A CATALOG OF HYDROCLIMATOLOGICAL
DATA FOR ALASKA'S COASTAL ZONE

A catalog of hydroclimatological data for Alaska's coastal zone
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by

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INTRODUCTION

The essential and obvious feature of Alaska's coastal zone is its water. It is the primary prerequisite of life forms of all kinds, both on the land and in the sea. A complete understanding of this water zone is important to many present day concerns - resource development, conservation, and environmental.

Although it forms a complex natural and human system, we believe that a firm understanding of the coastal zone will not be possible until its hydroclimatology (the water system of the atmosphere and land mass) is better understood. A coastal zone study usually means a study of the near shore areas of the sea water. However, it is difficult to imagine almost any human development of the natural system without use of the atmospheric and land based water. By ignoring this fact, developments which have been begun in the coastal zone have become uneconomical or have experienced difficulty. A practical example of this fact is the water shortage of the Kodiak region in the Spring of 1972. At that city, the entire sea based industry was closed down for several months due to a lack of water supply. A strong argument can be made for a better understanding of the many effects of atmospheric and land based water system including that of the coastal zone.

In order to perceive a better understanding of the interrelationships of the coastal zone water we proposed a research project which was to sort out many of the complex variables. The project was not begun due to the lack
of sufficient funds. We did, however, begin a limited literature search and listing of hydroclimatological data sources of Alaska's coastal zone. We felt this would be a modest but useful start towards the larger study. It should also have some practical usefulness to others. This data catalog is a result of this initial study. Because of the wide variety of types of agency which collect data and the literally hundreds of sources through which they are reported, it is often quite bewildering for even experienced investigators to sort out what can be found and where. Although we are sure that the catalog is far from complete, we feel that it is a useful beginning towards an attempt to better understand the hydroclimatological processes in Alaska's coastal zone. We wish to invite contributions and criticisms which could lead to an improved and more comprehensive version at some future date.

We gratefully acknowledge the support of the Sea Grant Program of the University of Alaska and the support and encouragement of its Director, David Hickok. The project also received support from the Office of Water Resources Research and the State of Alaska through the Institute of Water Resources at the University of Alaska. Finally, we want to gratefully acknowledge the efforts of Lalitha Rao who compiled most of the catalog.

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May, 1972
INSTRUCTIONS FOR USE

The data catalog layout is quite straightforward. Each source listing has three parts - an information citation, the nature of the data available, and the location for which all or part of the data is available.

The information citation is comprised of six parts - the agency which compiled the data, the title of the source, the author(s), the publication date of the source, the date(s) for which the data are applicable, and the library accession number of the source; the main University library, unless another is indicated. If a portion of the citation was not available it is left as a blank space between two commas.
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U. S. Coast Pilot, Alaska, Cape Spencer to Arctic Ocean, 1954, SKNR.VK943 U7 Y3.
Visibility (percentage of all observations): Monthly and annual.
Precipitation (inches): Mean, least and greatest amounts, max. amount in 24 Hrs., mean no. of days 0.01" or more.
Snowfall (inches): Mean amount.
Air Temperature (°F): Mean, max. & min.
Wind (percentage of all observations): seasonal.
Anchorage, Bethel, Cape Spencer, Cold Bay, Cordova, Dutch Harbor, Gambell, Homer, Kodiak, Nome, Point Hope, Seward, Yakutat.

Source No. 2.

Source No. 3.
Temperature (°F): Average daily max., avg. min. temp. in the Barrow area - Barrow Village; Barrow 1; 2; 3 & 4 1953-1954 Monthly temp. extremes & avg. diurnal ranges (°F) by months at Barrow 1921-1953. Normal and annual temperatures (1947-1953).
Wind (m.p.h.): Avg. wind speeds: Summer - Winter Barter Island, Nome, Point Barrow, Umiat.

Source No. 4.
Air Temperature (°F): Monthly normal and extreme.
Precipitation (inches): Normal total, max. in 24 hrs., snow, sleet & mean total.
Humidity (%): 10:00AM PST, 10:00PM PST.
Wind (knots): Mean speed, prevailing direction, max. speed & direction.
Mean sky cover sunrise to sunset: Monthly.
Mean no. of days: Sunrise to sunset - clear, partly cloudy & cloudy. Pcpn. 0.01" or more, snow, sleet 1.0" or more, thunderstorms, heavy fog.
Annette, Juneau, Ketchikan, Sitka.
Source No. 5.
Temperature, frequency and percentage frequency of wind speed - January to December.
Anchorage, Barter Island, Cordova, Kodiak, Kotzebue, Nome, Point Hope, Sitka, Yakutat.

Source No. 6.
Precipitation (inches): Pcpn. means & probabilities for 1-week, 2-week, 3-week periods:
Anchorage, Bethel, Homer, Ketchikan, Kodiak, Nome.

Source No. 7.
Climate and Man, Gove Hambidge, 1941, AHRC Lib. QC 981 U.
Temperature (°F): Means and extremes.
Anchorage, Cordova, Dillingham, Dutch Harbor, Gambell, Juneau, Ketchikan, Kodiak, Kotzebue, Nome, Point Barrow, Sitka, Wrangell.

Source No. 8.
Monthly mean no. of days with "Gales."
Monthly avg. specified wind speed (m.p.h.)
Temperature (°F): Monthly absolute maximum temp. & min. temp., monthly mean temp.
Monthly mean daily max. & Min. temps.,
Monthly mean no. of days with min. temp. < 32°F.
Precipitation (inches): Monthly mean no. of days with pcpn, monthly mean pcpn.
Snowfall (inches): Monthly mean no. of days with snow, mean monthly snowfall, monthly mean snow depth.
Relative humidity (%): Monthly mean relative humidity (%), mean monthly cloudiness (%), mean no. of clear days, partly cloudy days, & cloudy days, monthly mean no. of days with fog.
Anchorage, Bethel, Gambell, Kotzebue, Nome, Point Barrow.

Source No. 9.
Temperature (°F):
Precipitation (inches):
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Source No. 9, continued:
Wind Speed (m.p.h.):
Anchorage, Bethel, Dillingham, Homer, King Salmon, Kotzebue, Nome.

Source No. 10.
Temperature (°F): Mean temp. May - September. Annual temp., absolute max. & min. temp.
Precipitation (inches): Annual, monthly percentage of annual pcpn. Annette, Annex Creek, Cape Spencer, Juneau, Ketchikan, Sitka, Wrangell, Yakutat.

Source No. 11.
Temperature (°F): Extreme max. & min., avg. daily max. & min., warmest month - coldest month, frequency max. temp. 70° or above, 32° or below, frequency min. temp. 32° or below, 0° or below.
Precipitation (inches): Avg. annual total Pcpn., frequency of measurable pcpn.
Snowfall (inches): Avg. annual, max. observed monthly.
Wind (m.p.h.): Prevailing direction, avg. annual speed, fastest mile.
Clouds and fog: Mean cloudiness of clearest month (%), Mean cloudiness of cloudiest month (%), Frequency of dense fog. Anchorage, Annette, Bethel, Cold Bay, Juneau, Point Barrow.

Source No. 12.
, Climate and Man, Gove Hambidge, 1941, AHRC Lib. QC 981 U, U. S. Department of Agriculture.
Temperature (°F): January and July average, max. & min., length of record.
Killing frost average dates: Last in Spring, first in Fall, growing season.

Source No. 13.
Discharge in cubic ft./sec. June to August. Drainage area (sq. mi.) Maximum discharge during period, Minimum daily. Chamberlin Creek (near Barter Island).

Source No. 14.
Source No. 14, continued.
Monthly Discharge (in cubic ft./sec.):
Extremes: Max. discharge during year, Max. gage height, Min. daily discharge.
Auke Creek at Auke Bay, Bay Creek (Trib. to Auke Bay), Big Creek (near Pt. Baker), Bradley R. (near Homer), Cooper R. (near Chitina), Crater Lake (near Nome), Grace Creek (near Ketchikan), Harding R. (near Wrangell), Ketchikan Creek at Ketchikan, Matanuska R. (at Palmer), Nuyakuk R. (near Dillingham), Sheep Creek (near Juneau), Ship Creek (near Anchorage), Ship Creek (Trib. to Cook Inlet), Snake R. (near Nome), Talkutna R. (near Talkutna), W. Fork Olson Bay Creek.

Source No. 15.
Max. & Min. discharges: for water years 1946-1950.
Monthly and Yearly Mean Discharge: in cubic ft./sec. 1930-1945.
Peak Discharge: (base, cfs.).
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Source No. 16.
Daily & Monthly Discharge: in cubic ft./sec.
Maximum Discharge during year. Minimum recorded, Average discharge (cfs).
Dorothy Creek (near Juneau), Nuyakuk R. (near Dillingham), Uganik R. (near Kodiak).

Source No. 17.
Average discharge: Monthly discharge in cubic ft./sec.
Extremes: Max. discharge, Min. discharge.
Peak Discharge: (Base cfs.).
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Source No. 18.

Extremes: Max. discharge during year.
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June Creek (near Kotzebue).

Source No. 19.

Temperature: (°F) Extreme max. & min., Avg. daily max. & min., warmest month - coldest month, Frequency max. temp. 70° or above, 32° or below, Frequency min. temp. 32° or below, 0° or below.
Precipitation: (inches) Avg. annual total pcpn., Avg. annual snowfall, Max. observed monthly snowfall, Frequency of measurable pcpn.
Wind (m.p.h.): Prevailing direction, avg. annual speed, fastest mile.
Clouds and Fog: Mean cloudiness of clearest month (%) & month. Mean cloudiness of cloudiest month (%) & month. Frequency of dense fog.
Nome.

Source No. 20.

Temperature (°F): Monthly avg. temp.
Precipitation(inches): Max. & min. pcpn, total, rainy days, percentage of time during which the greatest 24-hour rainfall of the month is accompanied by winds from the Southwest Quadrant, amount of total monthly pcpn. occurring in one 24-hour period.
Wind (mph): Avg. wind speeds & monthly wind direction. Total hours of winds of various speeds in percent.
Barter Island, Point Barrow.

Source No. 21.
U. S. Navy.
Source No. 21, continued.

Temperature (°F): Monthly and annual mean temps.
Precipitation (inches): Monthly and annual avg.
Barter Island, Dutch Harbor, Kodiak.

Source No. 22.

Source No. 23.

Source No. 24.

Source No. 25.

Source No. 26.
Weather Information Branch, Headquarters, Army Air Force, Climatic
Source No. 26, continued.
Temperature (°F): Mean temps. Mean max. & min. temps. Absolute max. & min. temps. No. of days with freezing temp.
Wind: Prevailing wind direction.
Precipitation (inches): Mean pcpn., greatest 24-hr. pcpn., mean no. of days with 0.01" or more of pcpn.
Snowfall (inches): Mean snowfall.
No. of clear days and mean percentage of - clear days, partly cloudy, cloudy days.
Anchorage, Bethel, Cordova, Cape Spencer, Dillingham, Dutch Harbor, Homer, Juneau, Kotzebue, Kodiak, Nome, Point Barrow, Sitka, Seward, Valdez, Wrangell, Yakutat.

Source No. 27.
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Degree days (base 65°): Total; heating & cooling.
Precipitation (inches): Total, normals, means and extremes.
Snowfall (inches): Total, max. monthly, max. in 24 hours.
Wind (m.p.h.): Resultant direction & speed, fastest speed & direction, normals, means & extremes.
Percentage of possible sunshine & mean sky cover - sunrise to sunset.
Mean no. of days: Sunrise to sunset - clear, partly cloudy, cloudy, pcpn. 0.01" or more, snow, ice 1.0" or more, thunderstorms, heavy fog, max. & min. temps.
Anchorage, Juneau, Kotzebue, King Salmon, Nome, Point Barrow, St. Paul Island.

Source No. 28.
Temperature (°F): Monthly avg. temps. & departures from normal, temp. extremes and freeze data, daily avg. temps., monthly & seasonal heating degree days.
Precipitation (inches): Monthly & annual total pcpn. & departures from normal, daily pcpn., no. of days with pcpn.
Relative humidity (%): Avgs.
Snowfall (inches): Monthly total snowfall & no. of days with 1" or more on ground, monthly max. snow (sleet) depth on ground, daily snowfall, snow on ground and water equivalent.
Wind Speed (miles): Resultant direction & speed, avg. wind speed, fastest mile, direction of fastest mile, date of fastest mile.
Barter Island, Cordova, Cold Bay, Kotzebue, Ketchikan, Kodiak, Point Barrow, Umiat, Yakutat.

Source No. 29.
Source No. 29, continued.

General Conditions: Monthly, seasonal and annual mean fog.

Thunderstorms.


Temperature (°F): Monthly

Ceiling Height &Visibility:

Anchorage, Annex Creek, Bethel, Cordova, Cape Spencer, Dutch Harbor, Juneau, Kotzebue, Ketchikan, Kodiak, Nome, Point Barrow, Seward, St. Paul Island, Wrangell.

Source No. 30.


Freeze Data:  Freeze threshold temp., mean data of last spring occurrence, mean date of first fall occurrence, mean no. of days between dates, years of record spring, no, of occurrences in spring, years of record fall, no. of occurrences in fall.


Solar Radiation (Langleys): Avg. daily.

Precipitation (inches): Monthly & annual pcpn., normal total, max. monthly, min. monthly, max. in 24 hrs. – annual.

Snowfall (inches): Mean total, max. monthly & annual, max. in 24 hrs.

Relative humidity (%): Standard Alaskan time used.

Wind and fastest mile (m.p.h.): Mean hourly speed, direction, fastest speed.

Bethel, King Salmon, Nome, Point Barrow.

Source No. 31.


Temperature (°F): Normal daily max. & min. temps. for January & July. Mean annual no. of days max. temp. 90°F & above, except 70°F & above in Alaska. Mean annual no. of days min. temp. 32°F & below. Mean annual total heating degree days (Base 65°F). Mean annual total cooling degree days (Base 65°F). Mean date of last 32°F temp. in Spring. Mean date of first 32°F temp. in Autumn. Mean length of freeze-free period (days).

Precipitation: Mean annual no. of days with 0.01" or more of pcpn. Normal annual total pcpn. (inches). Mean annual no. of days with thunderstorms, Mean annual total snowfall (inches).

Relative Humidity (%): For January and July. Mean annual relative humidity.

Mean monthly percentage of possible sunshine for January and July. Mean annual percentage of possible sunshine. Mean annual total hours of sunshine. Mean daily solar radiation (Langleys) for January and July. Surface wind roses for January, July and annual.

Anchorage, Annette, Bethel, Barter Island, Cold Bay, Juneau, Kodiak, Nome, Point Barrow, Sitka, Seward, Yakutat.
Source No. 32.
Temperature (°F): Avgs., normals, means and extremes.
Precipitation (inches): Total, normals, means and extremes.
Degree Days (Base 65°): Total, heating & cooling.
Snowfall (inches): Total, max.monthly, max. in 24 hours.
Wind (m.p.h.): Resultant direction & speed, fastest speed & direction, normals, means & extremes.
Percentage of possible sunshine & mean sky cover - sunrise to sunset, Mean no. of days: Sunrise to sunset - clear, partly cloudy, cloudy, pcpn. 0.01" or more, snow, ice 1.0" or more, thunderstorms, heavy fog, max. & min. temps.
Annex Creek, Attu, Bethel, Baranof, Barter Island, Cordova, Cold Bay, Dillingham, Homer, Kotzebue, King Salmon, St. Paul Island, Unalakleet, Valdez, Wrangell, Whittier, Yakutat.

Source No. 33.
ESSA, Coastal Weather and Marine Data Summary for Gulf of Alaska, Cape Spencer Westward to Kodiak Island, H. W. Searby, 1969, Docs. C 52.15/2: EDSTM B.
Ceiling and visibility: Monthly (feet & miles).
Average Cloud Cover: (is in tenths of sky covered between sunrise and sunset). Climatic depiction map. No. of days partly cloudy, cloudy, fog, pcpn.
Precipitation: Amount
Average Wind Direction, speed, max. speed.
Mean tide ranges and diurnal tide ranges.
Kodiak, Yakutat.

Source No. 34.
Pressure: Sea level pressure extremes - inches.
Wind (m.p.h.): Wind Direction.
Relative Humidity Averages:
Temperature (°F): Monthly and annual avg. temps. and departures from normal.
Precipitation (inches): Monthly and annual total pcpn. and departures from normal.
Sunshine: Number of days.
Miscellaneous Data:
Annette, Annex Creek, Attu, Barter Island, Cordova, Cold Bay, Cape Spencer, Dillingham, Gambell, Homer, Juneau, King Salmon, Sitka, Seward, St. Paul Island, Unalakleet, Valdez, Wrangell, Whittier, Wainwright, Yakutat.

Source No. 35.
U. S. Weather Bureau, Climatological Data Alaska - Annual Summary,
Source No. 35, Continued.
Pressure: Sea level pressure extremes - inches.
Relative Humidity Averages:
Wind (m.p.h.):
Temperature (°F): Monthly and annual temps. and departures from normal.
Precipitation (inches): Monthly and annual total pcpn. and departures from normal.
Snowfall (inches): Total snowfall.
Number of days: with pcpn. 0.01" or more, clear, partly cloudy, cloudy, sunshine.
Miscellaneous Data:
Annette, Annex Creek, Attu, Barter Island, Cordova, Cold Bay, Cape Spencer, Dillingham, Gambell, Homer, Juneau, King Salmon, Sitka, Seward, St. Paul Island, Unalakleet, Valdez, Wrangell, Whittier, Wainwright, Yakutat.

Source No. 36.
Density of Sea Water: Tables of monthly and yearly means and extremes together with Salinities.
Mean Salinity Curves: Graphs showing seasonal variation.
Density: Salinity conversion table.
Dutch Harbor, Juneau, Ketchikan, Kodiak, Point Barrow, Sitka, Seward, Yakutat.

Source No. 37.
Density (g): Monthly surface water densities, means & extremes.
Mean temp. & density curves.
Anchorage, Cordova, Dutch Harbor, Homer, Juneau, Ketchikan, Kodiak, Point Barrow, Sitka, Seward, Yakutat.

Source No. 38.
Pressure: Sea level pressure extremes - inches.
Relative Humidity Averages:
Wind (m.p.h.):
Temperature (°F): Monthly and annual temps., monthly max. & min. temps, Avg. temps & departures from normal.
Precipitation (inches): Monthly and annual total pcpn. & departures from normal.
Snowfall (inches): Monthly, annual and seasonal snowfall.
Number of Days: Clear, partly cloudy, and cloudy, sunshine.
Miscellaneous Data:
Source No. 38, Continued.
Annex Creek, Annette, Attu, Barter Island, Cordova, Cold Bay, Cape Spencer, Dillingham, Gambell, Homer, Juneau, King Salmon, Sitka, Seward, St. Paul Island, Unalakleet, Valdez, Wrangell, Whittier, Wainwright, Yakutat.

Source No. 39.
Pressure (sea level pr. extremes - inches): Wind (m.p.h.):
Relative Humidity Averages:
Sunshine:
Average Temperatures & Departures from Normal:
Total Precipitation & Departures from Normal:
Miscellaneous Data:
Dutch Harbor

Source No. 40.
Pressure: Sea level pressure extremes (inches).
Relative Humidity Averages:
Sunshine:
Monthly & annual temperature (°F):
Monthly & Annual Mean Temperatures & Departures from Normal:
Snowfall (inches): Total snowfall (unmelted).
Wind (m.p.h.): Monthly & annual wind direction.
Number of Days: Clear, partly cloudy, cloudy.
Monthly, annual & seasonal snowfall
Monthly max. & min. temps.
Miscellaneous Data:
Kotzebue

Source No. 41.
Temperature (°F): Monthly avg. max., min., avg., departure from normal, highest & lowest with dates, daily, avg. temps. and departures from normal, monthly & annual, temp. extremes & freeze data.
Precipitation (inches): Monthly and annual total pcpn. and departures from normal, daily pcpn., no. of days with pcpn.
Snowfall (inches): Snowfall and snow on ground (daily), monthly total snow (sleet), max. depth on the ground with date.
Supplemental Data: Wind speed (mph), wind direction, relative
Source No. 41, continued.

humidity avgs., percent of possible sunshine, avg. sky cover sunshine to sunset.

Miscellaneous Data: (seasonal data). Freeze-up last Fall, Break-up this Spring, etc.

Kotzebue.

Source No. 42.


Temperature (°F): Monthly max., monthly min., with dates, monthly and annual mean with departures from the normal.

Snowfall (inches): Monthly and annual.

Point Barrow.

Source No. 43.


Temperature (°F): Daily & monthly max. & min., avg. hourly temps. (about 20 min. after the hr.), normals, mean & extremes.

Heating Degree Days (Base 65°):

Precipitation (inches): Total, 6-hourly pcpn.

Snowfall (sleet, hail): Normals, means & extremes.

Wind: Prevailing direction, avg. speed (m.p.h.), fastest speed & direction, temp. & wind speed, relative humidity, occurrences, wind direction & speed occurrences.

Sky cover: Sunrise to sunset, hourly occurrences of sky cover, wind & relative humidity.

Pressure:

Psychrometric Data:

Annette

Source No. 44.


Temperature (°F): Avg. temps & departures from normal.

Precipitation (inches): Total pcpn. & departures from normal.

Temperature extremes & freeze data:

Annette, Annex Creek, Attu, Baranof, Barter Island, Cordova, Cold Bay, Cape Spencer, Dillingham, Homer, Juneau, Kotzebue, King Salmon, Sitka, Seward, St. Paul Island, Unalakleet, Valdez, Wrangell, Whittier, Wainwright, Yakutat.

Source No. 45.


Temperature (°F): Avg. temps & the departures from long-term means.

Precipitation (inches): Total pcpn. & departures from long-term means.

Temperature extremes & freeze data:
Source No. 45, Continued.
Annex Creek, Annette, Attu, Baranof, Barter Island, Cordova, Cold Bay, Dillingham, Homer, Juneau, Kotzebue, King Salmon, Sitka, Seward, Unalakleet, Valdez, Wrangell, Whittier, Wainwright, Yakutat, Cape Spencer, St. Paul Island.

Source No. 46.
Temperature (°F): Avg. temps. & departures from normal.
Precipitation (inches): Total pcpn. with departures from normal.
Miscellaneous Data:
Annex Creek, Annette, Attu, Barter Island, Cordova, Cold Bay, Cape Spencer, Dillingham, Homer, Juneau, Kotzebue, King Salmon, Sitka, Seward, St. Paul Island, Umiat, Unalakleet, Wrangell, Whittier, Wainwright, Yakutat.

Source No. 47.
Temperature (°F): Avg. temps. & departures from normal.
Precipitation (inches): Total pcpn. with departures from normal.
Miscellaneous Data:
Annex Creek, Annette, Attu, Barter Island, Cordova, Cold Bay, Cape Spencer, Dillingham, Homer, Juneau, Kotzebue, King Salmon, Sitka, Seward, St. Paul Island, Umiat, Unalakleet, Wrangell, Whittier, Wainwright, Yakutat.

Source No. 48.
Temperature (°F): Avg. temps. & departures from normal.
Precipitation (inches): Total pcpn. with departures from normal.
Miscellaneous Data:
Annex Creek, Annette, Attu, Barter Island, Cordova, Cold Bay, Cape Spencer, Dillingham, Homer, Juneau, Kotzebue, King Salmon, Sitka, Seward, St. Paul Island, Unalakleet, Wrangell, Whittier, Wainwright, Yakutat.

Source No. 49.
Temperatures (°F): Daily & monthly mean temps., avgs., normals, means & extremes.
Precipitation (inches): Total, normals, means & extremes, 6-hrly.pcpn.
Snowfall (inches): Monthly & seasonal snowfall, mean total, max.
Heating degree days: Monthly & seasonal.
Relative humidity (%): Normals, means, and extremes.
Source No. 49, Continued.
Wind (m.p.h.): Fastest mile, mean hourly speed, prevailing direction, wind speed & direction occurrences (hourly observations). Ceiling & visibility (mi.): Hourly observations. Sky cover: Sunrise to sunset (tenths) - Midnight to Midnight. Occurrences of weather: By hour of day, by wind direction. Anchorage, Annette, Bethel, Cordova, Juneau, Kotzebue, Point Barrow.

Source No. 50.

Source No. 51.
U. S. Weather Bureau, Local Climatological Data, 1946-1952, Forestry Science Lib. Temperature (°F): Daily max., min. & mean. Degree Days (Base 65°): Daily. Precipitation (inches): Hourly pcpn. & total pcpn. Snowfall (inches): Total, unmelted, total depth. Wind: Prevailing direction, highest velocity. Ceiling and visibility frequencies: (hourly record observations) Relative humidity (%): (75th Meridian time) Sunshine: No. of hours, percent of possible sunshine, clear, partly cloudy, cloudy. No. of days: Avg. cloudiness (Scale 1-10), pcpn. 0.01" or more, snow, 0.01" or more, thunderstorms, fog, dense fog, light. Temp. 32° or below, 90° or above, 0° or below. Psychrometric Data: (Taken at times of synoptic observations.) Anchorage, Annette, Cordova, Juneau, Kotzebue, Point Barrow.

Source No. 52.
Source No. 53.
Extremes of heights (gpm) & temperatures (°C).
Standard deviations of heights (GPM) & temperatures.
Charts of avgs., extremes, and standard deviations of height & temperature (850, 700, 500, 300, 200, 150, 100 mb.) for January.
Anchorage, Annette, Bethel, Juneau, Gambell, Kotzebue, Ketchikan, Nome, Point Barrow, Yakutat.

Source No. 54.
Surface Wind Data: Monthly avg. velocity & prevailing direction
Monthly wind speed & direction of extreme winds.
Temperature (°F): (For the first day of the month). Monthly avg.
ground temperature, depth in feet.
Anchorage, Barter Island, Point Barrow.

Source No. 55.
Pressure (mb.): Station ϕ, sea level
Temperature (°F): Avg. max. & min., avg. temp., normals & extremes, departures from the normal, highest & lowest temps., avg. daily max. & min. temps. (°C), extremes with date, avg. dew point.
Heating degree days: Annual, seasonal, and monthly.
Precipitation (inches): Total, departure from normal, normals, means & extremes, annual total pcpn. (mm), greatest in 24 hours. (mm)
Relative humidity (%): Monthly avg. & annual.
Wind (m.p.h.): Resultant speed & direction, fastest wind speed & direction monthly
Wind (m.p.s.): Resultant speed & direction, fastest wind speed & direction annual.
Solar Radiation (Langleys): Daily totals & monthly avgs. received on a horizontal surface.
Miscellaneous data: Avg. monthly values of rawinsonde data.
Anchorage, Bethel, Barter Island, Cold Bay, Point Barrow, Yakutat.

Source No. 56.
Pressure (Mb.): Station Pressure, monthly mean, Sea Level pressure, annual mean.
Temperature (°C): Monthly, annual, mean.
Precipitation (mm.): Monthly, Annual, total.
Cold Bay, Kotzebue, Point Barrow, Yakutat.
Source No. 57.

Freeze data:
Temperature (°F): Monthly and annual mean temp., normals, means, and extremes of temp.
Precipitation (inches): Monthly and annual total pcpn., normals, means, and extremes of pcpn.
Wind: Normals, means, and extremes.
Relative humidity (%): Normals, means, and extremes.
Mean number of days: Sunrise to sunset - clear, partly cloudy, cloudy, and max., min. temps.
Anchorage, Annex Creek, Annette, Bethel, Barter Island, Cordova, Cold Bay, Juneau, Kotzebue, Ketchikan, Kodiak, Nome, Point Barrow, Sitka, St. Paul Island, Valdez, Wrangell, Yakutat.

Source No. 58.
Pressure at Station level (inches): Means of 1/2 (0230 + 1430), 150°W meridian time, corrected to O°C & to gravity at 45° Lat. Monthly & mean pressure from 1943 - 1950.
Anchorage, Bethel, Kodiak, Point Barrow.

Source No. 59.
Pressure (mb.): Daily.
Temperature (°C): Daily.
Relative humidity (%): Daily.
Wind (m.p.h.): Wind speed and direction (degrees).
Anchorage, Bethel, Barter Island, Cold Bay, Kotzebue, Kodiak, King Salmon, Nome, Point Barrow, St. Paul Island, Yakutat.

Source No. 60.
Pressure (Mbs): Monthly avg. pressures.
Relative humidity (%): Monthly avg. relative humidity.
Temperature (°C): Monthly average temp.
Anchorage, Bethel, Juneau, Ketchikan, Point Barrow.

Source No. 61.
Source No. 61, Continued.

Temperature (°F): Maximum, min., avg., monthly & annual.
Precipitation (inches): Monthly & annual.
Degree days (°F): Monthly
Bethel, Barter Island, Nome, Point Barrow.

Source No. 62.
Barrow Core rig test 1: Description of cores & cuttings. Drilling operations.
Point Barrow.

Source No. 63.
Snowfall: Mean, monthly & annual.
Temperature: Mean, mean max. & mean min. temp. Highest & lowest temps.
Barter Island, Cape Spencer, Dutch Harbor, Juneau, Ketchikan, Kodiak, Point Hope, Sitka, Seward.

Source No. 64.
Pressure: (inches) Monthly means & extremes - station level, sea level.
Temperature (°F): Monthly means & extremes.
Moisture: Monthly means & dew point.
Relative humidity (%): Monthly mean.
Precipitation (inches): Total, max. in 24 hours.
Snowfall (inches): Total.
Wind (miles): Avg. hourly velocity, prevailing direction.
No. of Days: Clear, partly cloudy, cloudy, pcpn, snow, fog, max. & min. temperature.
Anchorage, Bethel, Point Barrow.

Source No. 65.
Climatology of the Arctic Regions Part I, Rigby, M., 1946, 1941-1942, AHRC Lib. QC 994.8 W594 C, Air Weather Service.
Mean monthly lapse rates (°C/100m)
Vertical temp. gradient (°C/100m) surface to 500 meters - monthly
Monthly mean height of Tropopause in kilometers.
Relative humidity: Mean monthly & annual (%), mean monthly & annual (% aloft from Radiosondes.
Wind: Avg. no. of gales/month & year, avg. surface wind velocity & direction. Percentage frequency and avg. velocity (m.p.h.) of upper air winds.
Temperature (°F): Mean monthly & annual temps. with absolute extremes
Precipitation (inches): mean monthly and annual amounts.
Source No. 65, Continued.
Snowfall (inches): Mean monthly & annual.
Ceiling height (ft.) & visibility (mi.)
Dutch Harbor, Gambell, Nome, Point Barrow, St. Paul Island.

Source No. 66.
U. S. Department of Commerce, Arctic Engineering, 1955,
Temperature (°F): Monthly and annual soil temps.
Nome.

Source No. 67.
U. S. Weather Bureau.
Temperature (°F): Extreme max. & min. Avg. daily max. & min.,
warmest month - coldest month. Frequency max. temp. 70° or
above, 32° or below. Frequency min. temp. 32° or below, 0°
or below.
Precipitation (inches): Avg. annual total pcpn., avg. annual snow-
fall, Max. observed monthly snowfall, frequency of measurable
pcpn.
Wind (m.p.h.): Prevailing direction, avg. annual speed, fastest
mile.
Clouds & fog: Mean cloudiness of clearest month (%) & month.
Mean cloudiness of cloudiest month (%) & month. Frequency of
dense fog.
Yakutat.

Source No. 68.
Alaskan Temperature Fluctuations & Trends: An analysis of
recorded data, T. D. Hamilton, 1965, 1910-1962, SKNR.G. 600 A 69,
AINA.
Temperature (°F): Mean annual temps., Ketchikan, Alaska. Reduced
to 8-year running means. Trends & net changes of mean annual
temp., 1910-1960. Comparison of temp. fluctuations among the
principal stations, 1910-1962. Movements of principal sta-
tions - movement date, horizontal and vertical shifts.
Ketchikan, Nome, Point Barrow.

Source No. 69.
U. S. Weather Bureau (Weatherwise), The Weather & Circulation of
QC 983 A2.
Abstract: Monthly summary & analysis, especially for the United
States, but including unusual situations in Alaska, Canada &
other parts of the Arctic, & showing the north polar regions
on pressure contour charts & frequency maps.
Alaska.
Source No. 70.
- Heating degree day: Monthly & annual heating degree day normals, heating degree days (1931-1960).
- Relative humidity (%): Monthly mean values of relative humidity.
- Mean no. of days with fog.
- Precipitation (inches): Normals & extremes (Period 1921-50, or part of that period). Max. recorded rainfall (inches), month/day, year (1962-61).
- Snowfall, Sleet (inches): Mean total (year), max. in a month, max. in 24 hours.
- Windspeed (m.p.h.): Mean wind speed & direction, avg. wind speed - Dec., Jan., Feb.
- Anchorage, Kotzebue, Nome, Point Barrow, Yakutat.

Source No. 71.
- Temperature (°F): Mean, mean max., mean min., for Jan. & July
- Frequency (%) of daily max. & daily min. temps. at or below specified values in January, July and annual.
- Homer, Nome, Point Barrow, Umiat, Wrangell, Yakutat.

Source No. 72.
- Temperature (°F): Mean temps. & length of records for Barrow monthly/annual. Length of climatic records (yrs.) of data used in computing frequencies. Frequency (%) of daily max. temp. at or below 68°F, 50°F, 32°F, 23°F, 14°F, 0°F, -25°F, -40°F. Frequency (%) of daily min. temp. at or below 50°F, 32°F, 23°F, 14°F, 0°F, -25°F, -40°F. Absolute max. & min. temps. and length of records.
- Anchorage, Bethel, Barter Island, Cold Bay, Dutch Harbor, Homer, Juneau, Kotzebue, Ketchikan, Kodiak, Nome, Point Barrow, Point Hope, Sitka, St. Paul Island, Umiat, Wrangell, Yakutat.

Source No. 73.
U. S. Weather Bureau, Frequencies of Selected Low Temperatures in Alaska, DePercin, F., & Falkowski, S., 1956, QC 983 A2
- Temperature (°F): Mean, mean max.-January, July, mean min. Frequency (%) of daily max. & daily min temps at or below specified values for Anchorage - January, July & annual.
- Anchorage, Ketchikan.
Source No. 74.
Air temperature (°F): Normal, extreme. Surface water temperatures & salinities (0/00): Monthly mean.
Precipitation (inches): Normal total, max. in 24 hours.
Snow, sleet: Mean total.
Humidity (%): 8:00 a.m. local time, 2:00 p.m. local time.
Wind (knots): Mean speed, prevailing direction, max. speed & direction.
Percent of possible sunshine: mean sky cover sunrise to sunset - monthly
Mean no. of days: Sunrise to sunset - clear, partly cloudy, cloudy
Mean no. of days: Pcpn. .01" or more, snow, sleet 1.0" or more, thunderstorms, heavy fog.
Temperature (°F): Mean surface water temps. and salinities.
Anchorage, Bethel, Barter Island, Cordova, Cold Bay, Cape Spencer, Dutch Harbor, Juneau, Kotzebue, Ketchikan, Kodiak, King Salmon, Nome, Point Barrow, Sitka, Seward, St. Paul Island, Yakutat.

Source No. 75.
Visibility (% of all observations): Monthly & annual.
Precipitation (inches): Mean amount, least amount, greatest amount. Max. in 24 hrs., mean no. of days 0.01" or more.
Air Temperature (°F): Mean, min: Extreme, 32° or less, mean no. of days. Max: Extreme, 32° or less, mean no. of days.
Wind (% of all observations) (Knots): Seasonal.
Monthly mean Surface Water Temperatures: Monthly and annual.
Monthly Mean Sea Water Densities: Monthly and annual.
Annette, Cape Spencer, Juneau, Ketchikan, Sitka, Wrangell, Yakutat.

Source No. 76.
Surface water temperatures (°F): Table of monthly and annual means & extremes and mean temp. curves.
Cordova, Juneau, Ketchikan, Point Barrow, Sitka.

Source No. 77.
Temperature (°F): Avg. temps & departures from normal.
Precipitation (inches): Total pcpn. & departures from normal.
Temperature extremes & freeze data:
Annette, Barter Island, Juneau, Sitka, Seward, Wainwright.
Source No. 78.

Source No. 79.

Source No. 80.

Source No. 81.

Source No. 82.
Source No. 82, Continued.
Water level (cm) and conductivity (m) of ponds on Barrow watersheds '63 - '66.
Variation in rainfall amount (mm) & conductivity (m) on the Barrow watershed, 1965.
Hydrography of the Barrow Quadrangle - Distribution of water bodies
by area, distribution of lakes by elevation, length & width.
Description of watershed-cation composition of runoff water (meq/litre)
Evaporation and Pond levels - water chemistry - soil thaw.
Comparison of pcnp. data (mm), Barrow watershed 1964 - 1966.
Relationships of trace and total thaw season pcnp.
Measured pan evaporation 1965 and 1966, Barrow.
Point Barrow.

Source No. 83.
U. S. Geological Survey, Hydrology and the Effects of Increased
Groundwater Pumping in the Anchorage area, R. M. Waller, 1964,
Precipitation (inches): Normal monthly, max. & min. monthly 1921-
1950.
Temperature (°F): Normal, daily max., daily min. 1921-1950.
Selected Chemical Analyses in parts per millions, of surface water
in the Anchorage area, Alaska.
Chemical Analyses in parts/millions of groundwater from Anchorage
city wells & Russian Jack Springs.
Water Utilization - Ship Creek supply, groundwater supply, City of
Anchorage, Suburban & military (G.) Groundwater reservoir changes.
Anchorage.

Source No. 84.
U. S. Geological Survey, A Review of Water Resources of the Umiat
area, Northern Alaska, John R. Williams, 1970, , Docs. I 19.4/2:
1. Subsurface data in the Umiat area: Name & type of well. Total
depth (ft.). Thickness of alluvium (ft.). Depth to base of
permafrost (ft.). Occurrence & yield of groundwater: Results
of formation tests. Sources of information.
2. Analysis of Colville River water near Umiat: Chemical con­
stituents; Milligrams/liter.
Umiat.

Source No. 85.
U. S. Geological Survey, Geology and Groundwater Resources of the
Anchorage Area, Alaska, D. J. Cederstrom, F. W. Trainer, R. M.
Precipitation: (in) Normal total, max. monthly, min. monthly - 1921-
1950.
Source No. 85, Continued.

Temperature (°F): Normal, daily max. & min. 1921-1950.
Composite stratigraphic column of the glacial drift.
Chemical analyses of water in parts per million.
Logs of representative wells in the Anchorage area.
Anchorage.

Source No. 86.
Anchorage.

Source No. 87.
Precipitation (inches): Mean pcpn. at stations near sea level from Petersburg to Juneau. Monthly & annual pcpn. variability of annual pcpn. at Juneau.
Snowfall (inches): Records for Juneau & Annex Creek.
Temperature (°F): Monthly & annual temps.
Juneau.

Source No. 88.
Chemical analyses of water from wells near Bethel and from the Yukon and Kuskokwim Rivers.
Bethel.

Source No. 89.
Records of wells and test holes in the Nome area.
Chemical analyses of ground water in the Nome area (in parts/million).
Nome.

Source No. 90.
Temperature (°F):
Precipitation (inches):
Wind (m.p.h.):
Alaska
Source No. 91.

Drilled Wells: Name, Location, Depth (feet), Static level (ft.), GPH, Depth cased (ft.), Date completed, Chemical analyses - well water (parts/million).

Ketchikan area.

Source No. 92.

Approximate percentage makeup of channel flow 800 ft. downstream from Chamberlin Glacier, Alaska.

Sequential observations on water quality, Aug. 5 & 6, 1958, 800 ft. downstream from Chamberlin Glacier.

Comparison of the composition of sediment from Chamberlin Glacier with that of shales concentration in parts/million.

Saturation indexes of water samples of the Chamberlin Glacier area, Alaska, 1958.

Suspended-sediment concentration and discharge data for sequential observations, Aug. 5, 6, 1958, Chamberlin Creek, Alaska.

Relations of the concentration of suspended-sediment fractions to turbidity and water discharge, Chamberlin Glacier area.

Periodic observations of water quality, 800 ft. downstream from Chamberlin Glacier, Alaska.

Daily mean water & suspended-sediment discharge, Chamberlin Cr. 1958.

Water quality observations for major hydrologic environments, Chamberlin Glacier area, 1958.

Chamberlin Glacier.

Source No. 93.

Ship Creek (near Anchorage).

Seepage Measurements (cfs): Ship Creek seepage measurements made at the Elmendorf Air Force Base gage and near Post Road, in cubic ft./sec.

Ship Creek (near Anchorage).

Source No. 94.

Drainage Area (sq. mi.)

Daily or monthly figures (calendar years).

Annual Peaks
Source No. 94, Continued.
Low-flow measurements (water years).
Alaska West, Snake River, S. E. Alaska Mainland Streams.

Source No. 95.
Mineral constituents in parts per million, and other characteristics of ground water at a site in Northwestern Alaska.
Figs: 1. Sketch map showing fault, spring, and water supply installations, datum mean sea level.
2. Changes in the chemical quality of the water during the period June 1961 to July 1962.
Cape Lisburne, Remote Site near Bering Sea.

Source No. 96.
Yearly discharge in cubic ft./sec. 1950-1960.
Fish Creek (near Ketchikan), Matanuska R. (at Palmer).

Source No. 97.
Log of test well 1: Material, thickness (ft.), depth (ft.)
(Drilled Sept. 11 - Oct. 11, 1961, by the Channel Drilling Co., Juneau Diameter, 6 inch).
Log of test well 2: Material, thickness (ft.), depth (ft.).
(Drilled Oct. 12 - 30 by the Channel Drilling Co., Juneau).
Chemical analyses of water, in parts per million, at Cordova, Alaska:
Field data, Physical data, Sample collected.
Cordova.

Source No. 98.
North America.
Source No. 99.
Headquarters Quartermaster Research and Engineering Command, Atlas of
Surface Temperature Frequencies for N. America & Greenland, McGill
University, 1961, North America.

Source No. 100.
Cold Regions Science & Engineering 1-A3a, Introduction Northern

Abstract: A review summary of the climatological environment of the
Northern Hemisphere contains a general introduction to the cold
regions and a discussion of geographic controls and meteorolog-
ical aspects including: 1) the hemisphere surface in terms
of configuration and relief, vegetation zones and permanent
and seasonal ice and snow; 2) the general circulation and
weather system dealing with the circumpolar vortex, sea-level
pressure and cyclonic frequency, circulation system persis-
tence, and surface weather associated with high latitude
pressures; 3) the net radiation and heat balance. Selected
bibliographic reference are given.

Northern Hemisphere.

Source No. 101.
U. S. Army Natick Laboratories Tech. Rept. 70-45-ES, Weather Extremes

Abstract: This report consists of a map of world and continental
weather extremes and a map of North American weather extremes,
with comments on the reliability of the records shown. In-
cluded are highest and lowest temperatures, largest temperature
ranges, greatest and least amounts of precipitation for various
durations, maximum precipitation variability, greatest thunder-
storm frequency, highest and lowest atmospheric pressure,
highest solar radiation, largest hailstones, greatest snowfall,
highest wind speed, highest humidity, and most frequent occur-
rence of dense fog. Both the absolute extreme and the most
extreme annual average are given for most of the elements. As
far as possible, the records are taken from official sources,
and all of them are documented. Conditions of site, instrumen-
tation, observational procedure, and other factors pertinent to
the reliability of extremes are discussed.

Northern Hemisphere.

Source No. 102.
U. S. Army Material Command, U. S. Army CRREL Topographic Map,
2301 U533.
Topographic Map.
Point Barrow.
Source No. 103.
Point Barrow.

Source No. 104.
Inversions: (9 year record) Type 1 (base of the inversion at the earth's surface--No. of soundings, No. of inversions (at surf.), Frequency of occurrence (%), Avg. thickness (m), Std. deviation, Avg. temp. gradient (°C/100m), Std. devi. for base (°C). Type 2 (base of the inversion above the earth's surface)--No. of soundings, No. of inversions (above surf.), Frequency of occurrence (%), Avg. height of base above surface (m), Std. devi., Avg. Thickness (m), Std. deviation, Avg. temp. gradient (°C/100m), Std. deviation, for two 6-month periods.
Yakutat.

Source No. 105.
Heat-flux (cal/cm² Hr.), evaporation (cm/Hr.), Evaporative Heat-flux (cal/cm²): Convective heat-flux, evaporative heat-flux, soil heat-flux, net radiation (all values in Langleys/day). Comparison of measured and computed evapotranspiration (cm/day).
Avg. daily heat balance (Ly/day): Dew point temperature (°C), Evaporation (cm/Hr.), Evaporative heat-flux (Ly/Hr.), Weekly values of evapotranspiration from small soil filled tanks in (mm).
Heat Budget computations: Vel. diff. (cm/sec.), temp. diff. (°C), humidity diff. (Mb), convective heat flux (cal/cm² Hr.), Evaporation (cm/Hr.), evaporative heat flux (cal/cm² Hr.).
Solar Radiation (Ly/Hr.)
Hourly micrometeorological observations: Air-soil temperature (°C), Vapor Pressure (Mb), Wind Velocity (cm/sec.) and Wind Direction.
Point Barrow.

Source No. 106.
Incoming Short Wave Radiation (Q) - Half Hourly Means of Radiative Flux Density, mW cm⁻².
Incoming Long Wave Radiation (E) - Half Hourly Means of Radiative Flux Density mW cm⁻².
Source No. 106, Continued.

Net Total Radiation (B) - Half Hourly Means of Radiative Flux Density, mW cm⁻².
Incoming Short Wave Radiation (Q) - Daily Energy Sums, J cm⁻².
Incoming Long Wave Radiation (E) - Daily Energy Sums, J cm⁻².
Net Total Radiation (B) - Daily Energy Sums, J cm⁻².
Radiative Energy Sums, J cm⁻².
Mean Daily Q  Mean Daily E  Mean Daily B
Monthly Q  Monthly E  Monthly B

Comparison of Solar Radiation Measurements with U. S. Weather Bureau Data, Expressed as: Barrow Q/North Meadow Lake Q - mean daily, monthly, days compared.

1964 Air Temperatures at Barrow USWB Station and at North Meadow Lake, °C.
Incoming Long Wave Radiation with Clear Sky - Monthly Means in mW cm⁻².
Point Barrow.

Source No. 107.


Abstract: This atlas gives an overall picture of many aspects of physical Alaska. A great deal of general information about the state has been available but it has been widely scattered and there has been a need to collect and present it as a unit. Maps are used as the primary means of presenting information but a text and some tables are used to highlight and amplify them. Much of the material in this atlas was obtained directly from published sources. In other cases, published information has been further developed to provide the necessary information and detail. Although the sources have been given, this is not a bibliography and the list of references is not intended to be complete.

Alaska.

Source No. 108.

Ground water resource
Water supply problems.
Prospects and needs.
Alaska.

Source No. 109.

Gallery maintenance - cleaning & prevention of freezing.
Gallery use in Alaska.
Source No. 109, Continued.
Areas of continuous and discontinuous permafrost.
Areas of sporadic or no permafrost and conclusions.
Alaska.

Source No. 110.
Air and Surface temps. (°C) for some lakes, ponds and pools of the Colville River drainage in the months of June, July & Aug.
Ionic Composition in Parts/million of some lakes, ponds & pools of the Colville River drainage.
Quality of dissolved oxygen in parts/million for some lakes, ponds, and pools of Colville River drainage.
The number of occurrences of different species of copepods in 3 habitats of the Colville River.
The number of occurrences of different species of copepods in different habitats along the Colville River expressed as percentage of the total no. of collections from each habitat.
Species associations of calanoid & cyclopoid copepods in 125 lakes, pools, and ponds of the Colville River drainage.
Alaska.

Source No. 111.
Precipitation (inches): Max. observed pcpn. - seasonal distribution of max. pcpn. - meteorological situations associated with heavy pcpn. - moisture adjustment of storm pcpn. - pcpn.-moisture ratio (P/M) - computation of PMP chronological distribution - appraisal.
Rainfall-Frequency Data (inches): Basic data - frequency analysis - isopluvial maps - smoothing data read from the maps - depth-area relationships seasonal variation.
Alaska.

Source No. 112.
1. Water used for Public Supplies, by Alaska 1960: population served, water delivered, water consumed (mgd).
2. Water for rural use, by Alaska, 1960 (million gallon/day) & by regions: domestic use, livestock use, consumed.
5. Summary of water withdrawn except for water power, by Alaska and by regions.
Alaska.

Source No. 113.
U. S. Army, CRREL, Research Rept. 188, Soils of the Okpilak River Region, Alaska, Jerry Brown, 1966, CRREL.
Abstract: Concepts of arctic pedology are applied to the glaciated and unglaciated terrains in the vicinity of the Okpilak River, northeastern Alaska. The manifestations of frost action in arctic soils are considered under two general forms: (1) the surficial configurations or patterned ground and (2) the morphological characteristics of the seasonally thawed soil and the upper zone of the perennially frozen ground. Approximately 55 types of soil conditions and surface features are described and mapped in an area encompassing both the northern Brooks Range and the southern Foothill Provinces.
North America.

Source No. 114.
North America.

Source No. 115.
U. S. Weather Bureau, Average Annual Solar Radiation per Day Over Northern North America, MacDonald, T. H., , Geophysical Institute Lib. Monthly Weather Review. Covers Greenland, Canada & United States including Alaska. Distribution of solar radiation is mapped in Langley's (gm.-cal./cm^2) per day. Radiation observing stations are indicated.
North America.

Source No. 116.
North America.

Source No. 117.

Source No. 118.
Abstract: Eight years of simultaneous recordings of January temperature & windspeed from 20 N. American stations are used in the development of a method for predicting the percentage of the
Source No. 118, Continued.

Time windchill will lie above or below a given value. A windchill prediction chart is constructed. It combines the Siple nomogram, used to derive the windchill index based on avg. temperature and windspeed, and the prediction model based on the windchill frequencies. Predicting errors (range 0-240 windchill units, with avg. of 52) produce a skewed distribution with 64 percent of the errors less than the avg. Errors greater than avg. are concentrated between the 5th and 30th and beyond the 95th percentiles. Magnitude of error increases as the index increases.

The reliability of the prediction chart is tested by frequency records from 34 additional stations. Deviations of actual windchill values from the predictions are, on the avg., 20 windchill units greater than deviations in the model. The same general pattern of error deviation is observed.

North America.

Source No. 119.

2. Expected longest duration (days) of temp. <32°F during a single winter season.
3. Longest duration (days) of temp. <32°F in 10 winters.
4. Expected longest duration (Hrs.) of temp. 5°F during a single winter season.
5. Longest duration (9Hrs.) of temp. <0°F, -10°F, -20°F, -30°F, -40°F, -50°F, -60°F.
6. Expected longest duration (Hrs.) of temp. <0°F, -10°F, -20°F, -30°F, -40°F during a single winter season.

North America.

Source No. 120.


North America.

Source No. 121.

Source No. 122.
Temperature (°C): Monthly and annual temps.
Precipitation (cm): Monthly and annual pcpn.
Wind (m.p.s.): Monthly and annual.
Cloud (tenths): Monthly and annual.
Comparison of global short-wave radiation with ESSA-USWB at Barrow and North Meadow Lake.
Daily avg. albedo over tundra and lake, Barrow.
Mean daily and monthly cloudiness, tenths.
Point Barrow.

Source No. 123.
Comparison of Solar Radiation Measurements with U. S. WB Data, Expressed as: Barrow Q/North Meadow Lake Q.
Mean Diurnal Temperature Range, 1964, Barrow USWM Station (°C).
Mean daily cloudiness, tenths.
Point Barrow.

Source No. 124.
Ambient air temp. regime (°C).
Monthly radiation totals over tundra and North Meadow Lake, joules cm⁻².
Daily average temperature (°C).
Incoming Short Wave Radiation - Daily Sums, joules cm⁻².
Net Total Radiation over Tundra - Daily Sums, Joules cm⁻².
Net Total Radiation over Lake - Daily Sums, Joules cm⁻².
Net Short-Wave over Tundra - Daily Sums, Joules cm⁻².
Net Total/Short-Wave Radiation over Lake, Daily Sums, Joules cm⁻².
Net/Reflected Short-Wave over Tundra, Daily Sums, Joules cm⁻².
Reflected Short-Wave Over Lake - Daily Sums, Joules cm⁻².
Albedo over Tundra, Daily Average in Per Cent.
Albedo over Lake - Daily Average in Per Cent.
Diurnal Variations - Hourly Means.
Point Barrow.

Source No. 125.
Abstract: Efforts were made to develop a mathematical model of the thermal regimes in tundra soils. The results of field investi-
Source No. 125, Continued.

...gations during the summer and fall of 1970 in the vicinity of Barrow, Alaska were used for validation of the model. Accuracy in simulating the field observations by the model is found satisfactory. Effects of important factors affecting the thermal regime are also discussed. Point Barrow.

Source No. 126.


Source No. 127.


Source No. 128.

The Variation of CO₂ Under the Snow in the Arctic, J. J. Kelley, Jr., D. F. Weaver, B. P. Smith, 1967, 1965-1966, Tundra Biome Office, Dept. of Atmospheric Sci., Univ. of Washington. Abstract: Atmospheric CO₂ was monitored continuously by infrared analysis near Barrow, Alaska, from September, 1965 to July, 1966. The purpose of these measurements was to determine the fluctuations of CO₂ under the snow cover. Avg. daily surface values of CO₂ as measured at the tundra surface increased a few days after the first snowfall. High and variable values occur until early Dec. and then decreased to lower, relatively stable, concentrations that persisted to early May. At that time, the CO₂ concentrations under the snow increased until the snow left the tundra in late June. Tundra surface temp. & wind speed four meters above the ground near the study area were monitored simultaneously with the CO₂ measurements. There was a general positive correlation between surface temp. & CO₂ and an inverse relationship with wind speed.

Source No. 129.

Source No. 129, Continued.
Cloud Cover (%):
Point Barrow.

Source No. 130.

Wind Velocity (m/sec., degrees):
Radiation (cal/cm**2/min.):
Light extinction (percent):
Air-soil-canopy temperature (°C):
Point Barrow.

Source No. 131.
Point Barrow.

Source No. 132.
A Pedologic Study of Arctic Coastal Plain Soils near Barrow, Alaska, James V. Drew, 1957, SKNR. S599 A4 D77.
Arctic Soils in Alaska
An approach to the study of Alaskan Arctic Coastal Plain soils.
The major genetic soils
Polygon classification near Point Barrow
Soils of the Barrow area
Soil mapping studies near Point Barrow.
Results of soil mapping studies.
Rate and depth of thaw in the major genetic soils near Barrow.
Point Barrow.

Source No. 133.
Ground Temperature
Soil Data.
Point Barrow.

Source No. 134.
Solar radiation (Langleyes per day): Shortwave, incoming radiation was recorded at the Elson Lagoon Station (1) and the beach ridge Station (5).
Temperature (°C): Max. & min. air temps. at ground level.
Wind (km/hr.): Mean daily wind values.
Precipitation (mm): Comparison of pcpn. between microclimatic stations and the U. S. Weather Bureau, Summer.
Frequency of frost (%): Classification & frequency of frost features-
Source No. 134, Continued.
vegetation, percentage bare soil exposed.
Point Barrow.

Source No. 135.

Source No. 136.
Air Temperature (°F): Mean annual, recorded high & recorded low.
Precipitation (inches): Mean annual, max. annual & max. monthly.
Air freezing index (degree days F. below 32): Avg., max. & min.
Air thawing index (degree days F. below 32): Avg., max. & min.
Avg. date start freeze season & thaw season.
Avg. length of freeze season & thaw season, snow cover (inches) 1st day of month for 1952-1958.
Kotzebue.

Source No. 137.

Source No. 138.
Kotzebue.

Source No. 139.
Abstract: The water supplies of Alaska are largely from surface sources, although many wells and some springs are also used. Inadequate or unsafe supplies in many parts of the territory
have retarded industrial development and caused illness. A better understanding of arctic and subarctic water supply needs promises a much brighter future.

Source No. 140.


Abstract: Discusses the problems of turbidity, freezing, high chemical concentrations & permafrost in the context of the human utilization of surface & ground water. The rock flour content in streams of glacial origin commonly exceeds 2,000 ppm. In the north, permafrost may extend to 1,300 ft. and the ground water beneath lakes however, unfrozen aquifers frequently occur. The problems of corrosion due to high oxygen content and contamination by organic material are mentioned. Many Alaskan settlements are coastal and the salinity of their water supply is a serious problem. The high cost of both desalination and snow ice melt as water sources is emphasized. Low temp. conditions are conducive to prolongation of the life of pathogenic bacteria, hence a serious danger of pollution exists.

Source No. 141.


Temperature: Mean annual, absolute, mean January & July temp. Mean sea level pressure & wind roses, January & July, pressure in inches, wind frequency one-half inch = 25%.

Precipitation: Mean annual, mean monthly pcpn. Mean annual snowfall.

Source No. 142.


Source No. 143.


1. Basic Data: Summarization of data - Period & length of record - Station exposure.
2. Duration analysis: n-hour vs. observational-day Pcpn. - duration - interpolation diagram.
3. Frequency analysis: 2 types of series - frequency considerations-
Source No. 143, Continued.

retrw - period diagram - secular trend.

4. Isopluvial maps: Relation between 2-year 24- and 240-hour amounts - Smoothing of isopluvial maps - 2-year 10-day map - Ratio of 100-year to 2-year values - 100-year 10-day map - 22 additional maps - Reliability of results - Smoothing values read from maps.

Alaska.

Source No. 144.
Temperature (°F): Mean annual.
Precipitation (inches): Mean annual.
Potential evapotranspiration (inches):
Actual evapotranspiration (inches):
Surplus Pcpn. - Potential evapotranspiration (inches):
Index of humidity:
Index of aridity:
Moisture index:
Summer need & climatic type 2/.

Alaska.

Source No. 145.
Wind Speed (M Sec⁻¹):
Wind Direction (deg.):
Air Temperature (°C):
Soil Temperature (°C):
Radiation (ly min⁻¹):
Incoming Short Wave Radiation, 10-day means (cal/cm² day):
Reflected Short Wave:
Net Radiation (balance):
Precipitation (mm):
Evaporation (mm):
Point Barrow.

Source No. 146.
Soil moisture (ohms):
Soil temperature (°C):
Soil moisture-temperature profiles
Point Barrow.
Source No. 147.
Wind Speed (M/sec.):
Wind direction (degrees):
Temperature (°C):
Dew Point Temperatures:
Radiation (cal./cm**2 - Min.)
Point Barrow.

Source No. 148.
Abstract: Meteorological properties of the tundra are treated within the context of a general ecosystem model. The biosphere is placed in the role of an active interface within a stack of horizontally uniform physical layer under the influence of incident solar radiation as a demonstrably dominant exogenous state variable. Diurnal variation of the thermodynamic states of these physical layers is calculated as the solution of differential equations governing the diffusion of heat and moisture. The results of numerical experiments then demonstrate that atmospheric moisture and temperature, during the biotically active summertime, are influenced by the meteorological experience of the immediately preceding spring via the summertime level of the permafrost boundary to a degree that is at least comparable to the effect of daily fluctuations in cloud cover and prevailing winds.
Point Barrow.

Source No. 149.
Hourly Means of Radiative Flux Density by Day, mW cm**-2 by day and month.
Daily Energy Sums in Joules cm**-2 by day and month.
Point Barrow.

Source No. 150.
Ambient Air Temperature Regime (°C).
Radiation Totals, Joules cm**-2 and Kcals cm**-2
Daily Average Temperature in °C
Total Global Radiation (Q + E) - Daily Energy Sums, J cm**-2
Source No. 150, Continued.
Incomi ng Short/Long Wave Radi ati on (Q) - Daily Energy Sums, J cm^{-2}
Net Total Radi ati on (B) - Daily Energy Sums, J cm^{-2}
Half-hourly, daily, and monthly radiation values for net total, total
global and global short-wave radiation.
Daily average cloud cover.
Daily average albedo values
Point Barrow.

Source No. 151.
Radiation Regime over Arctic Tundra, 1965, D. F. Weaver,
Mean Daily and monthly cloudiness, tenths.
Abstract: The annual sums of the various radiation components near
Point Barrow, Ak. in 1965 were 322 kjoules cm^{-2} for global short­
wave radiation, 794 kj cm^{-2} for atmospheric back radiation, 185
kj cm^{-2} for reflected short-wave radiation and 870 kj cm^{-2} for
terrestrial outgoing radiation. Net total radiation for the
year was 22 kj cm^{-2}. Monthly avgs. of albedo varied from 18%
for July to 83% for March.
The average temp. for the year was 13.0°C. The absolute min. was
-44.3°C and the absolute max. 16.4°C. The coldest month was
Feb. with an avg. temp. of -33.7°C. Aug. was the warmest month
with an avg. temp. of 3.5°C
Half-hourly, daily, and monthly radiation values for net total, total
global and global short-wave radiation, daily avg. cloud cover
albedo values, and ambient air temp. avgs. and extremes are
presented.
Point Barrow.

Source No. 152.
An Analysis of Carbon Dioxide in the Arctic Atmosphere at
Point Barrow, Ak., J. J. Kelley, Jr., 1964 (May), 1961-1962-1963,
Tundra Biome Office.
Abstract: The results of measurements of carbon dioxide in air at
Point Barrow, Alaska, and the principle of operation of the
infrared gas analyzer are described. Reference gas comparison
data are given in tables, and the method of calculations dis­
cussed. The average daily concentrations of atmospheric carbon
dioxide are tabulated for the period 10 July 1961 to 20 Feb.,
1963. The diurnal variations of carbon dioxide during this period
are also presented. Results of the analyses of carbon dioxide
in air collected in flasks from several other Alaskan locations
are given.
Point Barrow.

Source No. 153.
U.S. IBP Analyses of Ecosystems Program Interbiome Abstracts
Vol. I, No. 4 - Seasonal and Daily estimates of Total Visible Radiation
and Comparisons of Spectral Quality, L. L. Tieszen, August 1, 1971,
Source No. 153, Continued.
1970.
Visible radiation (400-750 nm):
Spectra (erg/cm²-min. for 25 nm intervals):
Point Barrow.

Source No. 154.
Temperature (°F): Max., min., and mean temps.
Precipitation (cm):
Wind Velocity (m.p.h.) & Wind Direction:
Radiation (ly):
Potential Evaporation (cm):
Convective & Evaporative heat flux and measured and computed evapotranspiration.
Hourly Micrometeorological observations: Air and Soil temp. (°C)-
Permafrost:
Vapor Pressure (mm):
Wind Velocity (cm/sec.).:
Heat Budget computations:
Vel. diff. (cm/sec.), temp. diff. (°C), Humidity diff. (mm), convective.
Point Barrow.

Source No. 155.
U. S. IBP Analyses of Ecosystems Program Interbiome Abstracts
Soil Temperature (°C):
Soil Moisture (%):
Depth of thaw (cm):
Point Barrow.

Source No. 156.
U. S. IBP Analyses of Ecosystems Program Interbiome Abstracts
Soil Temperature (°C):
Soil Temperature profiles:
Point Barrow.

Source No. 157.
U. S. IBP Analyses of Ecosystems Program Interbiome Abstracts
Soil Temperatures (°C):
Point Barrow.

Source No. 158.
U. S. IBP Analyses of Ecosystems Program Interbiome Abstracts
Source No. 158, Continued

Soil Temperature (°C):
Soil Moisture (%):
Depth of Thaw (cm):
Point Barrow.

Source No. 159.

Soil Temperature (°C):
Soil Moisture (%):
Point Barrow.

Source No. 160.
U.S. IBP Analyses of Ecosystems Program Interbiome Abstracts Vol. I, No. 4 - Sources of Carbon Dioxide at the Soil-Air Interface during Soil Freeze-up in the Arctic, P. I. Coyne and J. J. Kelley Jr., Aug. 1, 1971, 1970,

Soil moisture (% by weight):
Soil Temperature (°C):
Point Barrow.

Source No. 161.

Evaporation (mm/day):
Air Temperature (°C):
Relative Humidity (%):
Precipitation (mm):
Runoff (liters/sec):
Point Barrow.

Source No. 162.

Soil Temperature (°C):
Thaw Depth (cm):
Point Barrow.

Source No. 163.
Source No. 163, Continued.

Estimated water use, in million gallons, by source and user, for the period 1954-1959.

Mean Monthly discharge, in million gallons/day, of 3 streams and Russian Jack Springs in the Anchorage area, Alaska, 1958-59.

Selected chemical analyses of ground water in the Anchorage, Ak. area.

Selected chemical analyses of surface water in the Anchorage, Ak. area.

Chloride content, in parts/million, of water from 2 wells sampled twice yearly during 1953-59, in the Anchorage area, Ak.

Anchorage.

Source No. 164.


Degree days: Monthly


Anchorage.

Source No. 165.


Abstract: Frequent, regular thermal measurements in No. Ak. over a 60-year period have provided information on many of the problems related to the temp. & distribution of permafrost in the arctic. The max. depth of permafrost near Barrow is 1,330 ft. The min. permafrost temp. recorded, below the depth of measurable (0.01°C) seasonal fluctuation (70 to 100 ft.), is -10.6°C. The temp. effect of medium-sized (40 by 100 ft.) heated buildings resting on permafrost is measureable to depths well below 50 ft. It is doubtful that frozen ground at shallow depths extends outward more than a few tenths of feet from the shore of the Arctic Ocean although it may be present at depths of 100 ft. Lakes deeper than about 7 ft. do not freeze to bottom and may have an unfrozen zone approaching several hundred ft. in depth beneath them.

Point Barrow.

Source No. 166.


Wind Velocity (m.p.h.): Comparison of wind velocities recorded by the U. S. Weather Bureau & Civil Aeronautics Authority from Oct. 22, 1949, to June 18, 1950, 240 days.


Snowfall (inches): Depth of snow, snowfall, snow density Oct.22,
Source No. 166, Continued.
1949 to June 18, 1950.
Point Barrow.

Source No. 167.

Nome.

Source No. 168.
The Thermal Regime of an Arctic Lake, Max C. Brewer, April 1958, 1954-56, QE 500, Transactions Am. Geophysical Union, Vol. 39, No. 2 Abstract: Much of the Arctic Coastal Plain in Ak. is covered by shallow lakes. Those in the Barrow area, which are believed to be representative of most of the lakes in the coastal plain, are generally either two to three ft. or 6 to 9 ft. deep. The shallow lakes can often provide a suitable summer water supply, but only the deeper lakes provide a significant H₂O supply throughout the year. The water in the individual lakes is in an essentially isothermal state during the ice-free period that lasts from late June until Sept. The max. temp. recorded in a lake near Barrow in 1954 was about 12°C. When ice formation begins, the temp. of the body of water as a whole may be only a few tenths of a degree above 0°C. Once the lake surface is iced over, the H₂O temps. may rise rapidly as much as 2°C, apparently owing to radiated heat received through the ice. The heating is terminated by a sudden cooling that coincides with the covering of the ice by a thin blanket of snow. This cooling is followed by a second warming of the bottom or near-bottom water that takes place gradually over a period of weeks. The bottom sediments beneath the lake are the source of heat. A gradual cooling takes place during the balance of the winter. Permafrost underlies the shallow lakes but an unfrozen basin several hundred ft. deep may extend beneath the deeper lakes.

Source No. 169.
Source No. 169, Continued.
Abstract: The review summary of the climatological environment of the northern cold regions begun in CRSE Monograph I-A3a concludes with the three sections on Temperature (including inversions, humidity and precipitation, and winds). Each section has a selected but extensive bibliography.
Northern Hemisphere.

Source No. 170.
Abstract: Isotherms of mean daily minimum temperature at intervals of 9°F are shown for January, April, July, and October, on 24 maps representing each continent except Antarctica. Isotherms are based upon data from land stations only.
Northern Hemisphere.

Source No. 171.
Abstract: The boundaries of the cold regions of the Northern Hemisphere are located by using parameters of air temperature, snow depth, ice cover, and frozen ground. Each parameter is discussed in detail and references used to develop four Northern Hemisphere cold regions maps are given. In all mountainous areas where few reporting stations exist, specific elevations or ridge lines were used to locate the limits of certain zones. In some areas, for example Greenland and expansive bodies of water, no isopleths were drawn because the parameter was not applicable or because of insufficient information. It is concluded that nearly all of the land mass north of 40° lies within the cold regions, and that nearly half of the land mass in the Northern Hemisphere can be classified as cold regions.
Northern Hemisphere.

Source No. 172.
Abstract: This report presents a method of assessing and mapping the January daily minimum temperature for northern North America (Canada north of 55°N lat., Alaska, Greenland, and Iceland). The method of assessing the frequency of daily minima requires only: (a) the mean daily minimum, (B) the absolute minimum, and (c) the length of the record. By use of these data and an adjusted probability scale, the frequency or percentage distribution of daily minimum temperatures for a station may quickly be ascertained. The adjusted probability scale was used in estimating
Source No. 172, Continued.
the daily minimum probabilities for 71 stations in northern N. America. Five maps constructed from the tabulated data show how the table may be used to give an overview of the whole Arctic area, featuring any selected temperature frequency. The appendix explains how the mean monthly temperature may be used to achieve the same results. However, the results are not quite as accurate.
Northern Hemisphere.

Source No. 173.
Date and cloud cover at time temperatures (°C) were recorded in several streams in Southeast Alaska.
Avg. temp. difference/20 yards of streams on clear days with & without shade producing cover, in selected areas on Southeast Alaska.
Avg. temp. difference/20 yards of streams on overcast days, near Haines and Petersburg.
Summary of mean temp. differences under various sky and cover conditions for streams in selected areas of S.E. Alaska.

Source No. 174.
Alaskan Conditions: Climatic & Physical conditions.
Sources of water supply.
Transmission & Distribution - Techniques of warming the water in the distribution system.
Water Treatment.
Alaska.

Source No. 175.
Records of wells and test holes in Southeastern Alaska.
Logs of wells and test holes in Southeastern Alaska.
Chemical analyses of ground water in Southeastern Alaska.
Alaska.

Source No. 176.
Abstract: In connection with the author's previously described theory concerning a mathematical curve dividing the globe into a definite climatic pattern, Alaska is presented as an example which
Source No. 176, Continued.

should validate the theory, since it has a complicated climatic pattern. It shares in four of the theoretical climatic regions, since 2 of the hypothetical curves intersect in the center of the Alaskan Peninsula. Preliminary comparison with known data on the climate found in Alaska gives good agreement with predictions of the theoretical expectations. The author invites further comparison of data by agencies having more extensive information available, and suggests that such data be pooled and compared with the theoretical pattern.

Alaska.

Source No. 177.


Summary of snow-cover densities & climate includes: Years of record, Avg. seasonal snow density (g/cm^3), Standard deviation, Skewness, Avg. seasonal temp. (°C), Avg. seasonal wind speed (M/sec.)

Observed, weighed snow-cover densities (G/cm^3).

Anchorage, Barter Island.

Source No. 178.


Temperature (°F): Dates of and mean temp. on day of specified ice thickness.

Air Temperature (°F): Mean annual, recorded high and low.

Precipitation (inches): Mean annual, max. annual, max. monthly.

Snowfall (inches): Mean annual, max. annual, max. monthly.

Air Freezing Index (degree days F below 32): Mean annual, min., max.

Air Thawing Index (degree days F above 32): Avg. date start freeze season, Avg. date start thaw season, Avg. length of freeze season (days), Avg. length of thaw season (days).

Snow Cover (inches): Max. recorded and min. recorded, 16 year avg.-monthly.

Anchorage, Barter Island, Point Barrow.

Source No. 179.


Air Temperature (°C):

Summer surface temp.

Monthly soil temp., diurnal temp. (°C) near the tundra surface.

Net radiation (Joules cm^-2):

Cloud Cover (%):

Frequency distribution (%):

Solar Radiation:

Point Barrow.
Source No. 180.
J. J. Kelley, Jr. & D. F. Weaver, 1969, 1965-66, Main Library, AINA.
Soil Temperature (°F): Avg. monthly.
Net Radiation (Joules cm⁻²): Avg. monthly
Cloud Cover (%): Avg. monthly.
Surface Temperature: Summer surface temp., frequency percent.
Bethel.

Source No. 181.
Records of wells and test holes in the Bethel area.
Chemical analysis of water from wells at Bethel (parts/million except pH).
Point Barrow.

Source No. 182.
Temperature:
Frequency and percentage frequency of wind speed: January to Dec. Point Barrow.

Source No. 183.
a) Water use at cold-region communities - Nome.
b) Record of incidents substantiating the occurrence of possibly waterborne communicable disease in cold-region areas.
c) Approximate heat rejection from internal combustion engines.
d) Water supply practice at selected cold-region communities - Nome.
f) Approximate monthly mean ground & air temps. at certain points in the Arctic Permafrost area.
g) Recommended cable sizes for electrical thawing.
Point Barrow.

Source No. 184.
Water use at cold region - Barrow, Gal/day per capita
Water supply practice at selected cold region communities - Barrow.
Approximate monthly mean ground & air temps. at certain points in the Arctic Permafrost area.
Recommended cable sizes for electrical thawing.
Point Barrow.
Source No. 185.

Abstract: Microclimatic observations for a 10-day period in the summer of 1965 on the upper Seward Glacier show: 1) wind profiles that closely approximate long-linear curves (as would be expected under the stable conditions characteristic of this study period), 2) temp. profiles with a distinct double inversion pattern during daytime hours, and 3) net radiation the dominant heat source during each day of the study period whereas sensible and latent heat fluxes were almost insignificant due to low wind velocities and slight temp. ranges near 0°C.

Source No. 186.

, Tundra Relief Features near Point Barrow, Alaska, K. M. Hussey & R. W. Michelson, 1966, AINA.
Abstract: The distribution of minor tundra relief patterns shows that topography plays a leading part in their development. In extensive areas of very low relief, local expression may well exceed the regional range. Aside from the initial relief, the greatest deviations from a flat surface in the Barrow area are related to the growth or thaw of ground ice. This leads to such features as high- and low-centered polygons, ice-wedge troughs, ice-cored mounds and thaw basins of all sizes. The genesis of most of these features has been determined. However, it has been questioned that the basins could have been formed by thaw. Specimens of the frozen ground were collected and analyzed to determine their relative ice content. The values were extrapolated, and it was found that even the largest basins can be true thermokarst features.

Source No. 187.

Average temperature (°F):
Precipitation (inches):
Mechanical analysis of some soils (hydrometer method).
Mechanical composition of tundra profile.
Chemical data of some tundra soils.
Conductivity data of several tundra soils near Barrow, on an uplifted beach ridge.

Point Barrow.

Source No. 188.

Source No. 188, Continued.
Climate, Geology, Permafrost, Vegetation of the area.
Methods & Materials
Morphology of selected profiles
Results of Lab. Investigations
Mechanical composition
Mineralogy of Sands & Silts
Mineralogy of Clays
Chemical data.
Point Barrow.

Source No. 189.
Probability that a given day will be wet or dry, wet day at least 0.01", .10", .20", .50".
Homer.

Source No. 190.
Deviations of period accumulations of precipitation (cm) from U. S. Weather Bureau (Barrow Station) records of June, July & August, 1956.
Accumulated evapotranspiration losses (avg. & 3 cans/station)
Accumulated evaporation losses.
Average wind velocities & prevailing directions in the months of July and August, 1956.
Point Barrow.

Source No. 191.
Cloud Coverage: Mean monthly
Snow-cover temperatures (°C): Mean monthly
Snow cover densities (g/cm³): Mean Monthly
Air temperatures (°C):
Comparison of observed snow-cover density with density computed from the nomographs.
Relation between snow-cover temp. & air temp.
Nomographs to estimate avg. monthly snow cover density for the months of Nov., dec., Jan., Feb., and March.
Barter Island.

Source No. 192.
U. S. Weather Bureau, Rainfall intensity-duration-frequency curves.
Rainfall intensity-Duration-Frequency Curves.
Juneau.