU 1973



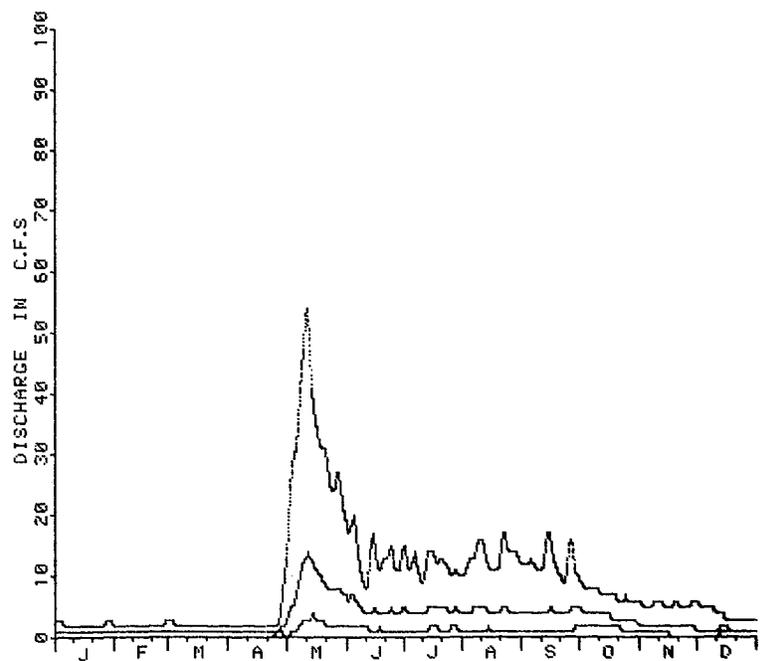
NENANA R NR HEALY
STATION NO 15518000
1910 SQ MI
1951 THRU 1979



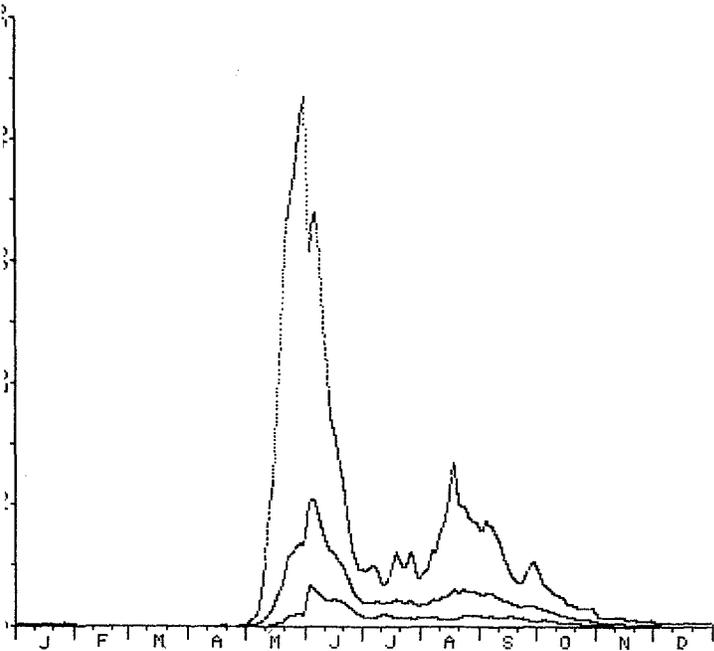
TEKLANIKA R NR LIGNITE
STATION NO 15518350
490 SQ MI
1965 THRU 1974



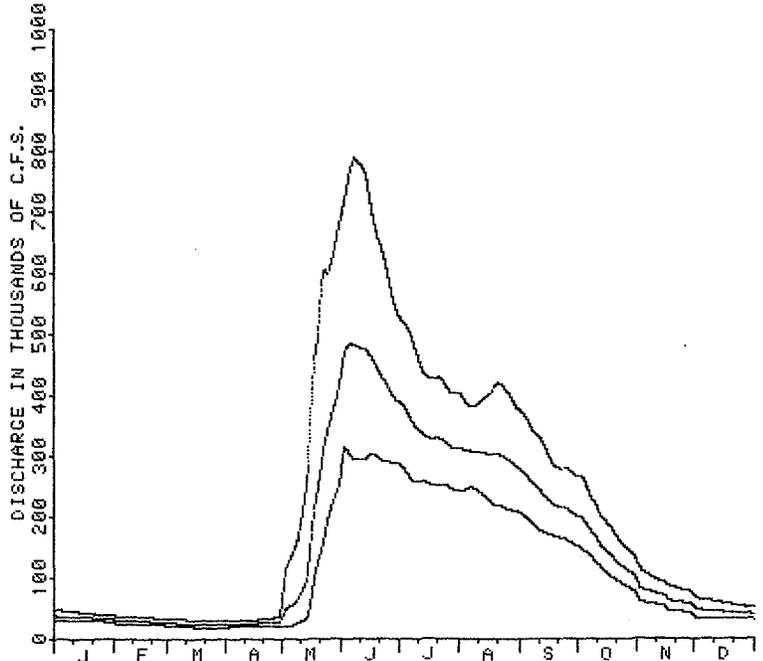
POKER C NR CHATANIKA
STATION NO 15534900
23.1 SQ MI
1971 THRU 1978



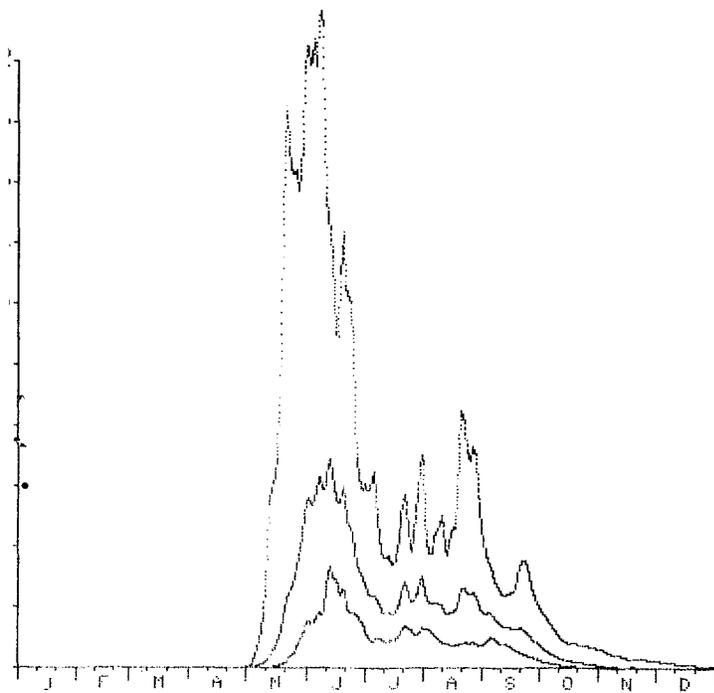
CARIBOU C NR CHATANIKA
STATION NO 15535000
9.2 SQ MI
1970 THRU 1979



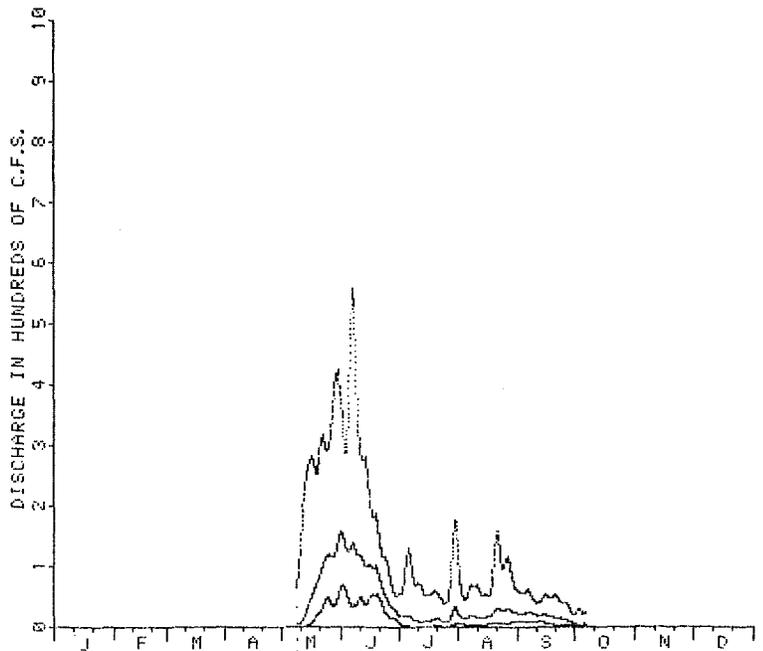
MELOZITNA R NR RUBY
STATION NO 15564600
2693 SQ MI
1961 THRU 1973



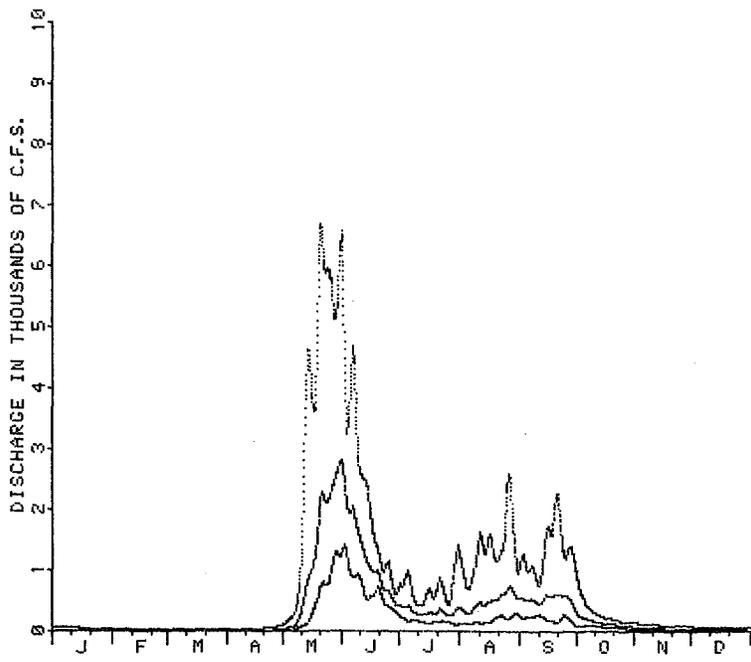
YUKON R AT RUBY
STATION NO 15564800
259000 SQ MI
1957 THRU 1978



NE KOYUKUK R NR WISEMAN
STATION NO 15564875
1200 SQ MI
1970 THRU 1978

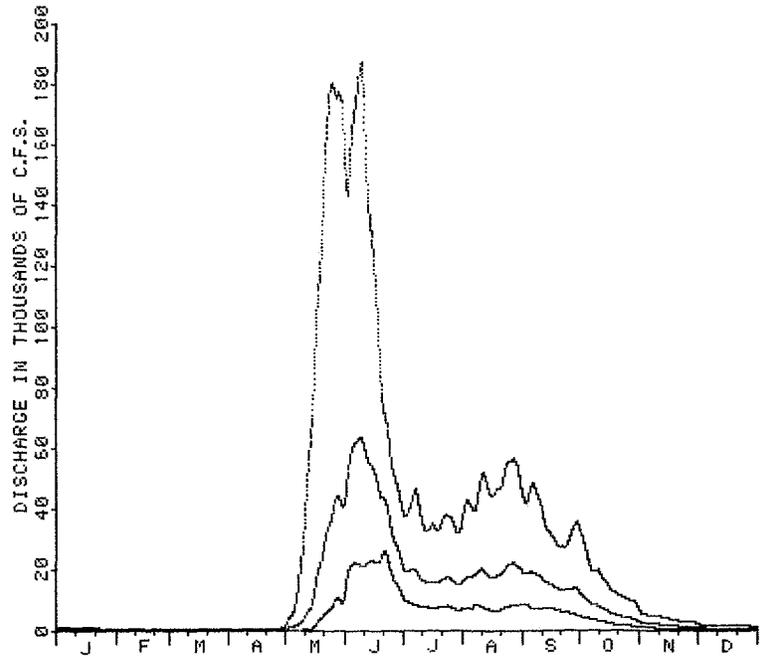


WISEMAN C AT WISEMAN
STATION NO 15564877
49.2 SQ MI
1970 THRU 1978



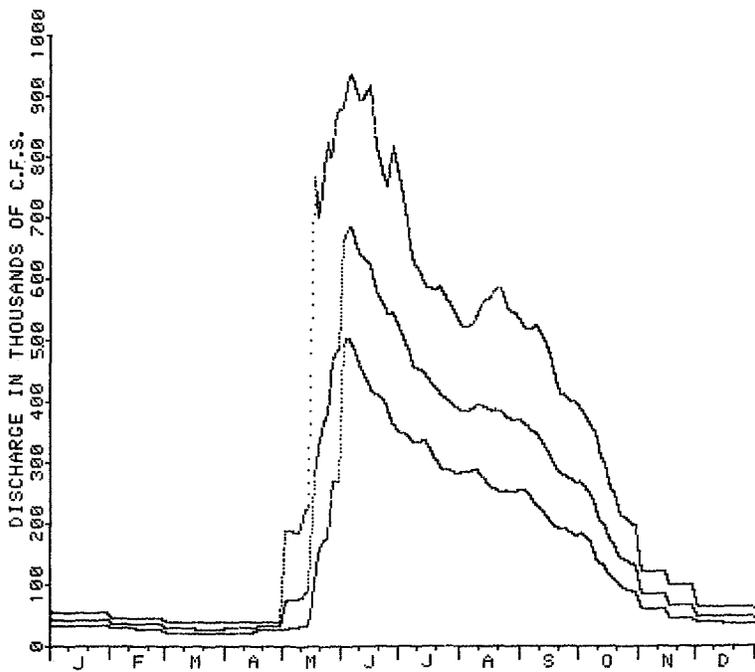
JIM R NR BETTLES
STATION NO 15564885

465 SQ MI
1970 THRU 1977



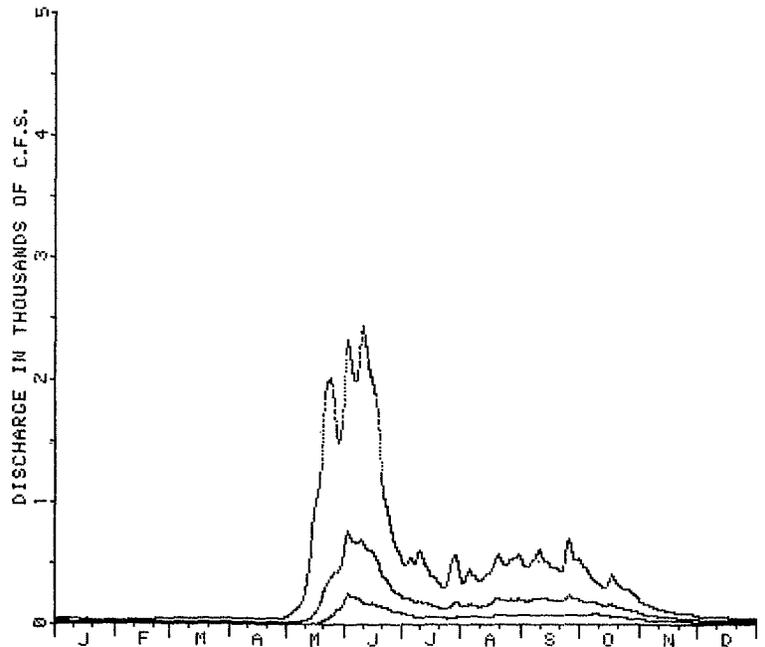
KOYUKUK R AT HUGHES
STATION NO 15564900

18700 SQ MI
1961 THRU 1979



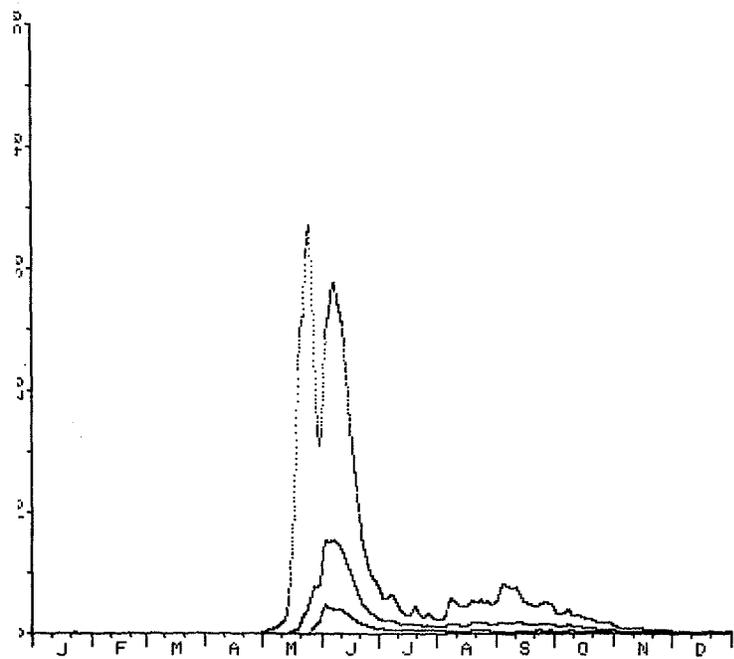
YUKON R NR KALTAG
STATION NO 15565200

296000 SQ MI
1957 THRU 1966



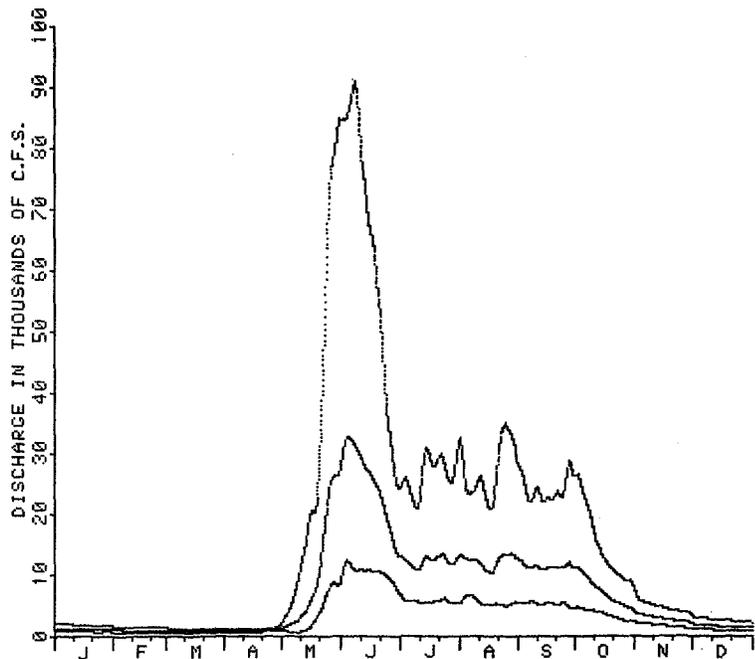
SNAKE R NR NOME
STATION NO 15621000

85.7 SQ MI
1965 THRU 1979



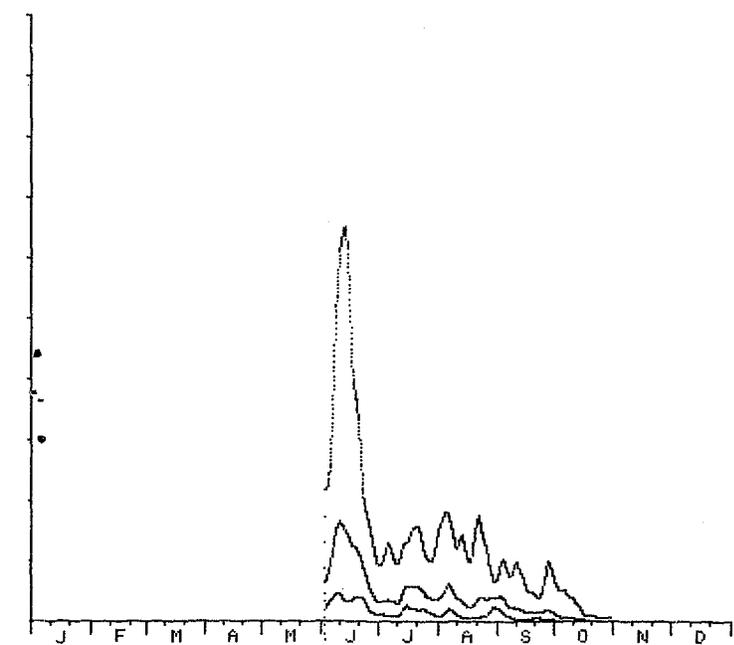
KUZITRIN R NR NOME
STATION NO 15712000

1720 SQ MI
1962 THRU 1973



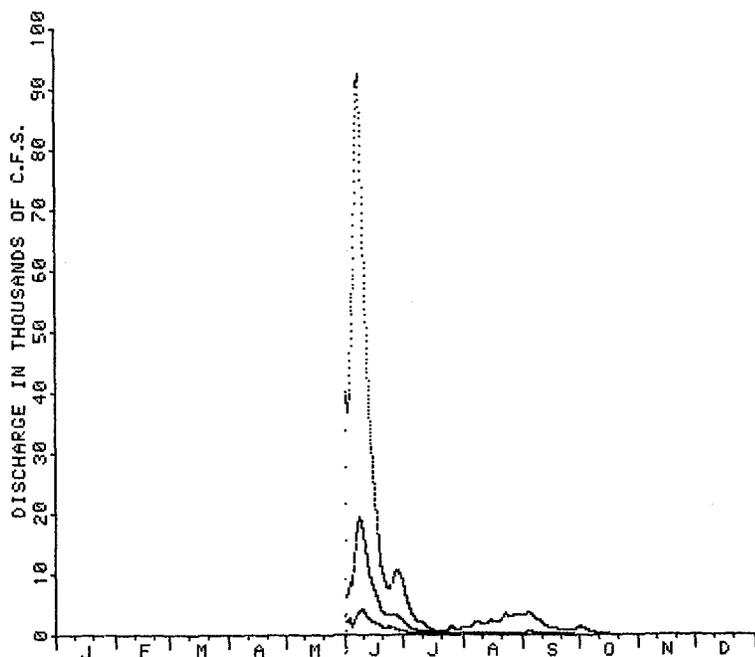
KOBUK R AT AMBLER
STATION NO 15744000

6570 SQ MI
1965 THRU 1978



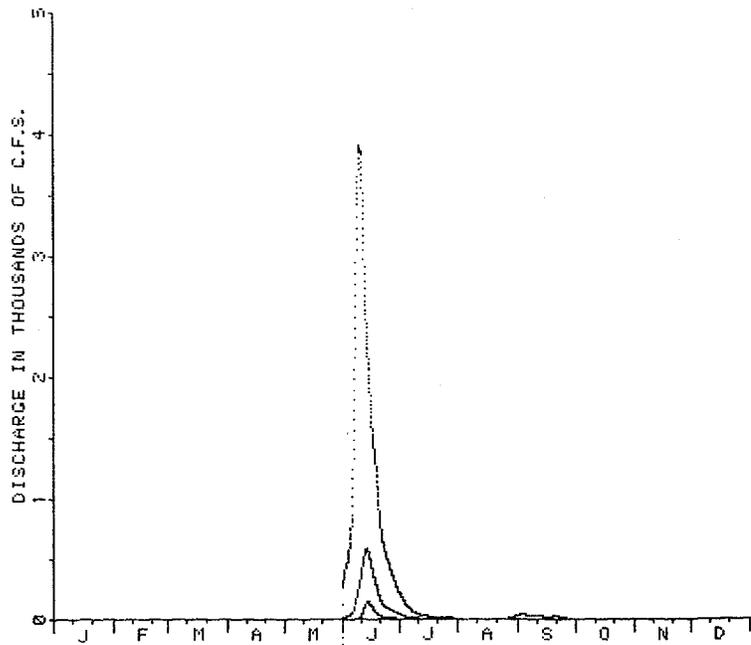
NOATAK R AT NOATAK
STATION NO 15746000

12000 SQ MI
1965 THRU 1971



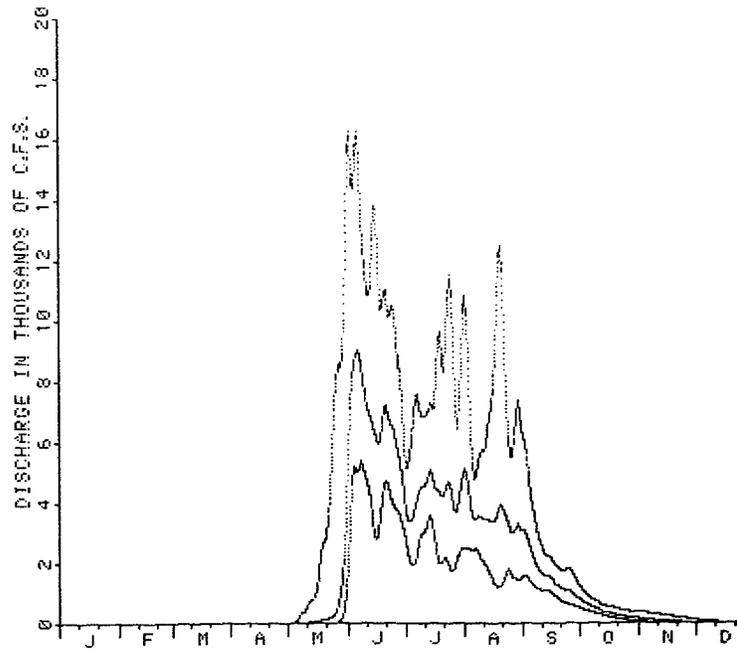
KUPARUK R NR DEADHORSE
STATION NO 15896000

3130 SQ MI
1971 THRU 1979



PUTULIGAYUK R NR DEADHORSE
STATION NO 15895700

176 SQ MI
1970 THRU 1979



SAGAVANIRKTOK R NR SAGWON
STATION NO 15910000

2208 SQ MI
1970 THRU 1978

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TECHNICAL MEMORANDUMS — Reports of preliminary, partial, or negative research or technology results, interim instructions, and the like.

CONTRACT AND GRANT REPORTS—Reports prepared by contractors or grantees under NOAA sponsorship.

TECHNICAL SERVICE PUBLICATIONS—These are publications containing data, observations, instructions, etc. A partial listing: Data serials; Prediction and outlook periodicals; Technical manuals, training papers, planning reports, and information serials; and Miscellaneous technical publications.

ATLAS—Analysed data generally presented in the form of maps showing distribution of rainfall, chemical and physical conditions of oceans and atmosphere, distribution of fishes and marine mammals, ionospheric conditions, etc.



Information on availability of NOAA publications can be obtained from:

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