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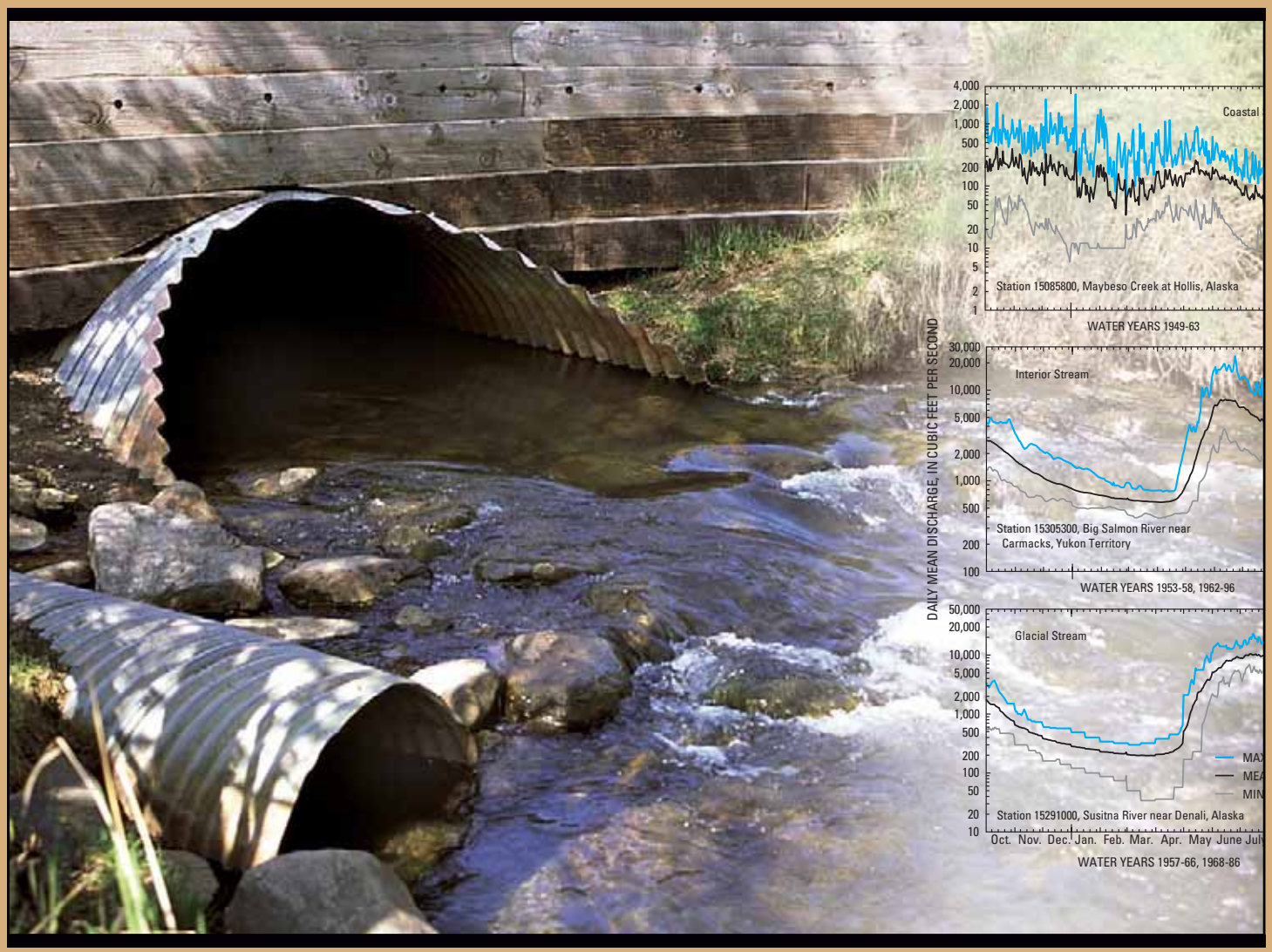
# Estimating Annual High-Flow Statistics and Monthly and Seasonal Low-Flow Statistics for Ungaged Sites on Streams in Alaska and Conterminous Basins in Canada

## Water-Resources Investigations Report 03-4114

*Prepared in cooperation with the*
***ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES***




Photograph of culvert adjacent to U.S. Geological Survey stream-gaging station on Chester Creek at Arctic Boulevard in Anchorage, Alaska. Photograph taken by Janet Curran, USGS.

**U.S. DEPARTMENT OF THE INTERIOR**
**U.S. GEOLOGICAL SURVEY**

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*By* Jeffrey B. Wiley *and* Janet H. Curran

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Anchorage, Alaska
2003

**U.S. DEPARTMENT OF THE INTERIOR**
GALE A. NORTON, *Secretary*

**U.S. GEOLOGICAL SURVEY**
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[Plate is in pocket]



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# CONVERSION FACTORS AND DATUM

## CONVERSION FACTORS

| Multiply | By | To obtain |
|---|---|---|
| inch (in.) | 2.54 | centimeter |
| foot (ft) | 0.3048 | meter |
| foot per mile | 0.1894 | meter per kilometer |
| mile (mi) | 1.609 | kilometer |
| square mile ($mi^2$) | 2.590 | square kilometer |
| cubic foot per second ($ft^3/s$) | 0.02832 | cubic meter per second |

Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:

$$°C=(°F-32)/1.8$$

## DATUM

**Vertical coordinate information** was referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29).

**Horizontal coordinate information** was referenced to the North American Datum of 1927 (NAD 27).

# Estimating Annual High-Flow Statistics and Monthly and Seasonal Low-Flow Statistics for Ungaged Sites on Streams in Alaska and Conterminous Basins in Canada

*By* Jeffrey B. Wiley *and* Janet H. Curran

## ABSTRACT

Methods for estimating daily mean flow-duration statistics for seven regions in Alaska and low-flow frequencies for one region, southeastern Alaska, were developed from daily mean discharges for streamflow-gaging stations in Alaska and conterminous basins in Canada. The 15-, 10-, 9-, 8-, 7-, 6-, 5-, 4-, 3-, 2-, and 1-percent duration flows were computed for the October-through-September water year for 222 stations in Alaska and conterminous basins in Canada. The 98-, 95-, 90-, 85-, 80-, 70-, 60-, and 50-percent duration flows were computed for the individual months of July, August, and September for 226 stations in Alaska and conterminous basins in Canada. The 98-, 95-, 90-, 85-, 80-, 70-, 60-, and 50-percent duration flows were computed for the season July-through-September for 65 stations in southeastern Alaska. The 7-day, 10-year and 7-day, 2-year low-flow frequencies for the season July-through-September were computed for 65 stations for most of southeastern Alaska. Low-flow analyses were limited to particular months or seasons in order to omit winter low flows, when ice effects reduce the quality of the records and validity of statistical assumptions.

Regression equations for estimating the selected high-flow and low-flow statistics for the selected months and seasons for ungaged sites were developed from an ordinary-least-squares regression model using basin characteristics as independent variables. Drainage area and precipitation were significant explanatory variables for high flows, and drainage area, precipitation, mean basin elevation, and area of glaciers were significant explanatory variables for low flows. The estimating equations can be used at ungaged sites in Alaska and conterminous basins in Canada where streamflow regulation, streamflow diversion, urbanization, and natural damming and releasing of water do not affect the streamflow data for the given month or season. Standard errors of estimate ranged from 15 to 56 percent for high-duration flow statistics, 25 to greater than 500 percent for monthly low-duration flow statistics, 32 to 66 percent for seasonal low-duration flow statistics, and 53 to 64 percent for low-flow frequency statistics.

## INTRODUCTION

Streamflow characteristics are required for analysis of hydraulic structures, hydropower facilities, contaminant concentrations, and other uses by public and private entities throughout Alaska. The need for high-flow and low-flow statistics, specifically, has increased as the consideration of aquatic biota becomes an increasingly important criterion for efficient and effective design of culverts and bridges and for establishing limits on contaminant concentrations and loads. High-flow and low-flow statistics are commonly computed from daily mean discharge as flow-duration statistics or flow-frequency statistics. Flow-duration statistics, such as the 98-percent duration flow for July, describe the daily mean discharge that is exceeded a given percentage of the time (98 percent of the days in July, for this example). The days on which the discharge is exceeded are not necessarily consecutive.

Flow-frequency statistics, such as the 7-day, 2-year low flow, refer to the discharge that occurs on a certain number of consecutive days (7, for this example) that is associated with a certain recurrence interval (2 years, in this example). These various statistics are often needed to address multiple aspects of a single problem. For example, estimates of high-duration flows (daily mean discharges exceeded a small percentage of the time) are needed to design structures that adequately accommodate streamflow while not overtaxing the swimming capacity of fish. Likewise, estimates of low-duration flows (daily mean discharges exceeded a large percentage of the time), and low-flow frequency and magnitude, are needed to design structures that maintain adequate flow during periods critical to fish passage.

To meet the growing need for streamflow statistics, the U.S. Geological Survey (USGS), in cooperation with the Alaska Department of Transportation and Public Facilities, developed new equations for estimating high-duration and low-duration flow statistics and low-flow frequency from daily mean discharge data through water year 1999. The analysis of daily mean discharge summarized in this report complements a separate analysis of flood frequency based on annual peak flows to complete a statewide analysis of streamflows. Most data for small streams (drainage basin less than 50 $mi^2$) were collected by the USGS under this cooperative program. Other data were collected by the USGS, under cooperative agreements with Federal, State, and local agencies, and by the Water Survey of Canada.

## Purpose and Scope

This report presents (1) computed annual high-flow and monthly and seasonal low-flow statistics for selected months and seasons for streamflow-gaging stations in Alaska and conterminous basins in Canada, and (2) equations for estimating high-flow and low-flow statistics at ungaged sites in Alaska. High-flow statistics are computed for the October-through-September water year, and monthly low-flow statistics are computed for July, August, and September. Seasonal low-flow statistics and low-flow frequency are computed for the period July-through-September for southeastern Alaska only. Estimating equations are based on data that were not affected by streamflow regulation, urbanization, or failure of natural dams and were compiled from streamflow-gaging station records with at least 10 years of daily mean flow data through the 1999 water year. In addition to data from all eligible Alaskan streamflow-gaging stations, data from conterminous basins in Canada were used in this report to strengthen the analysis for the eastern regions of the State.

## Previous Studies

Although no previous statewide flow-duration analyses are available, several reports with equations for high- and low-flow frequency statistics have been published. Studies undertaken at the University of Alaska-Fairbanks produced high-flow frequency and low-flow frequency estimating equations for two regions delineated by Lamke (1978), one containing coastal, southeastern, and Aleutian areas (Carlson, 1987) and the other containing the rest of Alaska (Ashton and Carlson, 1984). Between the two reports, 101 stations with drainage areas less than 100 $mi^2$ are incorporated. Equations are presented for the 1-, 3-, 7-, and 15-day, 1.25-, 2-, 5-, 10-, and 20-year high flows for spring, summer, and fall and for the 3-, 7-, 14-, and 30-day, 1.25-, 2-, 5-, 10-, and 20-year low flows for spring, summer, and fall.

A USGS study developed equations for estimating low-flow frequency for selected regions as well as for the entire State (Parks and Madison, 1985). Parks and Madison used data from the full year for streams with flows that did not approach zero in the winter as the result of river ice buildup. They present equations for estimation of the 7-day, 10-year; 30-day, 10-year; and 90-day, 10-year low flows for southeastern, south-central, and Yukon Alaska and for the entire State.

Regional boundaries for peak-flow frequency estimation, which can be expected to be similar to high-flow regional boundaries, are presented in numerous previous studies, most recently Jones and Fahl (1994). As did the flow-duration and low-flow frequency studies, all of these peak-flow studies differentiated southeastern Alaska, along with all or parts of the rest of the southern Alaska coast, from the remaining parts of the State. Subdivision of the interior parts of the State varies.

## Acknowledgments

The assistance of Lynne Campo, Water Survey of Canada, in providing updates to Canadian streamflow data is gratefully acknowledged. USGS student employees Brent Voorhees and Brian Winnestaffer digitized drainage basin outlines and developed methods to determine drainage basin characteristics from Geographic Information System (GIS) coverages. Portions of the comparison of previously obtained basin characteristics with basin characteristics obtained with modified methods appear in Brian Winnestaffer's senior thesis for Alaska Pacific University.

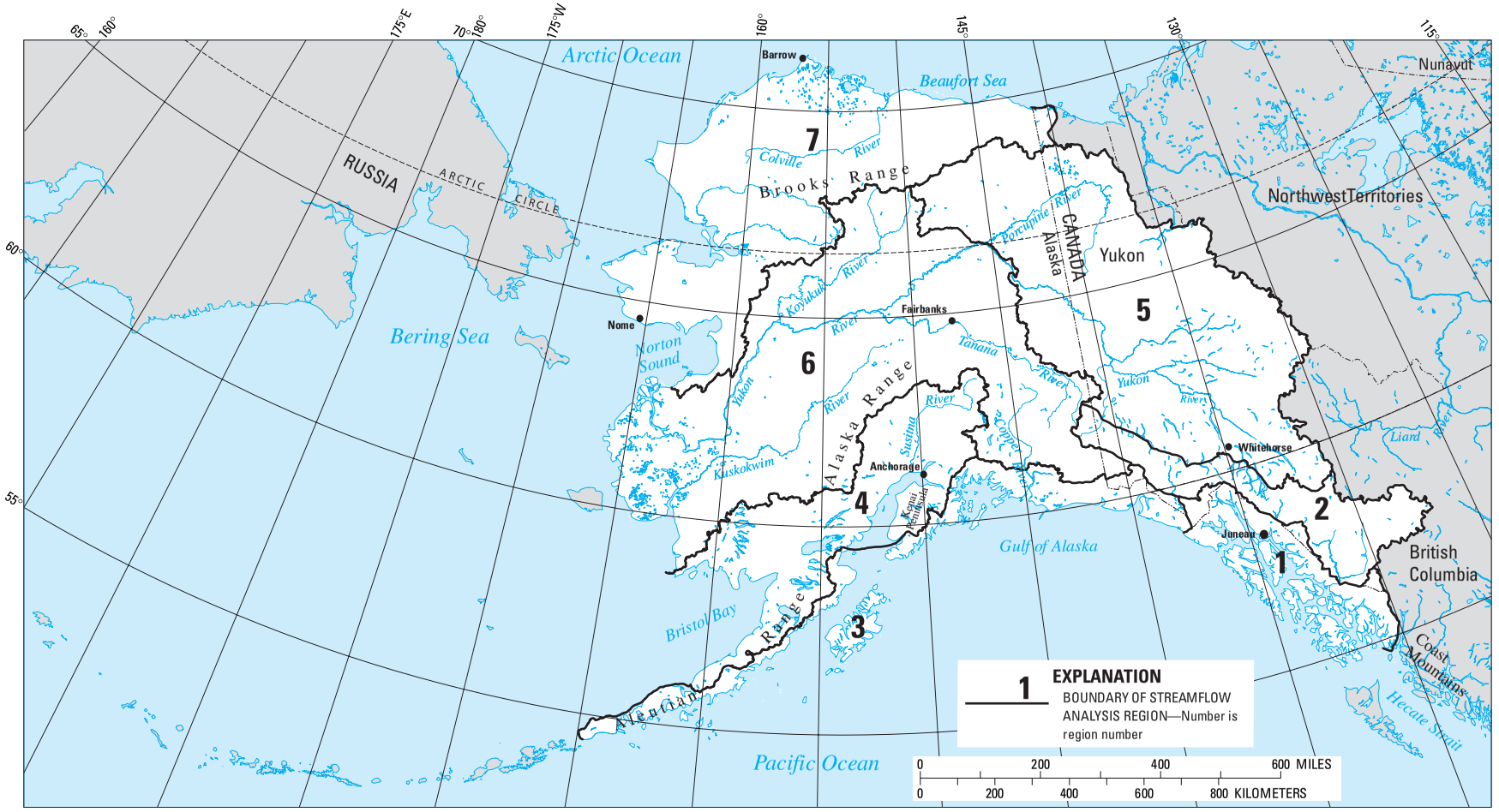
# DESCRIPTION OF STUDY AREA

In its expanse of 586,000 $mi^2$, Alaska encompasses geographical and climatic settings ranging from the moisture-laden, mountainous regions of the southeastern region to the dry, cold plains of the Arctic north. Some Alaskan drainage basins originate in conterminous areas of Canada's Yukon and British Columbia provinces (fig. 1); these areas are included in the study area. Alaska's streams eventually drain to the Arctic Ocean, Bering Sea, or Pacific Ocean.

Despite the relatively sparse network of data-collection sites in Alaska, broad patterns based on climate, geography, and geomorphology can be discerned that help explain Alaska hydrology. These patterns can largely be explained by the direction of dominant storm tracks, location of mountain ranges, and influence of coastal areas.

Most precipitation in Alaska results from storms that move northeastward from the Pacific Ocean (Lamke, 1991). Seasonal and geographic distribution of precipitation is affected by mountain ranges and variations in air temperature. The prolonged cold, dry Arctic air mass over interior Alaska in the winter decreases annual precipitation in this area of the State. Average annual precipitation ranges from more than 300 in. in southeastern Alaska, received mostly during fall and winter, to less than 10 in. in areas near the Arctic Ocean, received mostly in summer and fall (Jones and Fahl, 1994, pl. 2). Three major mountainous belts stretch across all or part of Alaska. Coastal mountains rise steeply from the southern coast; an extensive arc of higher mountains consisting of the Aleutian Range, Alaska Range, and Coast Mountains spans the southern part of the State; and the Brooks Range extends across the State north of the Arctic Circle (fig. 1). Glaciers are most prevalent along the southern mountain ranges where precipitation is greater than in northern regions. Basins in coastal areas typically are small and receive large amounts of precipitation. Average basin elevations are low near the coast.

Climatic conditions that generate extended periods of high or low streamflow generally do not extend simultaneously across the State because of its size, so no statewide periods of floods or droughts have been documented. However, several regional floods and droughts have been identified since 1949, when widespread gaging records became available. Major flooding occurred in interior Alaska in 1964, near Fairbanks in 1967 (Childers and others, 1972), in south-central Alaska in 1971 (Lamke, 1972) and 1986 (Lamke and Bigelow, 1988), along the Copper River in 1981, and in south-central Alaska and the Kenai Peninsula in 1995. Flood conditions persisted for at least 3 days during each of these major events. Droughts occurred in southeastern Alaska in 1950-52, the upper Yukon River in 1950-57, southeastern Alaska from spring 1965 to spring 1966, south-central and southwestern Alaska and the middle Yukon River in 1968-71, south-central Alaska and middle Yukon River in 1973-80, and southeastern Alaska in 1981-86 (Lamke, 1991).




Base map modified from U.S. Geological Survey Digital Line Graphs published at 1:2,000,000.
Canadian Land Inventory Level I Digital Data published at 1:2,000,000. Publication projection is Albers Equal Area.
Standard Parallels are 55° and 65°, central meridian -154° west, latitude of projection origin 50°.
Eastern Russian coastline from U.S. Geological Survey, Geologic Investigations Series I-2679, published at 1:7,500,000.
Projection is Albers Equal Area, Standard Parallels are 55° and 65°, central meridian 160° west.
Koryak Highlands coastline, 160°-175° modified from U.S. Geological Survey Open-File Report 96-727, published at 1:1,000,000.
Projection is Lambert Azimuthal Equal Area. central meridian 165° west.

**Figure 1**. Physical features and streamflow analysis regions of Alaska and conterminous basins in Canada.

## DETERMINATION OF DRAINAGE-BASIN CHARACTERISTICS

Physical and climatic features of the watershed upstream of a given stream location, termed basin characteristics, are independent variables that can be used to estimate streamflow statistics (Thomas and Benson, 1970). Nine basin characteristics used in the previous statewide flood-frequency analysis (Jones and Fahl, 1994) were available for all stations: drainage area, main channel slope, main channel length, mean basin elevation, area of lakes and ponds, area of forests, area of glaciers, mean annual precipitation, and mean minimum January temperature. Although all nine variables were included in the present analysis, only drainage area and mean annual precipitation were used in the final high-flow equations and only drainage area, mean annual precipitation, mean basin elevation, and area of glaciers were used in the final low-flow equations.

Previously determined basin characteristics were available for most of the stations used in the present analysis (Jones and Fahl, 1994). Definitions of the basin characteristics and the manual methods used to determine them are described in reports by others (Jones and Fahl, 1994; U.S. Geological Survey, 1978) and are summarized in table 1. Basin characteristics for stations not in the Jones and Fahl (1994) report were obtained using modified methods, which are also summarized in table 1. Automated procedures for determining selected basin characteristics for new stations were created using the AML programming language with Arc/Info GIS software (Environmental Systems Research Institute, 1997). Only basin characteristics used in final equations are presented in this report; additional basin characteristics are available from the Alaska Science Center.

For statistical analyses such as the regressions performed for the present study, all data must be collected in a similar manner to minimize error within individual variables. Although new methods of estimation or new sources of data for basin characteristics may produce values that more accurately represent the basin, it is not appropriate to mix such data with previously obtained data in the same analysis. To assess the level of variability introduced by the modified methods used in this study, basin characteristics were determined by both methods shown in table 1 for 19 stations on the Kenai Peninsula and were compared. A statistically significant difference was observed only between previous and modified determinations of main channel length and of main channel slope, which is derived in part from main channel length. Possible reasons for these differences include operator choice of main channel path to the drainage divide, an increased ability to measure highly sinuous paths with digital methods, and physical changes in channel path between map dates. Although main channel length and slope were included in the regression analysis, they were not used in any final equations. Differences also were noted for area of glaciers, but they were magnified because of the small magnitudes of these values and were not considered significant to the final equations. Although the variability introduced into the regression analysis by using the modified methods for a few stations is small, the user should be aware that using modified methods, especially without a comparison with previous methods, could introduce significant error for an individual site. In general, methods used for determining basin characteristics at an ungaged site should be as consistent as possible with the methods described by Jones and Fahl (1994) and the U.S. Geological Survey (1978) and summarized in table 1.

**Table 1.** Description and methods of estimating basin characteristics used in regression analysis

| Basin characteristic name and unit | Description | Estimating technique for stations | |
|---|---|---|---|
| | | Included in Jones and Fahl (1994) | Added to analysis since Jones and Fahl (1994) |
| Drainage area, in square miles | Area of the drainage basin upstream from the site | Basin outlined on topographic maps of various scales; area determined by planimeter | Basin outlined on paper topographic maps of various scales; outline digitized; area estimated using Arc/Info AML application |
| Main channel length, in miles | Length of the main channel between the site and the basin divide measured along the channel that drains the largest basin | Length measured manually along topographic map blue lines and extension to basin divide | Sum of lengths of line segments representing stream on digital hydrography data (http://agdc.usgs.gov/data/ usgs/ to_geo.html), plus length of line extended digitally from stream end to basin divide |
| Main channel slope, in feet per mile | Average slope between points 10 and 85 percent of the distance along the main channel from the site to the basin divide | Main channel length measured from topographic map as described separately; elevation at specified points estimated from topographic contours | Main channel length measured from digital hydrography data as described separately; elevation at specified points estimated from digital elevation data (http://agdc.usgs.gov/data/ usgs/ to_geo.html) |
| Mean basin elevation, in feet | Mean elevation of the drainage basin upstream from the site | Grid sampling from topographic maps | Arc/Info AML application applied to digital elevation data (http://agdc.usgs.gov/data/ usgs/ to_geo.html) |
| Area of lakes and ponds, in percent | Percentage of the total drainage area shown as lakes and ponds on topographic map | Planimeter measurement or grid sampling of blue areas on topographic map | Sum of areas of lake and pond polygons from digital hydrography coverage (http://agdc.usgs.gov/data/ usgs/ to_geo.html) |
| Area of forests, in percent | Percentage of total drainage area shown as forested on topographic map | Planimeter measurement or grid sampling of green areas on topographic map | Digitized green areas on topographic map |
| Area of glaciers, in percent | Percentage of total drainage area shown as perennial snow or ice on topographic map | Planimeter measurement or grid sampling of areas marked as snow or ice on topographic map | Sum of areas of glacier or permanent snowfield polygons from digital hydrography coverage (http://agdc.usgs.gov/data/usgs/to_geo.html) |
| Mean annual precipitation, in inches | Mean annual precipitation averaged over drainage basin | Grid sampling from plate 2, Jones and Fahl (1994) (http://ak.water.usgs.gov/Publications/ pdf.reps/wrir93.4179.plate2.pdf) | Arc/Info AML application applied to Arc/Info coverage of plate 2, Jones and Fahl (1994) (http://agdc.usgs.gov/data/ usgs/water/ statewide.html) |
| Mean minimum January temperature, in degrees Fahrenheit | Mean minimum January temperature averaged over drainage basin | Grid sampling from plate 1, Jones and Fahl (1994) (http://ak.water.usgs.gov/ Publications/pdf.reps/wrir93.4179.plate1.pdf) | Visual estimation from plate 1, Jones and Fahl (1994) for small basins (http://ak.water.usgs.gov/ Publications/pdf.reps/wrir93.4179.plate1.pdf) |

## DETERMINATION OF STREAMFLOW ANALYSIS REGIONS

Dividing areas as large and geographically and climatically diverse as Alaska into smaller regions for analysis usually improves the accuracy of estimation equations. Stations within a region should have similar hydrologic characteristics, but a balance must be struck between isolating hydrologically similar regions and meeting minimum sample size requirements for statistical analysis. Initial placement of stations into streamflow analysis regions was guided by hydrologic unit boundaries (U.S. Geological Survey, 1987) and regional boundaries used in previous reports, in particular the peak-flow analysis by Jones and Fahl (1994). Refinement of regional boundaries was based on the geographic distribution of basin characteristics and residuals from regression analysis of selected streamflow statistics against selected basin characteristics. Specifically, dependent variables July 90- and 50-percent duration flows, 2- and 10-percent duration flows, and 7-day, 10-year low-flow frequency, as well as other variables from a peak-streamflow analysis, were regressed against independent variables drainage area and mean annual precipitation. On the basis of these analyses, the State was divided into seven hydrologically distinct streamflow analysis regions (plate 1). Stations physically located in one region but draining a large area in a neighboring region may be classified in the neighboring region if they are hydrologically more similar to that region.

Certain neighboring regions were hydrologically similar to each other for high-flow analysis but not low-flow analysis. To avoid the confusion of multiple sets of regions, all regions retained their identity for both high- and low-flow analyses. Hydrologically similar regions were grouped together for development of regional equations. Grouping of regions was based on examination of regression residuals and on comparison of the standard error of the resulting equations. Specifically, Region 3 was grouped with Region 1 for high-duration flows and with Region 4 for low-duration flows. Seasonal low-flow frequency statistics for Regions 1 and 3 indicated that these regions are too dissimilar to be combined for this particular analysis; equations were developed for Region 1, but not Region 3, because there were too few stations in Region 3. Region 7 contains very few stations but could not logically be combined with adjoining regions.

## FLOW STATISTICS FOR STREAMFLOW-GAGING STATIONS

Flow durations and low-flow frequency statistics are computed from records of daily mean discharge for streamflow-gaging stations. To be suitable for use in a regional regression, streamflow must be correlated with the basin characteristics used as independent variables. Flow statistics for this study were computed for non-urbanized stations having at least 10 years of record through water year 1999. Only those stations having at least 10 years of record during unregulated periods that were unaffected by flow diversion, earth-dam failures, or periodic glacier-affected flow were used in regression analysis. Station statistics were computed for selected stations having 10 years of record that were influenced by factors not related to basin characteristics, primarily streamflow regulation or periodic glacier-affected flow. These statistics were not included in the regression analysis. Details of data collection and criteria for analysis are discussed in the following sections.

Annual high-duration flow statistics were computed for 230 streamflow-gaging stations, 177 in Alaska and 53 in Canada (table 7, at back of report). Of these, statistics from 222 stations were suitable for use in regression analysis. Monthly low-duration flow statistics were computed for 231 streamflow-gaging stations, 177 stations in Alaska and 54 stations in Canada (table 8, at back of report). Of these, statistics from 226 stations were suitable for use in regression analysis. Seasonal low-duration flow statistics were computed for 66 stations in Region 1, 65 stations in Alaska, and 1 station in Canada (table 9, at back of report). Of these, statistics from 65 stations were suitable for use in regression analysis. Seasonal low-flow frequency statistics were computed for 65 stations in Region 1, 64 stations in Alaska, and 1 station in Canada (table 9). All 65 stations were suitable for use in regression analysis.

## Data Collection

Streamflow data for Alaska were collected by the USGS in accordance with methods described by Rantz and others (1982). Streamflow data for Canada were collected by the Water Survey of Canada. Canadian data collection methods are described in a series of internal manuals referred to collectively as the Hydrometric Data Computation Procedures Manual (Lynne Campo, Water Survey of Canada, written commun., 2002). These methods are similar or equivalent to USGS methods. Daily mean discharge for USGS streamflow-gaging stations in Alaska are available on the World Wide Web at http://waterdata.usgs.gov/ak/nwis/ or by contacting the Alaska Science Center at the address listed at the front of this report. Canadian streamflow data are available from Environment Canada (Environment Canada, 2002).

## Data Adjustment

Stations with at least 10 years of daily mean flow data were reviewed for quality of record and for streamflow that could not be correlated with basin characteristics, such as regulated streamflow or glacial-outburst floods. Records were adjusted as needed by omitting stations, censoring years with non-recurring unsuitable streamflow, or segregating multiple parts of record for analysis, as discussed in the following paragraphs. Because few long-term stations exist and because climatic phenomena such as droughts are poorly documented in Alaska or not spatially extensive relative to the size of the State, analyses were not restricted to a common period of record but instead were performed on the entire period of record through water year 1999.

Records with non-homogeneities clearly not related to normal streamflow conditions (for example, temporary conditions related to land-surface elevation changes as a result of a large earthquake in 1964) were censored to remove inconsistent years.

Several Alaskan stations have at least 10 years of record but are subject to streamflows that cannot be correlated with basin characteristics. Streamflow regulated by dams, controlled by certain glacial phenomena, or in basins with indeterminate drainage areas can be analyzed but not used to develop predictive equations based on physical and climatic characteristics of the basin. Stations subject to these conditions are noted in tables 7, 8, and 9.

Streamflow regulation may affect low flows but not high flows or vice versa, so some regulated stations were included as if unregulated in high- or low-flow analyses, wherever appropriate, based on knowledge of the type of regulation. For streamflow records affected by regulation, known dates of regulation were used to segregate the period of record into regulated and unregulated periods. Regulated periods of record were analyzed but excluded from regression analysis, and unregulated periods of record were analyzed and included in regression analysis. For example, the Kenai River (station 15258000) and the Chena River (station 15514000) had more than 10 years of record for periods of regulated flow and for periods of unregulated flow. For high-flow analysis, both regulated and unregulated periods were analyzed, resulting in two sets of station statistics for each station. For low-flow analysis, both periods were analyzed independently for the Kenai River, but were combined for the Chena River because low flows in that river are not affected by regulation.

Glacier-related controls on streamflow include glacial-outburst floods, caused when ice dams ponding water suddenly burst, and periods of low flow caused as ice-dammed lakes fill. The effect of these phenomena depends on factors such as the location of bedrock constrictions and interactions between multiple glaciers in a basin, which cannot be summarized by the available basin characteristic, the area of the basin covered by glaciers. Glacial-outburst floods generally affect high flows but have little effect on low flows, so for high-flow analysis, stations with glacial outbursts were analyzed for station statistics, but for low-flow analysis they were included in the regression analysis as unaffected stations. For the Knik River (station 15281000), the period when the glacier was no longer in a position to generate alternating damming and flooding was separated and analyzed independently from the period of glacially affected record. The glacially affected record was shorter than 10 years and was not analyzed.

## Months and Seasons of Analysis

Commonly, flow duration analyses are performed for an entire water year (October through September) for high flows or climatic year (April through March) for low flows. This assumes that the record quality remains good and is unaffected by phenomena not related to basin characteristics, conditions often not met in cold environments. During Alaska winters, many rivers freeze over completely and their records include stage increases, caused by water flowing on top of ice, that do not correlate to the open-water rating curve. Because of the limited accuracy of winter streamflow records, annual analysis is useful only for high-flow analyses in environments like Alaska.

Monthly and seasonal analyses can be used for low flows in place of annual analyses to eliminate undesired effects of ice during winter months (Searcy, 1959). To select appropriate months and/or seasons for the analysis of Alaska streams, graphs of minimum, mean, and maximum daily mean discharge for the period of record for each station were prepared using the USGS Automated Data Processing System (ADAPS). Inspection of these hydrographs indicated that Alaska streams typically fit one of three general patterns: coastal, interior, or glacial (fig. 2). The distribution of these characteristic hydrographs was used to confirm the suitability of streamflow-analysis region boundaries and then to determine appropriate periods of analysis within each region.

In coastal streams, found along the Pacific Coast from southeastern Alaska to the Aleutian Islands (Regions 1 and 3, respectively), flow is affected year-round by rainfall, is not strongly affected by ice, and has a flat or rising trend following the snow melt peak (fig. 2). Coastal streams never had low flows in June and some began to freeze over by October; therefore, July, August, and September were the appropriate choices for monthly analyses. Although winter low-flow statistics may be of interest to some users and could be legitimately computed for some coastal streams, summer low-flow statistics are statistically more valid across these regions for seasonal analyses. Streams in these regions do not have a consistent downward or upward streamflow trend. Because the lowest flows could occur at any time within the open-water season, a seasonal analysis for the period July through September also was possible for selected coastal areas.

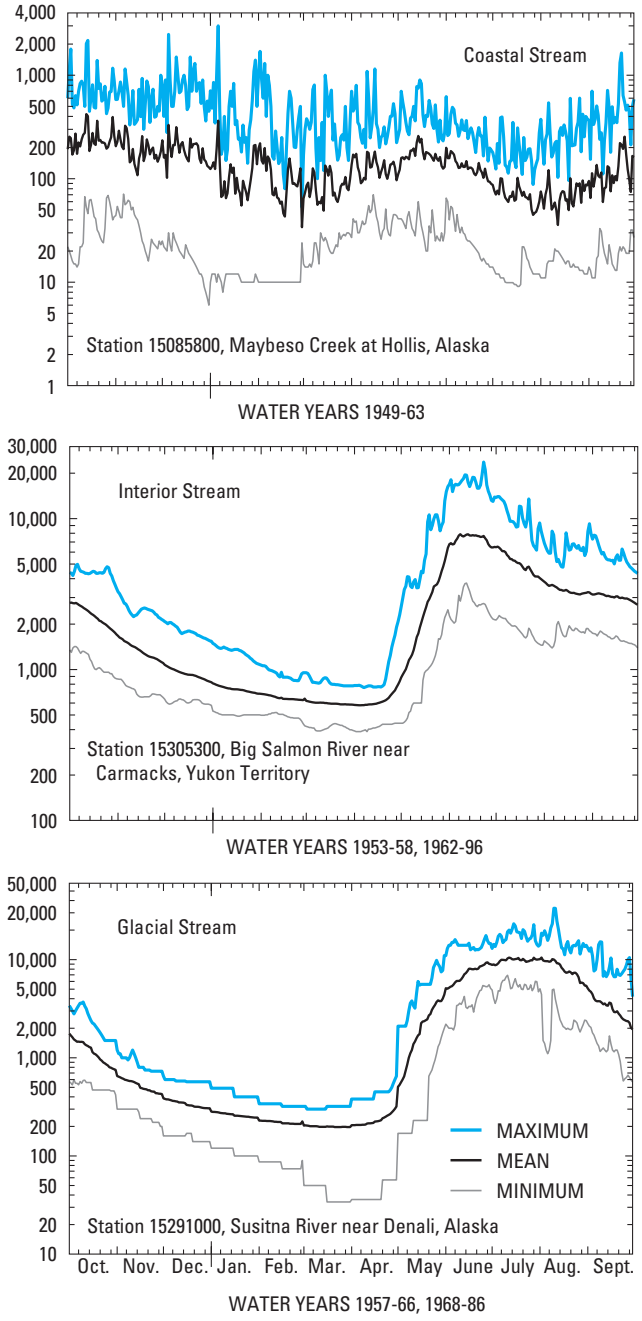



**Figure 2**. Maximum, mean, and minimum daily mean discharge during the available period of record through water year 1999 for a typical coastal Alaska stream, a typical interior Alaska/Canada stream, and a typical glacial Alaska/Canada stream.

In contrast, flow in interior streams typically is affected by ice during the low-flow period in winter and spring, rises suddenly and strongly to a snow melt peak, then falls for the remainder of the open-water season (fig. 2). Interior streams are found in a wide

swath north of coastal areas, generally within Regions 2, 4, 5, and 6. Interior streams usually are ice-free from July through September, making analysis of July, August, and September appropriate for characterizing low flows. However, the lowest flows consistently occur near the end of the open-water season, which would strongly bias a seasonal analysis toward September. For this reason, no seasonal flow-duration or low-flow frequency statistics were computed for these streams. Streams north of the typical interior streams (Region 7) did not have a consistent hydrograph, but as a group they most closely resembled interior streams and were conservatively analyzed on a monthly basis.

Flow in glacial streams rises suddenly and strongly as winter snow melts, continues to rise until mid-summer, then declines throughout fall (fig. 2). These streams are found in both coastal and interior regions and were not plentiful enough to analyze separately from surrounding streams.

## Flow-Duration Statistics

A flow-duration statistic is a point on a flow-duration curve representing the percentage of time that particular streamflow is equaled or exceeded during a given period. For example, the 98-percent duration flow, considered a low flow, is equaled or exceeded 98 percent of the time, and the 2-percent duration flow, considered a high flow, is equaled or exceeded only 2 percent of the time. Flow-duration curves are cumulative frequency curves compiled by ranking all daily mean streamflows for the period in order of magnitude, then computing the percentage of time each streamflow is equaled or exceeded (Searcy, 1959). The final curve is a plot of the streamflows against their respective exceedance probabilities.

An internal (not publicly available) USGS computer program, DVSTAT, part of the USGS Automated Data Processing System (ADAPS), was used to compute flow durations. DVSTAT accomplishes these computations by tallying flows in 35 classes, with class boundaries based on the range of data analyzed. Although flow-duration curves technically describe streamflow characteristics only for the period of record analyzed, curves for long periods of record can be considered probability curves useful for estimation of future flows (Searcy, 1959).

The 15-, 10-, 9-, 8-, 7-, 6-, 5-, 4-, 3-, 2-, and 1-percent duration flows (high flows) for all stations analyzed are presented in table 7. The 98-, 95-, 90-, 85-, 80-, 70-, 60-, and 50-percent duration flows (low flows) for all stations analyzed are presented in table 8, arranged by month of analysis. The 98-, 95-, 90-, 85-, 80-, 70-, 60-, and 50-percent duration flows for July-through-September for Region 1 (Southeast Alaska) are presented in table 9.

## Low-Flow Frequency Statistics

A low-flow frequency statistic is a point on a low-flow frequency curve representing the mean streamflow over a given number of days for a given recurrence interval. For example, the mean streamflow over 7 days is expected to be less than or equal to the 7-day, 2-year low, on average, at least once in a 2-year period. The nonexceedance probability is the inverse of the recurrence interval, so conversely, there is a 50-percent probability that the mean streamflow over 7 days will be less than the 7-day, 2-year low flow in any year. Low-flow frequency curves are compiled from an annual series of the minimum mean flow for all consecutive *n*-day periods, where *n* is any number from 1 to 365, commonly 7. The annual series is ranked in order of magnitude, then the recurrence interval for each value is computed and a plot of the streamflows against their respective recurrence interval is prepared (Riggs, 1972). Recurrence intervals typically are computed by fitting a log-Pearson Type III distribution to the data.

USGS computer programs IOWDM, SWSTAT, and ANNIE (Flynn and others, 1995), available on the World Wide Web at http://water.usgs.gov/software/surface_water.html, were used to load data, compute low-flow frequency statistics, and display output data, respectively. SWSTAT produces the series of *n*-day values, determines the minimum values for each year, ranks this annual series, fits the annual series to a log-Pearson type III distribution, plots the resulting curves, and extracts the specified low-flow frequency statistics. Because the data are fit to a distribution, however, the hydrologist must inspect the data for outliers and interpret whether the fitted distribution is valid.

The 7-day, 2-year flows (J-S7Q2) and 7-day, 10-year flows (J-S7Q10) for the season July through September for Region 1 (Southeast Alaska) are presented in table 9.

## ESTIMATING FLOW STATISTICS FOR UNGAGED SITES

Estimated flow statistics are often needed for streams where no streamflow-gaging station exists. If sufficient records are available from a group of streamflow-gaging stations within a region, a regression model can be developed from flow statistics and basin characteristics of gaged sites to estimate flow statistics at ungaged sites where the basin characteristics can be measured. Multiple linear regression analysis is used to determine which of several basin characteristics (the independent variables) best explain, statistically, the variations in the flow statistic (the dependent variable). Regression analysis is also used to develop the final equations that relate the dependent and independent variables. Ordinary-least-squares regression, a common form of regression analysis, was used for all analyses in this study.

Streamflow data and basin characteristics generally are log-normally distributed, so all data were log-transformed (base 10) before analysis. This required the addition of a constant value of 1 percent to all percentage data and 32 degrees to temperature data because values equal to or less than 0 cannot be log-transformed. To determine which basin characteristics best explain the variations in the flow statistics, the commercial statistics and data-management software S-Plus was used to perform a stepwise multiple linear regression for two or more representative dependent variables to determine suitable independent variables. Independent variables were further screened for statistical significance, correlation with other variables, and logical relation to streamflow in that area and were dropped if the equation's standard error fell by less than 5 percent (arbitrarily chosen as the point of diminishing returns), or if the variable could not logically be correlated with streamflow in that particular area. Once a suite of possible variables was selected for the representative flow statistics, only those variables that increased the coefficient of determination and reduced the standard error by more than 5 percent for a given flow statistic were included in the final equation.

Selected equations produced overlap, wherein a predicted value for a given flow-duration percentile exceeded a predicted value for the next lower percentile. In general, this problem did not occur within the combinations of ranges of variables expected in the study area. However, for selected equations in Region 7, constants or coefficients in the final equations had to be adjusted slightly to avoid overlap at expected ranges of variables. Adjustments were based on the values and trends in neighboring equations and were restricted to the minimum required to avoid overlap.

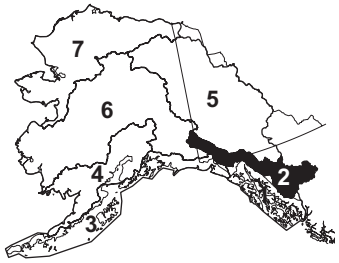
### Annual High-Flow Statistics

Multiple stepwise regressions for the 2-percent and 10-percent duration flows were used to select appropriate variables for each region. Linear regressions for 15-, 10-, 9-, 8-, 7-, 6-, 5-, 4-, 3-, 2-, and 1-percent duration flows then were used to develop final estimating equations from the respective flow statistics and the selected basin characteristics as described above (table 2). The number of stations used in each region varied from 12 to 78 (table 2). Ranges of independent variables (basin characteristics) used in the equations are presented in table 3.

**Table 2.** Estimating equations for annual high-duration flows in Regions 1–7, Alaska and conterminous basins in Canada

[**Estimating equation**: *O-Sn*, daily mean discharge for the water year October–September having an *n*-percent exceedance probability, in cubic feet per second; *A*, drainage area, in square miles; *P*, mean annual precipitation, in inches]

| Estimating equation | Coefficient of determination | Standard error of estimate, in percent |
|---|---|---|
| **Regions 1 and 3 (78 streamflow gaging stations)** | | |
| $O\text{-}S15 = 0.1358\ A^{0.9660}\ P^{1.016}$ | 0.97 | 22 |
| $O\text{-}S10 = 0.2145\ A^{0.9472}\ P^{0.9740}$ | 0.97 | 21 |
| $O\text{-}S9 = 0.2382\ A^{0.9422}\ P^{0.9652}$ | 0.97 | 22 |
| $O\text{-}S8 = 0.2670\ A^{0.9374}\ P^{0.9550}$ | 0.97 | 22 |
| $O\text{-}S7 = 0.3033\ A^{0.9307}\ P^{0.9443}$ | 0.97 | 22 |
| $O\text{-}S6 = 0.3486\ A^{0.9234}\ P^{0.9329}$ | 0.96 | 22 |
| $O\text{-}S5 = 0.4120\ A^{0.9162}\ P^{0.9179}$ | 0.96 | 23 |
| $O\text{-}S4 = 0.4875\ A^{0.9074}\ P^{0.9057}$ | 0.96 | 23 |
| $O\text{-}S3 = 0.6039\ A^{0.8963}\ P^{0.8892}$ | 0.96 | 24 |
| $O\text{-}S2 = 0.7960\ A^{0.8829}\ P^{0.8697}$ | 0.95 | 25 |
| $O\text{-}S1 = 1.279\ A^{0.8637}\ P^{0.8293}$ | 0.94 | 27 |
| **Region 2 (22 streamflow gaging stations)** | | |
| $O\text{-}S15 = 0.1487\ A^{0.9842}\ P^{1.071}$ | 0.99 | 18 |
| $O\text{-}S10 = 0.2281\ A^{0.9777}\ P^{1.012}$ | 0.99 | 16 |
| $O\text{-}S9 = 0.2546\ A^{0.9753}\ P^{0.9959}$ | 0.99 | 15 |
| $O\text{-}S8 = 0.2811\ A^{0.9737}\ P^{0.9818}$ | 0.99 | 15 |
| $O\text{-}S7 = 0.3145\ A^{0.9713}\ P^{0.9662}$ | 0.99 | 15 |
| $O\text{-}S6 = 0.3542\ A^{0.9682}\ P^{0.9511}$ | 0.99 | 15 |
| $O\text{-}S5 = 0.3996\ A^{0.9651}\ P^{0.9362}$ | 0.99 | 15 |
| $O\text{-}S4 = 0.4570\ A^{0.9628}\ P^{0.9180}$ | 0.99 | 15 |
| $O\text{-}S3 = 0.5385\ A^{0.9584}\ P^{0.8979}$ | 0.99 | 15 |
| $O\text{-}S2 = 0.6366\ A^{0.9539}\ P^{0.8824}$ | 0.99 | 16 |
| $O\text{-}S1 = 0.8041\ A^{0.9462}\ P^{0.8666}$ | 0.99 | 16 |
| **Region 4 (42 streamflow gaging stations)** | | |
| $O\text{-}S15 = 2.443 \times 10^{-2}\ A^{1.055}\ P^{1.340}$ | 0.98 | 30 |
| $O\text{-}S10 = 3.637 \times 10^{-2}\ A^{1.042}\ P^{1.301}$ | 0.98 | 31 |
| $O\text{-}S9 = 3.970 \times 10^{-2}\ A^{1.039}\ P^{1.293}$ | 0.98 | 31 |
| $O\text{-}S8 = 4.353 \times 10^{-2}\ A^{1.036}\ P^{1.284}$ | 0.98 | 31 |
| $O\text{-}S7 = 4.844 \times 10^{-2}\ A^{1.032}\ P^{1.274}$ | 0.98 | 31 |
| $O\text{-}S6 = 5.426 \times 10^{-2}\ A^{1.027}\ P^{1.264}$ | 0.98 | 32 |
| $O\text{-}S5 = 6.216 \times 10^{-2}\ A^{1.022}\ P^{1.249}$ | 0.98 | 32 |
| $O\text{-}S4 = 7.213 \times 10^{-2}\ A^{1.017}\ P^{1.234}$ | 0.98 | 32 |
| $O\text{-}S3 = 8.368 \times 10^{-2}\ A^{1.009}\ P^{1.225}$ | 0.98 | 32 |
| $O\text{-}S2 = 0.1046\ A^{1.001}\ P^{1.204}$ | 0.98 | 32 |
| $O\text{-}S1 = 0.1505\ A^{0.9881}\ P^{1.164}$ | 0.98 | 34 |

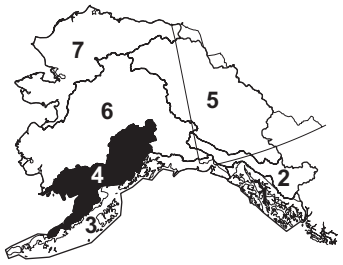
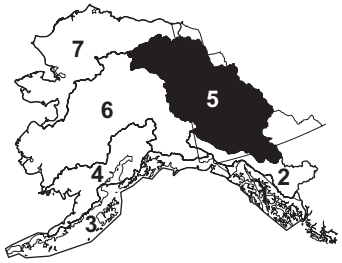
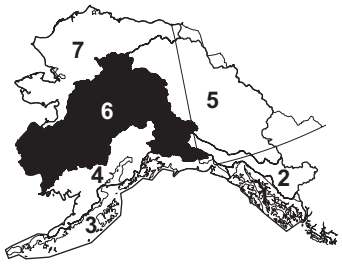



**Table 2.** Estimating equations for annual high-duration flows in Regions 1–7, Alaska and conterminous basins in Canada —*Continued*

[**Estimating equation**: *O-Sn*, daily mean discharge for the water year October–September having an *n*-percent exceedance probability, in cubic feet per second; *A*, drainage area, in square miles; *P*, mean annual precipitation, in inches]

| Estimating equation | Coefficient of determination | Standard error of estimate, in percent |
|---|---|---|
| **Region 5 (34 streamflow gaging stations)** | | |
| $O\text{-}S15 = 6.391 \times 10^{-3} A^{1.106} P^{1.779}$ | 0.96 | 37 |
| $O\text{-}S10 = 8.746 \times 10^{-3} A^{1.104} P^{1.751}$ | 0.96 | 38 |
| $O\text{-}S9 = 9.570 \times 10^{-3} A^{1.103} P^{1.736}$ | 0.96 | 39 |
| $O\text{-}S8 = 1.067 \times 10^{-2} A^{1.102} P^{1.718}$ | 0.96 | 39 |
| $O\text{-}S7 = 1.215 \times 10^{-2} A^{1.100} P^{1.696}$ | 0.95 | 40 |
| $O\text{-}S6 = 1.397 \times 10^{-2} A^{1.098} P^{1.668}$ | 0.95 | 41 |
| $O\text{-}S5 = 1.579 \times 10^{-2} A^{1.097} P^{1.648}$ | 0.95 | 42 |
| $O\text{-}S4 = 1.977 \times 10^{-2} A^{1.091} P^{1.609}$ | 0.95 | 43 |
| $O\text{-}S3 = 2.508 \times 10^{-2} A^{1.087} P^{1.561}$ | 0.94 | 45 |
| $O\text{-}S2 = 3.769 \times 10^{-2} A^{1.081} P^{1.468}$ | 0.94 | 46 |
| $O\text{-}S1 = 5.859 \times 10^{-2} A^{1.078} P^{1.372}$ | 0.93 | 50 |
| **Region 6 (34 streamflow gaging stations)** | | |
| $O\text{-}S15 = 3.927 \times 10^{-3} A^{1.075} P^{1.870}$ | 0.99 | 29 |
| $O\text{-}S10 = 8.141 \times 10^{-3} A^{1.050} P^{1.765}$ | 0.99 | 27 |
| $O\text{-}S9 = 9.743 \times 10^{-3} A^{1.045} P^{1.736}$ | 0.99 | 27 |
| $O\text{-}S8 = 1.200 \times 10^{-2} A^{1.038} P^{1.703}$ | 0.99 | 28 |
| $O\text{-}S7 = 1.515 \times 10^{-2} A^{1.031} P^{1.664}$ | 0.99 | 28 |
| $O\text{-}S6 = 1.953 \times 10^{-2} A^{1.023} P^{1.618}$ | 0.99 | 29 |
| $O\text{-}S5 = 2.546 \times 10^{-2} A^{1.015} P^{1.577}$ | 0.99 | 29 |
| $O\text{-}S4 = 3.601 \times 10^{-2} A^{1.005} P^{1.514}$ | 0.99 | 29 |
| $O\text{-}S3 = 5.281 \times 10^{-2} A^{0.9940} P^{1.445}$ | 0.99 | 29 |
| $O\text{-}S2 = 9.204 \times 10^{-2} A^{0.9783} P^{1.342}$ | 0.99 | 31 |
| $O\text{-}S1 = 0.2144 A^{0.9512} P^{1.193}$ | 0.99 | 33 |
| **Region 7 (12 streamflow gaging stations)** | | |
| $O\text{-}S15 = 1.931 \times 10^{-3} A^{1.065} P^{2.171}$ | 0.98 | 56 |
| $O\text{-}S10 = 1.124 \times 10^{-2} A^{1.023} P^{1.798}$ | 0.98 | 54 |
| $O\text{-}S9 = 1.633 \times 10^{-2} A^{1.017} P^{1.715}$ | 0.98 | 51 |
| $O\text{-}S8 = 2.406 \times 10^{-2} A^{1.013} P^{1.627}$ | 0.98 | 50 |
| $O\text{-}S7 = 3.630 \times 10^{-2} A^{1.009} P^{1.530}$ | 0.98 | 48 |
| $O\text{-}S6 = 5.434 \times 10^{-2} A^{1.004} P^{1.441}$ | 0.98 | 46 |
| $O\text{-}S5 = 9.005 \times 10^{-2} A^{0.9990} P^{1.325}$ | 0.98 | 44 |
| $O\text{-}S4 = 0.1671 A^{0.9932} P^{1.182}$ | 0.98 | 40 |
| $O\text{-}S3 = 0.3611 A^{0.9936} P^{0.9825}$ | 0.98 | 39 |
| $O\text{-}S2 = 0.8276 A^{0.9905} P^{0.7864}$ | 0.99 | 36 |
| $O\text{-}S1 = 2.615 A^{0.9860} P^{0.5107}$ | 0.98 | 38 |



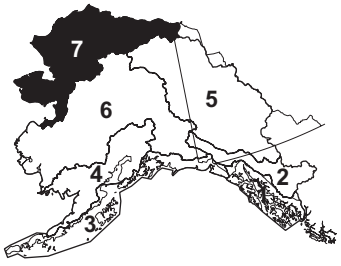



**Table 3.** Range of basin characteristics used to determine estimating equations for high-flow statistics in Regions 1-7, Alaska and conterminous basins in Canada

| Region | Range of drainage area (square miles) | | Range of mean annual precipitation (inches) | |
|---|---|---|---|---|
| | Minimum | Maximum | Minimum | Maximum |
| 1, 3 | 1.82 | 571 | 70 | 300 |
| 2 | 92.7 | 19,900 | 12 | 100 |
| 4 | 13.4 | 19,400 | 20 | 158 |
| 5 | 269 | 11,400 | 10 | 24 |
| 6 (small basins) | 9.19 | 100 | 15 | 80 |
| 6 (medium basins) | 100 | 10,000 | 15 | 30 |
| 6 (large basins) | 10,000 | 321,000 | 15 | 25 |
| 7 | 2.79 | 9,520 | 8 | 35 |

## Monthly and Seasonal Low-Flow Statistics

For monthly flow-duration analysis, multiple stepwise regressions for July and September 90-percent duration flows and July and September 50-percent duration flows were used to select appropriate variables for each region. For seasonal flow-duration analysis in Region 1, the July-through-September 90-percent duration flow and July-through-September 50-percent duration flow were used to select variables for flow duration analysis and the 7-day, 10-year flow was used to select variables for the low-flow frequency analysis. Linear regressions for the 98-, 95-, 90-, 85-, 80-, 70-, 60-, and 50-percent duration flows and for 7-day, 2-year and 7-day, 10-year low-flow frequency statistics then were used to develop final estimating equations from the respective flow statistics and the selected basin characteristics as described above (table 4 and 5). The number of stations used in each region ranged from 13 to 65 (table 4) for monthly analyses and was 65 for seasonal analyses. Ranges of independent variables (basin characteristics) used in the equations are presented in table 6.

## Accuracy and Limitations of Estimating Equations

The adequacy of the estimating equations can be evaluated by two measures included in tables 2, 4, and 5. The coefficient of determination, also known as the R-squared ($R^2$), is the percentage of variation in the dependent variable explained by the independent variables. This value is typically high for regressions of flow statistics and basin characteristics. A second value, the standard error of estimate, is the average variation between the regression estimates and the station data for the stations used to develop the regression equations. About two-thirds of the regression estimates for the stations have errors less than the standard error of estimate. The standard errors of estimate presented in the tables are thus a cumulative assessment of each particular equation and do not apply to any one station. Standard errors of estimate typically are slightly less than the average prediction error, which is a measure of the accuracy of the regression equations for predicting values at sites not used to develop the equations. Average prediction error is not available for the equations in this report. Likewise, confidence limits (prediction intervals) for estimated values for a particular station require data not available for this report. Standard errors of estimate were computed in log units and converted to percentages (Hardison, 1971). Unlike the coefficient of determination, the standard error of estimate typically varies over a wide range. Standard errors of estimate for this study ranged from 15 to 56 percent for annual high-duration flows, 25 to greater than 500 percent for monthly low-duration flows, 32 to 66 percent for seasonal low-duration flows, and 53 to 64 percent for low-flow frequency statistics (tables 2, 4, and 5).

**Table 4.** Estimating equations for monthly low-duration flows for July, August, and September in Regions 1–7, Alaska and conterminous basins in Canada

[**Estimating equation**: MONTH$n$, $n$ percent low-duration flow for the indicated month, in cubic feet per second; $A$, drainage area in square miles; $P$, mean annual precipitation, in inches; $E$, mean basin elevation, in feet above sea level; $G$, area of glaciers, in percentage of total basin area. >, greater than]

| Estimating equation | Coefficient of determination | Standard error of estimate, in percent |
|---|---|---|
| **Region 1 (65 streamflow gaging stations)** | | |
| $JULY98 = 1.466 \times 10^{-10} A^{1.136} P^{1.616} E^{2.061}$ | 0.94 | 63 |
| $JULY95 = 7.809 \times 10^{-10} A^{1.114} P^{1.610} E^{1.879}$ | 0.95 | 53 |
| $JULY90 = 2.287 \times 10^{-9} A^{1.084} P^{1.566} E^{1.801}$ | 0.96 | 48 |
| $JULY85 = 4.888 \times 10^{-9} A^{1.068} P^{1.555} E^{1.730}$ | 0.96 | 46 |
| $JULY80 = 1.080 \times 10^{-8} A^{1.055} P^{1.513} E^{1.671}$ | 0.96 | 43 |
| $JULY70 = 2.971 \times 10^{-8} A^{1.041} P^{1.454} E^{1.601}$ | 0.96 | 40 |
| $JULY60 = 8.580 \times 10^{-8} A^{1.023} P^{1.398} E^{1.523}$ | 0.97 | 36 |
| $JULY50 = 2.682 \times 10^{-7} A^{1.003} P^{1.323} E^{1.445}$ | 0.97 | 33 |
| $AUG98 = 3.010 \times 10^{-10} A^{1.193} P^{1.477} E^{1.986}$ | 0.93 | 69 |
| $AUG95 = 1.397 \times 10^{-9} A^{1.160} P^{1.367} E^{1.896}$ | 0.94 | 60 |
| $AUG90 = 3.162 \times 10^{-9} A^{1.138} P^{1.374} E^{1.820}$ | 0.95 | 56 |
| $AUG85 = 1.313 \times 10^{-8} A^{1.093} P^{1.290} E^{1.724}$ | 0.95 | 51 |
| $AUG80 = 2.718 \times 10^{-8} A^{1.070} P^{1.241} E^{1.685}$ | 0.95 | 48 |
| $AUG70 = 8.525 \times 10^{-8} A^{1.045} P^{1.180} E^{1.606}$ | 0.95 | 46 |
| $AUG60 = 2.664 \times 10^{-7} A^{1.028} P^{1.151} E^{1.503}$ | 0.96 | 42 |
| $AUG50 = 6.836 \times 10^{-7} A^{1.013} P^{1.151} E^{1.405}$ | 0.96 | 40 |
| $SEPT98 = 3.379 \times 10^{-8} A^{1.091} P^{1.456} E^{1.380}$ | 0.91 | 67 |
| $SEPT95 = 3.405 \times 10^{-7} A^{1.051} P^{1.259} E^{1.258}$ | 0.93 | 54 |
| $SEPT90 = 2.052 \times 10^{-6} A^{1.044} P^{1.208} E^{1.095}$ | 0.94 | 46 |
| $SEPT85 = 5.742 \times 10^{-6} A^{1.023} P^{1.175} E^{1.012}$ | 0.94 | 43 |
| $SEPT80 = 1.035 \times 10^{-5} A^{1.017} P^{1.192} E^{0.9441}$ | 0.95 | 40 |
| $SEPT70 = 2.979 \times 10^{-5} A^{0.9962} P^{1.171} E^{0.8582}$ | 0.95 | 36 |
| $SEPT60 = 6.642 \times 10^{-5} A^{0.9818} P^{1.175} E^{0.7838}$ | 0.96 | 33 |
| $SEPT50 = 1.515 \times 10^{-4} A^{0.9701} P^{1.168} E^{0.7121}$ | 0.96 | 30 |

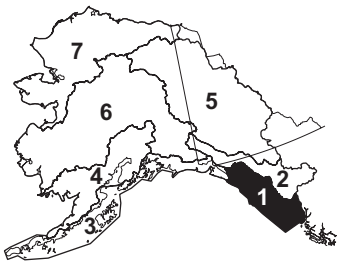


**Table 4.** Estimating equations for monthly low-duration flows for July, August, and September in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Estimating equation**: MONTH*n*, *n* percent low-duration flow for the indicated month, in cubic feet per second; *A*, drainage area in square miles; *P*, mean annual precipitation, in inches; *E*, mean basin elevation, in feet above sea level; *G*, area of glaciers, in percentage of total basin area. >, greater than]

| Estimating equation | Coefficient of determination | Standard error of estimate, in percent |
|---|---|---|
| **Region 2 (23 streamflow gaging stations)** | | |
| $JULY98 = 4.451 \times 10^{-7} A^{1.033} P^{1.349} E^{1.302}$ | 0.97 | 34 |
| $JULY95 = 2.052 \times 10^{-7} A^{1.02} P^{1.340} E^{1.419}$ | 0.97 | 31 |
| $JULY90 = 2.251 \times 10^{-7} A^{1.022} P^{1.327} E^{1.432}$ | 0.97 | 30 |
| $JULY85 = 2.479 \times 10^{-7} A^{1.019} P^{1.317} E^{1.436}$ | 0.97 | 29 |
| $JULY80 = 3.103 \times 10^{-7} A^{1.015} P^{1.304} E^{1.425}$ | 0.97 | 28 |
| $JULY70 = 4.953 \times 10^{-7} A^{1.009} P^{1.284} E^{1.393}$ | 0.97 | 28 |
| $JULY60 = 6.901 \times 10^{-7} A^{1.004} P^{1.258} E^{1.379}$ | 0.98 | 27 |
| $JULY50 = 1.034 \times 10^{-6} A^{0.9975} P^{1.230} E^{1.356}$ | 0.98 | 25 |
| $AUG98 = 6.350 \times 10^{-2} A^{0.9755} P^{1.085}$ | 0.93 | 46 |
| $AUG95 = 6.418 \times 10^{-2} A^{0.9532} P^{1.176}$ | 0.93 | 46 |
| $AUG90 = 7.253 \times 10^{-2} A^{0.9493} P^{1.185}$ | 0.93 | 47 |
| $AUG85 = 8.312 \times 10^{-2} A^{0.9465} P^{1.177}$ | 0.93 | 48 |
| $AUG80 = 9.504 \times 10^{-2} A^{0.9410} P^{1.168}$ | 0.92 | 48 |
| $AUG70 = 0.1082 A^{0.9382} P^{1.164}$ | 0.92 | 48 |
| $AUG60 = 0.1227 A^{0.9360} P^{1.158}$ | 0.93 | 48 |
| $AUG50 = 0.1334 A^{0.9358} P^{1.159}$ | 0.93 | 47 |
| $SEPT98 = 8.800 \times 10^{-2} A^{0.9807} P^{0.7966}$ | 0.95 | 38 |
| $SEPT95 = 8.488 \times 10^{-2} A^{0.9829} P^{0.8424}$ | 0.95 | 38 |
| $SEPT90 = 8.061 \times 10^{-2} A^{0.9837} P^{0.9001}$ | 0.95 | 40 |
| $SEPT85 = 8.219 \times 10^{-2} A^{0.9824} P^{0.9290}$ | 0.95 | 41 |
| $SEPT80 = 8.455 \times 10^{-2} A^{0.9791} P^{0.9536}$ | 0.95 | 40 |
| $SEPT70 = 9.162 \times 10^{-2} A^{0.9734} P^{0.9807}$ | 0.95 | 39 |
| $SEPT60 = 9.777 \times 10^{-2} A^{0.9675} P^{1.006}$ | 0.95 | 39 |
| $SEPT50 = 0.1079 A^{0.9591} P^{1.027}$ | 0.95 | 38 |

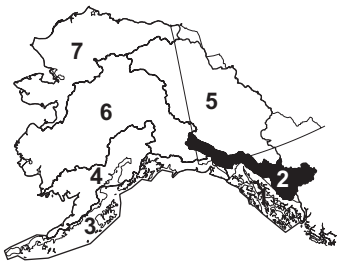


**Table 4.** Estimating equations for monthly low-duration flows for July, August, and September in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Estimating equation**: MONTH*n*, *n* percent low-duration flow for the indicated month, in cubic feet per second; *A*, drainage area in square miles; *P*, mean annual precipitation, in inches; *E*, mean basin elevation, in feet above sea level; *G*, area of glaciers, in percentage of total basin area. >, greater than]

| Estimating equation | Coefficient of determination | Standard error of estimate, in percent |
|---|---|---|
| **Regions 3 and 4 (58 streamflow gaging stations)** | | |
| $JULY98 = 9.428 \times 10^{-5} A^{1.118} P^{1.211} E^{0.6445}$ | 0.95 | 64 |
| $JULY95 = 1.257 \times 10^{-4} A^{1.112} P^{1.226} E^{0.6198}$ | 0.96 | 58 |
| $JULY90 = 1.493 \times 10^{-4} A^{1.099} P^{1.213} E^{0.6298}$ | 0.96 | 53 |
| $JULY85 = 1.842 \times 10^{-4} A^{1.091} P^{1.212} E^{0.6192}$ | 0.96 | 51 |
| $JULY80 = 2.078 \times 10^{-4} A^{1.085} P^{1.215} E^{0.6146}$ | 0.97 | 49 |
| $JULY70 = 2.576 \times 10^{-4} A^{1.075} P^{1.222} E^{0.6031}$ | 0.97 | 45 |
| $JULY60 = 3.327 \times 10^{-4} A^{1.066} P^{1.224} E^{0.5869}$ | 0.97 | 43 |
| $JULY50 = 4.135 \times 10^{-4} A^{1.058} P^{1.221} E^{0.5771}$ | 0.97 | 41 |
| $AUG98 = 3.471 \times 10^{-4} A^{1.130} P^{1.054} E^{0.5038}$ | 0.95 | 63 |
| $AUG95 = 2.869 \times 10^{-4} A^{1.140} P^{1.103} E^{0.5219}$ | 0.96 | 55 |
| $AUG90 = 2.773 \times 10^{-4} A^{1.137} P^{1.139} E^{0.5263}$ | 0.96 | 53 |
| $AUG85 = 2.794 \times 10^{-4} A^{1.134} P^{1.168} E^{0.5244}$ | 0.96 | 51 |
| $AUG80 = 3.035 \times 10^{-4} A^{1.128} P^{1.179} E^{0.5208}$ | 0.97 | 49 |
| $AUG70 = 3.774 \times 10^{-4} A^{1.118} P^{1.199} E^{0.5046}$ | 0.97 | 46 |
| $AUG60 = 4.432 \times 10^{-4} A^{1.110} P^{1.227} E^{0.4880}$ | 0.97 | 43 |
| $AUG50 = 5.313 \times 10^{-4} A^{1.101} P^{1.246} E^{0.4744}$ | 0.97 | 41 |
| $SEPT98 = 1.655 \times 10^{-2} A^{1.126} P^{0.9572}$ | 0.96 | 46 |
| $SEPT95 = 1.474 \times 10^{-2} A^{1.125} P^{1.030}$ | 0.96 | 46 |
| $SEPT90 = 1.528 \times 10^{-2} A^{1.110} P^{1.080}$ | 0.97 | 44 |
| $SEPT85 = 1.555 \times 10^{-2} A^{1.108} P^{1.109}$ | 0.97 | 44 |
| $SEPT80 = 1.599 \times 10^{-2} A^{1.103} P^{1.131}$ | 0.97 | 43 |
| $SEPT70 = 1.636 \times 10^{-2} A^{1.094} P^{1.175}$ | 0.97 | 41 |
| $SEPT60 = 1.676 \times 10^{-2} A^{1.086} P^{1.214}$ | 0.97 | 40 |
| $SEPT50 = 1.745 \times 10^{-2} A^{1.076} P^{1.251}$ | 0.97 | 39 |

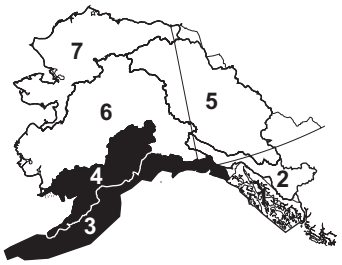


**Table 4.** Estimating equations for monthly low-duration flows for July, August, and September in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Estimating equation**: MONTH*n*, *n* percent low-duration flow for the indicated month, in cubic feet per second; *A*, drainage area in square miles; *P*, mean annual precipitation, in inches; *E*, mean basin elevation, in feet above sea level; *G*, area of glaciers, in percentage of total basin area. >, greater than]

| Estimating equation | Coefficient of determination | Standard error of estimate, in percent |
|---|---|---|
| **Region 5 (35 streamflow gaging stations)** | | |
| $JULY98 = 4.916 \times 10^{-10} A^{1.250} P^{1.885} E^{1.705}$ | 0.94 | 64 |
| $JULY95 = 7.603 \times 10^{-10} A^{1.232} P^{1.687} E^{1.754}$ | 0.94 | 62 |
| $JULY90 = 9.022 \times 10^{-10} A^{1.227} P^{1.687} E^{1.753}$ | 0.94 | 59 |
| $JULY85 = 1.737 \times 10^{-9} A^{1.220} P^{1.716} E^{1.683}$ | 0.94 | 57 |
| $JULY80 = 5.006 \times 10^{-9} A^{1.201} P^{1.695} E^{1.590}$ | 0.95 | 54 |
| $JULY70 = 1.964 \times 10^{-8} A^{1.190} P^{1.689} E^{1.452}$ | 0.95 | 51 |
| $JULY60 = 7.896 \times 10^{-8} A^{1.181} P^{1.682} E^{1.306}$ | 0.96 | 48 |
| $JULY50 = 3.238 \times 10^{-7} A^{1.171} P^{1.642} E^{1.170}$ | 0.96 | 45 |
| $AUG98 = 2.021 \times 10^{-10} A^{1.271} P^{1.910} E^{1.755}$ | 0.93 | 68 |
| $AUG95 = 1.685 \times 10^{-9} A^{1.257} P^{1.833} E^{1.552}$ | 0.94 | 63 |
| $AUG90 = 4.340 \times 10^{-9} A^{1.238} P^{1.644} E^{1.535}$ | 0.94 | 60 |
| $AUG85 = 8.224 \times 10^{-9} A^{1.231} P^{1.621} E^{1.481}$ | 0.94 | 58 |
| $AUG80 = 3.519 \times 10^{-8} A^{1.219} P^{1.625} E^{1.324}$ | 0.95 | 55 |
| $AUG70 = 5.765 \times 10^{-7} A^{1.198} P^{1.598} E^{1.028}$ | 0.95 | 52 |
| $AUG60 = 1.740 \times 10^{-3} A^{1.164} P^{1.911}$ | 0.95 | 52 |
| $AUG50 = 2.499 \times 10^{-3} A^{1.161} P^{1.819}$ | 0.95 | 49 |
| $SEPT98 = 2.076 \times 10^{-9} A^{1.234} P^{1.806} E^{1.516}$ | 0.94 | 59 |
| $SEPT95 = 2.731 \times 10^{-4} A^{1.188} P^{2.272}$ | 0.94 | 60 |
| $SEPT90 = 5.742 \times 10^{-4} A^{1.182} P^{2.057}$ | 0.95 | 53 |
| $SEPT85 = 1.009 \times 10^{-3} A^{1.171} P^{1.917}$ | 0.95 | 52 |
| $SEPT80 = 1.188 \times 10^{-3} A^{1.170} P^{1.886}$ | 0.95 | 49 |
| $SEPT70 = 1.757 \times 10^{-3} A^{1.166} P^{1.793}$ | 0.96 | 46 |
| $SEPT60 = 2.110 \times 10^{-3} A^{1.162} P^{1.775}$ | 0.96 | 43 |
| $SEPT50 = 2.506 \times 10^{-3} A^{1.158} P^{1.754}$ | 0.97 | 41 |

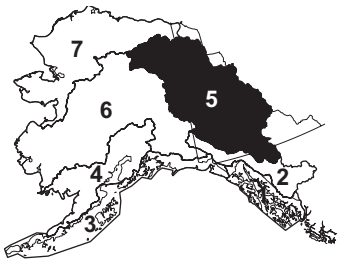


**Table 4.** Estimating equations for monthly low-duration flows for July, August, and September in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Estimating equation**: MONTH$n$, $n$ percent low-duration flow for the indicated month, in cubic feet per second; $A$, drainage area in square miles; $P$, mean annual precipitation, in inches; $E$, mean basin elevation, in feet above sea level; $G$, area of glaciers, in percentage of total basin area. >, greater than]

| Estimating equation | Coefficient of determination | Standard error of estimate, in percent |
|---|---|---|
| **Region 6 (36 streamflow gaging stations)** | | |
| $JULY98 = 1.008 \times 10^{-3} A^{1.158} P^{1.612} (G+1)^{0.5516}$ | 0.97 | 68 |
| $JULY95 = 1.255 \times 10^{-3} A^{1.146} P^{1.613} (G+1)^{0.5577}$ | 0.98 | 58 |
| $JULY90 = 1.635 \times 10^{-3} A^{1.138} P^{1.602} (G+1)^{0.5266}$ | 0.98 | 51 |
| $JULY85 = 2.189 \times 10^{-3} A^{1.127} P^{1.572} (G+1)^{0.5107}$ | 0.98 | 48 |
| $JULY80 = 2.695 \times 10^{-3} A^{1.118} P^{1.555} (G+1)^{0.4955}$ | 0.98 | 45 |
| $JULY70 = 3.512 \times 10^{-3} A^{1.106} P^{1.553} (G+1)^{0.4592}$ | 0.99 | 41 |
| $JULY60 = 5.051 \times 10^{-3} A^{1.092} P^{1.509} (G+1)^{0.4373}$ | 0.99 | 37 |
| $JULY50 = 6.682 \times 10^{-3} A^{1.081} P^{1.486} (G+1)^{0.4163}$ | 0.99 | 34 |
| $AUG98 = 9.131 \times 10^{-4} A^{1.188} P^{1.555} (G+1)^{0.3826}$ | 0.96 | 78 |
| $AUG95 = 1.674 \times 10^{-3} A^{1.157} P^{1.486} (G+1)^{0.4148}$ | 0.97 | 63 |
| $AUG90 = 1.690 \times 10^{-3} A^{1.144} P^{1.566} (G+1)^{0.4229}$ | 0.98 | 59 |
| $AUG85 = 2.193 \times 10^{-3} A^{1.129} P^{1.552} (G+1)^{0.4282}$ | 0.98 | 54 |
| $AUG80 = 2.636 \times 10^{-3} A^{1.119} P^{1.542} (G+1)^{0.4306}$ | 0.98 | 50 |
| $AUG70 = 3.890 \times 10^{-3} A^{1.102} P^{1.507} (G+1)^{0.4160}$ | 0.98 | 43 |
| $AUG60 = 4.962 \times 10^{-3} A^{1.095} P^{1.494} (G+1)^{0.3921}$ | 0.99 | 39 |
| $AUG50 = 6.399 \times 10^{-3} A^{1.085} P^{1.487} (G+1)^{0.3567}$ | 0.99 | 37 |
| $SEPT98 = 7.145 \times 10^{-4} A^{1.182} P^{1.673}$ | 0.97 | 63 |
| $SEPT95 = 1.115 \times 10^{-3} A^{1.167} P^{1.615}$ | 0.98 | 53 |
| $SEPT90 = 2.254 \times 10^{-3} A^{1.141} P^{1.497}$ | 0.98 | 47 |
| $SEPT85 = 2.815 \times 10^{-3} A^{1.128} P^{1.495}$ | 0.98 | 45 |
| $SEPT80 = 3.222 \times 10^{-3} A^{1.121} P^{1.496}$ | 0.98 | 43 |
| $SEPT70 = 4.130 \times 10^{-3} A^{1.111} P^{1.487}$ | 0.98 | 41 |
| $SEPT60 = 4.437 \times 10^{-3} A^{1.106} P^{1.517}$ | 0.99 | 39 |
| $SEPT50 = 5.094 \times 10^{-3} A^{1.097} P^{1.532}$ | 0.99 | 36 |

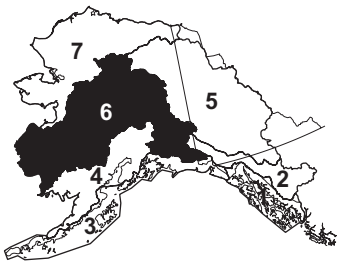
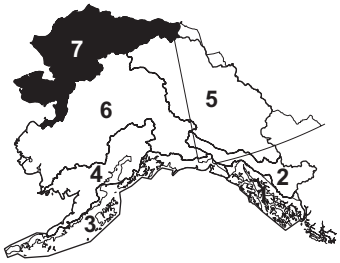


**Table 4.** Estimating equations for monthly low-duration flows for July, August, and September in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Estimating equation**: MONTH*n*, *n* percent low-duration flow for the indicated month, in cubic feet per second; *A*, drainage area in square miles; *P*, mean annual precipitation, in inches; *E*, mean basin elevation, in feet above sea level; *G*, area of glaciers, in percentage of total basin area. >, greater than]

| Estimating equation | Coefficient of determination | Standard error of estimate, in percent |
|---|---|---|
| **Region 7 (13 streamflow gaging stations)** | | |
| [1]JULY98 = $1.499 \times 10^{-5} A^{1.082} P^{3.243}$ | 0.92 | 120 |
| [1,2]JULY95 = $2.500 \times 10^{-5} A^{1.078} P^{3.119}$ | 0.93 | 100 |
| [1]JULY90 = $9.181 \times 10^{-5} A^{1.025} P^{2.894}$ | 0.94 | 87 |
| [1]JULY85 = $1.485 \times 10^{-4} A^{1.004} P^{2.820}$ | 0.94 | 87 |
| [1]JULY80 = $2.200 \times 10^{-4} A^{0.9941} P^{2.744}$ | 0.94 | 85 |
| [1]JULY70 = $4.590 \times 10^{-4} A^{0.9756} P^{2.600}$ | 0.94 | 84 |
| [1]JULY60 = $8.492 \times 10^{-4} A^{0.9624} P^{2.480}$ | 0.94 | 82 |
| [1]JULY50 = $1.462 \times 10^{-3} A^{0.9580} P^{2.364}$ | 0.94 | 78 |
| [1,2]AUG98 = $3.034 \times 10^{-7} A^{1.082} P^{4.100}$ | 0.67 | > 500 |
| [1,2]AUG95 = $2.000 \times 10^{-6} A^{1.030} P^{3.768}$ | 0.78 | 342 |
| [1,2]AUG90 = $1.000 \times 10^{-5} A^{0.9896} P^{3.500}$ | 0.84 | 198 |
| [1]AUG85 = $3.356 \times 10^{-5} A^{0.9769} P^{3.341}$ | 0.87 | 150 |
| [1]AUG80 = $4.146 \times 10^{-5} A^{0.9650} P^{3.337}$ | 0.87 | 150 |
| [1]AUG70 = $7.943 \times 10^{-5} A^{0.9515} P^{3.223}$ | 0.87 | 160 |
| [1]AUG60 = $1.847 \times 10^{-4} A^{0.9451} P^{3.020}$ | 0.87 | 150 |
| [1]AUG50 = $4.039 \times 10^{-4} A^{0.9478} P^{2.824}$ | 0.86 | 150 |
| [1]SEPT98 = $1.381 \times 10^{-5} A^{1.077} P^{3.162}$ | 0.79 | 350 |
| [1]SEPT95 = $6.081 \times 10^{-5} A^{1.047} P^{2.996}$ | 0.81 | 260 |
| [1]SEPT90 = $6.081 \times 10^{-5} A^{1.023} P^{2.905}$ | 0.81 | 260 |
| [1]SEPT85 = $1.069 \times 10^{-4} A^{0.9929} P^{2.840}$ | 0.82 | 220 |
| [1]SEPT80 = $1.876 \times 10^{-4} A^{0.9844} P^{2.718}$ | 0.82 | 210 |
| [1,2]SEPT70 = $3.162 \times 10^{-4} A^{0.9800} P^{2.625}$ | 0.84 | 183 |
| [1]SEPT60 = $5.970 \times 10^{-4} A^{0.9765} P^{2.505}$ | 0.86 | 160 |
| [1]SEPT50 = $1.525 \times 10^{-3} A^{0.9659} P^{2.279}$ | 0.87 | 140 |




[1]Equations in Region 7 have unacceptably large standard error of estimate. See text page 22 for recommended alternate methods.

[2]Equation was adjusted from least-squares fit to maintain consistency between various percentiles.

**Table 5.** Estimating equations for seasonal low-duration flows and low-flow frequencies for July-through-September in Region 1, Alaska

[**Estimating equation:** J-S*n*: daily mean discharge for the season July–through-September having an *n*-percent exceedance probability, in cubic feet per second; J-S7Q*n*: daily mean discharge for the season July–through-September for the 7-day, *n*-year low flow, in cubic feet per second; *A*, drainage area, in square miles; *P*, mean annual precipitation, in inches; *E*, mean basin elevation, in feet above sea level]

| Estimating equation | Coefficient of determination | Standard error of estimate, in percent |
|---|---|---|
| **Region 1 (65 gaging stations)** | | |
| $J\text{-}S98 = 2.532 \times 10^{-9} A^{1.142} P^{1.521} E^{1.674}$ | 0.93 | 66 |
| $J\text{-}S95 = 7.423 \times 10^{-9} A^{1.104} P^{1.485} E^{1.612}$ | 0.94 | 55 |
| $J\text{-}S90 = 2.479 \times 10^{-8} A^{1.080} P^{1.451} E^{1.520}$ | 0.95 | 49 |
| $J\text{-}S85 = 5.016 \times 10^{-8} A^{1.058} P^{1.380} E^{1.506}$ | 0.95 | 45 |
| $J\text{-}S80 = 8.813 \times 10^{-8} A^{1.044} P^{1.347} E^{1.477}$ | 0.96 | 43 |
| $J\text{-}S70 = 2.456 \times 10^{-7} A^{1.028} P^{1.300} E^{1.407}$ | 0.96 | 39 |
| $J\text{-}S60 = 6.997 \times 10^{-7} A^{1.013} P^{1.264} E^{1.323}$ | 0.97 | 35 |
| $J\text{-}S50 = 2.089 \times 10^{-6} A^{0.9961} P^{1.226} E^{1.232}$ | 0.97 | 32 |
| $J\text{-}S7Q10 = 3.610 \times 10^{-9} A^{1.137} P^{1.492} E^{1.637}$ | 0.93 | 64 |
| $J\text{-}S7Q2 = 4.984 \times 10^{-8} A^{1.090} P^{1.424} E^{1.433}$ | 0.94 | 53 |

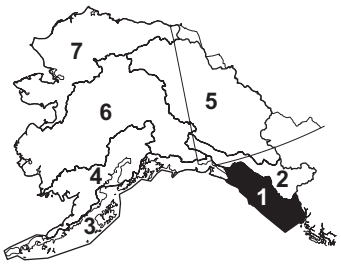



**Table 6.** Range of basin characteristics used to determine estimating equations for low-flow statistics in Regions 1-7, Alaska and conterminous basins in Canada

[–, basin characteristic not used in equations for this region]

| Region | Range of drainage area (square miles) | | Range of mean annual precipitation (inches) | | Range of mean basin elevation (feet) | | Range of area of glaciers (percent) | |
|---|---|---|---|---|---|---|---|---|
| | Minimum | Maximum | Minimum | Maximum | Minimum | Maximum | Minimum | Maximum |
| 1 | 1.82 | 571 | 70 | 300 | 358 | 3,900 | – | – |
| 2 | 92.7 | 19,900 | 12 | 100 | 3,500 | 6,180 | – | – |
| 3, 4 | 4.74 | 19,400 | 20 | 220 | 140 | 3,920 | – | – |
| 5 | 29.7 | 114,000 | 10 | 24 | 1,800 | 4,540 | – | – |
| 6 | 9.19 | 321,000 | 15 | 80 | – | – | 0 | 69 |
| 7 | 5.83 | 9,520 | 8 | 35 | – | – | – | – |

The estimating equations presented in tables 2, 4, and 5 can be used for estimating flow in streams in Alaska and conterminous basins in Canada that are not affected by natural or anthropogenic streamflow regulation. Streamflow in basins with flow diversions, dams, periodically releasing glacial impoundments, or other streamflow conditions not correlated to basin characteristics cannot be estimated accurately with these equations. The $R^2$ and standard error of estimate for each equation are valid only when the equations are used for sites with values of independent variables that fall within the ranges in tables 3 and 6. The range of drainage area and mean annual precipitation for the stations in Region 6 is wide, but only the smaller basins receive precipitation amounts near the upper bounds of the range. Medium-size basins (drainage area between 100 and 10,000 $mi^2$) receive between 15 and 30 in. of precipitation annually, and the largest basins (10,000 to 321,000 $mi^2$) receive between 15 and 25 in. of precipitation annually. The equations presented should not be used for large basins having mean annual precipitation greater than 25 in., or for medium basins having precipitation greater than 30 in., but then most large and medium basins in Alaska do not receive large amounts of mean annual precipitation. In fact, the only large basins in Alaska are stations on the Yukon River, which were included in the analysis and whose mean annual precipitation values define the range presented in table 3.

Equations for Region 7 must be used with particular caution because the equations were developed using a small number of stations over a very wide area which limits their statistical validity. Standard errors of estimate for these equations are remarkably large, but equations that may have explained more of the variability in the small data set were not physically or hydrologically reasonable. Low-flow statistics may be improved for ungaged sites in this region by collecting additional data on the ungaged stream and correlating them with data collected for the same period at a nearby, hydrologically similar gaging station. Methods of correlation are described by Riggs (1972), Hirsch (1982), Hirsch and Gilroy (1984), and Stedinger and Thomas (1985) and were applied to selected Alaska streams on the Kenai Peninsula by Savard and Scully (1984). Correlation methods may also be appropriate for high-flow statistics if the conditions causing the high flows are regional in nature.

## PROCEDURES FOR ESTIMATING FLOW STATISTICS

Within the limitations previously described, the flow statistics and equations presented in this report can be used to estimate high-flow and low-flow statistics for gaged and ungaged streams throughout the State. Procedures for using this report to estimate flow statistics for streamflow-gaging stations and several types of ungaged sites follow.

1. For streamflow-gaging stations, estimates can be read directly from tables 7, 8, or 9.
2. For ungaged sites having a drainage area in only one region and not near a gaging station on the same stream, basin characteristics can be determined from a topographic map (or from digital data, as described in table 1) and the precipitation map on plate 2 of Jones and Fahl (1994), available at http://ak.water.usgs.gov/Publications/pdf.reps/wrir93.4179.plate2.pdf or http://agdc.usgs.gov/ data/usgs/water/statewide.html. Basin characteristics for the ungaged site then can be substituted into the equations from tables 2, 4, or 5 for the appropriate region.
3. For ungaged sites having a drainage area that falls in two regions, basin characteristics for the entire basin can be determined as described in procedure 2 and substituted into equations from tables 2, 4, or 5 for each region. The two estimates should then be weighted by the respective drainage area in each region using the equation

$$Q = \frac{Q_1 A_1 + Q_2 A_2}{A_1 + A_2}, \qquad (1)$$

where

$Q$ is the weighted flow statistic,
$Q_1$ is the value for the flow statistic if the entire basin were located in Region 1,
$A_1$ is the amount of drainage area in Region 1,
$Q_2$ is the value for the flow statistic if the entire basin were located in Region 2, and
$A_2$ is the amount of drainage area in Region 2.

4. For ungaged sites on a gaged stream having a drainage area between 50 and 150 percent of the drainage area of the gaging station, the estimate from the streamflow-gaging station obtained as for procedure 1 and the estimate for the ungaged site obtained as for procedure 2 or 3 can be weighted for an improved estimate (Ries and Friesz, 2000, p. 37). First, a correction factor for the gaging station, $C_G$, is computed from the equation

$$C_G = Q_{Gt}/Q_{Gr}, \quad (2)$$

where

$Q_{Gt}$ is the value of the flow statistic for the gaging station from table 7, 8, or 9, and

$Q_{Gr}$ is the value of the flow statistic for the gaging station computed from the regression equation.

Next, a correction factor for the ungaged site, $C_U$, is computed from the equation

$$C_U = C_G - \frac{\Delta A(C_G - 1)}{a(A_G)}, \quad (3)$$

where

$\Delta A$ is the absolute value of the difference between the drainage area of the gaging station and the ungaged site, and

$a$ is 0.5 for ungaged site drainage areas larger than the gaging-station drainage areas and 0.7 for drainage areas smaller than the gaging-station drainage area.

## SUMMARY

Streamflow statistics were computed for annual high-duration flows at 230 streamflow-gaging stations, for monthly low-duration flows at 231 stations, for seasonal low-duration flows at 66 stations, and for seasonal low-flow frequencies at 65 stations in Alaska and conterminous basins in Canada. High-duration flow statistics were computed for the October-through-September water year statewide and low-duration flow statistics were computed for the individual months of July, August, and September statewide. Seasonal low-duration flow statistics were computed for the period July-through-September for Region 1 (southeastern Alaska). Low-flow frequency statistics also were computed for the season July-through-September in Region 1. Individual months for low-flow analyses were used to eliminate winter low flows, when ice effects limit the quality of the data, and to avoid the trend toward low flows at the end of the open-water season that appeared in many interior streams. This trend was not apparent in Region 1, permitting a seasonal analysis there.

For stations not included in the 1994 peak-flow analysis by Jones and Fahl, new basin characteristics were determined using digital methods and modifications of methods used by Jones and Fahl. For the small number of stations updated, the differences in methods are not significant to the analysis, but in general, basin characteristics should be determined by the user in a manner as consistent as possible with the previous methods of Jones and Fahl to preserve the statistical validity of the estimating procedure.

The State was divided into seven regions for estimating streamflow statistics, and estimating equations were developed from ordinary-least-squares regression models of the respective flow statistics and basin characteristics. Estimating equations for annual 15-, 10-, 9-, 8-, 7-, 6-, 5-, 4-, 3-, 2-, and 1-percent duration flows and monthly 98-, 95-, 90-, 85-, 80-, 70-, 60-, and 50-percent duration flows for July, August, and September were developed for all seven regions. Seasonal 98-, 95-, 90-, 85-, 80-, 70-, 60-, and 50-percent duration flows and 7-day, 2-year and 7-day, 10-year low-flow frequencies for July-through-September were developed for Region 1. A total of 222, 226, and 65 stations were used in the annual high-flow, monthly low-flow analyses, and seasonal low-flow analyses, respectively. Region 7 (northern and northwestern Alaska) contains few gaging stations but is not hydrologically similar to adjacent regions. The estimating equations for Region 7 are not as strong statistically as equations for other regions because of the small number of stations, and therefore should be used with caution. Equations for estimating streamflow statistics in other regions can be used within limitations of basin characteristics and streamflow alteration described in the report.

## REFERENCES CITED


Ashton, W.S., and Carlson, R.F., 1984, Determination of seasonal, frequency and durational aspects of streamflow with regard to fish passage through roadway drainage structures, Final Report: Institute of Water Resources, University of Alaska, 51 p.

Carlson, R.F., 1987, Seasonal, frequency and durational aspects of streamflow in southeast and coastal Alaska, Final Report: Water Research Center, Institute of Northern Engineering, University of Alaska-Fairbanks, 40 p.

Childers, J.M., Meckel, J.P., and Anderson, G.S., 1972, Floods of August 1967 in east-central Alaska: U.S. Geological Survey Water-Supply Paper 1880-A, 77 p.

Environment Canada, 2002, Hydat for Windows, Hydat CD Version 2.01, Surface Water and Sediment Data: Water Survey of Canada. CD-ROM.

Environmental Systems Research Institute, Inc., 1997, Understanding GIS, the ARC/INFO method: Redlands, Calif., 10 chapters., various pagination.

Flynn, K.M., Hummel, P.R., Lumb, A.M., and Kittle, J.L., Jr., 1995, User's manual for ANNIE, version 2, a computer program for interactive hydrologic data management: U.S. Geological Survey Water-Resources Investigations Report 95-4085, 211 p.

Hardison, C.H., 1971, Prediction error of regression estimates of streamflow characteristics at ungaged streams: U.S. Geological Survey Professional Paper 750-C, p. C228-C236.

Hirsch, R.M., 1982, A comparison of streamflow-record extension techniques: Water Resources Research, v. 18, no. 4, p. 1081-1088.

Hirsch, R.M., and Gilroy, R.J., 1984, Methods of fitting a straight line to data, examples in water resources: Water Resources Bulletin, v. 20, no. 5, p. 705-711.

Jones, S.H., and Fahl, C.B., 1994, Magnitude and frequency of floods in Alaska and conterminous basins of Canada: U.S. Geological Survey Water-Resources Investigations Report 93-4179, 122 p.

Lamke, R.D., 1972, Floods of the summer of 1971 in south-central Alaska: U.S. Geological Survey Open-File Report, 88 p.

———1978, Flood characteristics of Alaskan streams: U.S. Geological Survey Water-Resources Investigations Report 78-129, 61 p.

Lamke, R.D., 1991, Alaska floods and droughts, in Paulson, R.W., and others, eds., National water summary, 1988-89 — Hydrologic events and floods and droughts, U.S. Geological Survey Water-Supply Paper 2375, p. 171-180.

Lamke, R.D., and Bigelow, B.B., 1988, Floods of October 1986 in south-central Alaska: U.S. Geological Survey Open-File Report 87-391, 31 p.

Parks, B., and Madison, R.J., 1985, Estimation of selected flow and water-quality characteristics of Alaskan streams: U.S. Geological Survey Water-Resources Investigations Report 84-4247, 64 p.

Rantz, S.E., and others, 1982, Measurement and computation of streamflow: Volume 1, Measurement of stage and discharge; Volume 2, Computation of discharge: U.S. Geological Survey Water-Supply Paper 2175, 631 p.

Ries, K.G., III, and Friesz, P.J., 2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water-Resources Investigations Report 00-4135, 81 p.

Riggs, H.C., 1972, Low-flow investigations: U.S. Geological Survey Techniques of Water-Resources Investigations, book 4, chap. B1, 18 p.

Savard, C.S., and Scully, D.R., 1984, Surface-water quantity and quality in the lower Kenai Peninsula, Alaska: U.S. Geological Survey Water-Resources Investigations Report 84-4161, 62 p.

Searcy, J.K., 1959, Flow-duration curves, Manual of hydrology — Part 2. Low-flow techniques: U.S. Geological Survey Water-Supply Paper 1542-A, 33 p.

Stedinger, J.R., and Thomas, W.O., Jr., 1985, Low-flow frequency estimation using base-flow measurements: U.S. Geological Survey Open-File Report 85-95, 22 p.

Thomas, D.M., and Benson, M.A., 1970, Generalizations of streamflow characteristics from drainage-basin characteristics: U.S. Geological Survey Water-Supply Paper 1975, 55 p.

U.S. Geological Survey, 1978, Chap. 7, Physical basin characteristics for hydrologic analyses, National handbook of recommended methods for water-data acquisition, U.S. Geological Survey, p. 7-1 to 7-38.

———1987, Hydrologic unit map – 1987 – State of Alaska: U.S. Geological Survey map, 1 sheet.

# TABLES 7-9

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: O-S*n***, for water year October-through-September having an *n*-percent exceedance probability. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15008000[1] | Salmon River near Hyder, AK | 1 | 56 01 34 | 130 03 55 | 94.1 | 110 |
| 15010000 | Davis River near Hyder, AK | 1 | 55 45 00 | 130 12 00 | 80.0 | 175 |
| 15011500 | Red River near Metlakatla, AK | 1 | 55 08 29 | 130 31 50 | 45.3 | 200 |
| 15012000 | Winstanley Creek near Ketchikan, AK | 1 | 55 24 59 | 130 52 03 | 15.5 | 160 |
| 15015590 | Unuk River near Stewart, BC | 1 | 56 21 05 | 130 41 30 | 571 | 100 |
| 15022000 | Harding River near Wrangell, AK | 1 | 56 12 48 | 131 38 12 | 67.4 | 175 |
| 15024200 | Klappan River near Telegraph Creek, BC | 2 | 57 54 00 | 129 42 14 | 1,370 | 25 |
| 15024300 | Stikine River above Grand Canyon near Telegraph Creek, BC | 2 | 58 02 38 | 129 56 45 | 7,260 | 20 |
| 15024500 | Tuya River near Telegraph Creek, BC | 2 | 58 04 20 | 130 49 27 | 1,390 | 15 |
| 15024600 | Stikine River at Telegraph Creek, BC | 2 | 57 54 03 | 131 09 16 | 11,300 | 15 |
| 15024640 | Stikine River above Butterfly Creek, BC | 2 | 57 29 10 | 131 45 00 | 13,900 | 22 |
| 15024670 | Iskut River at outlet of Kinaskan Lake, BC | 2 | 57 32 00 | 130 12 28 | 483 | 20 |
| 15024684 | More Creek near mouth, BC | 2 | 57 02 27 | 130 24 05 | 326 | 70 |
| 15024690 | Forrest Kerr Creek near Wrangell, BC | 2 | 56 54 56 | 130 43 15 | 120 | 100 |
| 15024695 | Iskut River above Snippaker Creek, BC | 2 | 56 41 55 | 130 52 23 | 2,790 | 60 |
| 15024700 | Iskut River below Johnson River, BC | 2 | 56 44 20 | 131 40 25 | 3,610 | 60 |
| 15024750 | Goat Creek near Wrangell, AK | 1 | 56 39 40 | 131 58 14 | 17.3 | 175 |
| 15024800 | Stikine River near Wrangell, AK | 2 | 56 42 29 | 132 07 49 | 19,900 | 40 |
| 15028300 | Farragut River near Petersburg, AK | 1 | 57 10 24 | 133 06 36 | 151 | 175 |
| 15030000 | Sweetheart Falls Creek near Juneau, AK | 1 | 57 56 35 | 133 40 55 | 36.3 | 150 |
| 15031000 | Long River above Long Lake near Juneau, AK | 1 | 58 10 56 | 133 53 06 | 8.29 | 175 |
| 15034000[R] | Long River near Juneau, AK | 1 | 58 10 00 | 133 41 50 | 32.5 | 180 |
| 15036000 | Speel River near Juneau, AK | 1 | 58 12 10 | 133 36 40 | 226 | 175 |
| 15038000[R] | Crater Creek near Juneau, AK | 1 | 58 08 15 | 133 46 15 | 11.4 | 175 |
| 15039900 | Dorothy Lake outlet near Juneau, AK | 1 | 58 14 56 | 133 58 54 | 11.0 | 160 |
| 15040000 | Dorothy Creek near Juneau, AK | 1 | 58 13 40 | 134 02 25 | 15.2 | 150 |
| 15041000 | Sloko River near Atlin, BC | 2 | 59 06 20 | 133 39 40 | 165 | 28 |
| 15041100 | Taku River near Tulsequah, BC | 2 | 58 38 20 | 133 32 25 | 6,000 | 24 |
| 15041200[1] | Taku River near Juneau, AK | 1 | 58 32 19 | 133 42 00 | 6,600 | 35 |
| 15044000 | Carlson Creek near Juneau, AK | 1 | 58 19 00 | 134 10 15 | 24.3 | 200 |
| 15048000 | Sheep Creek near Juneau, AK | 1 | 58 16 30 | 134 18 50 | 4.57 | 150 |
| 15049900[R] | Gold Creek near Juneau, AK | 1 | 58 18 26 | 134 23 12 | 8.41 | 140 |
| 15050000[R] | Gold Creek at Juneau, AK | 1 | 58 18 25 | 134 24 05 | 9.76 | 150 |
| 15052000 | Lemon Creek near Juneau, AK | 1 | 58 23 30 | 134 25 15 | 12.1 | 180 |
| 15052500 | Mendenhall River near Auke Bay, AK | 1 | 58 25 47 | 134 34 22 | 85.1 | 180 |
| 15052800 | Montana Creek near Auke Bay, AK | 1 | 58 23 53 | 134 36 34 | 14.1 | 100 |
| 15053800 | Lake Creek at Auke Bay, AK | 1 | 58 23 40 | 134 37 50 | 2.50 | 80 |
| 15054000[2] | Auke Creek at Auke Bay, AK | 1 | 58 22 56 | 134 38 10 | 3.96 | 80 |
| 15056100 | Skagway River at Skagway, AK | 1 | 59 28 02 | 135 17 00 | 145 | 100 |
| 15056200 | West Creek near Skagway, AK | 1 | 59 31 35 | 135 21 10 | 43.2 | 100 |

[1]Record includes glacial outbursts. Station not included in regression analysis.
[2]Record includes regulated years. Station not included in regression analysis.
[3]Drainage area is indeterminate. Station not included in regression analysis.

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-S15 | 0-S10 | 0-S9 | 0-S8 | 0-S7 | 0-S6 | 0-S5 | 0-S4 | 0-S3 | 0-S2 | 0-S1 |
| 15008000[1] | 2,130 | 2,560 | 2,660 | 2,760 | 2,860 | 2,990 | 3,240 | 3,490 | 3,740 | 4,540 | 6,610 |
| 15010000 | 1,890 | 2,130 | 2,190 | 2,260 | 2,320 | 2,390 | 2,490 | 2,710 | 2,940 | 3,340 | 3,940 |
| 15011500 | 1,040 | 1,270 | 1,320 | 1,400 | 1,490 | 1,570 | 1,720 | 1,870 | 2,100 | 2,430 | 3,130 |
| 15012000 | 268 | 315 | 326 | 339 | 360 | 382 | 403 | 442 | 484 | 560 | 693 |
| 15015590 | 7,710 | 8,790 | 9,080 | 9,360 | 9,650 | 10,000 | 10,500 | 11,000 | 11,500 | 12,600 | 14,100 |
| 15022000 | 1,380 | 1,610 | 1,660 | 1,740 | 1,820 | 1,900 | 2,010 | 2,190 | 2,390 | 2,680 | 3,220 |
| 15024200 | 5,760 | 6,920 | 7,240 | 7,600 | 7,950 | 8,440 | 8,940 | 9,560 | 10,300 | 11,300 | 12,900 |
| 15024300 | 23,000 | 29,200 | 30,600 | 32,100 | 33,900 | 35,800 | 38,000 | 40,700 | 43,600 | 47,900 | 55,800 |
| 15024500 | 2,260 | 3,360 | 3,730 | 4,130 | 4,580 | 5,070 | 5,620 | 6,240 | 6,970 | 8,000 | 9,780 |
| 15024600 | 30,500 | 38,100 | 40,200 | 42,500 | 44,900 | 47,500 | 50,200 | 53,900 | 58,100 | 64,400 | 74,400 |
| 15024640 | 50,300 | 60,000 | 62,400 | 65,200 | 68,000 | 70,800 | 74,600 | 78,800 | 84,200 | 92,200 | 105,000 |
| 15024670 | 1,250 | 1,520 | 1,580 | 1,640 | 1,720 | 1,810 | 1,890 | 2,020 | 2,150 | 2,370 | 2,720 |
| 15024684 | 4,180 | 4,810 | 4,940 | 5,080 | 5,220 | 5,430 | 5,650 | 5,870 | 6,090 | 6,700 | 7,720 |
| 15024690 | 2,680 | 3,110 | 3,190 | 3,290 | 3,430 | 3,560 | 3,700 | 3,840 | 4,070 | 4,410 | 4,910 |
| 15024695 | 23,200 | 26,900 | 27,700 | 28,500 | 29,500 | 30,800 | 32,200 | 33,500 | 35,800 | 38,300 | 43,200 |
| 15024700 | 35,200 | 40,200 | 41,500 | 42,800 | 44,100 | 45,400 | 47,400 | 49,600 | 51,800 | 55,000 | 61,500 |
| 15024750 | 357 | 417 | 433 | 450 | 466 | 487 | 520 | 552 | 585 | 670 | 883 |
| 15024800 | 123,000 | 137,000 | 141,000 | 144,000 | 148,000 | 152,000 | 155,000 | 164,000 | 173,000 | 184,000 | 198,000 |
| 15028300 | 2,920 | 3,360 | 3,500 | 3,630 | 3,770 | 3,970 | 4,250 | 4,530 | 5,070 | 5,890 | 7,370 |
| 15030000 | 636 | 725 | 744 | 767 | 801 | 836 | 870 | 933 | 1,000 | 1,100 | 1,230 |
| 15031000 | 246 | 297 | 308 | 318 | 337 | 357 | 376 | 396 | 430 | 486 | 603 |
| 15034000[R] | 927 | 1,070 | 1,110 | 1,150 | 1,190 | 1,250 | 1,330 | 1,410 | 1,540 | 1,690 | 2,020 |
| 15036000 | 5,820 | 6,710 | 6,890 | 7,140 | 7,430 | 7,720 | 8,020 | 8,310 | 8,850 | 9,720 | 11,200 |
| 15038000[R] | 410 | 475 | 495 | 516 | 536 | 557 | 602 | 649 | 705 | 788 | 957 |
| 15039900 | 253 | 288 | 297 | 307 | 318 | 335 | 352 | 369 | 401 | 432 | 505 |
| 15040000 | 291 | 325 | 339 | 353 | 367 | 382 | 407 | 434 | 467 | 518 | 611 |
| 15041000 | 848 | 1,040 | 1,100 | 1,150 | 1,200 | 1,260 | 1,340 | 1,410 | 1,520 | 1,700 | 2,000 |
| 15041100 | 21,200 | 24,900 | 25,600 | 26,700 | 27,800 | 28,900 | 30,100 | 32,200 | 34,400 | 37,700 | 42,500 |
| 15041200[1] | 29,300 | 33,600 | 34,500 | 36,000 | 37,500 | 39,000 | 41,000 | 43,700 | 46,500 | 51,200 | 58,200 |
| 15044000 | 706 | 850 | 882 | 914 | 957 | 1,010 | 1,060 | 1,120 | 1,210 | 1,300 | 1,610 |
| 15048000 | 94.5 | 108 | 111 | 114 | 121 | 129 | 137 | 146 | 162 | 181 | 226 |
| 15049900[R] | 200 | 241 | 251 | 266 | 284 | 303 | 330 | 356 | 402 | 469 | 576 |
| 15050000[R] | 227 | 263 | 273 | 293 | 312 | 332 | 351 | 371 | 399 | 478 | 556 |
| 15052000 | 373 | 445 | 462 | 478 | 495 | 530 | 565 | 601 | 644 | 733 | 856 |
| 15052500 | 2,800 | 3,260 | 3,390 | 3,510 | 3,640 | 3,760 | 3,970 | 4,240 | 4,510 | 5,050 | 6,000 |
| 15052800 | 189 | 229 | 238 | 251 | 264 | 278 | 297 | 323 | 362 | 418 | 505 |
| 15053800 | 27.4 | 34.2 | 36.6 | 39.0 | 41.3 | 45.2 | 49.6 | 54.2 | 62.6 | 71.0 | 104 |
| 15054000[2] | 33.4 | 41.0 | 42.6 | 44.1 | 46.7 | 50.4 | 54.2 | 57.9 | 65.7 | 75.4 | 93.7 |
| 15056100 | 1,360 | 1,670 | 1,740 | 1,820 | 1,930 | 2,040 | 2,150 | 2,280 | 2,500 | 2,730 | 3,270 |
| 15056200 | 825 | 977 | 1,020 | 1,060 | 1,090 | 1,130 | 1,200 | 1,280 | 1,360 | 1,490 | 1,650 |

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: O-S*n***, for water year October-through-September having an *n*-percent exceedance probability. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15056560 | Klehini River near Klukwan, AK | 1 | 59 24 47 | 135 59 49 | 284 | 80 |
| 15058000 | Purple Lake outlet near Metlakatla, AK | 1 | 55 06 00 | 131 26 00 | 6.67 | 150 |
| 15059500 | Whipple Creek near Ward Cove, AK | 1 | 55 26 30 | 131 47 38 | 5.29 | 125 |
| 15060000 | Perseverance Creek near Wacker, AK | 1 | 55 24 40 | 131 40 05 | 2.81 | 190 |
| 15066000 | Beaver Falls Creek near Ketchikan, AK | 1 | 55 22 55 | 131 28 25 | 5.80 | 190 |
| 15067900 | Upper Mahoney Lake outlet near Ketchikan, AK | 1 | 55 24 50 | 131 33 16 | 2.03 | 200 |
| 15068000 | Mahoney Creek near Ketchikan, AK | 1 | 55 25 34 | 131 30 40 | 5.70 | 200 |
| 15070000[R] | Swan Lake near Ketchikan, AK | 1 | 55 36 54 | 131 20 14 | 36.5 | 200 |
| 15072000 | Fish Creek near Ketchikan, AK | 1 | 55 23 31 | 131 11 38 | 32.1 | 180 |
| 15074000 | Ella Creek near Ketchikan, AK | 1 | 55 30 20 | 131 01 25 | 19.7 | 175 |
| 15076000 | Manzanita Creek near Ketchikan, AK | 1 | 55 36 00 | 130 59 00 | 33.9 | 200 |
| 15078000 | Grace Creek near Ketchikan, AK | 1 | 55 39 28 | 130 58 14 | 30.2 | 200 |
| 15080000 | Orchard Creek near Bell Island, AK | 1 | 55 50 00 | 131 27 00 | 59.0 | 150 |
| 15081497 | Staney Creek near Klawock, AK | 1 | 55 48 05 | 133 06 31 | 50.6 | 100 |
| 15081500 | Staney Creek near Craig, AK | 1 | 55 48 57 | 133 07 58 | 51.6 | 100 |
| 15081580 | Black Bear Lake outlet near Klawoc, AK | 1 | 55 33 25 | 132 52 33 | 1.82 | 100 |
| 15083500 | Perkins Creek near Metlakatla, AK | 1 | 54 56 48 | 132 10 15 | 3.38 | 150 |
| 15085100 | Old Tom Creek near Kasaan, AK | 1 | 55 23 44 | 132 24 25 | 5.90 | 100 |
| 15085600 | Indian Creek near Hollis, AK | 1 | 55 26 58 | 132 41 41 | 8.82 | 100 |
| 15085700 | Harris River near Hollis, AK | 1 | 55 27 47 | 132 42 11 | 28.7 | 120 |
| 15085800 | Maybeso Creek at Hollis, AK | 1 | 55 29 26 | 132 40 31 | 15.1 | 120 |
| 15086600 | Big Creek near Point Baker, AK | 1 | 56 07 54 | 133 08 56 | 11.2 | 110 |
| 15087545 | Municipal Watershed Creek near Petersburg, AK | 1 | 56 46 40 | 132 55 07 | 2.20 | 100 |
| 15087570 | Hamilton Creek near Kake, AK | 1 | 56 52 21 | 133 40 30 | 65.0 | 70 |
| 15087590 | Rocky Pass Creek near Point Baker, AK | 1 | 56 37 10 | 133 44 10 | 2.72 | 100 |
| 15087690 | Indian River near Sitka, AK | 1 | 57 04 01 | 135 17 42 | 10.1 | 140 |
| 15088000[R] | Sawmill Creek near Sitka, AK | 1 | 57 03 05 | 135 13 40 | 39.0 | 150 |
| 15090000[R] | Green Lake near Sitka, AK | 1 | 56 59 14 | 135 06 37 | 28.8 | 160 |
| 15093400 | Sashin Creek near Big Port Walter, AK | 1 | 56 22 32 | 134 39 40 | 3.72 | 300 |
| 15094000 | Deer Lake outlet near Port Alexander, AK | 1 | 56 31 10 | 134 40 10 | 7.41 | 300 |
| 15098000 | Baranof River at Baranof, AK | 1 | 57 05 15 | 134 50 30 | 32.0 | 180 |
| 15100000 | Takatz Creek near Baranof, AK | 1 | 57 08 35 | 134 51 50 | 17.5 | 180 |
| 15101490[R] | Greens Creek at Greens Creek Mine near Juneau, AK | 1 | 58 05 00 | 134 37 54 | 8.62 | 98 |
| 15101500 | Greens Creek near Juneau, AK | 1 | 58 05 18 | 134 44 49 | 22.8 | 80 |
| 15102000 | Hasselborg Creek near Angoon, AK | 1 | 57 39 40 | 134 14 55 | 56.2 | 100 |
| 15106920 | Kadashan River above Hook Creek near Tenakee, AK | 1 | 57 39 46 | 135 11 06 | 10.2 | 100 |
| 15106940 | Hook Creek above tributary near Tenakee, AK | 1 | 57 40 39 | 135 07 42 | 4.48 | 100 |
| 15106960 | Hook Creek near Tenakee, AK | 1 | 57 40 22 | 135 10 40 | 8.00 | 100 |
| 15106980 | Tonalite Creek near Tenakee, AK | 1 | 57 40 42 | 135 13 17 | 14.5 | 100 |
| 15107000 | Kadashan River near Tenakee, AK | 1 | 57 41 43 | 135 12 59 | 37.7 | 100 |

[1]Record includes glacial outbursts. Station not included in regression analysis.
[2]Record includes regulated years. Station not included in regression analysis.
[3]Drainage area is indeterminate. Station not included in regression analysis.

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-S15 | 0-S10 | 0-S9 | 0-S8 | 0-S7 | 0-S6 | 0-S5 | 0-S4 | 0-S3 | 0-S2 | 0-S1 |
| 15056560 | 3,520 | 4,010 | 4,100 | 4,190 | 4,320 | 4,510 | 4,710 | 4,950 | 5,270 | 5,630 | 6,140 |
| 15058000 | 158 | 191 | 198 | 208 | 220 | 233 | 248 | 265 | 282 | 314 | 366 |
| 15059500 | 56.4 | 76.5 | 81.6 | 89.1 | 96.7 | 106 | 116 | 134 | 160 | 196 | 268 |
| 15060000 | 68.3 | 86.9 | 92.9 | 98.9 | 105 | 115 | 125 | 139 | 159 | 189 | 241 |
| 15066000 | 197 | 245 | 261 | 279 | 297 | 321 | 344 | 376 | 409 | 476 | 607 |
| 15067900 | 80.0 | 100 | 105 | 111 | 120 | 129 | 141 | 158 | 182 | 215 | 257 |
| 15068000 | 179 | 222 | 237 | 252 | 267 | 291 | 316 | 352 | 400 | 468 | 590 |
| 15070000[R] | 804 | 954 | 998 | 1,040 | 1,100 | 1,170 | 1,240 | 1,360 | 1,480 | 1,710 | 2,110 |
| 15072000 | 717 | 866 | 910 | 954 | 1,000 | 1,080 | 1,150 | 1,250 | 1,370 | 1,580 | 1,880 |
| 15074000 | 409 | 480 | 497 | 520 | 546 | 573 | 607 | 650 | 700 | 772 | 895 |
| 15076000 | 754 | 864 | 891 | 918 | 960 | 1,010 | 1,050 | 1,140 | 1,240 | 1,370 | 1,620 |
| 15078000 | 728 | 861 | 901 | 942 | 987 | 1,050 | 1,110 | 1,190 | 1,290 | 1,460 | 1,730 |
| 15080000 | 1,010 | 1,210 | 1,270 | 1,340 | 1,420 | 1,510 | 1,620 | 1,770 | 2,000 | 2,320 | 2,860 |
| 15081497 | 651 | 901 | 960 | 1,070 | 1,180 | 1,320 | 1,460 | 1,630 | 1,860 | 2,230 | 3,040 |
| 15081500 | 608 | 846 | 915 | 990 | 1,080 | 1,170 | 1,310 | 1,460 | 1,760 | 2,150 | 2,920 |
| 15081580 | 49.8 | 60.2 | 62.9 | 66.3 | 70.3 | 74.4 | 80.3 | 86.3 | 96.2 | 109 | 130 |
| 15083500 | 74.1 | 100 | 107 | 114 | 123 | 133 | 145 | 161 | 182 | 215 | 268 |
| 15085100 | 71.6 | 92.2 | 99.8 | 107 | 115 | 127 | 140 | 157 | 181 | 218 | 282 |
| 15085600 | 165 | 205 | 216 | 227 | 244 | 264 | 284 | 318 | 354 | 427 | 537 |
| 15085700 | 444 | 556 | 589 | 627 | 666 | 719 | 780 | 855 | 948 | 1,160 | 1,560 |
| 15085800 | 244 | 306 | 322 | 342 | 366 | 391 | 428 | 471 | 533 | 654 | 822 |
| 15086600 | 158 | 193 | 201 | 211 | 226 | 241 | 262 | 287 | 327 | 396 | 521 |
| 15087545 | 40.7 | 54.5 | 58.1 | 61.8 | 67.8 | 74.0 | 82.2 | 91.0 | 104 | 128 | 165 |
| 15087570 | 609 | 859 | 946 | 1,030 | 1,170 | 1,310 | 1,520 | 1,770 | 2,060 | 2,510 | 3,430 |
| 15087590 | 24.4 | 34.9 | 37.8 | 41.3 | 45.3 | 49.3 | 54.8 | 63.7 | 74.4 | 89.9 | 123 |
| 15087690 | 154 | 196 | 208 | 220 | 240 | 260 | 290 | 332 | 396 | 515 | 738 |
| 15088000[R] | 845 | 942 | 987 | 1,030 | 1,080 | 1,120 | 1,210 | 1,310 | 1,450 | 1,630 | 2,110 |
| 15090000[R] | 537 | 624 | 654 | 685 | 715 | 756 | 803 | 850 | 932 | 1,040 | 1,240 |
| 15093400 | 141 | 177 | 187 | 198 | 209 | 222 | 245 | 272 | 305 | 359 | 484 |
| 15094000 | 236 | 276 | 287 | 297 | 312 | 329 | 347 | 366 | 388 | 429 | 510 |
| 15098000 | 780 | 893 | 923 | 952 | 982 | 1,030 | 1,100 | 1,160 | 1,280 | 1,400 | 1,670 |
| 15100000 | 498 | 568 | 588 | 608 | 629 | 668 | 714 | 770 | 836 | 964 | 1,200 |
| 15101490[R] | 79.4 | 90.4 | 94.4 | 98.4 | 102 | 108 | 115 | 123 | 134 | 152 | 187 |
| 15101500 | 180 | 216 | 226 | 235 | 244 | 261 | 278 | 297 | 331 | 385 | 514 |
| 15102000 | 549 | 627 | 648 | 670 | 693 | 715 | 757 | 804 | 867 | 940 | 1,060 |
| 15106920 | 116 | 142 | 149 | 158 | 167 | 177 | 192 | 206 | 232 | 272 | 342 |
| 15106940 | 53.1 | 65.3 | 69.4 | 73.4 | 77.7 | 83.3 | 88.9 | 96.5 | 107 | 123 | 154 |
| 15106960 | 79.5 | 96.8 | 102 | 108 | 114 | 122 | 134 | 148 | 165 | 194 | 278 |
| 15106980 | 167 | 210 | 220 | 236 | 252 | 276 | 304 | 343 | 389 | 456 | 652 |
| 15107000 | 404 | 502 | 530 | 558 | 603 | 652 | 715 | 783 | 880 | 1,050 | 1,450 |

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: O-S*n***, for water year October-through-September having an *n*-percent exceedance probability. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15108000 | Pavlof River near Tenakee, AK | 1 | 57 50 30 | 135 02 09 | 24.3 | 100 |
| 15109000 | Fish Creek near Auke Bay, AK | 1 | 58 19 50 | 134 35 20 | 13.6 | 80 |
| 15120000 | Aishihik River near Whitehorse, YT | 5 | 60 51 40 | 137 03 40 | 1,660 | 12 |
| 15120500[R] | Dezadeash River at Haines Junction, YT | 5 | 60 44 54 | 137 30 19 | 3,280 | 10 |
| 15120600 | Alsek River above Bates River near Haines Junction, YT | 2 | 60 07 09 | 137 58 27 | 6,250 | 16 |
| 15129500 | Situk River near Yakutat, AK | 3 | 59 35 00 | 139 29 31 | 36.0 | 140 |
| 15195000 | Dick Creek near Cordova, AK | 3 | 60 20 32 | 144 18 10 | 7.95 | 200 |
| 15200000 | Gakona River at Gakona, AK | 6 | 62 18 06 | 145 18 20 | 620 | 25 |
| 15200280 | Gulkana River at Sourdough, AK | 6 | 62 31 15 | 145 31 51 | 1,770 | 18 |
| 15202000[1] | Tazlina River near Glennallen, AK | 6 | 62 03 20 | 145 25 34 | 2,670 | 30 |
| 15206000 | Klutina River at Copper Center, AK | 6 | 61 57 10 | 145 18 20 | 880 | 30 |
| 15208000 | Tonsina River at Tonsina, AK | 6 | 61 39 41 | 145 11 02 | 420 | 30 |
| 15208100 | Squirrel Creek at Tonsina, AK | 6 | 61 40 05 | 145 10 26 | 70.5 | 15 |
| 15212000 | Copper River near Chitina, AK | 6 | 61 27 56 | 144 27 21 | 20,600 | 25 |
| 15216000 | Power Creek near Cordova, AK | 3 | 60 35 14 | 145 37 05 | 20.5 | 160 |
| 15219000 | West Fork Olsen Bay Creek near Cordova, AK | 3 | 60 45 41 | 146 10 20 | 4.78 | 120 |
| 15225997[2,R] | Solomon Gulch at top of falls near Valdez, AK | 3 | 61 04 45 | 146 18 11 | – | – |
| 15237360 | San Juan River near Seward, AK | 3 | 59 49 05 | 147 53 00 | 12.4 | 220 |
| 15238600 | Spruce Creek near Seward, AK | 3 | 60 04 10 | 149 27 08 | 9.26 | 120 |
| 15238820 | Barabara Creek near Seldovia, AK | 3 | 59 28 50 | 151 38 42 | 20.7 | 70 |
| 15239000[R] | Bradley River near Homer, AK | 3 | 59 45 30 | 150 51 02 | 56.1 | 120 |
| 15239050 | Middle Fork Bradley River tributary near Homer, AK | 3 | 59 46 42 | 150 45 15 | 9.25 | 70 |
| 15239900 | Anchor River near Anchor Point, AK | 4 | 59 44 50 | 151 45 11 | 137 | 25 |
| 15240000 | Anchor River at Anchor Point, AK | 4 | 59 46 21 | 151 50 05 | 224 | 25 |
| 15241600 | Ninilchik River at Ninilchik, AK | 4 | 60 02 56 | 151 39 48 | 131 | 20 |
| 15242000 | Kasilof River near Kasilof, AK | 4 | 60 19 05 | 151 15 35 | 738 | 50 |
| 15244000 | Ptarmigan Creek at Lawing, AK | 4 | 60 24 20 | 149 21 45 | 32.6 | 90 |
| 15246000 | Grant Creek near Moose Pass, AK | 4 | 60 27 25 | 149 21 15 | 44.2 | 90 |
| 15248000 | Trail River near Lawing, AK | 4 | 60 26 01 | 149 22 19 | 181 | 90 |
| 15254000 | Crescent Creek near Cooper Landing, AK | 4 | 60 29 49 | 149 40 38 | 31.7 | 50 |
| 15258000[1] | Kenai River at Cooper Landing, AK | 4 | 60 29 34 | 149 48 28 | 634 | 70 |
| 15258000[1,2,R] | Kenai River at Cooper Landing, AK, regulated years | 4 | 60 29 34 | 149 48 28 | 634 | 70 |
| 15266300 | Kenai River at Soldotna, AK | 4 | 60 28 39 | 151 04 46 | 1,950 | 50 |
| 15266500 | Beaver Creek near Kenai, AK | 4 | 60 33 50 | 151 07 03 | 51.0 | 20 |
| 15267900 | Resurrection Creek near Hope, AK | 4 | 60 53 40 | 149 38 13 | 149 | 30 |
| 15271000 | Sixmile Creek near Hope, AK | 4 | 60 49 15 | 149 25 31 | 234 | 60 |
| 15272280 | Portage Creek at Portage Lake outlet near Whittier, AK | 4 | 60 47 07 | 148 50 20 | 40.5 | 158 |
| 15272550 | Glacier Creek at Girdwood, AK | 4 | 60 56 29 | 149 09 44 | 58.2 | 70 |
| 15273900 | South Fork Campbell Creek at canyon mouth near Anchorage, AK | 4 | 61 08 52 | 149 43 12 | 25.2 | 25 |
| 15274000 | South Fork Campbell Creek near Anchorage, AK | 4 | 61 10 02 | 149 46 14 | 29.2 | 22 |

[1]Record includes glacial outbursts. Station not included in regression analysis.
[2]Record includes regulated years. Station not included in regression analysis.
[3]Drainage area is indeterminate. Station not included in regression analysis.

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-S15 | 0-S10 | 0-S9 | 0-S8 | 0-S7 | 0-S6 | 0-S5 | 0-S4 | 0-S3 | 0-S2 | 0-S1 |
| 15108000 | 286 | 356 | 378 | 400 | 423 | 460 | 496 | 552 | 618 | 710 | 904 |
| 15109000 | 151 | 182 | 189 | 197 | 208 | 225 | 242 | 266 | 296 | 347 | 435 |
| 15120000 | 891 | 1,070 | 1,110 | 1,160 | 1,220 | 1,290 | 1,370 | 1,480 | 1,640 | 1,880 | 2,220 |
| 15120500[R] | 2,630 | 3,140 | 3,280 | 3,420 | 3,560 | 3,770 | 4,010 | 4,260 | 4,660 | 5,130 | 6,050 |
| 15120600 | 19,500 | 22,500 | 23,100 | 23,800 | 24,600 | 25,500 | 26,300 | 27,200 | 28,800 | 30,500 | 34,900 |
| 15129500 | 481 | 584 | 606 | 638 | 673 | 715 | 762 | 823 | 902 | 1,040 | 1,250 |
| 15195000 | 253 | 331 | 356 | 383 | 416 | 461 | 504 | 545 | 599 | 703 | 847 |
| 15200000 | 2,090 | 2,480 | 2,560 | 2,640 | 2,720 | 2,850 | 3,030 | 3,210 | 3,390 | 3,570 | 4,320 |
| 15200280 | 2,170 | 2,790 | 2,930 | 3,120 | 3,330 | 3,570 | 3,910 | 4,360 | 4,870 | 5,430 | 6,430 |
| 15076000 | 10,600 | 12,400 | 12,900 | 13,300 | 13,700 | 14,200 | 14,900 | 15,600 | 16,300 | 17,600 | 20,700 |
| 15206000 | 4,370 | 4,960 | 5,070 | 5,210 | 5,370 | 5,520 | 5,680 | 5,840 | 6,170 | 6,560 | 7,160 |
| 15208000 | 2,100 | 2,480 | 2,580 | 2,690 | 2,810 | 2,930 | 3,120 | 3,350 | 3,610 | 3,970 | 4,500 |
| 15208100 | 42.1 | 65.3 | 69.8 | 75.0 | 81.5 | 90.5 | 102 | 116 | 143 | 180 | 233 |
| 15212000 | 99,000 | 117,000 | 120,000 | 123,000 | 126,000 | 130,000 | 135,000 | 139,000 | 144,000 | 150,000 | 164,000 |
| 15216000 | 483 | 561 | 587 | 617 | 647 | 684 | 743 | 807 | 906 | 1,070 | 1,350 |
| 15219000 | 61.0 | 74.1 | 77.5 | 82.2 | 87.0 | 91.7 | 100 | 113 | 129 | 156 | 208 |
| 15225997[2,R] | 32.1 | 127 | 144 | 160 | 182 | 207 | 239 | 280 | 337 | 420 | 617 |
| 15237360 | 366 | 523 | 575 | 627 | 689 | 756 | 834 | 950 | 1,110 | 1,350 | 1,820 |
| 15238600 | 172 | 208 | 221 | 233 | 246 | 258 | 276 | 309 | 343 | 414 | 562 |
| 15238820 | 206 | 252 | 263 | 274 | 286 | 297 | 313 | 332 | 351 | 389 | 466 |
| 15239000[R] | 973 | 1,120 | 1,170 | 1,210 | 1,260 | 1,300 | 1,390 | 1,480 | 1,580 | 1,830 | 2,400 |
| 15239050 | 129 | 153 | 158 | 164 | 169 | 178 | 188 | 198 | 208 | 232 | 263 |
| 15239900 | 321 | 444 | 473 | 503 | 549 | 601 | 663 | 762 | 881 | 1,010 | 1,230 |
| 15240000 | 534 | 736 | 785 | 832 | 886 | 946 | 1,010 | 1,090 | 1,180 | 1,290 | 1,560 |
| 15241600 | 155 | 196 | 207 | 218 | 237 | 258 | 282 | 307 | 329 | 369 | 466 |
| 15242000 | 5,410 | 6,250 | 6,420 | 6,640 | 6,890 | 7,140 | 7,400 | 7,650 | 7,970 | 8,760 | 9,540 |
| 15244000 | 236 | 273 | 282 | 291 | 303 | 319 | 334 | 355 | 380 | 414 | 468 |
| 15246000 | 437 | 498 | 514 | 531 | 548 | 564 | 581 | 617 | 661 | 718 | 792 |
| 15248000 | 1,810 | 2,040 | 2,080 | 2,140 | 2,220 | 2,300 | 2,380 | 2,480 | 2,630 | 2,780 | 3,160 |
| 15254000 | 143 | 171 | 179 | 186 | 194 | 203 | 212 | 227 | 245 | 268 | 319 |
| 15258000[1] | 6,000 | 6,750 | 6,940 | 7,130 | 7,310 | 7,600 | 7,920 | 8,230 | 8,610 | 9,210 | 10,000 |
| 15258000[1,2,R] | 6,340 | 7,090 | 7,270 | 7,450 | 7,630 | 7,810 | 8,020 | 8,520 | 9,030 | 9,790 | 11,300 |
| 15266300 | 12,800 | 14,100 | 14,500 | 14,800 | 15,200 | 15,500 | 16,200 | 16,900 | 17,600 | 19,300 | 21,900 |
| 15266500 | 34.6 | 42.1 | 44.2 | 46.8 | 49.4 | 53.2 | 58.1 | 65.7 | 75.6 | 97.6 | 127 |
| 15267900 | 526 | 638 | 666 | 697 | 728 | 762 | 797 | 840 | 922 | 1,100 | 1,310 |
| 15271000 | 1,960 | 2,370 | 2,480 | 2,590 | 2,710 | 2,830 | 2,980 | 3,130 | 3,340 | 3,610 | 4,000 |
| 15272280 | 1,750 | 2,040 | 2,110 | 2,180 | 2,330 | 2,510 | 2,720 | 3,010 | 3,420 | 4,110 | 5,050 |
| 15272550 | 556 | 660 | 688 | 716 | 748 | 787 | 825 | 863 | 941 | 1,040 | 1,230 |
| 15273900 | 77.0 | 94.0 | 97.8 | 103 | 108 | 113 | 118 | 124 | 135 | 147 | 163 |
| 15274000 | 75.7 | 88.6 | 91.7 | 94.8 | 99.4 | 105 | 110 | 118 | 127 | 140 | 160 |

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: O-S*n***, for water year October-through-September having an *n*-percent exceedance probability. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15274300 | North Fork Campbell Creek near Anchorage, AK | 4 | 61 10 10 | 149 45 43 | 13.4 | 22 |
| 15276000[R] | Ship Creek near Anchorage, AK | 4 | 61 13 32 | 149 38 06 | 90.5 | 30 |
| 15277100 | Eagle River at Eagle River, AK | 4 | 61 18 28 | 149 33 32 | 192 | 40 |
| 15277410 | Peters Creek near Birchwood, AK | 4 | 61 25 08 | 149 29 20 | 87.8 | 35 |
| 15281000 | Knik River near Palmer, AK | 4 | 61 30 18 | 149 01 50 | 1,180 | 100 |
| 15282000 | Caribou Creek near Sutton, AK | 4 | 61 48 12 | 147 40 57 | 289 | 25 |
| 15284000 | Matanuska River at Palmer, AK | 4 | 61 36 34 | 149 04 16 | 2,070 | 35 |
| 15290000 | Little Susitna River near Palmer, AK | 4 | 61 42 37 | 149 13 47 | 61.9 | 50 |
| 15291000 | Susitna River near Denali, AK | 4 | 63 06 14 | 147 30 57 | 950 | 50 |
| 15291200 | Maclaren River near Paxson, AK | 4 | 63 07 10 | 146 31 45 | 280 | 50 |
| 15291500 | Susitna River near Cantwell, AK | 4 | 62 41 55 | 147 32 42 | 4,140 | 30 |
| 15292000 | Susitna River at Gold Creek, AK | 4 | 62 46 04 | 149 41 28 | 6,160 | 30 |
| 15292400 | Chulitna River near Talkeetna, AK | 4 | 62 33 31 | 150 14 02 | 2,570 | 55 |
| 15292700 | Talkeetna River near Talkeetna, AK | 4 | 62 20 49 | 150 01 01 | 2,000 | 35 |
| 15294005 | Willow Creek near Willow, AK | 4 | 61 46 51 | 149 53 04 | 166 | 30 |
| 15294300 | Skwentna River near Skwentna, AK | 4 | 61 52 23 | 151 22 01 | 2,250 | 45 |
| 15294350 | Susitna River at Susitna Station, AK | 4 | 61 32 41 | 150 30 45 | 19,400 | 35 |
| 15294450 | Chuitna River near Tyonek, AK | 4 | 61 06 31 | 151 15 07 | 131 | 45 |
| 15294500 | Chakachatna River near Tyonek, AK | 4 | 61 12 44 | 152 21 26 | 1,120 | 80 |
| 15295600[R] | Terror River near Kodiak, AK | 3 | 57 39 05 | 153 01 46 | 15.0 | 130 |
| 15296000 | Uganik River near Kodiak, AK | 3 | 57 41 06 | 153 25 10 | 123 | 75 |
| 15297200 | Myrtle Creek near Kodiak, AK | 3 | 57 36 12 | 152 24 12 | 4.74 | 130 |
| 15297900 | Eskimo Creek at King Salmon, AK | 4 | 58 41 08 | 156 40 08 | 16.1 | 20 |
| 15300000 | Newhalen River near Iliamna, AK | 4 | 59 51 34 | 154 52 24 | 3,480 | 40 |
| 15300500 | Kvichak River at Igiugig, AK | 4 | 59 19 44 | 155 53 57 | 6,500 | 40 |
| 15302000 | Nuyakuk River near Dillingham, AK | 4 | 59 56 08 | 158 11 16 | 1,490 | 60 |
| 15302500 | Nushagak River at Ekwok, AK | 4 | 59 20 57 | 157 28 23 | 9,850 | 30 |
| 15303000 | Wood River near Aleknagik, AK | 4 | 59 16 30 | 158 35 37 | 1,110 | 60 |
| 15303150 | Snake River near Dillingham, AK | 4 | 59 08 54 | 158 53 14 | 113 | 50 |
| 15303600 | Kuskokwim River at McGrath, AK | 6 | 62 57 10 | 155 35 11 | 11,700 | 23 |
| 15304000 | Kuskokwim River at Crooked Creek, AK | 6 | 61 52 16 | 158 06 03 | 31,100 | 22 |
| 15304520 | Lubbock River near Atlin, BC | 5 | 60 04 52 | 133 51 30 | 683 | 11 |
| 15304550 | Pine Creek near Atlin, BC | 5 | 59 33 40 | 133 39 56 | 269 | 12 |
| 15304600 | Atlin River near Atlin, BC | 2 | 59 35 57 | 133 48 48 | 2,630 | 12 |
| 15304650 | Wann River near Atlin, BC | 2 | 59 25 55 | 134 12 20 | 104 | 32 |
| 15304700 | Fantail River at outlet of Fantail Lake near Atlin, BC | 2 | 59 35 40 | 134 23 26 | 277 | 32 |
| 15304750 | Tutshi River at outlet of Tutshi Lake near Atlin, BC | 2 | 59 56 48 | 134 19 29 | 320 | 24 |
| 15304800 | Lindeman River near Bennett, BC | 2 | 59 50 12 | 135 00 44 | 92.7 | 52 |
| 15304850 | Wheaton River near Carcross, YT | 2 | 60 08 05 | 134 53 45 | 338 | 12 |
| 15304950 | Maclintock River near Whitehorse, YT | 5 | 60 36 45 | 134 27 27 | 656 | 12 |

[1]Record includes glacial outbursts. Station not included in regression analysis.
[2]Record includes regulated years. Station not included in regression analysis.
[3]Drainage area is indeterminate. Station not included in regression analysis.

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-S15 | 0-S10 | 0-S9 | 0-S8 | 0-S7 | 0-S6 | 0-S5 | 0-S4 | 0-S3 | 0-S2 | 0-S1 |
| 15274300 | 33.3 | 39.0 | 40.2 | 41.5 | 43.2 | 45.3 | 47.5 | 49.9 | 52.3 | 55.5 | 60.7 |
| 15276000[R] | 297 | 368 | 390 | 411 | 432 | 456 | 494 | 532 | 577 | 645 | 743 |
| 15277100 | 1,340 | 1,620 | 1,680 | 1,740 | 1,830 | 1,920 | 2,020 | 2,140 | 2,280 | 2,460 | 2,780 |
| 15277410 | 239 | 288 | 299 | 309 | 326 | 349 | 377 | 406 | 433 | 467 | 517 |
| 15281000 | 18,000 | 21,100 | 21,800 | 22,500 | 23,200 | 24,000 | 24,700 | 25,600 | 27,000 | 28,300 | 30,600 |
| 15282000 | 608 | 842 | 899 | 978 | 1,070 | 1,170 | 1,290 | 1,440 | 1,620 | 1,920 | 2,600 |
| 15284000 | 9,890 | 11,800 | 12,200 | 12,600 | 13,100 | 13,500 | 13,900 | 14,700 | 15,600 | 16,600 | 18,500 |
| 15290000 | 440 | 568 | 604 | 640 | 680 | 731 | 783 | 854 | 944 | 1,080 | 1,300 |
| 15291000 | 7,490 | 8,910 | 9,190 | 9,480 | 9,900 | 10,400 | 10,800 | 11,300 | 11,800 | 13,000 | 14,200 |
| 15291200 | 2,660 | 3,110 | 3,210 | 3,320 | 3,420 | 3,550 | 3,710 | 3,880 | 4,050 | 4,420 | 4,960 |
| 15291500 | 15,700 | 17,700 | 18,200 | 18,900 | 19,600 | 20,200 | 21,000 | 22,400 | 23,800 | 26,100 | 30,200 |
| 15292000 | 22,800 | 25,700 | 26,500 | 27,200 | 28,000 | 28,900 | 30,300 | 31,700 | 33,100 | 36,300 | 41,600 |
| 15292400 | 22,000 | 24,700 | 25,300 | 25,900 | 26,600 | 27,900 | 29,100 | 30,500 | 32,500 | 34,600 | 38,400 |
| 15292700 | 9,250 | 10,700 | 11,100 | 11,500 | 11,800 | 12,500 | 13,200 | 13,800 | 15,000 | 16,400 | 19,300 |
| 15294005 | 815 | 1,010 | 1,060 | 1,110 | 1,180 | 1,250 | 1,330 | 1,420 | 1,540 | 1,690 | 2,110 |
| 15294300 | 15,000 | 17,500 | 18,300 | 19,100 | 20,000 | 21,100 | 22,200 | 23,600 | 25,100 | 27,100 | 29,800 |
| 15294350 | 116,000 | 128,000 | 131,000 | 134,000 | 137,000 | 140,000 | 145,000 | 151,000 | 156,000 | 166,000 | 180,000 |
| 15294450 | 703 | 999 | 1,090 | 1,190 | 1,280 | 1,370 | 1,460 | 1,560 | 1,700 | 1,890 | 2,270 |
| 15294500 | 9,960 | 11,500 | 11,900 | 12,200 | 12,600 | 13,000 | 13,400 | 13,800 | 14,700 | 15,600 | 17,300 |
| 15295600[R] | 304 | 372 | 386 | 403 | 429 | 455 | 484 | 521 | 557 | 638 | 772 |
| 15296000 | 1,360 | 1,640 | 1,710 | 1,800 | 1,890 | 1,980 | 2,110 | 2,250 | 2,420 | 2,740 | 3,360 |
| 15297200 | 83.3 | 107 | 113 | 120 | 132 | 144 | 161 | 180 | 208 | 246 | 314 |
| 15297900 | 20.1 | 24.2 | 25.4 | 26.5 | 27.9 | 29.5 | 31.7 | 34.3 | 38.7 | 45.1 | 58.7 |
| 15300000 | 19,500 | 21,700 | 22,200 | 22,600 | 23,000 | 23,500 | 24,200 | 24,900 | 25,600 | 26,700 | 28,400 |
| 15300500 | 25,200 | 27,800 | 28,400 | 29,100 | 29,800 | 30,900 | 32,100 | 33,300 | 35,500 | 37,600 | 40,000 |
| 15302000 | 11,800 | 14,400 | 15,000 | 15,700 | 16,400 | 17,100 | 17,900 | 18,800 | 19,800 | 21,100 | 23,100 |
| 15302500 | 41,600 | 47,100 | 48,500 | 49,800 | 51,400 | 52,900 | 54,500 | 57,100 | 59,900 | 65,800 | 73,400 |
| 15303000 | 8,370 | 9,650 | 9,960 | 10,400 | 10,700 | 11,200 | 11,700 | 12,100 | 13,200 | 14,500 | 16,500 |
| 15303150 | 936 | 1,110 | 1,160 | 1,210 | 1,270 | 1,340 | 1,410 | 1,490 | 1,590 | 1,730 | 2,030 |
| 15303600 | 25,300 | 29,200 | 30,100 | 31,000 | 32,100 | 34,500 | 37,100 | 40,100 | 43,800 | 48,800 | 56,600 |
| 15304000 | 80,300 | 94,100 | 97,000 | 102,000 | 106,000 | 111,000 | 117,000 | 123,000 | 133,000 | 145,000 | 171,000 |
| 15304520 | 220 | 253 | 260 | 267 | 277 | 288 | 299 | 318 | 341 | 388 | 439 |
| 15304550 | 366 | 412 | 422 | 432 | 448 | 466 | 486 | 514 | 545 | 605 | 733 |
| 15304600 | 6,420 | 7,130 | 7,300 | 7,480 | 7,660 | 7,910 | 8,170 | 8,450 | 8,790 | 9,160 | 9,710 |
| 15304650 | 626 | 719 | 749 | 779 | 809 | 848 | 892 | 937 | 1,010 | 1,090 | 1,250 |
| 15304700 | 2,060 | 2,390 | 2,460 | 2,530 | 2,600 | 2,700 | 2,830 | 2,960 | 3,090 | 3,330 | 3,660 |
| 15304750 | 1,210 | 1,460 | 1,510 | 1,550 | 1,630 | 1,710 | 1,810 | 1,930 | 2,070 | 2,220 | 2,600 |
| 15304800 | 862 | 1,010 | 1,050 | 1,100 | 1,140 | 1,190 | 1,240 | 1,320 | 1,420 | 1,520 | 1,760 |
| 15304850 | 540 | 700 | 745 | 790 | 847 | 910 | 984 | 1,090 | 1,250 | 1,440 | 1,700 |
| 15304950 | 598 | 745 | 782 | 824 | 874 | 932 | 1,010 | 1,110 | 1,240 | 1,460 | 1,750 |

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: O-S*n***, for water year October-through-September having an *n*-percent exceedance probability. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15305000 | Yukon River at Whitehorse, YT | 5 | 60 42 50 | 135 02 35 | 7,490 | 15 |
| 15305030 | Takhini River at Kusawa Lake at Whitehorse, YT | 5 | 60 36 46 | 136 07 26 | 1,570 | 16 |
| 15305050 | Takhini River near Whitehorse, YT | 5 | 60 51 08 | 135 44 21 | 2,700 | 14 |
| 15305100 | Yukon River above Frank Creek, YT | 5 | 61 26 04 | 135 11 18 | 11,900 | 14 |
| 15305150 | Swift River near Swift River, BC | 5 | 59 55 50 | 131 46 04 | 1,280 | 18 |
| 15305200 | Gladys River at outlet of Gladys Lake near Atlin, BC | 5 | 59 54 20 | 132 54 50 | 737 | 12 |
| 15305250 | Teslin River near Teslin, YT | 5 | 60 29 07 | 133 18 04 | 11,700 | 13 |
| 15305260 | Teslin River near Whitehorse, YT | 5 | 61 29 25 | 134 46 35 | 14,100 | 12 |
| 15305300 | Big Salmon River near Carmack, YT | 5 | 61 52 22 | 134 50 00 | 2,610 | 13 |
| 15305350 | Yukon River at Carmacks, YT | 5 | 62 05 45 | 136 16 18 | 31,600 | 12 |
| 15305360 | Big Creek near mouth near Minto, YT | 5 | 62 34 07 | 137 00 58 | 676 | 12 |
| 15305390 | Ross River at Ross River, YT | 5 | 61 59 40 | 132 22 40 | 2,800 | 12 |
| 15305400 | Pelly River at Ross River, YT | 5 | 61 59 12 | 132 26 54 | 7,100 | 12 |
| 15305406 | Pelly River at Faro, YT | 5 | 62 13 20 | 133 22 40 | 8,530 | 12 |
| 15305412 | South MacMillan River at Canol Road near Ross River, YT | 5 | 62 55 20 | 130 32 00 | 385 | 24 |
| 15305420 | Pelly River at Pelly Crossing, YT | 5 | 62 49 47 | 136 34 50 | 18,900 | 20 |
| 15305450 | Yukon River above White River near Dawson, YT | 5 | 63 05 02 | 139 29 40 | 57,900 | 10 |
| 15305500 | Kluane River at outlet of Kluane Lake, YT | 2 | 61 25 37 | 139 02 56 | 1,910 | 20 |
| 15305540 | White River at Alaska Highway near Koidern, BC | 2 | 61 58 41 | 140 33 10 | 2,410 | 22 |
| 15305582 | Stewart River above Fraser Falls near Mayo, YT | 5 | 63 29 17 | 135 08 06 | 11,810 | 14 |
| 15305590 | Stewart River at Mayo, YT | 5 | 63 35 26 | 135 53 48 | 12,200 | 15 |
| 15305620 | Stewart River at Stewart Crossing, YT | 5 | 63 22 56 | 136 40 59 | 13,500 | 15 |
| 15305650 | Stewart River at mouth, YT | 5 | 63 16 55 | 139 14 56 | 19,700 | 12 |
| 15305695 | North Klondike River near mouth near Dawson, YT | 5 | 64 01 16 | 138 34 58 | 425 | 16 |
| 15305698 | Klondike River above Bonanza Creek near Dawson, YT | 5 | 64 02 34 | 139 24 28 | 3,010 | 16 |
| 15305700 | Yukon River at Dawson, YT | 5 | 64 04 12 | 139 25 30 | 102,000 | 10 |
| 15356000 | Yukon River at Eagle, AK | 5 | 64 47 22 | 141 11 52 | 114,000 | 12 |
| 15388950 | Porcupine River at Old Crow, YT | 5 | 67 33 50 | 139 53 00 | 21,400 | 10 |
| 15388960 | Porcupine River near International Boundary, YT | 5 | 67 25 27 | 140 53 28 | 23,100 | 10 |
| 15389000 | Porcupine River near Fort Yukon, AK | 5 | 66 59 26 | 143 08 16 | 29,500 | 10 |
| 15389500 | Chandalar River near Venetie, AK | 5 | 67 05 49 | 147 11 04 | 9,330 | 10 |
| 15439800 | Boulder Creek near Central, AK | 6 | 65 34 05 | 144 53 13 | 31.3 | 15 |
| 15453500 | Yukon River near Stevens Village, AK | 6 | 65 52 32 | 149 43 04 | 196,000 | 15 |
| 15457800 | Hess Creek near Livengood, AK | 6 | 65 39 55 | 149 05 47 | 662 | 15 |
| 15468000 | Yukon River at Rampart, AK | 6 | 65 30 25 | 150 10 15 | 199,000 | 15 |
| 15470000 | Chisana River at Northway Junction, AK | 6 | 63 00 23 | 141 48 17 | 3,280 | 20 |
| 15476000 | Tanana River near Tanacross, AK | 6 | 63 23 18 | 143 44 47 | 8,550 | 18 |
| 15476300 | Berry Creek near Dot Lake, AK | 6 | 63 41 23 | 144 21 47 | 65.1 | 18 |
| 15478040 | Phelan Creek near Paxson, AK | 6 | 63 14 27 | 145 28 03 | 12.2 | 80 |
| 15484000 | Salcha River near Salchaket ,AK | 6 | 64 28 22 | 146 55 26 | 2,170 | 15 |

[1]Record includes glacial outbursts. Station not included in regression analysis.
[2]Record includes regulated years. Station not included in regression analysis.
[3]Drainage area is indeterminate. Station not included in regression analysis.

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-S15 | 0-S10 | 0-S9 | 0-S8 | 0-S7 | 0-S6 | 0-S5 | 0-S4 | 0-S3 | 0-S2 | 0-S1 |
| 15305000 | 16,200 | 17,200 | 17,500 | 17,900 | 18,200 | 18,500 | 18,800 | 19,300 | 19,900 | 20,400 | 21,400 |
| 15305030 | 4,510 | 5,200 | 5,350 | 5,500 | 5,650 | 5,870 | 6,150 | 6,440 | 6,810 | 7,230 | 7,910 |
| 15305050 | 5,190 | 5,870 | 6,000 | 6,140 | 6,360 | 6,590 | 6,810 | 7,040 | 7,480 | 7,970 | 8,810 |
| 15305100 | 21,700 | 23,200 | 23,600 | 23,900 | 24,200 | 24,600 | 25,100 | 25,500 | 26,000 | 26,500 | 27,700 |
| 15305150 | 3,120 | 4,200 | 4,450 | 4,710 | 5,020 | 5,350 | 5,810 | 6,320 | 6,880 | 7,670 | 8,810 |
| 15305200 | 1,020 | 1,310 | 1,390 | 1,470 | 1,550 | 1,630 | 1,720 | 1,810 | 1,960 | 2,140 | 2,410 |
| 15305250 | 20,800 | 26,300 | 27,500 | 28,700 | 30,100 | 31,500 | 33,100 | 34,800 | 36,900 | 39,800 | 45,300 |
| 15305260 | 22,900 | 28,100 | 29,200 | 30,300 | 32,000 | 33,600 | 35,500 | 37,300 | 39,800 | 43,200 | 49,300 |
| 15305300 | 4,480 | 5,440 | 5,700 | 6,030 | 6,390 | 6,800 | 7,260 | 7,850 | 8,550 | 9,470 | 11,200 |
| 15305350 | 49,200 | 54,300 | 55,400 | 56,900 | 58,500 | 60,200 | 62,100 | 64,800 | 67,400 | 73,200 | 83,300 |
| 15305360 | 540 | 761 | 812 | 898 | 984 | 1,070 | 1,160 | 1,360 | 1,580 | 2,000 | 2,850 |
| 15305390 | 5,000 | 6,590 | 6,990 | 7,390 | 7,800 | 8,410 | 9,030 | 9,870 | 10,900 | 12,500 | 14,900 |
| 15305400 | 13,800 | 18,600 | 19,800 | 21,100 | 22,400 | 23,800 | 25,700 | 27,800 | 30,800 | 34,600 | 44,900 |
| 15305406 | 15,600 | 20,000 | 21,100 | 22,100 | 23,100 | 24,100 | 25,300 | 27,000 | 28,700 | 31,900 | 37,200 |
| 15305412 | 1,670 | 2,180 | 2,300 | 2,430 | 2,570 | 2,720 | 2,870 | 3,090 | 3,310 | 3,590 | 4,030 |
| 15305420 | 28,700 | 36,500 | 38,400 | 40,500 | 42,600 | 45,100 | 47,900 | 50,800 | 55,900 | 63,700 | 79,500 |
| 15305450 | 78,800 | 90,900 | 93,900 | 97,500 | 101,000 | 105,000 | 109,000 | 114,000 | 123,000 | 135,000 | 156,000 |
| 15305500 | 6,750 | 8,030 | 8,310 | 8,600 | 8,880 | 9,170 | 9,460 | 9,900 | 10,400 | 10,900 | 11,400 |
| 15305540 | 9,990 | 13,400 | 14,100 | 14,800 | 15,500 | 16,300 | 17,000 | 18,200 | 19,300 | 20,900 | 23,400 |
| 15305582 | 29,000 | 37,100 | 39,100 | 41,200 | 43,400 | 45,500 | 48,000 | 51,400 | 54,900 | 62,500 | 80,700 |
| 15305590 | 29,800 | 38,600 | 40,700 | 42,700 | 44,800 | 48,500 | 53,100 | 59,000 | 67,300 | 78,300 | 91,600 |
| 15305620 | 30,800 | 40,800 | 43,300 | 46,100 | 48,900 | 52,100 | 56,000 | 60,300 | 66,000 | 74,700 | 88,400 |
| 15305650 | 34,500 | 42,900 | 45,200 | 47,400 | 49,700 | 52,500 | 55,200 | 58,100 | 63,700 | 71,000 | 87,000 |
| 15305695 | 880 | 1,110 | 1,180 | 1,260 | 1,350 | 1,450 | 1,580 | 1,750 | 1,990 | 2,260 | 2,760 |
| 15305698 | 4,530 | 5,910 | 6,310 | 6,750 | 7,210 | 7,720 | 8,250 | 9,000 | 9,860 | 11,000 | 13,200 |
| 15305700 | 158,000 | 184,000 | 190,000 | 197,000 | 203,000 | 211,000 | 220,000 | 229,000 | 240,000 | 259,000 | 300,000 |
| 15356000 | 172,000 | 197,000 | 203,000 | 209,000 | 214,000 | 223,000 | 233,000 | 242,000 | 259,000 | 278,000 | 321,000 |
| 15388950 | 22,400 | 31,500 | 34,300 | 37,600 | 42,000 | 47,100 | 53,200 | 61,300 | 71,700 | 87,900 | 116,000 |
| 15388960 | 24,400 | 34,000 | 36,700 | 39,600 | 42,800 | 46,700 | 50,700 | 57,900 | 67,600 | 82,600 | 107,000 |
| 15389000 | 27,800 | 40,300 | 44,400 | 49,500 | 54,700 | 61,600 | 68,500 | 78,200 | 90,600 | 113,000 | 151,000 |
| 15389500 | 12,500 | 17,400 | 18,700 | 20,000 | 21,600 | 23,600 | 25,600 | 27,600 | 30,500 | 35,600 | 41,500 |
| 15439800 | 22.0 | 35.5 | 39.0 | 44.0 | 49.1 | 55.9 | 63.0 | 73.4 | 86.0 | 106 | 151 |
| 15453500 | 245,000 | 277,000 | 286,000 | 295,000 | 304,000 | 321,000 | 339,000 | 363,000 | 390,000 | 436,000 | 495,000 |
| 15457800 | 448 | 703 | 785 | 867 | 969 | 1,110 | 1,250 | 1,480 | 1,760 | 2,270 | 3,260 |
| 15468000 | 274,000 | 319,000 | 333,000 | 347,000 | 368,000 | 393,000 | 420,000 | 450,000 | 487,000 | 534,000 | 657,000 |
| 15470000 | 4,980 | 5,810 | 5,970 | 6,130 | 6,310 | 6,520 | 6,730 | 6,990 | 7,330 | 7,750 | 8,340 |
| 15476000 | 17,600 | 21,100 | 21,800 | 22,600 | 23,400 | 24,200 | 25,000 | 26,000 | 26,900 | 28,300 | 30,500 |
| 15476300 | 81.5 | 99.2 | 106 | 113 | 122 | 132 | 143 | 161 | 180 | 218 | 277 |
| 15478040 | 186 | 255 | 270 | 290 | 310 | 330 | 356 | 383 | 411 | 462 | 520 |
| 15484000 | 3,070 | 3,930 | 4,160 | 4,470 | 4,790 | 5,180 | 5,780 | 6,510 | 7,530 | 9,200 | 11,900 |

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: O-S*n***, for water year October-through-September having an *n*-percent exceedance probability. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15493000 | Chena River near Two Rivers, AK | 6 | 64 54 10 | 146 21 25 | 937 | 16 |
| 15493700[2,R] | Chena River below Moose Creek Dam, AK | 6 | 64 48 03 | 147 13 40 | – | – |
| 15511000 | Little Chena River near Fairbanks, AK | 6 | 64 53 10 | 147 14 50 | 372 | 15 |
| 15514000[R] | Chena River at Fairbanks, AK | 6 | 64 50 45 | 147 42 04 | 2,000 | 15 |
| 15514000[2,R] | Chena River at Fairbanks, AK, regulated years | 6 | 64 50 45 | 147 42 04 | 2,000 | 15 |
| 15514500 | Wood River near Fairbanks, AK | 6 | 64 26 06 | 148 12 46 | 855 | 15 |
| 15515500 | Tanana River at Nenana, AK | 6 | 64 33 55 | 149 05 30 | 25,600 | 16 |
| 15515800 | Seattle Creek near Cantwell, AK | 6 | 63 19 32 | 148 14 49 | 36.2 | 20 |
| 15516000 | Nenana River near Windy, AK | 6 | 63 27 28 | 148 48 11 | 710 | 30 |
| 15518000 | Nenana River near Healy, AK | 6 | 63 50 43 | 148 56 37 | 1,910 | 25 |
| 15518080 | Lignite Creek above mouth near Healy, AK | 6 | 63 54 17 | 148 59 01 | 48.1 | 25 |
| 15518350 | Teklanika River near Lignite, AK | 6 | 63 55 14 | 149 29 51 | 490 | 25 |
| 15535000 | Caribou Creek near Chatanika, AK | 6 | 65 09 00 | 147 33 05 | 9.19 | 15 |
| 15564600 | Melozitna River near Ruby, AK | 6 | 64 47 34 | 155 33 39 | 2,690 | 15 |
| 15564800 | Yukon River at Ruby, AK | 6 | 64 44 28 | 155 29 22 | 259,000 | 15 |
| 15564875 | Middle Fork Koyukuk River near Wiseman, AK | 6 | 67 26 18 | 150 04 30 | 1,200 | 25 |
| 15564900 | Koyukuk River at Hughe, AK | 6 | 66 02 51 | 154 15 30 | 18,400 | 16 |
| 15565200 | Yukon River near Kaltag, AK | 6 | 64 19 40 | 158 43 10 | 296,000 | 15 |
| 15565447 | Yukon River at Pilot Station, AK | 6 | 61 56 04 | 162 52 50 | 321,000 | 16 |
| 15621000 | Snake River near Nome, AK | 7 | 64 33 51 | 165 30 26 | 85.7 | 30 |
| 15668200 | Crater Creek near Nome, AK | 7 | 64 55 48 | 164 52 12 | 21.9 | 35 |
| 15712000 | Kuzitrin River near Nome, AK | 7 | 65 13 17 | 164 37 15 | 1,720 | 15 |
| 15744000 | Kobuk River at Ambler, AK | 7 | 67 05 13 | 157 50 51 | 6,570 | 25 |
| 15744500 | Kobuk River near Kiana, AK | 7 | 66 58 25 | 160 07 51 | 9,520 | 25 |
| 15747000 | Wulik River below Tutak Creek near Kivalina, AK | 7 | 67 52 34 | 163 40 28 | 705 | 15 |
| 15798700 | Nunavak Creek near Barrow, AK | 7 | 71 15 35 | 156 46 57 | 2.79 | 8 |
| 15896000 | Kuparuk River near Deadhorse, AK | 7 | 70 16 54 | 148 57 35 | 3,130 | 9 |
| 15896700 | Putuligayuk River near Deadhorse, AK | 7 | 70 16 03 | 148 37 41 | 176 | 8 |
| 15904900 | Atigun River tributary near Pump Station 4, AK | 7 | 68 22 25 | 149 18 48 | 32.6 | 25 |
| 15906000 | Sagavanirktok River tributary near Pump Station 3, AK | 7 | 68 41 13 | 149 05 42 | 28.4 | 18 |
| 15908000 | Sagavanirktok River near Pump Station 3, AK | 7 | 69 00 54 | 148 49 02 | 1,860 | 18 |

[1]Record includes glacial outbursts. Station not included in regression analysis.
[2]Record includes regulated years. Station not included in regression analysis.
[3]Drainage area is indeterminate. Station not included in regression analysis.

**Table 7.** Annual high-duration flow statistics for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-S15 | 0-S10 | 0-S9 | 0-S8 | 0-S7 | 0-S6 | 0-S5 | 0-S4 | 0-S3 | 0-S2 | 0-S1 |
| 15485500[3] | 44,100 | 50,400 | 51,900 | 53,300 | 54,800 | 56,500 | 58,300 | 60,000 | 62,400 | 65,300 | 69,500 |
| 15493000 | 1,260 | 1,610 | 1,690 | 1,830 | 1,970 | 2,140 | 2,360 | 2,610 | 2,980 | 3,610 | 5,050 |
| 15493700[2,R] | 1,880 | 2,450 | 2,580 | 2,760 | 2,970 | 3,190 | 3,410 | 3,740 | 4,170 | 4,950 | 6,680 |
| 15511000 | 376 | 474 | 502 | 530 | 574 | 624 | 673 | 756 | 838 | 1,000 | 1,310 |
| 15514000[R] | 2,550 | 3,260 | 3,450 | 3,720 | 4,020 | 4,370 | 4,820 | 5,400 | 6,100 | 7,480 | 9,770 |
| 15514000[2,R] | 2,230 | 2,780 | 2,930 | 3,100 | 3,360 | 3,640 | 3,940 | 4,350 | 4,880 | 5,710 | 7,330 |
| 15514500 | 1,010 | 1,240 | 1,280 | 1,330 | 1,390 | 1,460 | 1,540 | 1,660 | 1,800 | 2,010 | 2,480 |
| 15515500 | 52,400 | 58,600 | 59,900 | 61,200 | 62,700 | 64,500 | 66,400 | 68,200 | 70,700 | 74,600 | 79,800 |
| 15515800 | 60.9 | 85.8 | 94.0 | 105 | 120 | 136 | 157 | 182 | 210 | 252 | 420 |
| 15516000 | 2,700 | 3,220 | 3,340 | 3,510 | 3,680 | 3,850 | 4,080 | 4,320 | 4,640 | 5,100 | 6,040 |
| 15518000 | 8,150 | 9,550 | 9,860 | 10,200 | 10,700 | 11,100 | 11,600 | 12,300 | 13,300 | 14,700 | 17,000 |
| 15518080 | 50.7 | 65.0 | 69.1 | 74.7 | 80.6 | 86.6 | 96.4 | 107 | 123 | 143 | 199 |
| 15518350 | 1,370 | 1,700 | 1,780 | 1,860 | 1,960 | 2,090 | 2,220 | 2,480 | 2,800 | 3,250 | 4,050 |
| 15535000 | 8.70 | 11.7 | 12.5 | 13.6 | 14.8 | 16.0 | 18.3 | 20.7 | 23.7 | 30.1 | 41.0 |
| 15564600 | 4,020 | 5,980 | 6,770 | 7,760 | 8,780 | 9,830 | 10,900 | 12,500 | 14,200 | 16,700 | 19,400 |
| 15564800 | 343,000 | 397,000 | 410,000 | 429,000 | 448,000 | 467,000 | 493,000 | 520,000 | 566,000 | 626,000 | 709,000 |
| 15564875 | 1,790 | 2,610 | 2,840 | 3,090 | 3,340 | 3,590 | 4,020 | 4,490 | 4,970 | 5,970 | 7,380 |
| 15564900 | 31,700 | 44,500 | 48,000 | 51,500 | 56,800 | 62,100 | 67,700 | 73,400 | 79,300 | 93,000 | 112,000 |
| 15565200 | 478,000 | 554,000 | 569,000 | 584,000 | 599,000 | 615,000 | 632,000 | 678,000 | 736,000 | 817,000 | 893,000 |
| 15565447 | 456,000 | 510,000 | 523,000 | 538,000 | 552,000 | 567,000 | 588,000 | 616,000 | 646,000 | 681,000 | 736,000 |
| 15621000 | 327 | 468 | 505 | 560 | 614 | 695 | 792 | 918 | 1,060 | 1,320 | 1,790 |
| 15668200 | 115 | 161 | 174 | 187 | 206 | 226 | 251 | 282 | 320 | 363 | 459 |
| 15712000 | 1,780 | 3,060 | 3,510 | 3,990 | 4,510 | 5,040 | 6,020 | 7,290 | 9,360 | 12,500 | 18,100 |
| 15744000 | 16,900 | 22,200 | 23,600 | 25,100 | 26,900 | 28,700 | 32,000 | 37,900 | 46,300 | 58,800 | 73,400 |
| 15744500 | 32,100 | 42,000 | 44,300 | 47,900 | 51,800 | 56,000 | 60,200 | 66,200 | 73,000 | 81,400 | 103,000 |
| 15747000 | 1,950 | 2,910 | 3,180 | 3,560 | 3,970 | 4,480 | 5,010 | 5,910 | 7,110 | 8,790 | 11,300 |
| 15798700 | 0.70 | 2.10 | 2.50 | 3.00 | 3.60 | 4.40 | 5.50 | 7.20 | 9.70 | 13.4 | 20.3 |
| 15896000 | 1,640 | 2,830 | 3,150 | 3,630 | 4,330 | 5,020 | 6,340 | 7,720 | 10,900 | 15,700 | 26,400 |
| 15896700 | 15.3 | 32.6 | 41.6 | 53.0 | 69.0 | 89.5 | 122 | 189 | 310 | 542 | 1,250 |
| 15904900 | 78.7 | 111 | 120 | 130 | 139 | 150 | 165 | 181 | 197 | 230 | 274 |
| 15906000 | 34.7 | 50.7 | 55.0 | 59.9 | 64.9 | 70.0 | 81.5 | 96.0 | 114 | 153 | 220 |
| 15908000 | 4,030 | 5,130 | 5,430 | 5,730 | 6,030 | 6,510 | 7,060 | 7,600 | 8,140 | 9,330 | 10,900 |

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: MONTH*n***, for the indicated month having an *n*-percent exceedance probability. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15008000 | Salmon River near Hyder, AK | 1 | 56 01 34 | 130 03 55 | 94.1 | 110 |
| 15010000 | Davis River near Hyder, AK | 1 | 55 45 00 | 130 12 00 | 80.0 | 175 |
| 15011500 | Red River near Metlakatla, AK | 1 | 55 08 29 | 130 31 50 | 45.3 | 200 |
| 15012000 | Winstanley Creek near Ketchikan, AK | 1 | 55 24 59 | 130 52 03 | 15.5 | 160 |
| 15015590 | Unuk River near Stewart, BC | 1 | 56 21 05 | 130 41 30 | 571 | 100 |
| 15018000 | Shelokum Lake outlet near Bell Island, AK | 1 | 55 59 00 | 131 39 00 | 15.6 | 165 |
| 15022000 | Harding River near Wrangell, AK | 1 | 56 12 48 | 131 38 12 | 67.4 | 175 |
| 15024200 | Klappan River near Telegraph Creek, BC | 2 | 57 54 00 | 129 42 14 | 1,370 | 25 |
| 15024300 | Stikine River above Grand Canyon near Telegraph Creek, BC | 2 | 58 02 38 | 129 56 45 | 7,260 | 20 |
| 15024500 | Tuya River near Telegraph Creek, BC | 2 | 58 04 20 | 130 49 27 | 1,390 | 15 |
| 15024600 | Stikine River at Telegraph Creek, BC | 2 | 57 54 03 | 131 09 16 | 11,300 | 15 |
| 15024640 | Stikine River above Butterfly Creek, BC | 2 | 57 29 10 | 131 45 00 | 13,900 | 22 |
| 15024670 | Iskut River at outlet of Kinaskan Lake, BC | 2 | 57 32 00 | 130 12 28 | 483 | 20 |
| 15024684 | More Creek near mouth, BC | 2 | 57 02 27 | 130 24 05 | 326 | 70 |
| 15024690 | Forrest Kerr Creek near Wrangell, BC | 2 | 56 54 56 | 130 43 15 | 120 | 100 |
| 15024695 | Iskut River above Snippaker Creek, BC | 2 | 56 41 55 | 130 52 23 | 2,790 | 60 |
| 15024700 | Iskut River below Johnson River, BC | 2 | 56 44 20 | 131 40 25 | 3,610 | 60 |
| 15024750 | Goat Creek near Wrangell, AK | 1 | 56 39 40 | 131 58 14 | 17.3 | 175 |
| 15024800 | Stikine River near Wrangell, AK | 2 | 56 42 29 | 132 07 49 | 19,900 | 40 |
| 15026000 | Cascade Creek near Petersburg, AK | 1 | 57 00 21 | 132 46 45 | 23.0 | 175 |
| 15028300 | Farragut River near Petersburg, AK | 1 | 57 10 24 | 133 06 36 | 151 | 175 |
| 15030000 | Sweetheart Falls Creek near Juneau, AK | 1 | 57 56 35 | 133 40 55 | 36.3 | 150 |
| 15031000 | Long River above Long Lake near Juneau, AK | 1 | 58 10 56 | 133 53 06 | 8.29 | 175 |
| 15034000[R] | Long River near Juneau, AK | 1 | 58 10 00 | 133 41 50 | 32.5 | 180 |
| 15036000 | Speel River near Juneau, AK | 1 | 58 12 10 | 133 36 40 | 226 | 175 |
| 15038000[R] | Crater Creek near Juneau, AK | 1 | 58 08 15 | 133 46 15 | 11.4 | 175 |
| 15039900 | Dorothy Lake outlet near Juneau, AK | 1 | 58 14 56 | 133 58 54 | 11.0 | 160 |
| 15040000 | Dorothy Creek near Juneau, AK | 1 | 58 13 40 | 134 02 25 | 15.2 | 150 |
| 15041000 | Sloko River near Atlin, BC | 2 | 59 06 20 | 133 39 40 | 165 | 28 |
| 15041100 | Taku River near Tulsequah, BC | 2 | 58 38 20 | 133 32 25 | 6,000 | 24 |
| 15041200 | Taku River near Juneau, AK | 1 | 58 32 19 | 133 42 00 | 6,600 | 35 |
| 15044000 | Carlson Creek near Juneau, AK | 1 | 58 19 00 | 134 10 15 | 24.3 | 200 |
| 15048000 | Sheep Creek near Juneau, AK | 1 | 58 16 30 | 134 18 50 | 4.57 | 150 |
| 15052000 | Lemon Creek near Juneau, AK | 1 | 58 23 30 | 134 25 15 | 12.1 | 180 |
| 15052500 | Mendenhall River near Auke Bay, AK | 1 | 58 25 47 | 134 34 22 | 85.1 | 180 |
| 15052800 | Montana Creek near Auke Bay, AK | 1 | 58 23 53 | 134 36 34 | 14.1 | 100 |
| 15053800 | Lake Creek at Auke Bay, AK | 1 | 58 23 40 | 134 37 50 | 2.50 | 80 |
| 15056100 | Skagway River at Skagway, AK | 1 | 59 28 02 | 135 17 00 | 145 | 100 |
| 15056200 | West Creek near Skagway, AK | 1 | 59 31 35 | 135 21 10 | 43.2 | 100 |
| 15056560 | Klehini River near Klukwan, AK | 1 | 59 24 47 | 135 59 49 | 284 | 80 |
| 15058000 | Purple Lake outlet near Metlakatla, AK | 1 | 55 06 00 | 131 26 00 | 6.67 | 150 |
| 15059500 | Whipple Creek near Ward Cove, AK | 1 | 55 26 30 | 131 47 38 | 5.29 | 125 |
| 15060000 | Perseverance Creek near Wacker, AK | 1 | 55 24 40 | 131 40 05 | 2.81 | 190 |
| 15066000 | Beaver Falls Creek near Ketchikan, AK | 1 | 55 22 55 | 131 28 25 | 5.80 | 190 |
| 15067900 | Upper Mahoney Lake outlet near Ketchikan, AK | 1 | 55 24 50 | 131 33 16 | 2.03 | 200 |
| 15068000 | Mahoney Creek near Ketchikan, AK | 1 | 55 25 34 | 131 30 40 | 5.70 | 200 |
| 15070000[R] | Swan Lake near Ketchikan, AK | 1 | 55 36 54 | 131 20 14 | 36.5 | 200 |

[1]Record indicates regulated years. Station not included in regression analysis.
[2]Drainage area is indeterminate. Station not included in regression analysis.

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Mean basin elevation (feet) | Area of glaciers (percent) | Daily mean discharge, in cubic feet per second | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | JULY98 | JULY95 | JULY90 | JULY85 | JULY80 | JULY70 | JULY60 | JULY50 |
| 15008000 | 3,840 | 35 | 1,130 | 1,230 | 1,450 | 1,560 | 1,650 | 1,800 | 1,990 | 2,150 |
| 15010000 | 3,400 | 11 | 1,150 | 1,270 | 1,360 | 1,440 | 1,510 | 1,610 | 1,690 | 1,800 |
| 15011500 | 1,700 | 0 | 152 | 187 | 216 | 250 | 299 | 385 | 461 | 530 |
| 15012000 | 1,730 | 0 | 32.0 | 51.7 | 69.8 | 82.6 | 91.0 | 109 | 124 | 142 |
| 15015590 | 3,880 | 40 | 5,260 | 5,700 | 6,280 | 6,590 | 6,900 | 7,450 | 8,040 | 8,510 |
| 15018000 | 1,700 | 0 | 38.4 | 54.7 | 83.0 | 99.2 | 114 | 151 | 186 | 217 |
| 15022000 | 2,400 | 9 | 639 | 718 | 799 | 864 | 929 | 1,050 | 1,160 | 1,260 |
| 15024200 | 4,800 | 2 | 3,850 | 4,350 | 4,850 | 5,200 | 5,460 | 5,940 | 6,480 | 6,950 |
| 15024300 | 4,300 | 0 | 11,200 | 13,800 | 15,600 | 17,000 | 18,300 | 20,800 | 23,300 | 25,500 |
| 15024500 | 3,800 | 0 | 448 | 559 | 660 | 733 | 804 | 933 | 1,100 | 1,300 |
| 15024600 | 4,200 | 0 | 13,200 | 16,700 | 19,300 | 21,600 | 23,200 | 26,300 | 29,300 | 32,100 |
| 15024640 | 4,250 | 5 | 31,900 | 36,500 | 40,100 | 42,700 | 44,500 | 47,900 | 51,300 | 54,800 |
| 15024670 | 4,000 | 0 | 837 | 940 | 1,120 | 1,220 | 1,290 | 1,410 | 1,520 | 1,630 |
| 15024684 | 4,270 | 40 | 2,620 | 3,030 | 3,440 | 3,700 | 3,920 | 4,310 | 4,660 | 4,930 |
| 15024690 | 3,540 | 64 | 1,290 | 1,690 | 2,000 | 2,220 | 2,410 | 2,750 | 2,960 | 3,150 |
| 15024695 | 3,500 | 6 | 16,400 | 17,800 | 19,200 | 20,200 | 21,200 | 22,900 | 24,600 | 26,500 |
| 15024700 | 3,500 | 6 | 25,400 | 27,500 | 29,500 | 31,100 | 32,300 | 35,000 | 37,700 | 39,900 |
| 15024750 | 2,560 | 5 | 158 | 179 | 198 | 210 | 223 | 246 | 267 | 289 |
| 15024800 | 4,310 | 10 | 91,500 | 96,200 | 104,000 | 108,000 | 112,000 | 118,000 | 124,000 | 131,000 |
| 15026000 | 3,160 | 13 | 278 | 302 | 325 | 346 | 365 | 401 | 438 | 474 |
| 15028300 | 2,540 | 26 | 1,650 | 1,860 | 1,990 | 2,080 | 2,160 | 2,310 | 2,460 | 2,620 |
| 15030000 | 2,110 | 9 | 302 | 327 | 360 | 384 | 414 | 453 | 470 | 516 |
| 15031000 | 3,020 | 39 | 96.1 | 112 | 138 | 160 | 172 | 196 | 221 | 239 |
| 15034000[R] | 2,400 | 22 | 600 | 635 | 683 | 715 | 737 | 787 | 836 | 886 |
| 15028300 | 3,100 | 25 | 3,490 | 3,820 | 4,160 | 4,420 | 4,660 | 5,060 | 5,390 | 5,870 |
| 15038000[R] | 2,590 | 28 | 246 | 264 | 289 | 306 | 324 | 351 | 381 | 423 |
| 15039900 | 3,450 | 35 | 164 | 181 | 190 | 197 | 207 | 222 | 235 | 247 |
| 15040000 | 3,100 | 16 | 198 | 211 | 222 | 231 | 239 | 254 | 266 | 284 |
| 15041000 | 4,800 | 44 | 454 | 534 | 608 | 652 | 698 | 789 | 908 | 1,080 |
| 15041100 | 3,800 | 4 | 13,400 | 14,400 | 15,800 | 16,900 | 17,900 | 19,400 | 20,800 | 22,300 |
| 15041200 | 3,790 | 8 | 20,700 | 21,900 | 23,700 | 24,700 | 25,400 | 27,000 | 28,200 | 29,500 |
| 15044000 | 2,200 | 10 | 285 | 331 | 401 | 426 | 451 | 505 | 564 | 599 |
| 15048000 | 1,900 | 2 | 34.5 | 39.2 | 44.8 | 50.5 | 54 | 60.3 | 66.5 | 73.4 |
| 15052000 | 3,430 | 67 | 229 | 253 | 274 | 292 | 309 | 338 | 363 | 385 |
| 15052500 | 3,260 | 66 | 1,710 | 1,840 | 2,010 | 2,150 | 2,270 | 2,490 | 2,670 | 2,870 |
| 15052800 | 1,500 | 3 | 23.0 | 60.7 | 74.7 | 83.8 | 90.5 | 102 | 115 | 126 |
| 15053800 | 1,170 | 0 | 0.2 | 0.3 | 0.6 | 0.8 | 1.1 | 1.8 | 2.8 | 4.4 |
| 15056100 | 3,900 | 17 | 716 | 823 | 915 | 1,020 | 1,120 | 1,300 | 1,470 | 1,630 |
| 15056200 | 3,400 | 26 | 524 | 562 | 646 | 701 | 738 | 815 | 884 | 972 |
| 15056560 | 3,480 | 15 | 2,300 | 2,560 | 2,870 | 3,090 | 3,240 | 3,540 | 3,790 | 3,970 |
| 15058000 | 860 | 0 | 7.8 | 9.3 | 12.7 | 15.3 | 17.8 | 23.1 | 28.1 | 34.9 |
| 15059500 | 880 | 0 | 3.2 | 4.2 | 4.8 | 5.2 | 5.8 | 7.1 | 8.4 | 10.9 |
| 15060000 | 1,340 | 0 | 0.7 | 2.2 | 3.2 | 4.4 | 5.3 | 7.2 | 9.5 | 13 |
| 15066000 | 1,630 | 0 | 28.2 | 36.0 | 41.5 | 46.8 | 52.9 | 61.0 | 69.0 | 77.0 |
| 15067900 | 2,500 | 0 | 16.8 | 19.1 | 22.4 | 25.3 | 28.1 | 37.6 | 44.0 | 50.0 |
| 15068000 | 1,680 | 0 | 31.6 | 38.0 | 49.2 | 61.9 | 69.2 | 79.5 | 92.1 | 104 |
| 15070000[R] | 1,800 | 0 | 128 | 157 | 209 | 235 | 269 | 327 | 376 | 421 |

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated; **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon; **Daily mean discharge: MONTH*n***, for the indicated month having an *n*-percent exceedance probability; $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Daily mean discharge, in cubic feet per second | | | | | |
|---|---|---|---|---|---|---|---|
| | | AUG98 | AUG95 | AUG90 | AUG85 | AUG80 | AUG70 |
| 15008000 | Salmon River near Hyder, AK | 1,110 | 1,200 | 1,440 | 1,610 | 1,780 | 1,980 |
| 15010000 | Davis River near Hyder, AK | 814 | 921 | 1,080 | 1,160 | 1,220 | 1,360 |
| 15011500 | Red River near Metlakatla, AK | 72.3 | 87.9 | 112 | 134 | 148 | 184 |
| 15012000 | Winstanley Creek near Ketchikan, AK | 20.1 | 26.1 | 33.9 | 40.8 | 48.1 | 59.9 |
| 15015590 | Unuk River near Stewart, BC | 3,840 | 4,340 | 4,730 | 5,150 | 5,590 | 6,260 |
| 15018000 | Shelokum Lake outlet near Bell Island, AK | 26.5 | 35.2 | 53.4 | 68.2 | 74.7 | 94.1 |
| 15022000 | Harding River near Wrangell, AK | 431 | 507 | 561 | 608 | 650 | 728 |
| 15024200 | Klappan River near Telegraph Creek, BC | 2,230 | 2,550 | 2,850 | 3,030 | 3,190 | 3,540 |
| 15024300 | Stikine River above Grand Canyon near Telegraph Creek, BC | 7,450 | 8,170 | 8,950 | 9,640 | 10,300 | 11,400 |
| 15024500 | Tuya River near Telegraph Creek, BC | 321 | 380 | 432 | 481 | 521 | 566 |
| 15024600 | Stikine River at Telegraph Creek, BC | 9,250 | 10,300 | 11,400 | 12,100 | 12,800 | 14,400 |
| 15024640 | Stikine River above Butterfly Creek, BC | 20,400 | 22,700 | 25,700 | 27,100 | 28,200 | 30,900 |
| 15024670 | Iskut River at outlet of Kinaskan Lake, BC | 654 | 697 | 739 | 784 | 834 | 903 |
| 15024684 | More Creek near mouth, BC | 1,970 | 2,270 | 2,570 | 2,790 | 2,960 | 3,280 |
| 15024690 | Forrest Kerr Creek near Wrangell, BC | 800 | 1,720 | 2,060 | 2,280 | 2,450 | 2,680 |
| 15024695 | Iskut River above Snippaker Creek, BC | 10,800 | 11,800 | 13,000 | 14,200 | 15,000 | 16,600 |
| 15024700 | Iskut River below Johnson River, BC | 18,100 | 19,800 | 22,100 | 23,900 | 25,100 | 27,500 |
| 15024750 | Goat Creek near Wrangell, AK | 99.6 | 114 | 125 | 136 | 147 | 162 |
| 15024800 | Stikine River near Wrangell, AK | 61,700 | 67,100 | 74,700 | 79,500 | 83,300 | 89,400 |
| 15026000 | Cascade Creek near Petersburg, AK | 185 | 212 | 236 | 260 | 282 | 318 |
| 15028300 | Farragut River near Petersburg, AK | 1,430 | 1,570 | 1,730 | 1,840 | 1,970 | 2,160 |
| 15030000 | Sweetheart Falls Creek near Juneau, AK | 236 | 258 | 282 | 299 | 313 | 340 |
| 15031000 | Long River above Long Lake near Juneau, AK | 87.2 | 119 | 150 | 166 | 184 | 207 |
| 15034000[R] | Long River near Juneau, AK | 500 | 554 | 604 | 644 | 690 | 760 |
| 15036000 | Speel River near Juneau, AK | 3,060 | 3,490 | 3,820 | 4,100 | 4,420 | 4,850 |
| 15038000[R] | Crater Creek near Juneau, AK | 216 | 232 | 267 | 283 | 300 | 339 |
| 15039900 | Dorothy Lake outlet near Juneau, AK | 122 | 142 | 166 | 182 | 193 | 204 |
| 15040000 | Dorothy Creek near Juneau, AK | 172 | 186 | 206 | 217 | 224 | 239 |
| 15041000 | Sloko River near Atlin, BC | 498 | 584 | 703 | 774 | 831 | 964 |
| 15041100 | Taku River near Tulsequah, BC | 8,350 | 9,590 | 10,900 | 12,100 | 12,900 | 14,200 |
| 15041200 | Taku River near Juneau, AK | 14,600 | 15,600 | 17,200 | 18,100 | 18,700 | 20,700 |
| 15044000 | Carlson Creek near Juneau, AK | 191 | 203 | 228 | 253 | 281 | 338 |
| 15048000 | Sheep Creek near Juneau, AK | 20.4 | 24.8 | 29.6 | 33.8 | 38.0 | 45.6 |
| 15052000 | Lemon Creek near Juneau, AK | 202 | 241 | 275 | 297 | 310 | 338 |
| 15052500 | Mendenhall River near Auke Bay, AK | 1,640 | 1,840 | 2,100 | 2,300 | 2,440 | 2,650 |
| 15052800 | Montana Creek near Auke Bay, AK | 41.3 | 49.4 | 60.0 | 69.1 | 76.9 | 90.5 |
| 15053800 | Lake Creek at Auke Bay, AK | 0.1 | 0.3 | 0.7 | 2.0 | 2.9 | 4.6 |
| 15056100 | Skagway River at Skagway, AK | 454 | 551 | 675 | 752 | 819 | 952 |
| 15056200 | West Creek near Skagway, AK | 430 | 496 | 559 | 617 | 670 | 748 |
| 15056560 | Klehini River near Klukwan, AK | 1,210 | 1,600 | 1,950 | 2,140 | 2,280 | 2,670 |
| 15058000 | Purple Lake outlet near Metlakatla, AK | 3.4 | 4.9 | 7.2 | 9.5 | 12.1 | 15.9 |
| 15059500 | Whipple Creek near Ward Cove, AK | 1.8 | 2.3 | 3.0 | 4.3 | 5.1 | 6.7 |
| 15060000 | Perseverance Creek near Wacker, AK | 0.6 | 1.0 | 1.4 | 1.9 | 2.8 | 4.0 |
| 15066000 | Beaver Falls Creek near Ketchikan, AK | 14.4 | 15.9 | 19.8 | 23.3 | 25.7 | 30.2 |
| 15067900 | Upper Mahoney Lake outlet near Ketchikan, AK | 6.4 | 7.4 | 9.9 | 12.2 | 14.5 | 18.3 |
| 15068000 | Mahoney Creek near Ketchikan, AK | 17.4 | 21.2 | 29.9 | 35.7 | 41.0 | 48.4 |
| 15070000[R] | Swan Lake near Ketchikan, AK | 91.4 | 106 | 126 | 141 | 155 | 180 |

[1]Record indicates regulated years. Station not included in regression analysis.
[2]Drainage area is indeterminate. Station not included in regression analysis.

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AUG60 | AUG50 | SEPT98 | SEPT95 | SEPT90 | SEPT85 | SEPT80 | SEPT70 | SEPT60 | SEPT50 |
| 15008000 | 2,160 | 2,320 | 556 | 636 | 801 | 917 | 1,010 | 1,170 | 1,350 | 1,550 |
| 15010000 | 1,460 | 1,610 | 370 | 469 | 605 | 690 | 745 | 854 | 1,010 | 1,150 |
| 15011500 | 238 | 306 | 57.0 | 82.5 | 116 | 145 | 166 | 249 | 319 | 404 |
| 15012000 | 74.4 | 98.6 | 23.1 | 31.8 | 42.3 | 54.1 | 64.6 | 89.9 | 116 | 139 |
| 15015590 | 6,940 | 7,510 | 1,990 | 2,390 | 2,740 | 3,120 | 3,380 | 3,790 | 4,220 | 4,720 |
| 15018000 | 117 | 145 | 31.0 | 40.0 | 47.0 | 52.6 | 66.4 | 91.3 | 114 | 162 |
| 15022000 | 823 | 910 | 279 | 329 | 389 | 433 | 477 | 576 | 679 | 835 |
| 15024200 | 3,860 | 4,250 | 1,360 | 1,470 | 1,650 | 1,860 | 2,020 | 2,280 | 2,480 | 2,680 |
| 15024300 | 12,700 | 13,900 | 5,180 | 5,610 | 6,440 | 7,180 | 7,680 | 8,580 | 9,460 | 10,200 |
| 15024500 | 626 | 699 | 377 | 429 | 464 | 504 | 568 | 681 | 753 | 856 |
| 15024600 | 16,100 | 17,900 | 7,150 | 7,860 | 8,820 | 9,420 | 9,970 | 10,900 | 12,000 | 13,100 |
| 15024640 | 33,200 | 36,300 | 12,100 | 13,700 | 16,200 | 17,500 | 18,800 | 20,800 | 22,600 | 24,300 |
| 15024670 | 980 | 1,060 | 419 | 467 | 524 | 562 | 594 | 648 | 697 | 753 |
| 15024684 | 3,550 | 3,880 | 732 | 833 | 1,050 | 1,200 | 1,370 | 1,620 | 1,840 | 2,060 |
| 15024690 | 2,860 | 3,080 | 457 | 548 | 690 | 834 | 996 | 1,220 | 1,420 | 1,720 |
| 15024695 | 18,300 | 20,400 | 4,860 | 5,720 | 7,050 | 7,920 | 8,570 | 9,590 | 10,600 | 11,500 |
| 15024700 | 29,900 | 32,200 | 8,650 | 10,400 | 12,300 | 13,500 | 14,300 | 16,300 | 18,100 | 19,900 |
| 15024750 | 180 | 199 | 58.5 | 67.5 | 79.2 | 86.1 | 93.2 | 110 | 138 | 172 |
| 15024800 | 96,500 | 104,000 | 32,100 | 38,200 | 44,000 | 49,300 | 53,200 | 58,500 | 64,300 | 70,600 |
| 15026000 | 354 | 388 | 115 | 137 | 162 | 182 | 200 | 245 | 298 | 352 |
| 15028300 | 2,320 | 2,510 | 773 | 943 | 1,140 | 1,270 | 1,390 | 1,630 | 1,860 | 2,230 |
| 15030000 | 373 | 415 | 88.9 | 136 | 197 | 226 | 259 | 317 | 364 | 453 |
| 15031000 | 225 | 243 | 54.9 | 62.9 | 77.7 | 93.9 | 107 | 143 | 174 | 203 |
| 15034000[R] | 818 | 880 | 280 | 312 | 364 | 430 | 479 | 558 | 657 | 756 |
| 15036000 | 5,320 | 5,810 | 1,510 | 1,870 | 2,270 | 2,670 | 2,960 | 3,560 | 4,160 | 4,830 |
| 15038000[R] | 366 | 406 | 83.8 | 96.5 | 136 | 175 | 199 | 242 | 288 | 339 |
| 15039900 | 222 | 238 | 91.6 | 111 | 129 | 140 | 151 | 169 | 194 | 223 |
| 15040000 | 258 | 277 | 119 | 130 | 145 | 158 | 173 | 198 | 218 | 243 |
| 15041000 | 1,090 | 1,220 | 218 | 261 | 326 | 368 | 407 | 468 | 533 | 601 |
| 15041100 | 15,600 | 16,800 | 4,010 | 5,000 | 5,820 | 6,420 | 6,950 | 7,840 | 8,710 | 9,770 |
| 15041200 | 22,200 | 23,900 | 7,750 | 8,550 | 9,440 | 10,300 | 11,500 | 13,500 | 15,500 | 17,300 |
| 15044000 | 387 | 461 | 112 | 126 | 148 | 169 | 191 | 240 | 292 | 371 |
| 15048000 | 54.5 | 63.0 | 18.3 | 24.0 | 29.5 | 33.2 | 37.2 | 44.0 | 50.9 | 59.8 |
| 15052000 | 373 | 405 | 74.2 | 108 | 139 | 161 | 174 | 216 | 255 | 304 |
| 15052500 | 2,870 | 3,100 | 671 | 896 | 1,100 | 1,250 | 1,390 | 1,670 | 1,980 | 2,250 |
| 15052800 | 108 | 125 | 37.7 | 41.5 | 50.7 | 60.1 | 67.3 | 82.2 | 97.9 | 120 |
| 15053800 | 6.4 | 9.6 | 0.1 | 0.7 | 1.3 | 2.0 | 2.5 | 4.0 | 6.6 | 9.4 |
| 15056100 | 1,090 | 1,200 | 180 | 216 | 271 | 319 | 360 | 426 | 514 | 620 |
| 15056200 | 822 | 909 | 151 | 213 | 251 | 274 | 298 | 369 | 448 | 533 |
| 15056560 | 3,010 | 3,220 | 596 | 730 | 829 | 909 | 983 | 1,170 | 1,340 | 1,530 |
| 15058000 | 20.1 | 27.7 | 6.4 | 15.0 | 23.3 | 29.3 | 34.2 | 45.0 | 56.2 | 69.7 |
| 15059500 | 8.5 | 10.4 | 5.3 | 5.8 | 7.0 | 8.2 | 9.7 | 13.9 | 17.3 | 21.1 |
| 15060000 | 5.9 | 9.0 | 1.5 | 2.3 | 3.9 | 5.4 | 7.2 | 11.4 | 16.8 | 22.0 |
| 15066000 | 35.3 | 45.8 | 5.8 | 6.8 | 12.0 | 15.7 | 19.4 | 28.6 | 49.7 | 77.9 |
| 15067900 | 23.0 | 28.1 | 4.6 | 5.6 | 7.2 | 9.0 | 10.6 | 14.7 | 19.9 | 28.0 |
| 15068000 | 56.9 | 66.8 | 8.0 | 14.0 | 19.8 | 25.0 | 29.7 | 39.4 | 51.3 | 65.0 |
| 15070000[R] | 209 | 250 | 62.6 | 91.0 | 120 | 142 | 167 | 215 | 286 | 366 |

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: MONTH*n***, for the indicated month having an *n*-percent exceedance probability. mi$^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area (mi$^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15072000 | Fish Creek near Ketchikan, AK | 1 | 55 23 31 | 131 11 38 | 32.1 | 180 |
| 15074000 | Ella Creek near Ketchikan, AK | 1 | 55 30 20 | 131 01 25 | 19.7 | 175 |
| 15076000 | Manzanita Creek near Ketchikan, AK | 1 | 55 36 00 | 130 59 00 | 33.9 | 200 |
| 15078000 | Grace Creek near Ketchikan, AK | 1 | 55 39 28 | 130 58 14 | 30.2 | 200 |
| 15080000 | Orchard Creek near Bell Island, AK | 1 | 55 50 00 | 131 27 00 | 59.0 | 150 |
| 15081497 | Staney Creek near Klawock, AK | 1 | 55 48 05 | 133 06 31 | 50.6 | 100 |
| 15081500 | Staney Creek near Craig, AK | 1 | 55 48 57 | 133 07 58 | 51.6 | 100 |
| 15081580 | Black Bear Lake outlet near Klawock, AK | 1 | 55 33 25 | 132 52 33 | 1.82 | 100 |
| 15083500 | Perkins Creek near Metlakatla, AK | 1 | 54 56 48 | 132 10 15 | 3.38 | 150 |
| 15085100 | Old Tom Creek near Kasaan, AK | 1 | 55 23 44 | 132 24 25 | 5.90 | 100 |
| 15085600 | Indian Creek near Hollis, AK | 1 | 55 26 58 | 132 41 41 | 8.82 | 100 |
| 15085700 | Harris River near Hollis, AK | 1 | 55 27 47 | 132 42 11 | 28.7 | 120 |
| 15085800 | Maybeso Creek at Hollis, AK | 1 | 55 29 26 | 132 40 31 | 15.1 | 120 |
| 15086600 | Big Creek near Point Baker, AK | 1 | 56 07 54 | 133 08 56 | 11.2 | 110 |
| 15087545 | Municipal Watershed Creek near Petersburg, AK | 1 | 56 46 40 | 132 55 07 | 2.20 | 100 |
| 15087570 | Hamilton Creek near Kake, AK | 1 | 56 52 21 | 133 40 30 | 65.0 | 70 |
| 15087590 | Rocky Pass Creek near Point Baker, AK | 1 | 56 37 10 | 133 44 10 | 2.72 | 100 |
| 15087690 | Indian River near Sitka, AK | 1 | 57 04 01 | 135 17 42 | 10.1 | 140 |
| 15090000[R] | Green Lake near Sitka, AK | 1 | 56 59 14 | 135 06 37 | 28.8 | 160 |
| 15093400 | Sashin Creek near Big Port Walter, AK | 1 | 56 22 32 | 134 39 40 | 3.72 | 300 |
| 15094000 | Deer Lake outlet near Port Alexander, AK | 1 | 56 31 10 | 134 40 10 | 7.41 | 300 |
| 15098000 | Baranof River at Baranof, AK | 1 | 57 05 15 | 134 50 30 | 32.0 | 180 |
| 15100000 | Takatz Creek near Baranof, AK | 1 | 57 08 35 | 134 51 50 | 17.5 | 180 |
| 15101490[1,R] | Greens Creek at Greens Creek Mine near Juneau, AK | 1 | 58 05 00 | 134 37 54 | 8.62 | 98 |
| 15101500 | Greens Creek near Juneau, AK | 1 | 58 05 18 | 134 44 49 | 22.8 | 80 |
| 15102000 | Hasselborg Creek near Angoon, AK | 1 | 57 39 40 | 134 14 55 | 56.2 | 100 |
| 15106920 | Kadashan River above Hook Creek near Tenakee, AK | 1 | 57 39 46 | 135 11 06 | 10.2 | 100 |
| 15106940 | Hook Creek above tributary near Tenakee, AK | 1 | 57 40 39 | 135 07 42 | 4.48 | 100 |
| 15106960 | Hook Creek near Tenakee, AK | 1 | 57 40 22 | 135 10 40 | 8.00 | 100 |
| 15106980 | Tonalite Creek near Tenakee, AK | 1 | 57 40 42 | 135 13 17 | 14.5 | 100 |
| 15107000 | Kadashan River near Tenakee, AK | 1 | 57 41 43 | 135 12 59 | 37.7 | 100 |
| 15108000 | Pavlof River near Tenakee, AK | 1 | 57 50 30 | 135 02 09 | 24.3 | 100 |
| 15109000 | Fish Creek near Auke Bay, AK | 1 | 58 19 50 | 134 35 20 | 13.6 | 80 |
| 15120000 | Aishihik River near Whitehorse, YT | 5 | 60 51 40 | 137 03 40 | 1,660 | 12 |
| 15120500[R] | Dezadeash River at Haines Junction,YT | 5 | 60 44 54 | 137 30 19 | 3,280 | 10 |
| 15120600 | Alsek River above Bates River near Haines Junction, YT | 2 | 60 07 09 | 137 58 27 | 6,250 | 16 |
| 15129500 | Situk River near Yakutat, AK | 3 | 59 35 00 | 139 29 31 | 36.0 | 140 |
| 15195000 | Dick Creek near Cordova, AK | 3 | 60 20 32 | 144 18 10 | 7.95 | 200 |
| 15200000 | Gakona River at Gakona, AK | 6 | 62 18 06 | 145 18 20 | 620 | 25 |
| 15200280 | Gulkana River at Sourdough, AK | 6 | 62 31 15 | 145 31 51 | 1,770 | 18 |
| 15202000 | Tazlina River near Glennallen, AK | 6 | 62 03 20 | 145 25 34 | 2,670 | 30 |
| 15206000 | Klutina River at Copper Center, AK | 6 | 61 57 10 | 145 18 20 | 880 | 30 |
| 15208000 | Tonsina River at Tonsina, AK | 6 | 61 39 41 | 145 11 02 | 420 | 30 |
| 15208100 | Squirrel Creek at Tonsina, AK | 6 | 61 40 05 | 145 10 26 | 70.5 | 15 |
| 15212000 | Copper River near Chitina, AK | 6 | 61 27 56 | 144 27 21 | 20,600 | 25 |
| 15216000 | Power Creek near Cordova, AK | 3 | 60 35 14 | 145 37 05 | 20.5 | 160 |
| 15219000 | West Fork Olsen Bay Creek near Cordova, AK | 3 | 60 45 41 | 146 10 20 | 4.78 | 120 |

[1]Record indicates regulated years. Station not included in regression analysis.
[2]Drainage area is indeterminate. Station not included in regression analysis.

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Mean basin elevation (feet) | Area of glaciers (percent) | Daily mean discharge, in cubic feet per second | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | JULY98 | JULY95 | JULY90 | JULY85 | JULY80 | JULY70 | JULY60 | JULY50 |
| 15072000 | 1,300 | 0 | 72.1 | 93.9 | 118 | 141 | 161 | 200 | 242 | 278 |
| 15074000 | 900 | 0 | 29.2 | 44.9 | 62.1 | 80.2 | 89.8 | 105 | 118 | 136 |
| 15076000 | 1,300 | 0 | 129 | 200 | 240 | 259 | 275 | 312 | 349 | 387 |
| 15078000 | 1,500 | 0 | 132 | 149 | 168 | 188 | 205 | 237 | 278 | 314 |
| 15080000 | 1,600 | 0 | 171 | 185 | 208 | 238 | 259 | 322 | 394 | 452 |
| 15081497 | 882 | 0 | 8.6 | 13.4 | 17.1 | 20.2 | 23.4 | 31.1 | 38.6 | 51.7 |
| 15081500 | 850 | 0 | 24.8 | 28.6 | 32.7 | 37.3 | 42.0 | 56.6 | 67.9 | 77.6 |
| 15081580 | 2,300 | 0 | 7.1 | 8.3 | 11.0 | 13.5 | 15.2 | 17.3 | 19.9 | 23.4 |
| 15083500 | 730 | 0 | 1.3 | 1.7 | 2.0 | 2.2 | 2.4 | 2.9 | 3.6 | 4.5 |
| 15085100 | 1,000 | 0 | 2.4 | 3.1 | 4.1 | 5.2 | 6.1 | 7.4 | 8.6 | 10.6 |
| 15085600 | 1,000 | 0 | 2.5 | 2.8 | 4.2 | 5.0 | 5.9 | 7.7 | 11.1 | 16.0 |
| 15085700 | 1,400 | 0 | 18.6 | 35.7 | 50.4 | 56.3 | 61.6 | 71.8 | 82.7 | 100 |
| 15085800 | 1,120 | 0 | 9.9 | 13.4 | 25.3 | 29.5 | 33.6 | 41.7 | 49.6 | 58.2 |
| 15086600 | 680 | 0 | 6.3 | 7.5 | 9.0 | 10.9 | 12.6 | 16.1 | 19.5 | 23.8 |
| 15087545 | 1,400 | 0 | 1.7 | 2.0 | 2.4 | 3.0 | 3.7 | 4.7 | 6.0 | 7.4 |
| 15087570 | 493 | 0 | 7.5 | 10.2 | 13.3 | 18.9 | 24.9 | 36.0 | 46.7 | 62.0 |
| 15087590 | 358 | 0 | 0.1 | 0.3 | 0.4 | 0.5 | 0.7 | 0.8 | 1.2 | 1.6 |
| 15087690 | 1,340 | 0 | 16.0 | 18.3 | 23.1 | 29.3 | 34.7 | 39.6 | 44.2 | 50.7 |
| 15090000[R] | 2,100 | 7 | 310 | 346 | 369 | 384 | 392 | 416 | 434 | 450 |
| 15093400 | 1,130 | 0 | 10.8 | 14.7 | 20.6 | 24.2 | 28.3 | 34.4 | 42.1 | 50.6 |
| 15094000 | 1,300 | 1 | 53.2 | 61.2 | 77.9 | 107 | 119 | 133 | 148 | 159 |
| 15098000 | 2,000 | 14 | 393 | 431 | 464 | 502 | 528 | 584 | 633 | 676 |
| 15100000 | 2,300 | 13 | 280 | 308 | 333 | 351 | 366 | 396 | 434 | 465 |
| 15101490[1,R] | 2,452 | 0 | 23.1 | 28.1 | 30.4 | 32.2 | 34.1 | 37 | 41.2 | 46.8 |
| 15101500 | 1,880 | 0 | 39.7 | 44.4 | 51.3 | 58.5 | 69.4 | 84.8 | 97.2 | 107 |
| 15102000 | 1,200 | 1 | 95.4 | 140 | 158 | 183 | 200 | 225 | 254 | 282 |
| 15106920 | 1,020 | 0 | 6.3 | 7.9 | 9.8 | 12.1 | 13.5 | 16.6 | 20.0 | 23.9 |
| 15106940 | 1,260 | 0 | 3.7 | 4.7 | 5.6 | 6.6 | 7.5 | 10.0 | 13.0 | 16.4 |
| 15106960 | 1,160 | 0 | 5.7 | 7.1 | 9.9 | 11.4 | 12.7 | 15.6 | 19.0 | 22.3 |
| 15106980 | 950 | 0 | 12.3 | 15.6 | 19.3 | 22.1 | 25.0 | 29.1 | 33.2 | 38.4 |
| 15107000 | 970 | 0 | 35.3 | 42.4 | 49.3 | 53.6 | 57.9 | 71.0 | 88.7 | 110 |
| 15108000 | 920 | 0 | 34.7 | 42.1 | 49.6 | 56.1 | 61.3 | 70.8 | 80.9 | 94.1 |
| 15109000 | 1,600 | 0 | 24.2 | 29.9 | 35.7 | 39.7 | 43.7 | 53.2 | 61.1 | 73.1 |
| 15120000 | 4,190 | 0 | 237 | 379 | 423 | 466 | 504 | 575 | 673 | 795 |
| 15120500[R] | 3,870 | 0 | 1,420 | 1,610 | 1,790 | 1,910 | 2,030 | 2,320 | 2,600 | 2,910 |
| 15120600 | 4,630 | 13 | 15,400 | 17,500 | 18,700 | 19,500 | 20,200 | 21,800 | 23,100 | 24,400 |
| 15129500 | 370 | 1 | 71.5 | 80.6 | 92.1 | 110 | 122 | 141 | 157 | 174 |
| 15195000 | 890 | 0 | 63.4 | 74.0 | 83.6 | 92.0 | 98.1 | 112 | 134 | 146 |
| 15200000 | 3,030 | 8 | 1,160 | 1,490 | 1,610 | 1,710 | 1,820 | 1,970 | 2,160 | 2,320 |
| 15200280 | 2,780 | 0 | 562 | 614 | 677 | 735 | 810 | 1,000 | 1,160 | 1,320 |
| 15202000 | 3,450 | 11 | 6,680 | 8,090 | 9,260 | 9,600 | 9,900 | 10,700 | 11,500 | 12,400 |
| 15206000 | 3,500 | 11 | 3,310 | 3,760 | 4,010 | 4,160 | 4,290 | 4,500 | 4,760 | 4,980 |
| 15208000 | 3,600 | 11 | 1,420 | 1,610 | 1,810 | 1,930 | 2,020 | 2,210 | 2,330 | 2,480 |
| 15208100 | 3,100 | 0 | 16.8 | 17.9 | 18.6 | 19.4 | 20.9 | 24.1 | 26.7 | 29.4 |
| 15212000 | 3,620 | 17 | 72,800 | 82,900 | 92,500 | 96,800 | 103,000 | 110,000 | 118,000 | 122,000 |
| 15216000 | 2,000 | 27 | 321 | 345 | 369 | 388 | 403 | 428 | 450 | 475 |
| 15219000 | 1,400 | 0 | 16.4 | 18.7 | 21.5 | 23.9 | 25.9 | 30.8 | 35.9 | 40.9 |

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated; **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon; **Daily mean discharge: MONTH*n***, for the indicated month having an *n*-percent exceedance probability; $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Daily mean discharge, in cubic feet per second | | | | | |
|---|---|---|---|---|---|---|---|
| | | AUG98 | AUG95 | AUG90 | AUG85 | AUG80 | AUG70 |
| 15072000 | Fish Creek near Ketchikan, AK | 45.2 | 57.3 | 73.9 | 89.2 | 104 | 130 |
| 15074000 | Ella Creek near Ketchikan, AK | 23.6 | 30.4 | 41.0 | 48.1 | 54.1 | 67.8 |
| 15076000 | Manzanita Creek near Ketchikan, AK | 105 | 138 | 160 | 178 | 191 | 219 |
| 15078000 | Grace Creek near Ketchikan, AK | 41.6 | 50.7 | 74.4 | 92.2 | 105 | 134 |
| 15080000 | Orchard Creek near Bell Island, AK | 72.1 | 93.1 | 109 | 128 | 145 | 178 |
| 15081497 | Staney Creek near Klawock, AK | 14.1 | 17.2 | 24.5 | 28.7 | 34.9 | 42.9 |
| 15081500 | Staney Creek near Craig, AK | 12.2 | 16.2 | 25.0 | 32.3 | 38.9 | 49.3 |
| 15081580 | Black Bear Lake outlet near Klawock, AK | 5.4 | 6.2 | 7.4 | 8.4 | 9.7 | 11.8 |
| 15083500 | Perkins Creek near Metlakatla, AK | 1.2 | 1.4 | 1.7 | 2.0 | 2.2 | 2.8 |
| 15085100 | Old Tom Creek near Kasaan, AK | 1.8 | 2.3 | 3.1 | 3.8 | 4.3 | 5.2 |
| 15085600 | Indian Creek near Hollis, AK | 1.9 | 3.0 | 3.9 | 4.9 | 5.5 | 7.5 |
| 15085700 | Harris River near Hollis, AK | 21.7 | 26.2 | 31.3 | 36.7 | 42.4 | 51.3 |
| 15085800 | Maybeso Creek at Hollis, AK | 13.8 | 15.6 | 17.6 | 20.2 | 21.7 | 25.8 |
| 15086600 | Big Creek near Point Baker, AK | 2.9 | 5.8 | 10.1 | 12.5 | 14.2 | 19.1 |
| 15087545 | Municipal Watershed Creek near Petersburg, AK | 0.7 | 0.8 | 1.0 | 1.5 | 2.1 | 3.2 |
| 15087570 | Hamilton Creek near Kake, AK | 13.1 | 16.3 | 22.1 | 26.6 | 30.9 | 40.5 |
| 15087590 | Rocky Pass Creek near Point Baker, AK | 0.1 | 0.2 | 0.2 | 0.5 | 0.7 | 1.0 |
| 15087690 | Indian River near Sitka, AK | 17.7 | 23 | 29.4 | 32.2 | 34.7 | 42.5 |
| 15090000[R] | Green Lake near Sitka, AK | 172 | 202 | 245 | 269 | 313 | 330 |
| 15093400 | Sashin Creek near Big Port Walter, AK | 5.4 | 6.7 | 10.2 | 14.3 | 16.1 | 21.4 |
| 15094000 | Deer Lake outlet near Port Alexander, AK | 28.4 | 38.9 | 65.8 | 78.5 | 88.7 | 108 |
| 15098000 | Baranof River at Baranof, AK | 270 | 311 | 354 | 385 | 414 | 462 |
| 15100000 | Takatz Creek near Baranof, AK | 197 | 242 | 256 | 266 | 276 | 300 |
| 15101490[1,R] | Greens Creek at Greens Creek Mine near Juneau, AK | 13.8 | 15.5 | 17.7 | 20.2 | 22.4 | 25.6 |
| 15101500 | Greens Creek near Juneau, AK | 18.0 | 26.2 | 34.8 | 40.3 | 46.3 | 60.1 |
| 15102000 | Hasselborg Creek near Angoon, AK | 72.6 | 80.0 | 92.7 | 108 | 124 | 156 |
| 15106920 | Kadashan River above Hook Creek near Tenakee, AK | 5.5 | 6.6 | 7.9 | 9.0 | 10.8 | 13.8 |
| 15106940 | Hook Creek above tributary near Tenakee, AK | 2.4 | 2.8 | 3.1 | 3.5 | 4.1 | 5.8 |
| 15106960 | Hook Creek near Tenakee, AK | 4.8 | 5.3 | 6.1 | 6.8 | 7.5 | 9.0 |
| 15106980 | Tonalite Creek near Tenakee, AK | 8.1 | 10.6 | 14.7 | 16.9 | 18.7 | 23.2 |
| 15107000 | Kadashan River near Tenakee, AK | 26.4 | 28.9 | 31.6 | 35.1 | 38.6 | 49.6 |
| 15108000 | Pavlof River near Tenakee, AK | 18.8 | 25.5 | 31.4 | 36.0 | 39.8 | 48.2 |
| 15109000 | Fish Creek near Auke Bay, AK | 9.5 | 14.6 | 18.7 | 22.4 | 26.3 | 31.7 |
| 15120000 | Aishihik River near Whitehorse, YT | 252 | 334 | 377 | 405 | 430 | 473 |
| 15120500[R] | Dezadeash River at Haines Junction,YT | 972 | 1,210 | 1,410 | 1,530 | 1,620 | 1,780 |
| 15120600 | Alsek River above Bates River near Haines Junction, YT | 11,700 | 13,300 | 14,500 | 15,800 | 16,500 | 18,200 |
| 15129500 | Situk River near Yakutat, AK | 57.7 | 78.2 | 97.7 | 111 | 120 | 140 |
| 15195000 | Dick Creek near Cordova, AK | 22.4 | 28.4 | 37.5 | 45.8 | 53.8 | 66.2 |
| 15200000 | Gakona River at Gakona, AK | 517 | 827 | 1,070 | 1,240 | 1,390 | 1,640 |
| 15200280 | Gulkana River at Sourdough, AK | 460 | 513 | 622 | 662 | 705 | 824 |
| 15202000 | Tazlina River near Glennallen, AK | 6,160 | 8,280 | 9,670 | 10,300 | 10,700 | 11,400 |
| 15206000 | Klutina River at Copper Center, AK | 2,720 | 3,000 | 3,260 | 3,440 | 3,650 | 4,040 |
| 15208000 | Tonsina River at Tonsina, AK | 653 | 1,020 | 1,240 | 1,350 | 1,470 | 1,630 |
| 15208100 | Squirrel Creek at Tonsina, AK | 16.3 | 16.7 | 17.5 | 18.3 | 18.9 | 20.5 |
| 15212000 | Copper River near Chitina, AK | 50,400 | 58,300 | 65,200 | 73,200 | 78,700 | 88,200 |
| 15216000 | Power Creek near Cordova, AK | 214 | 256 | 286 | 305 | 322 | 356 |
| 15219000 | West Fork Olsen Bay Creek near Cordova, AK | 7.9 | 9.8 | 11.4 | 13.3 | 15.3 | 18.9 |

[1]Record indicates regulated years. Station not included in regression analysis.
[2]Drainage area is indeterminate. Station not included in regression analysis.

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AUG60 | AUG50 | SEPT98 | SEPT95 | SEPT90 | SEPT85 | SEPT80 | SEPT70 | SEPT60 | SEPT50 |
| 15072000 | 161 | 201 | 42.6 | 67.6 | 88.3 | 111 | 133 | 183 | 248 | 326 |
| 15074000 | 87.2 | 108 | 16.8 | 27.0 | 46.2 | 62.8 | 77.2 | 110 | 140 | 173 |
| 15076000 | 254 | 304 | 93.3 | 122 | 154 | 188 | 216 | 270 | 323 | 383 |
| 15078000 | 177 | 248 | 31.4 | 36.1 | 61.0 | 84.0 | 112 | 145 | 205 | 265 |
| 15080000 | 233 | 291 | 60.2 | 91.2 | 125 | 148 | 170 | 214 | 279 | 370 |
| 15081497 | 53.0 | 67.0 | 9.4 | 13.0 | 30.0 | 39.9 | 54.0 | 92.2 | 138 | 189 |
| 15081500 | 60.9 | 75.2 | 15.1 | 26.1 | 54.7 | 69.1 | 79.1 | 99.8 | 132 | 186 |
| 15081580 | 13.7 | 16.4 | 3.3 | 4.6 | 5.8 | 7.7 | 9.4 | 14.3 | 17.5 | 22.0 |
| 15083500 | 3.7 | 4.9 | 1.1 | 1.6 | 2.6 | 3.5 | 4.8 | 7.2 | 10.7 | 14.9 |
| 15085100 | 6.3 | 7.5 | 1.8 | 2.6 | 5.2 | 6.8 | 8.2 | 11 | 14.4 | 18.3 |
| 15085600 | 12.1 | 17.2 | 2.8 | 4.8 | 6.5 | 8.9 | 10.8 | 17.1 | 25.3 | 37.3 |
| 15085700 | 59.1 | 71.1 | 27.2 | 34.0 | 45.3 | 53.4 | 62.4 | 81.7 | 106 | 141 |
| 15085800 | 31.2 | 36.6 | 14.3 | 18.7 | 24.1 | 27.9 | 31.3 | 41.0 | 52.0 | 68.9 |
| 15086600 | 24.9 | 31.3 | 4.5 | 10.6 | 17.6 | 23.3 | 28.9 | 39.9 | 51.6 | 67.8 |
| 15087545 | 4.5 | 5.8 | 1.1 | 1.6 | 2.6 | 3.4 | 3.9 | 4.9 | 6.4 | 8.6 |
| 15087570 | 54.4 | 72.0 | 9.6 | 18.2 | 28.3 | 37.8 | 50.0 | 73.3 | 105 | 144 |
| 15087590 | 1.6 | 2.2 | 0.3 | 0.5 | 0.8 | 1.4 | 1.7 | 2.5 | 3.3 | 4.6 |
| 15087690 | 50.8 | 59.0 | 33.0 | 38.3 | 46.2 | 53.2 | 58.0 | 69.7 | 84.0 | 100 |
| 15090000[R] | 381 | 399 | 127 | 141 | 181 | 205 | 236 | 270 | 357 | 407 |
| 15093400 | 28.5 | 35.0 | 9.3 | 13.2 | 16.3 | 19.8 | 25.1 | 33.2 | 43.1 | 57.1 |
| 15094000 | 121 | 135 | 48.7 | 57.2 | 73.2 | 82.5 | 91.7 | 108 | 122 | 143 |
| 15098000 | 495 | 544 | 159 | 206 | 263 | 297 | 323 | 374 | 425 | 490 |
| 15100000 | 328 | 362 | 144 | 159 | 184 | 201 | 217 | 251 | 277 | 314 |
| 15101490[1,R] | 29.7 | 33.6 | 13.5 | 17.1 | 20.1 | 23.6 | 27.4 | 34.0 | 39.8 | 48.2 |
| 15101500 | 72.0 | 82.9 | 20.0 | 33.0 | 43.2 | 48.6 | 53.2 | 65.8 | 75.6 | 89.3 |
| 15102000 | 183 | 231 | 69.7 | 85.0 | 127 | 150 | 179 | 238 | 294 | 348 |
| 15106920 | 17.2 | 20.2 | 7.1 | 10.1 | 13.6 | 16.6 | 19.8 | 26 | 32.6 | 41.8 |
| 15106940 | 7.1 | 8.2 | 2.5 | 3.6 | 6.3 | 7.7 | 9.1 | 12.2 | 16.0 | 19.6 |
| 15106960 | 11.7 | 13.9 | 5.6 | 6.5 | 8.8 | 13.2 | 15.3 | 18.7 | 21.7 | 26.0 |
| 15106980 | 27.5 | 33.1 | 15.4 | 18.6 | 24.7 | 28.7 | 32.1 | 40.3 | 49.1 | 59.3 |
| 15107000 | 60.1 | 72.6 | 29.8 | 36.5 | 49.8 | 59.0 | 68.1 | 86.5 | 110 | 146 |
| 15108000 | 57.3 | 68.2 | 24.3 | 33.5 | 42.0 | 49.3 | 55.9 | 72.0 | 92.4 | 117 |
| 15109000 | 38.0 | 46.7 | 9.6 | 14.6 | 19.6 | 24.3 | 28.6 | 37.6 | 46.3 | 60.7 |
| 15120000 | 548 | 674 | 263 | 290 | 330 | 374 | 397 | 436 | 478 | 566 |
| 15120500[R] | 1,950 | 2,140 | 913 | 1,130 | 1,240 | 1,300 | 1,360 | 1,490 | 1,590 | 1,710 |
| 15120600 | 19,800 | 21,400 | 4,170 | 4,750 | 5,490 | 6,230 | 6,830 | 8,020 | 8,980 | 10,100 |
| 15129500 | 174 | 223 | 91.6 | 146 | 186 | 214 | 246 | 287 | 328 | 401 |
| 15195000 | 79.9 | 95.5 | 15.5 | 20.0 | 29.2 | 36.3 | 41.4 | 55.1 | 72.8 | 97.7 |
| 15200000 | 1,840 | 2,000 | 331 | 382 | 431 | 494 | 557 | 706 | 785 | 886 |
| 15200280 | 978 | 1,090 | 437 | 476 | 588 | 621 | 649 | 784 | 961 | 1,150 |
| 15202000 | 12,100 | 13,200 | 3,080 | 3,480 | 3,890 | 4,280 | 4,580 | 5,200 | 6,040 | 6,950 |
| 15206000 | 4,240 | 4,420 | 1,270 | 1,420 | 1,520 | 1,670 | 1,780 | 2,060 | 2,310 | 2,520 |
| 15208000 | 1,770 | 1,900 | 394 | 443 | 502 | 543 | 590 | 700 | 839 | 944 |
| 15208100 | 21.3 | 22.0 | 16.8 | 18.0 | 18.4 | 18.8 | 19.6 | 20.9 | 21.5 | 22.3 |
| 15212000 | 99,500 | 107,000 | 22,300 | 25,400 | 28,000 | 31,100 | 33,500 | 38,000 | 43,100 | 47,400 |
| 15216000 | 392 | 421 | 127 | 150 | 175 | 194 | 214 | 257 | 307 | 363 |
| 15219000 | 22.2 | 25.4 | 5.9 | 7.5 | 9.8 | 11.3 | 12.6 | 15.3 | 19.3 | 25.2 |

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: MONTH*n***, for the indicated month having an *n*-percent exceedance probability. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15225997[1,R] | Solomon Gulch at top of falls near Valdez ,AK | 3 | 61 04 45 | 146 18 11 | – | – |
| 15237360 | San Juan River near Seward, AK | 3 | 59 49 05 | 147 53 00 | 12.4 | 220 |
| 15238600 | Spruce Creek near Seward, AK | 3 | 60 04 10 | 149 27 08 | 9.26 | 120 |
| 15238820 | Barabara Creek near Seldovia, AK | 3 | 59 28 50 | 151 38 42 | 20.7 | 70 |
| 15239000[R] | Bradley River near Homer, AK | 3 | 59 45 30 | 150 51 02 | 56.1 | 120 |
| 15239050 | Middle Fork Bradley River tributary near Homer, AK | 3 | 59 46 42 | 150 45 15 | 9.25 | 70 |
| 15239900 | Anchor River near Anchor Point, AK | 4 | 59 44 50 | 151 45 11 | 137 | 25 |
| 15240000 | Anchor River at Anchor Point, AK | 4 | 59 46 21 | 151 50 05 | 224 | 25 |
| 15241600 | Ninilchik River at Ninilchik, AK | 4 | 60 02 56 | 151 39 48 | 131 | 20 |
| 15242000 | Kasilof River near Kasilof, AK | 4 | 60 19 05 | 151 15 35 | 738 | 50 |
| 15244000 | Ptarmigan Creek at Lawing, AK | 4 | 60 24 20 | 149 21 45 | 32.6 | 90 |
| 15246000 | Grant Creek near Moose Pass, AK | 4 | 60 27 25 | 149 21 15 | 44.2 | 90 |
| 15248000 | Trail River near Lawing, AK | 4 | 60 26 01 | 149 22 19 | 181 | 90 |
| 15254000 | Crescent Creek near Cooper Landing, AK | 4 | 60 29 49 | 149 40 38 | 31.7 | 50 |
| 15258000[R] | Kenai River at Cooper Landing, AK | 4 | 60 29 34 | 149 48 28 | 634 | 70 |
| 15258000[1,R] | Kenai River at Cooper Landing, AK, regulated years | 4 | 61 29 34 | 150 48 28 | 634 | 70 |
| 15266300 | Kenai River at Soldotna, AK | 4 | 60 28 39 | 151 04 46 | 1,950 | 50 |
| 15266500 | Beaver Creek near Kenai, AK | 4 | 60 33 50 | 151 07 03 | 51.0 | 20 |
| 15267900 | Resurrection Creek near Hope, AK | 4 | 60 53 40 | 149 38 13 | 149 | 30 |
| 15271000 | Sixmile Creek near Hope, AK | 4 | 60 49 15 | 149 25 31 | 234 | 60 |
| 15272280 | Portage Creek at Portage Lake outlet near Whittier, AK | 4 | 60 47 07 | 148 50 20 | 40.5 | 158 |
| 15272550 | Glacier Creek at Girdwood, AK | 4 | 60 56 29 | 149 09 44 | 58.2 | 70 |
| 15273900 | South Fork Campbell Creek at canyon mouth near Anchorage, AK | 4 | 61 08 52 | 149 43 12 | 25.2 | 25 |
| 15274000 | South Fork Campbell Creek near Anchorage, AK | 4 | 61 10 02 | 149 46 14 | 29.2 | 22 |
| 15274300 | North Fork Campbell Creek near Anchorag, AK | 4 | 61 10 10 | 149 45 43 | 13.4 | 22 |
| 15276000[1,R] | Ship Creek near Anchorage, AK | 4 | 61 13 32 | 149 38 06 | 90.5 | 30 |
| 15277100 | Eagle River at Eagle River, AK | 4 | 61 18 28 | 149 33 32 | 192 | 40 |
| 15277410 | Peters Creek near Birchwood, AK | 4 | 61 25 08 | 149 29 20 | 87.8 | 35 |
| 15281000 | Knik River near Palmer, AK | 4 | 61 30 18 | 149 01 50 | 1,180 | 100 |
| 15282000 | Caribou Creek near Sutton, AK | 4 | 61 48 12 | 147 40 57 | 289 | 25 |
| 15284000 | Matanuska River at Palmer, AK | 4 | 61 36 34 | 149 04 16 | 2,070 | 35 |
| 15290000 | Little Susitna River near Palmer, AK | 4 | 61 42 37 | 149 13 47 | 61.9 | 50 |
| 15291000 | Susitna River near Denali, AK | 4 | 63 06 14 | 147 30 57 | 950 | 50 |
| 15291200 | Maclaren River near Paxson, AK | 4 | 63 07 10 | 146 31 45 | 280 | 50 |
| 15291500 | Susitna River near Cantwell, AK | 4 | 62 41 55 | 147 32 42 | 4,140 | 30 |
| 15292000 | Susitna River at Gold Creek, AK | 4 | 62 46 04 | 149 41 28 | 6,160 | 30 |
| 15292400 | Chulitna River near Talkeetna, AK | 4 | 62 33 31 | 150 14 02 | 2,570 | 55 |
| 15292700 | Talkeetna River near Talkeetna, AK | 4 | 62 20 49 | 150 01 01 | 2,000 | 35 |
| 15294005 | Willow Creek near Willow, AK | 4 | 61 46 51 | 149 53 04 | 166 | 30 |
| 15294300 | Skwentna River near Skwentna, AK | 4 | 61 52 23 | 151 22 01 | 2,250 | 45 |
| 15294350 | Susitna River at Susitna Station, AK | 4 | 61 32 41 | 150 30 45 | 19,400 | 35 |
| 15294450 | Chuitna River near Tyonek, AK | 4 | 61 06 31 | 151 15 07 | 131 | 45 |
| 15294500 | Chakachatna River near Tyonek, AK | 4 | 61 12 44 | 152 21 26 | 1,120 | 80 |
| 15295600[R] | Terror River near Kodiak, AK | 3 | 57 39 05 | 153 01 46 | 15.0 | 130 |
| 15296000 | Uganik River near Kodiak, AK | 3 | 57 41 06 | 153 25 10 | 123 | 75 |
| 15297200 | Myrtle Creek near Kodiak, AK | 3 | 57 36 12 | 152 24 12 | 4.74 | 130 |
| 15297900 | Eskimo Creek at King Salmon, AK | 4 | 58 41 08 | 156 40 08 | 16.1 | 20 |

[1]Record indicates regulated years. Station not included in regression analysis.
[2]Drainage area is indeterminate. Station not included in regression analysis.

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Mean basin elevation (feet) | Area of glaciers (percent) | Daily mean discharge, in cubic feet per second | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | JULY98 | JULY95 | JULY90 | JULY85 | JULY80 | JULY70 | JULY60 | JULY50 |
| 15225997[1,R] | – | – | 2.3 | 2.9 | 3.2 | 3.5 | 3.8 | 4.3 | 5.0 | 7.8 |
| 15237360 | 652 | 0 | 15.5 | 19.2 | 24.5 | 28.9 | 32.5 | 40.1 | 53.1 | 63.2 |
| 15238600 | 1,990 | 8 | 73.1 | 87.7 | 103 | 115 | 124 | 138 | 151 | 166 |
| 15238820 | 1,610 | 0 | 48.7 | 58.0 | 70.0 | 81.0 | 89.3 | 104 | 120 | 139 |
| 15239000[R] | 2,800 | 36 | 673 | 716 | 763 | 801 | 839 | 903 | 954 | 1,020 |
| 15239050 | 3,920 | 28 | 94.6 | 100 | 108 | 115 | 120 | 128 | 138 | 149 |
| 15239900 | 1,120 | 0 | 64.8 | 72.1 | 79.1 | 86.3 | 91.8 | 99.6 | 108 | 118 |
| 15240000 | 970 | 0 | 47.2 | 68.6 | 88.8 | 101 | 112 | 132 | 153 | 179 |
| 15241600 | 670 | 0 | 49.3 | 52.8 | 56.3 | 59.3 | 61.7 | 65.8 | 69.7 | 74.5 |
| 15242000 | 1,810 | 28 | 1,460 | 1,730 | 2,140 | 2,390 | 2,580 | 2,970 | 3,380 | 3,800 |
| 15244000 | 2,800 | 12 | 141 | 166 | 185 | 197 | 208 | 225 | 245 | 263 |
| 15246000 | 2,900 | 18 | 298 | 344 | 382 | 397 | 406 | 437 | 466 | 496 |
| 15248000 | 2,470 | 11 | 1,430 | 1,520 | 1,610 | 1,670 | 1,730 | 1,820 | 1,930 | 2,010 |
| 15254000 | 2,700 | 0 | 69.0 | 76.7 | 92.5 | 102 | 110 | 124 | 137 | 147 |
| 15258000[R] | 2,650 | 10 | 4,820 | 5,060 | 5,430 | 5,580 | 5,700 | 5,930 | 6,230 | 6,580 |
| 15258000[1,R] | 2,650 | 10 | 4,630 | 5,090 | 5,380 | 5,640 | 5,870 | 6,260 | 6,590 | 6,850 |
| 15266300 | 1,750 | 11 | 8,550 | 9,640 | 10,600 | 11,300 | 11,600 | 12,100 | 12,600 | 13,100 |
| 15266500 | 140 | 0 | 13.1 | 13.8 | 14.4 | 15.0 | 15.5 | 16.5 | 17.5 | 18.3 |
| 15267900 | 2,750 | 0 | 270 | 299 | 332 | 353 | 390 | 444 | 489 | 540 |
| 15271000 | 2,460 | 3 | 957 | 1,070 | 1,220 | 1,330 | 1,460 | 1,660 | 1,860 | 2,040 |
| 15272280 | 2,172 | 42 | 1,410 | 1,450 | 1,520 | 1,570 | 1,620 | 1,730 | 1,830 | 1,920 |
| 15272550 | 2,610 | 11 | 318 | 348 | 389 | 424 | 451 | 492 | 532 | 581 |
| 15273900 | 2,760 | 0 | 38.9 | 45.1 | 50.1 | 56.8 | 60.7 | 65.8 | 74.0 | 83.8 |
| 15274000 | 2,530 | 0 | 28.4 | 33.8 | 43.7 | 48.2 | 51.1 | 56.5 | 63.8 | 70.4 |
| 15274300 | 2,670 | 0 | 20.3 | 20.9 | 22.5 | 24.0 | 25.6 | 28.3 | 30.8 | 34.4 |
| 15276000[1,R] | 3,100 | 0 | 86.9 | 116 | 148 | 171 | 189 | 215 | 244 | 272 |
| 15277100 | 3,120 | 13 | 978 | 1,050 | 1,180 | 1,280 | 1,340 | 1,460 | 1,550 | 1,660 |
| 15277410 | 3,150 | 2 | 186 | 198 | 214 | 223 | 230 | 248 | 272 | 293 |
| 15281000 | 4,000 | 54 | 14,400 | 15,600 | 17,000 | 17,900 | 18,700 | 20,000 | 21,000 | 22,200 |
| 15282000 | 4,190 | 0 | 120 | 144 | 232 | 283 | 319 | 401 | 480 | 547 |
| 15284000 | 4,000 | 12 | 7,120 | 8,320 | 9,030 | 9,670 | 10,200 | 11,100 | 12,000 | 12,800 |
| 15290000 | 3,700 | 5 | 179 | 208 | 243 | 270 | 290 | 331 | 376 | 427 |
| 15291000 | 4,510 | 25 | 5,260 | 6,010 | 6,800 | 7,200 | 7,680 | 8,440 | 9,060 | 9,560 |
| 15291200 | 4,520 | 19 | 1,850 | 2,080 | 2,290 | 2,450 | 2,560 | 2,730 | 2,900 | 3,090 |
| 15291500 | 3,560 | 7 | 10,900 | 11,300 | 12,300 | 13,400 | 14,200 | 15,300 | 16,100 | 17,200 |
| 15292000 | 3,420 | 5 | 15,100 | 16,400 | 17,800 | 18,700 | 19,300 | 20,800 | 22,100 | 23,000 |
| 15292400 | 3,760 | 27 | 17,100 | 18,100 | 19,900 | 20,800 | 21,600 | 22,900 | 24,200 | 25,400 |
| 15292700 | 3,630 | 7 | 6,240 | 6,850 | 7,320 | 7,670 | 7,960 | 8,490 | 9,060 | 9,620 |
| 15294005 | 2,890 | 0 | 254 | 281 | 352 | 394 | 430 | 489 | 546 | 607 |
| 15294300 | 2,810 | 16 | 9,480 | 11,100 | 12,400 | 13,400 | 13,800 | 14,700 | 15,600 | 16,700 |
| 15294350 | 3,200 | 11 | 91,600 | 96,000 | 102,000 | 106,000 | 109,000 | 115,000 | 120,000 | 126,000 |
| 15294450 | 1,120 | 0 | 77.7 | 86.2 | 96.1 | 105 | 116 | 142 | 176 | 211 |
| 15294500 | 3,900 | 30 | 6,240 | 8,120 | 8,760 | 9,280 | 9,860 | 10,600 | 11,100 | 11,900 |
| 15295600[R] | 2,300 | 1 | 78.8 | 95.0 | 126 | 154 | 190 | 234 | 263 | 291 |
| 15296000 | 1,830 | 0 | 422 | 498 | 650 | 797 | 918 | 1,060 | 1,190 | 1,330 |
| 15297200 | 700 | 0 | 3.0 | 5.1 | 6.5 | 7.7 | 8.8 | 12.3 | 14.6 | 18.7 |
| 15297900 | 140 | 0 | 3.5 | 4.4 | 5.0 | 5.9 | 6.5 | 7.4 | 8.5 | 9.4 |

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated; **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon; **Daily mean discharge: MONTH*n***, for the indicated month having an *n*-percent exceedance probability; $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Daily mean discharge, in cubic feet per second | | | | | |
|---|---|---|---|---|---|---|---|
| | | AUG98 | AUG95 | AUG90 | AUG85 | AUG80 | AUG70 |
| 15225997[1,R] | Solomon Gulch at top of falls near Valdez ,AK | 2.2 | 2.5 | 3.3 | 4.0 | 4.7 | 6.7 |
| 15237360 | San Juan River near Seward, AK | 11.2 | 13.2 | 18.0 | 24.9 | 29.7 | 40.5 |
| 15238600 | Spruce Creek near Seward, AK | 39.9 | 47.5 | 59.9 | 66.8 | 73.4 | 86.0 |
| 15238820 | Barabara Creek near Seldovia, AK | 34.6 | 37.9 | 41.1 | 42.8 | 44.6 | 49.0 |
| 15239000[R] | Bradley River near Homer, AK | 534 | 567 | 625 | 698 | 760 | 840 |
| 15239050 | Middle Fork Bradley River tributary near Homer, AK | 67.8 | 80.0 | 87.8 | 93.8 | 100 | 110 |
| 15239900 | Anchor River near Anchor Point, AK | 53.1 | 58.6 | 64.5 | 69.1 | 74.8 | 93.2 |
| 15240000 | Anchor River at Anchor Point, AK | 70.9 | 86.3 | 92.2 | 101 | 113 | 138 |
| 15241600 | Ninilchik River at Ninilchik, AK | 44.6 | 47.2 | 50.2 | 54.3 | 57.1 | 61.8 |
| 15242000 | Kasilof River near Kasilof, AK | 3,920 | 4,550 | 4,770 | 5,070 | 5,420 | 5,800 |
| 15244000 | Ptarmigan Creek at Lawing, AK | 125 | 130 | 142 | 154 | 164 | 175 |
| 15246000 | Grant Creek near Moose Pass, AK | 216 | 237 | 282 | 303 | 320 | 349 |
| 15248000 | Trail River near Lawing, AK | 809 | 1,070 | 1,200 | 1,300 | 1,380 | 1,510 |
| 15254000 | Crescent Creek near Cooper Landing, AK | 54.4 | 57.2 | 61.8 | 65.4 | 69.2 | 82.8 |
| 15258000[R] | Kenai River at Cooper Landing, AK | 3,960 | 4,310 | 4,670 | 4,860 | 4,990 | 5,190 |
| 15258000[1,R] | Kenai River at Cooper Landing, AK, regulated years | 3,800 | 4,240 | 4,530 | 4,730 | 4,960 | 5,420 |
| 15266300 | Kenai River at Soldotna, AK | 8,500 | 9,840 | 10,700 | 11,300 | 11,700 | 12,500 |
| 15266500 | Beaver Creek near Kenai, AK | 11.4 | 12.5 | 13.2 | 13.6 | 13.9 | 15.0 |
| 15267900 | Resurrection Creek near Hope, AK | 167 | 183 | 203 | 218 | 234 | 263 |
| 15271000 | Sixmile Creek near Hope, AK | 674 | 714 | 765 | 813 | 850 | 938 |
| 15272280 | Portage Creek at Portage Lake outlet near Whittier, AK | 770 | 950 | 1,140 | 1,220 | 1,280 | 1,410 |
| 15272550 | Glacier Creek at Girdwood, AK | 182 | 211 | 256 | 277 | 301 | 339 |
| 15273900 | South Fork Campbell Creek at canyon mouth near Anchorage, AK | 32.3 | 34.4 | 36.4 | 38.8 | 40.6 | 44.6 |
| 15274000 | South Fork Campbell Creek near Anchorage, AK | 27.5 | 30.8 | 36.2 | 39.0 | 41.2 | 45.6 |
| 15274300 | North Fork Campbell Creek near Anchorag, AK | 12.3 | 13.4 | 14.7 | 16.9 | 18.2 | 20.3 |
| 15276000[1,R] | Ship Creek near Anchorage, AK | 75.2 | 86.8 | 101 | 112 | 123 | 143 |
| 15277100 | Eagle River at Eagle River, AK | 605 | 705 | 898 | 1,000 | 1,090 | 1,240 |
| 15277410 | Peters Creek near Birchwood, AK | 127 | 141 | 152 | 162 | 178 | 194 |
| 15281000 | Knik River near Palmer, AK | 11,700 | 12,200 | 12,500 | 14,900 | 15,800 | 17,600 |
| 15282000 | Caribou Creek near Sutton, AK | 134 | 188 | 216 | 236 | 252 | 284 |
| 15284000 | Matanuska River at Palmer, AK | 2,850 | 4,670 | 5,530 | 6,280 | 6,850 | 7,880 |
| 15290000 | Little Susitna River near Palmer, AK | 141 | 166 | 189 | 206 | 222 | 249 |
| 15291000 | Susitna River near Denali, AK | 2,180 | 3,340 | 4,230 | 4,720 | 5,310 | 6,360 |
| 15291200 | Maclaren River near Paxson, AK | 616 | 1,060 | 1,380 | 1,550 | 1,730 | 2,000 |
| 15291500 | Susitna River near Cantwell, AK | 4,830 | 7,730 | 9,220 | 9,890 | 10,900 | 12,200 |
| 15292000 | Susitna River at Gold Creek, AK | 10,200 | 12,500 | 14,300 | 15,300 | 16,100 | 17,500 |
| 15292400 | Chulitna River near Talkeetna, AK | 8,040 | 12,800 | 14,500 | 15,900 | 16,800 | 18,800 |
| 15292700 | Talkeetna River near Talkeetna, AK | 3,880 | 5,050 | 5,930 | 6,400 | 6,750 | 7,320 |
| 15294005 | Willow Creek near Willow, AK | 221 | 254 | 287 | 315 | 335 | 376 |
| 15294300 | Skwentna River near Skwentna, AK | 4,760 | 6,640 | 8,070 | 9,000 | 9,640 | 10,700 |
| 15294350 | Susitna River at Susitna Station, AK | 64,800 | 72,700 | 79,900 | 84,000 | 88,000 | 95,600 |
| 15294450 | Chuitna River near Tyonek, AK | 74.8 | 83.6 | 92.4 | 99.3 | 106 | 121 |
| 15294500 | Chakachatna River near Tyonek, AK | 5,720 | 7,540 | 8,570 | 8,910 | 9,270 | 10,100 |
| 15295600[R] | Terror River near Kodiak, AK | 42.7 | 61.7 | 69.8 | 73.3 | 79.7 | 100 |
| 15296000 | Uganik River near Kodiak, AK | 266 | 306 | 359 | 411 | 463 | 560 |
| 15297200 | Myrtle Creek near Kodiak, AK | 2.0 | 3.8 | 4.6 | 5.2 | 6.1 | 8.4 |
| 15297900 | Eskimo Creek at King Salmon, AK | 4.8 | 5.4 | 6.2 | 6.6 | 7.4 | 8.6 |

[1]Record indicates regulated years. Station not included in regression analysis.
[2]Drainage area is indeterminate. Station not included in regression analysis.

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AUG60 | AUG50 | SEPT98 | SEPT95 | SEPT90 | SEPT85 | SEPT80 | SEPT70 | SEPT60 | SEPT50 |
| 15225997[1,R] | 21.9 | 57.4 | 2.4 | 2.8 | 3.5 | 4.4 | 5.3 | 8.1 | 18.4 | 47.4 |
| 15237360 | 56.7 | 76.0 | 19.5 | 24.7 | 31.4 | 39.2 | 46.9 | 65.2 | 88.0 | 115 |
| 15238600 | 99.3 | 112 | 21.1 | 27.9 | 34.6 | 42.5 | 49.8 | 63.9 | 76.1 | 95.0 |
| 15238820 | 54.0 | 60.2 | 31.2 | 35.7 | 39.4 | 42.0 | 45.5 | 53.3 | 60.2 | 69.5 |
| 15239000[R] | 916 | 1,020 | 232 | 261 | 340 | 376 | 424 | 512 | 579 | 687 |
| 15239050 | 122 | 134 | 27.0 | 34.3 | 42.0 | 48.0 | 53.2 | 62.2 | 73.3 | 86.8 |
| 15239900 | 106 | 120 | 56.1 | 59.1 | 67.8 | 81.2 | 92.7 | 112 | 132 | 156 |
| 15240000 | 157 | 182 | 118 | 125 | 134 | 147 | 156 | 188 | 223 | 257 |
| 15241600 | 67.0 | 73.0 | 50.1 | 54.4 | 58.9 | 64.5 | 69.1 | 77.9 | 87.0 | 97.5 |
| 15242000 | 6,130 | 6,470 | 3,640 | 4,120 | 4,360 | 4,570 | 4,820 | 5,340 | 5,870 | 6,270 |
| 15244000 | 189 | 197 | 67.0 | 74.4 | 82.4 | 89.2 | 97.5 | 111 | 123 | 135 |
| 15246000 | 372 | 398 | 104 | 119 | 141 | 156 | 169 | 200 | 226 | 254 |
| 15248000 | 1,620 | 1,720 | 424 | 474 | 543 | 613 | 695 | 800 | 914 | 1,040 |
| 15254000 | 94.4 | 102 | 45.8 | 50.7 | 55.2 | 58.8 | 62.4 | 72.8 | 79.7 | 88.2 |
| 15258000[R] | 5,410 | 5,820 | 2,010 | 2,240 | 2,470 | 2,670 | 2,850 | 3,130 | 3,490 | 3,910 |
| 15258000[1,R] | 5,840 | 6,150 | 2,090 | 2,430 | 2,900 | 3,230 | 3,490 | 3,950 | 4,350 | 4,750 |
| 15266300 | 13,300 | 14,000 | 4,670 | 5,710 | 6,750 | 7,340 | 7,790 | 8,590 | 9,610 | 10,700 |
| 15266500 | 16.1 | 17.0 | 13.4 | 14.2 | 15.7 | 16.4 | 17.1 | 18.8 | 20.4 | 21.8 |
| 15267900 | 294 | 326 | 131 | 143 | 154 | 171 | 190 | 212 | 238 | 266 |
| 15271000 | 1,030 | 1,120 | 490 | 530 | 578 | 629 | 675 | 755 | 831 | 909 |
| 15272280 | 1,570 | 1,730 | 218 | 386 | 476 | 702 | 794 | 949 | 1,140 | 1,330 |
| 15272550 | 368 | 421 | 107 | 137 | 157 | 172 | 191 | 232 | 279 | 321 |
| 15273900 | 48.7 | 53.9 | 22.6 | 27.2 | 30.7 | 33.6 | 36.1 | 39.9 | 43.6 | 48.6 |
| 15274000 | 50.7 | 55.7 | 21.0 | 24.1 | 30.2 | 33.8 | 36.0 | 40.6 | 47.2 | 54.2 |
| 15274300 | 22.4 | 25.3 | 9.7 | 10.9 | 13.0 | 15.1 | 16.3 | 18.2 | 20.2 | 23.2 |
| 15276000[1,R] | 159 | 176 | 60.3 | 77.0 | 94.5 | 105 | 114 | 134 | 152 | 177 |
| 15277100 | 1,350 | 1,530 | 251 | 297 | 359 | 392 | 422 | 520 | 630 | 753 |
| 15277410 | 212 | 235 | 72.1 | 93.0 | 112 | 118 | 122 | 133 | 143 | 155 |
| 15281000 | 19,200 | 20,700 | 4,020 | 5,040 | 5,780 | 6,490 | 7,170 | 8,210 | 9,270 | 10,300 |
| 15282000 | 315 | 350 | 124 | 147 | 169 | 189 | 196 | 208 | 228 | 254 |
| 15284000 | 8,790 | 9,550 | 1,800 | 2,000 | 2,300 | 2,570 | 2,870 | 3,390 | 3,860 | 4,350 |
| 15290000 | 278 | 312 | 86.3 | 101 | 116 | 132 | 145 | 170 | 196 | 226 |
| 15291000 | 6,990 | 7,870 | 1,010 | 1,210 | 1,430 | 1,600 | 1,800 | 2,130 | 2,470 | 2,820 |
| 15291200 | 2,200 | 2,440 | 380 | 449 | 518 | 578 | 636 | 734 | 845 | 956 |
| 15291500 | 13,400 | 14,700 | 2,770 | 3,370 | 3,820 | 4,420 | 5,150 | 5,930 | 6,520 | 7,180 |
| 15292000 | 18,900 | 20,500 | 5,350 | 6,070 | 7,120 | 8,180 | 8,890 | 10,100 | 11,300 | 12,500 |
| 15292400 | 20,100 | 21,300 | 4,940 | 5,820 | 6,640 | 7,050 | 7,460 | 8,540 | 9,490 | 10,400 |
| 15292700 | 7,840 | 8,400 | 1,960 | 2,460 | 2,900 | 3,160 | 3,390 | 3,760 | 4,240 | 4,860 |
| 15294005 | 442 | 521 | 181 | 225 | 270 | 301 | 338 | 410 | 471 | 534 |
| 15294300 | 11,500 | 12,400 | 2,770 | 3,900 | 4,560 | 4,950 | 5,310 | 6,110 | 6,970 | 7,730 |
| 15294350 | 103,000 | 109,000 | 29,100 | 36,600 | 41,600 | 46,800 | 50,600 | 55,900 | 63,300 | 70,400 |
| 15294450 | 141 | 169 | 78.2 | 86.1 | 104 | 121 | 139 | 170 | 221 | 285 |
| 15294500 | 10,800 | 11,400 | 2,290 | 2,620 | 2,920 | 3,210 | 3,490 | 4,190 | 4,650 | 5,540 |
| 15295600[R] | 118 | 144 | 39.4 | 43 | 62.1 | 69.4 | 77.2 | 101 | 125 | 148 |
| 15296000 | 645 | 729 | 188 | 213 | 260 | 302 | 346 | 422 | 508 | 603 |
| 15297200 | 11.4 | 14.8 | 3.7 | 5.3 | 9.0 | 10.9 | 13.2 | 17.4 | 23.0 | 28.8 |
| 15297900 | 9.4 | 10.6 | 6.4 | 7.0 | 7.8 | 8.5 | 9.5 | 10.7 | 11.5 | 12.4 |

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: MONTH*n***, for the indicated month having an *n*-percent exceedance probability. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15300000 | Newhalen River near Iliamna, AK | 4 | 59 51 34 | 154 52 24 | 3,480 | 40 |
| 15300500 | Kvichak River at Igiugig, AK | 4 | 59 19 44 | 155 53 57 | 6,500 | 40 |
| 15302000 | Nuyakuk River near Dillingham, AK | 4 | 59 56 08 | 158 11 16 | 1,490 | 60 |
| 15302500 | Nushagak River at Ekwok, AK | 4 | 59 20 57 | 157 28 23 | 9,850 | 30 |
| 15303000 | Wood River near Aleknagik, AK | 4 | 59 16 30 | 158 35 37 | 1,110 | 60 |
| 15303150 | Snake River near Dillingham, AK | 4 | 59 08 54 | 158 53 14 | 113 | 50 |
| 15303600 | Kuskokwim River at McGrath, AK | 6 | 62 57 10 | 155 35 11 | 11,700 | 23 |
| 15303700 | Tatalina River near Takotna, AK | 6 | 62 53 06 | 155 56 22 | 76.9 | 20 |
| 15304000 | Kuskokwim River at Crooked Creek, AK | 6 | 61 52 16 | 158 06 03 | 31,100 | 22 |
| 15304520 | Lubbock River near Atlin, BC | 5 | 60 04 52 | 133 51 30 | 683 | 11 |
| 15304550 | Pine Creek near Atlin, BC | 5 | 59 33 40 | 133 39 56 | 269 | 12 |
| 15304600 | Atlin River near Atlin, BC | 2 | 59 35 57 | 133 48 48 | 2,630 | 12 |
| 15304650 | Wann River near Atlin, BC | 2 | 59 25 55 | 134 12 20 | 104 | 32 |
| 15304700 | Fantail River at outlet of Fantail Lake near Atlin, BC | 2 | 59 35 40 | 134 23 26 | 277 | 32 |
| 15304750 | Tutshi River at outlet of Tutshi Lake near Atlin, BC | 2 | 59 56 48 | 134 19 29 | 320 | 24 |
| 15304800 | Lindeman River near Bennett, BC | 2 | 59 50 12 | 135 00 44 | 92.7 | 52 |
| 15304850 | Wheaton River near Carcross, YT | 2 | 60 08 05 | 134 53 45 | 338 | 12 |
| 15304920 | Tagish Creek near Carcross, YT | 5 | 60 17 32 | 134 18 00 | 29.7 | 12 |
| 15304950 | Maclintock River near Whitehorse, YT | 5 | 60 36 45 | 134 27 27 | 656 | 12 |
| 15305000 | Yukon River at Whitehorse, YT | 5 | 60 42 50 | 135 02 35 | 7,490 | 15 |
| 15305030 | Takhini River at Kusawa Lake at Whitehorse, YT | 5 | 60 36 46 | 136 07 26 | 1,570 | 16 |
| 15305050 | Takhini River near Whitehorse, YT | 5 | 60 51 08 | 135 44 21 | 2,700 | 14 |
| 15305100 | Yukon River above Frank Creek, YT | 5 | 61 26 04 | 135 11 18 | 11,900 | 14 |
| 15305150 | Swift River near Swift River, BC | 5 | 59 55 50 | 131 46 04 | 1,280 | 18 |
| 15305200 | Gladys River at outlet of Gladys Lake near Atlin, BC | 5 | 59 54 20 | 132 54 50 | 737 | 12 |
| 15305250 | Teslin River near Teslin, YT | 5 | 60 29 07 | 133 18 04 | 11,700 | 13 |
| 15305260 | Teslin River near Whitehorse, YT | 5 | 61 29 25 | 134 46 35 | 14,100 | 12 |
| 15305300 | Big Salmon River near Carmacks, YT | 5 | 61 52 22 | 134 50 00 | 2,610 | 13 |
| 15305350 | Yukon River at Carmacks, YT | 5 | 62 05 45 | 136 16 18 | 31,600 | 12 |
| 15305360 | Big Creek near mouth near Minto, YT | 5 | 62 34 07 | 137 00 58 | 676 | 12 |
| 15305390 | Ross River at Ross River, YT | 5 | 61 59 40 | 132 22 40 | 2,800 | 12 |
| 15305400 | Pelly River at Ross River, YT | 5 | 61 59 12 | 132 26 54 | 7,100 | 12 |
| 15305406 | Pelly River at Faro,YT | 5 | 62 13 20 | 133 22 40 | 8,530 | 12 |
| 15305412 | South MacMillan River at Canol Road near Ross River, YT | 5 | 62 55 20 | 130 32 00 | 385 | 24 |
| 15305420 | Pelly River at Pelly Crossing, YT | 5 | 62 49 47 | 136 34 50 | 18,900 | 20 |
| 15305450 | Yukon River above White River near Dawson, YT | 5 | 63 05 02 | 139 29 40 | 57,900 | 10 |
| 15305500 | Kluane River at outlet of Kluane Lake, YT | 2 | 61 25 37 | 139 02 56 | 1,910 | 20 |
| 15305540 | White River at Alaska Highway near Koidern, BC | 2 | 61 58 41 | 140 33 10 | 2,410 | 22 |
| 15305582 | Stewart River above Fraser Falls near Mayo,YT | 5 | 63 29 17 | 135 08 06 | 11,800 | 14 |
| 15305590 | Stewart River at Mayo, YT | 5 | 63 35 26 | 135 53 48 | 12,200 | 15 |
| 15305620 | Stewart River at Stewart Crossing, YT | 5 | 63 22 56 | 136 40 59 | 13,500 | 15 |
| 15305650 | Stewart River at mouth, YT | 5 | 63 16 55 | 139 14 56 | 19,700 | 12 |
| 15305695 | North Klondike River near mouth near Dawson, YT | 5 | 64 01 16 | 138 34 58 | 425 | 16 |
| 15305698 | Klondike River above Bonanza Creek near Dawson, YT | 5 | 64 02 34 | 139 24 28 | 3,010 | 16 |
| 15305700 | Yukon River at Dawson, YT | 5 | 64 04 12 | 139 25 30 | 102,000 | 10 |
| 15356000 | Yukon River at Eagle, AK | 5 | 64 47 22 | 141 11 52 | 114,000 | 12 |
| 15388950 | Porcupine River at Old Crow, YT | 5 | 67 33 50 | 139 53 00 | 21,400 | 10 |

[1]Record indicates regulated years. Station not included in regression analysis.
[2]Drainage area is indeterminate. Station not included in regression analysis.

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Mean basin elevation (feet) | Area of glaciers (percent) | Daily mean discharge, in cubic feet per second | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | JULY98 | JULY95 | JULY90 | JULY85 | JULY80 | JULY70 | JULY60 | JULY50 |
| 15300000 | 2,160 | 8 | 14,300 | 15,800 | 16,400 | 16,800 | 17,100 | 18,200 | 19,100 | 20,600 |
| 15300500 | 1,790 | 6 | 13,000 | 13,700 | 14,200 | 15,100 | 15,800 | 16,800 | 17,700 | 19,000 |
| 15302000 | 1,100 | 0 | 6,060 | 7,070 | 8,380 | 9,160 | 9,810 | 11,100 | 12,500 | 13,600 |
| 15302500 | 988 | 1 | 18,600 | 20,300 | 22,300 | 24,000 | 25,500 | 27,700 | 29,500 | 31,500 |
| 15303000 | 690 | 0 | 4,120 | 5,270 | 5,700 | 6,040 | 6,360 | 6,870 | 7,510 | 8,250 |
| 15303150 | 540 | 0 | 296 | 323 | 356 | 386 | 404 | 447 | 528 | 606 |
| 15303600 | 1,850 | 0 | 17,500 | 18,200 | 19,300 | 19,800 | 20,300 | 22,000 | 23,600 | 25,200 |
| 15303700 | 890 | 0 | 18.2 | 20.9 | 26.3 | 31.0 | 34.4 | 43.1 | 49.2 | 55.4 |
| 15304000 | 1,480 | 1 | 40,500 | 43,800 | 47,600 | 49,800 | 51,900 | 56,000 | 59,900 | 64,100 |
| 15304520 | 4,190 | 0 | 40.7 | 50.4 | 62.7 | 71.7 | 82.8 | 99 | 119 | 143 |
| 15304550 | 3,880 | 0 | 265 | 312 | 329 | 341 | 350 | 370 | 389 | 410 |
| 15304600 | 3,500 | 4 | 2,510 | 2,810 | 3,130 | 3,390 | 3,590 | 3,960 | 4,340 | 4,730 |
| 15304650 | 5,310 | 6 | 426 | 491 | 555 | 588 | 620 | 669 | 708 | 762 |
| 15304700 | 5,030 | 20 | 1,400 | 1,630 | 1,800 | 1,940 | 2,030 | 2,200 | 2,340 | 2,470 |
| 15304750 | 4,290 | 0 | 866 | 971 | 1,050 | 1,120 | 1,180 | 1,320 | 1,440 | 1,510 |
| 15304800 | 4,840 | 8 | 562 | 617 | 674 | 728 | 765 | 819 | 888 | 954 |
| 15304850 | 4,620 | 1 | 366 | 407 | 444 | 474 | 511 | 570 | 629 | 693 |
| 15304920 | 3,530 | 0 | 4.1 | 4.5 | 5.1 | 5.9 | 8.0 | 9.0 | 9.5 | 10.5 |
| 15304950 | 3,560 | 0 | 142 | 234 | 262 | 302 | 332 | 388 | 442 | 498 |
| 15305000 | 3,680 | 5 | 9,610 | 10,500 | 11,400 | 12,100 | 12,700 | 13,700 | 14,400 | 15,200 |
| 15305030 | 4,540 | 6 | 3,180 | 3,430 | 4,010 | 4,390 | 4,700 | 5,010 | 5,290 | 5,500 |
| 15305050 | 4,270 | 3 | 3,570 | 4,220 | 4,810 | 5,160 | 5,390 | 5,670 | 5,950 | 6,260 |
| 15305100 | 3,800 | 4 | 11,100 | 12,400 | 13,900 | 15,000 | 16,200 | 18,000 | 19,500 | 20,700 |
| 15305150 | 4,230 | 0 | 1,100 | 1,400 | 1,650 | 1,810 | 2,000 | 2,290 | 2,610 | 2,890 |
| 15305200 | 4,000 | 0 | 544 | 761 | 857 | 912 | 964 | 1,050 | 1,130 | 1,240 |
| 15305250 | 3,920 | 0 | 11,400 | 13,800 | 15,500 | 16,700 | 17,700 | 20,000 | 22,300 | 24,800 |
| 15305260 | 3,880 | 0 | 10,400 | 15,600 | 19,000 | 20,300 | 21,300 | 23,100 | 24,800 | 26,700 |
| 15305300 | 4,140 | 0 | 2,040 | 2,450 | 2,920 | 3,210 | 3,440 | 3,930 | 4,330 | 4,740 |
| 15305350 | 4,000 | 1 | 32,600 | 34,700 | 40,500 | 43,300 | 46,200 | 49,300 | 51,900 | 55,000 |
| 15305360 | 3,340 | 0 | 75.2 | 87.2 | 107 | 129 | 167 | 246 | 340 | 438 |
| 15305390 | 3,590 | 0 | 1,750 | 2,040 | 2,370 | 2,590 | 2,760 | 3,130 | 3,520 | 3,920 |
| 15305400 | 3,870 | 0 | 5,130 | 6,520 | 7,320 | 7,830 | 8,300 | 9,190 | 10,300 | 11,400 |
| 15305406 | 3,780 | 0 | 4,710 | 5,700 | 6,780 | 7,620 | 8,290 | 9,860 | 11,500 | 12,700 |
| 15305412 | 4,540 | 1 | 854 | 915 | 1,020 | 1,120 | 1,200 | 1,340 | 1,500 | 1,640 |
| 15305420 | 3,660 | 0 | 12,200 | 13,300 | 14,900 | 16,400 | 17,700 | 20,100 | 22,500 | 24,900 |
| 15305450 | 3,770 | 1 | 47,400 | 52,800 | 58,100 | 62,000 | 65,800 | 71,700 | 76,400 | 83,800 |
| 15305500 | 4,390 | 4 | 3,170 | 3,590 | 4,250 | 4,670 | 5,030 | 5,740 | 6,360 | 6,830 |
| 15305540 | 6,180 | 28 | 5,700 | 7,690 | 9,190 | 10,300 | 11,200 | 12,700 | 14,200 | 15,600 |
| 15305582 | 3,800 | 0 | 12,400 | 13,600 | 15,700 | 17,300 | 18,400 | 20,800 | 22,700 | 24,500 |
| 15305590 | 3,780 | 0 | 12,300 | 13,100 | 15,500 | 18,200 | 20,200 | 23,400 | 25,900 | 28,700 |
| 15305620 | 3,660 | 0 | 13,300 | 15,400 | 17,100 | 19,900 | 22,200 | 25,000 | 27,500 | 30,100 |
| 15305650 | 3,600 | 0 | 14,300 | 16,200 | 18,200 | 20,100 | 21,500 | 24,400 | 26,900 | 29,300 |
| 15305695 | 3,730 | 0 | 339 | 384 | 446 | 487 | 526 | 592 | 655 | 722 |
| 15305698 | 3,230 | 0 | 1,390 | 1,600 | 1,840 | 2,030 | 2,200 | 2,500 | 2,860 | 3,200 |
| 15305700 | 3,590 | 1 | 114,000 | 119,000 | 128,000 | 133,000 | 139,000 | 147,000 | 154,000 | 163,000 |
| 15356000 | 3,340 | 3 | 115,000 | 124,000 | 132,000 | 139,000 | 145,000 | 155,000 | 165,000 | 175,000 |
| 15388950 | 1,810 | 0 | 3,710 | 4,470 | 5,300 | 5,890 | 6,510 | 7,940 | 9,970 | 12,700 |

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated; **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon; **Daily mean discharge: MONTH*n***, for the indicated month having an *n*-percent exceedance probability; mi$^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Daily mean discharge, in cubic feet per second | | | | | |
|---|---|---|---|---|---|---|---|
| | | AUG98 | AUG95 | AUG90 | AUG85 | AUG80 | AUG70 |
| 15300000 | Newhalen River near Iliamna, AK | 14,900 | 15,900 | 17,000 | 17,500 | 17,900 | 18,800 |
| 15300500 | Kvichak River at Igiugig, AK | 15,000 | 16,800 | 18,100 | 18,700 | 19,100 | 20,100 |
| 15302000 | Nuyakuk River near Dillingham, AK | 4,330 | 5,000 | 5,520 | 6,100 | 6,470 | 7,190 |
| 15302500 | Nushagak River at Ekwok, AK | 15,700 | 17,200 | 19,100 | 20,500 | 21,500 | 23,700 |
| 15303000 | Wood River near Aleknagik, AK | 3,090 | 3,730 | 4,150 | 4,290 | 4,470 | 4,690 |
| 15303150 | Snake River near Dillingham, AK | 195 | 229 | 244 | 264 | 286 | 372 |
| 15303600 | Kuskokwim River at McGrath, AK | 13,400 | 16,500 | 17,900 | 18,600 | 19,300 | 20,900 |
| 15303700 | Tatalina River near Takotna, AK | 18.7 | 20.5 | 28.4 | 33.8 | 39.6 | 52.7 |
| 15304000 | Kuskokwim River at Crooked Creek, AK | 38,100 | 41,000 | 44,600 | 47,800 | 51,400 | 57,900 |
| 15304520 | Lubbock River near Atlin, BC | 31.7 | 36.4 | 50.6 | 58.8 | 63.0 | 74.8 |
| 15304550 | Pine Creek near Atlin, BC | 107 | 113 | 206 | 217 | 224 | 244 |
| 15304600 | Atlin River near Atlin, BC | 4,850 | 5,170 | 5,520 | 5,940 | 6,210 | 6,490 |
| 15304650 | Wann River near Atlin, BC | 288 | 329 | 376 | 408 | 445 | 500 |
| 15304700 | Fantail River at outlet of Fantail Lake near Atlin, BC | 994 | 1,150 | 1,360 | 1,500 | 1,600 | 1,770 |
| 15304750 | Tutshi River at outlet of Tutshi Lake near Atlin, BC | 576 | 652 | 706 | 748 | 777 | 835 |
| 15304800 | Lindeman River near Bennett, BC | 343 | 394 | 439 | 474 | 505 | 556 |
| 15304850 | Wheaton River near Carcross, YT | 228 | 252 | 275 | 296 | 325 | 369 |
| 15304920 | Tagish Creek near Carcross, YT | 4.0 | 4.1 | 4.3 | 4.7 | 5.7 | 7.2 |
| 15304950 | Maclintock River near Whitehorse, YT | 117 | 169 | 209 | 230 | 251 | 295 |
| 15305000 | Yukon River at Whitehorse, YT | 12,700 | 13,500 | 14,200 | 14,900 | 15,300 | 16,000 |
| 15305030 | Takhini River at Kusawa Lake at Whitehorse, YT | 3,390 | 3,540 | 3,790 | 3,940 | 4,080 | 4,410 |
| 15305050 | Takhini River near Whitehorse, YT | 3,630 | 3,870 | 4,230 | 4,520 | 4,700 | 4,980 |
| 15305100 | Yukon River above Frank Creek, YT | 16,700 | 18,700 | 20,000 | 20,800 | 21,300 | 22,200 |
| 15305150 | Swift River near Swift River, BC | 731 | 968 | 1,080 | 1,190 | 1,270 | 1,410 |
| 15305200 | Gladys River at outlet of Gladys Lake near Atlin, BC | 269 | 440 | 478 | 526 | 562 | 611 |
| 15305250 | Teslin River near Teslin, YT | 7,090 | 8,320 | 9,710 | 10,800 | 11,400 | 12,400 |
| 15305260 | Teslin River near Whitehorse, YT | 6,870 | 7,960 | 11,000 | 12,500 | 13,400 | 14,900 |
| 15305300 | Big Salmon River near Carmacks, YT | 1,880 | 2,030 | 2,190 | 2,340 | 2,470 | 2,720 |
| 15305350 | Yukon River at Carmacks, YT | 30,600 | 32,200 | 33,900 | 36,000 | 38,200 | 41,100 |
| 15305360 | Big Creek near mouth near Minto, YT | 60.2 | 70.2 | 98.7 | 120 | 148 | 221 |
| 15305390 | Ross River at Ross River, YT | 1,070 | 1,270 | 1,510 | 1,750 | 1,920 | 2,230 |
| 15305400 | Pelly River at Ross River, YT | 3,420 | 3,870 | 4,420 | 4,990 | 5,250 | 5,970 |
| 15305406 | Pelly River at Faro,YT | 3,550 | 3,950 | 4,620 | 5,240 | 5,850 | 7,090 |
| 15305412 | South MacMillan River at Canol Road near Ross River, YT | 479 | 520 | 577 | 626 | 672 | 761 |
| 15305420 | Pelly River at Pelly Crossing, YT | 7,830 | 8,900 | 9,810 | 10,900 | 12,100 | 13,900 |
| 15305450 | Yukon River above White River near Dawson, YT | 39,800 | 42,900 | 50,000 | 52,500 | 55,000 | 58,200 |
| 15305500 | Kluane River at outlet of Kluane Lake, YT | 2,910 | 3,700 | 5,020 | 6,760 | 7,460 | 8,090 |
| 15305540 | White River at Alaska Highway near Koidern, BC | 3,720 | 4,410 | 5,540 | 6,170 | 6,910 | 8,200 |
| 15305582 | Stewart River above Fraser Falls near Mayo,YT | 7,710 | 8,940 | 10,900 | 12,300 | 13,600 | 15,100 |
| 15305590 | Stewart River at Mayo, YT | 9,530 | 10,500 | 12,000 | 13,000 | 13,700 | 15,300 |
| 15305620 | Stewart River at Stewart Crossing, YT | 12,100 | 13,200 | 14,400 | 15,100 | 15,900 | 17,100 |
| 15305650 | Stewart River at mouth, YT | 10,900 | 12,800 | 14,300 | 15,600 | 16,700 | 18,000 |
| 15305695 | North Klondike River near mouth near Dawson, YT | 322 | 340 | 368 | 392 | 414 | 452 |
| 15305698 | Klondike River above Bonanza Creek near Dawson, YT | 1,120 | 1,250 | 1,420 | 1,510 | 1,640 | 1,920 |
| 15305700 | Yukon River at Dawson, YT | 92,000 | 96,200 | 104,000 | 107,000 | 111,000 | 119,000 |
| 15356000 | Yukon River at Eagle, AK | 91,200 | 99,400 | 109,000 | 11,4000 | 118,000 | 12,5000 |
| 15388950 | Porcupine River at Old Crow, YT | 1,600 | 3,220 | 3,810 | 4,340 | 6,100 | 9,120 |

[1]Record indicates regulated years. Station not included in regression analysis.
[2]Drainage area is indeterminate. Station not included in regression analysis.

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AUG60 | AUG50 | SEPT98 | SEPT95 | SEPT90 | SEPT85 | SEPT80 | SEPT70 | SEPT60 | SEPT50 |
| 15300000 | 20,200 | 21,000 | 9,170 | 10,700 | 12,000 | 13,400 | 14,600 | 16,300 | 17,300 | 18,100 |
| 15300500 | 21,100 | 23,200 | 17,000 | 17,900 | 19,000 | 19,500 | 20,100 | 21,000 | 22,800 | 25,200 |
| 15302000 | 7,810 | 8,480 | 4,020 | 4,650 | 5,080 | 5,400 | 5,680 | 6,250 | 6,810 | 7,450 |
| 15302500 | 26,000 | 27,600 | 12,800 | 13,400 | 14,900 | 20,500 | 21,500 | 23,800 | 25,900 | 28,400 |
| 15303000 | 5,190 | 5,560 | 3,260 | 3,680 | 3,810 | 3,910 | 4,010 | 4,470 | 5,280 | 5,700 |
| 15303150 | 403 | 431 | 206 | 225 | 269 | 315 | 362 | 406 | 450 | 526 |
| 15303600 | 22,600 | 24,500 | 9,130 | 9,480 | 10,100 | 10,800 | 11,600 | 12,700 | 14,200 | 16,000 |
| 15303700 | 63.5 | 77.5 | 19.3 | 22.1 | 28.0 | 47.4 | 52.2 | 59.8 | 70.7 | 84.4 |
| 15304000 | 63,000 | 69,200 | 29,700 | 34,000 | 38,100 | 40,900 | 43,700 | 49,300 | 54,400 | 60,200 |
| 15304520 | 88.2 | 100 | 24.6 | 32.3 | 52.6 | 62.0 | 69.5 | 80.8 | 94.4 | 106 |
| 15304550 | 262 | 282 | 82.8 | 91.1 | 100 | 171 | 176 | 190 | 201 | 211 |
| 15304600 | 6,830 | 7,180 | 4,660 | 5,040 | 5,530 | 5,850 | 6,050 | 6,370 | 6,650 | 7,040 |
| 15304650 | 557 | 607 | 115 | 132 | 150 | 170 | 188 | 225 | 263 | 299 |
| 15304700 | 1,940 | 2,110 | 356 | 424 | 500 | 563 | 624 | 737 | 879 | 1,040 |
| 15304750 | 888 | 938 | 406 | 439 | 472 | 499 | 517 | 549 | 600 | 657 |
| 15304800 | 616 | 674 | 156 | 185 | 215 | 236 | 253 | 295 | 340 | 392 |
| 15304850 | 409 | 446 | 167 | 178 | 192 | 203 | 214 | 235 | 253 | 279 |
| 15304920 | 7.9 | 8.3 | 4.8 | 5.2 | 5.7 | 6.0 | 6.5 | 7.1 | 7.7 | 8.4 |
| 15304950 | 332 | 374 | 142 | 189 | 219 | 241 | 259 | 302 | 336 | 362 |
| 15305000 | 16,600 | 17,200 | 7,800 | 8,750 | 10,300 | 12,100 | 13,500 | 14,700 | 15,500 | 16,100 |
| 15305030 | 4,650 | 4,900 | 1,950 | 2,060 | 2,250 | 2,370 | 2,460 | 2,670 | 2,840 | 3,030 |
| 15305050 | 5,270 | 5,530 | 2,190 | 2,430 | 2,660 | 2,810 | 2,950 | 3,170 | 3,390 | 3,600 |
| 15305100 | 22,700 | 23,300 | 14,300 | 15,500 | 16,900 | 18,200 | 18,900 | 20,200 | 21,200 | 22,000 |
| 15305150 | 1,530 | 1,700 | 535 | 942 | 1,040 | 1,110 | 1,220 | 1,380 | 1,510 | 1,630 |
| 15305200 | 650 | 695 | 200 | 319 | 363 | 379 | 398 | 434 | 461 | 495 |
| 15305250 | 13,300 | 14,300 | 5,710 | 6,550 | 7,310 | 7,880 | 8,860 | 9,840 | 10,400 | 11,200 |
| 15305260 | 16,000 | 17,000 | 6,100 | 6,250 | 9,230 | 9,990 | 10,200 | 11,600 | 12,700 | 13,600 |
| 15305300 | 2,970 | 3,230 | 1,590 | 1,730 | 1,880 | 2,000 | 2,120 | 2,340 | 2,580 | 2,860 |
| 15305350 | 43,500 | 45,500 | 27,800 | 29,400 | 31,200 | 32,500 | 33,500 | 35,600 | 37,000 | 38,500 |
| 15305360 | 293 | 353 | 79.6 | 89.0 | 99.8 | 113 | 132 | 180 | 231 | 268 |
| 15305390 | 2,450 | 2,700 | 843 | 1,080 | 1,310 | 1,450 | 1,560 | 1,850 | 2,140 | 2,320 |
| 15305400 | 6,940 | 7,780 | 2,020 | 3,350 | 4,010 | 4,150 | 4,370 | 5,210 | 6,000 | 6,650 |
| 15305406 | 7,700 | 8,430 | 3,500 | 3,650 | 4,110 | 5,010 | 5,410 | 6,130 | 6,760 | 7,420 |
| 15305412 | 854 | 952 | 313 | 354 | 392 | 420 | 442 | 492 | 554 | 616 |
| 15305420 | 15,200 | 16,900 | 6,720 | 8,210 | 9,040 | 9,710 | 10,700 | 12,300 | 13,900 | 15,200 |
| 15305450 | 62,000 | 65,000 | 33,700 | 39,600 | 42,600 | 45,200 | 47,200 | 49,700 | 52,600 | 55,400 |
| 15305500 | 8,610 | 9,060 | 1,910 | 2,250 | 2,930 | 3,750 | 4,340 | 5,120 | 5,660 | 6,130 |
| 15305540 | 9,310 | 10,500 | 1,450 | 1,580 | 1,700 | 1,860 | 2,010 | 2,280 | 2,500 | 2,850 |
| 15305582 | 16,800 | 18,300 | 6,110 | 6,420 | 7,200 | 8,020 | 9,350 | 11,600 | 13,600 | 15,300 |
| 15305590 | 17,300 | 19,000 | 8,650 | 10,100 | 10,800 | 11,300 | 11,800 | 12,400 | 13,100 | 14,000 |
| 15305620 | 18,300 | 19,500 | 10,400 | 10,800 | 11,500 | 12,500 | 13,000 | 13,700 | 14,800 | 16,600 |
| 15305650 | 19,300 | 21,300 | 8,470 | 9,690 | 10,900 | 12,000 | 12,900 | 14,600 | 16,700 | 18,600 |
| 15305695 | 505 | 559 | 273 | 286 | 306 | 324 | 347 | 398 | 444 | 484 |
| 15305698 | 2,190 | 2,490 | 1,190 | 1,290 | 1,390 | 1,510 | 1,610 | 1,810 | 2,100 | 2,380 |
| 15305700 | 125,000 | 132,000 | 69,400 | 74,000 | 77,700 | 80,900 | 84,500 | 91,100 | 96,700 | 101,000 |
| 15356000 | 133,000 | 140,000 | 70,300 | 77,700 | 82,000 | 86,700 | 90,500 | 97,200 | 104,000 | 110,000 |
| 15388950 | 12,900 | 16,200 | 2,530 | 3,720 | 5,200 | 6,820 | 7,760 | 9,700 | 11,400 | 13,200 |

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: MONTH*n***, for the indicated month having an *n*-percent exceedance probability. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Region | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) |
|---|---|---|---|---|---|---|
| 15388960 | Porcupine River near International Boundary, YT | 5 | 67 25 27 | 140 53 28 | 23,100 | 10 |
| 15389000 | Porcupine River near Fort Yukon, AK | 5 | 66 59 26 | 143 08 16 | 29,500 | 10 |
| 15389500 | Chandalar River near Venetie, AK | 5 | 67 05 49 | 147 11 04 | 9,330 | 10 |
| 15439800 | Boulder Creek near Central, AK | 6 | 65 34 05 | 144 53 13 | 31.3 | 15 |
| 15453500 | Yukon River near Stevens Village, AK | 6 | 65 52 32 | 149 43 04 | 196,300 | 15 |
| 15457800 | Hess Creek near Livengood, AK | 6 | 65 39 55 | 149 05 47 | 662 | 15 |
| 15468000 | Yukon River at Rampart, AK | 6 | 65 30 25 | 150 10 15 | 199,000 | 15 |
| 15470000 | Chisana River at Northway Junction, AK | 6 | 63 00 23 | 141 48 17 | 3,280 | 20 |
| 15476000 | Tanana River near Tanacross, AK | 6 | 63 23 18 | 143 44 47 | 8,550 | 18 |
| 15476300 | Berry Creek near Dot Lake, AK | 6 | 63 41 23 | 144 21 47 | 65.1 | 18 |
| 15478040 | Phelan Creek near Paxson, AK | 6 | 63 14 27 | 145 28 03 | 12.2 | 80 |
| 15484000 | Salcha River near Salchaket, AK | 6 | 64 28 22 | 146 55 26 | 2,170 | 15 |
| 15485500[2] | Tanana River at Fairbanks, AK | 6 | 64 47 34 | 147 50 20 | – | 15 |
| 15493000 | Chena River near Two Rivers, AK | 6 | 64 54 10 | 146 21 25 | 937 | 16 |
| 15493700[1,R] | Chena River below Moose Creek Dam, AK | 6 | 64 48 03 | 147 13 40 | – | – |
| 15511000 | Little Chena River near Fairbanks, AK | 6 | 64 53 10 | 147 14 50 | 372 | 15 |
| 15514000 | Chena River at Fairbanks, AK | 6 | 64 50 45 | 147 42 04 | 2,000 | 15 |
| 15514500 | Wood River near Fairbanks, AK | 6 | 64 26 06 | 148 12 46 | 855 | 15 |
| 15515500 | Tanana River at Nenana, AK | 6 | 64 33 55 | 149 05 30 | 25,600 | 16 |
| 15515800 | Seattle Creek near Cantwell, AK | 6 | 63 19 32 | 148 14 49 | 36.2 | 20 |
| 15516000 | Nenana River near Windy, AK | 6 | 63 27 28 | 148 48 11 | 710 | 30 |
| 15518000 | Nenana River near Healy, AK | 6 | 63 50 43 | 148 56 37 | 1,910 | 25 |
| 15518080 | Lignite Creek above mouth near Healy, AK | 6 | 63 54 17 | 148 59 01 | 48.1 | 25 |
| 15518350 | Teklanika River near Lignite, AK | 6 | 63 55 14 | 149 29 51 | 490 | 25 |
| 15535000 | Caribou Creek near Chatanika, AK | 6 | 65 09 00 | 147 33 05 | 9.19 | 15 |
| 15564600 | Melozitna River near Ruby, AK | 6 | 64 47 34 | 155 33 39 | 2,690 | 15 |
| 15564800 | Yukon River at Ruby, AK | 6 | 64 44 28 | 155 29 22 | 259,000 | 15 |
| 15564875 | Middle Fork Koyukuk River near Wiseman, AK | 6 | 67 26 18 | 150 04 30 | 1,200 | 25 |
| 15564900 | Koyukuk River at Hughes, AK | 6 | 66 02 51 | 154 15 30 | 18,400 | 16 |
| 15565200 | Yukon River near Kaltag, AK | 6 | 64 19 40 | 158 43 10 | 296,000 | 15 |
| 15565447 | Yukon River at Pilot Station, AK | 6 | 61 56 04 | 162 52 50 | 321,000 | 16 |
| 15621000 | Snake River near Nome, AK | 7 | 64 33 51 | 165 30 26 | 85.7 | 30 |
| 15635000 | Eldorado Creek near Teller, AK | 7 | 64 57 38 | 166 11 59 | 5.83 | 18 |
| 15668200 | Crater Creek near Nome, AK | 7 | 64 55 48 | 164 52 12 | 21.9 | 35 |
| 15712000 | Kuzitrin River near Nome, AK | 7 | 65 13 17 | 164 37 15 | 1,720 | 15 |
| 15743850 | Dahl Creek near Kobuk, AK | 7 | 66 56 46 | 156 54 32 | 11.0 | 18 |
| 15744000 | Kobuk River at Ambler, AK | 7 | 67 05 13 | 157 50 51 | 6,570 | 25 |
| 15744500 | Kobuk River near Kiana, AK | 7 | 66 58 25 | 160 07 51 | 9,520 | 25 |
| 15747000 | Wulik River below Tutak Creek near Kivalina, AK | 7 | 67 52 34 | 163 40 28 | 705 | 15 |
| 15896000 | Kuparuk River near Deadhorse, AK | 7 | 70 16 54 | 148 57 35 | 3,130 | 9 |
| 15896700 | Putuligayuk River near Deadhorse, AK | 7 | 70 16 03 | 148 37 41 | 176 | 8 |
| 15904900 | Atigun River tributary near Pump Station 4, AK | 7 | 68 22 25 | 149 18 48 | 32.6 | 25 |
| 15906000 | Sagavanirktok River tributary near Pump Station 3, AK | 7 | 68 41 13 | 149 05 42 | 28.4 | 18 |
| 15908000 | Sagavanirktok River near Pump Station 3, AK | 7 | 69 00 54 | 148 49 02 | 1,860 | 18 |

[1]Record indicates regulated years. Station not included in regression analysis.
[2]Drainage area is indeterminate. Station not included in regression analysis.

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Mean basin elevation (feet) | Area of glaciers (percent) | Daily mean discharge, in cubic feet per second | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | JULY98 | JULY95 | JULY90 | JULY85 | JULY80 | JULY70 | JULY60 | JULY50 |
| 15388960 | 1,800 | 0 | 4,500 | 5,030 | 5,720 | 6,230 | 6,860 | 8,250 | 9,340 | 10,900 |
| 15389000 | 1,800 | 0 | 5,260 | 6,450 | 7,050 | 8,290 | 9,440 | 11,400 | 14,300 | 17,300 |
| 15389500 | 3,160 | 0 | 3,870 | 5,040 | 5,690 | 6,140 | 6,600 | 7,590 | 9,020 | 10,400 |
| 15439800 | 2,570 | 0 | 1.6 | 2.0 | 2.6 | 3.4 | 4.2 | 5.5 | 8.5 | 12.7 |
| 15453500 | 2,830 | 2 | 151,000 | 164,000 | 176,000 | 185,000 | 192,000 | 204,000 | 216,000 | 226,000 |
| 15457800 | 1,400 | 0 | 11.8 | 21.1 | 32.0 | 40.9 | 48.5 | 69.7 | 96.9 | 128 |
| 15468000 | 2,810 | 2 | 161,000 | 170,000 | 179,000 | 192,000 | 205,000 | 228,000 | 243,000 | 260,000 |
| 15470000 | 3,730 | 5 | 3,620 | 3,890 | 4,180 | 4,410 | 4,600 | 5,100 | 5,650 | 6,110 |
| 15476000 | 3,860 | 7 | 13,000 | 14,300 | 15,700 | 16,700 | 17,700 | 19,200 | 20,900 | 22,200 |
| 15476300 | 3,200 | 5 | 49.3 | 55.6 | 60.0 | 64.4 | 66.6 | 70.5 | 74.6 | 79.1 |
| 15478040 | 5,800 | 69 | 90.5 | 129 | 154 | 179 | 197 | 228 | 255 | 286 |
| 15484000 | 2,520 | 0 | 635 | 827 | 1,040 | 1,170 | 1,280 | 1,510 | 1,790 | 2,090 |
| 15485500[2] | – | – | 33,500 | 36,500 | 40,300 | 42,000 | 43,400 | 46,700 | 48,800 | 51,800 |
| 15493000 | 2,270 | 0 | 252 | 326 | 424 | 474 | 522 | 614 | 702 | 785 |
| 15493700[1,R] | – | – | 436 | 545 | 691 | 781 | 848 | 969 | 1,100 | 1,220 |
| 15511000 | 1,480 | 0 | 77.5 | 90.4 | 107 | 133 | 153 | 189 | 219 | 247 |
| 15514000 | 1,770 | 0 | 621 | 713 | 886 | 995 | 1,110 | 1,290 | 1,490 | 1,680 |
| 15514500 | 2,720 | 2 | 653 | 734 | 782 | 824 | 871 | 966 | 1,050 | 1,150 |
| 15515500 | 3,920 | 6 | 41,200 | 43,800 | 47,200 | 49,400 | 50,900 | 53,200 | 55,500 | 58,100 |
| 15515800 | 3,400 | 0 | 18.3 | 20.9 | 23.7 | 27.1 | 29.3 | 33.6 | 38.2 | 44.2 |
| 15516000 | 3,470 | 2 | 1,220 | 1,410 | 1,610 | 1,730 | 1,860 | 2,030 | 2,200 | 2,450 |
| 15518000 | 3,500 | 4 | 5,120 | 5,720 | 6,440 | 6,910 | 7,290 | 7,920 | 8,530 | 9,190 |
| 15518080 | 2,460 | 0 | 18.0 | 19.4 | 21.6 | 23.1 | 24.6 | 27.6 | 30.4 | 33.5 |
| 15518350 | 3,420 | 2 | 678 | 774 | 891 | 1,010 | 1,100 | 1,240 | 1,400 | 1,580 |
| 15535000 | 1,640 | 0 | 1.8 | 2.0 | 2.2 | 2.7 | 3.3 | 4.3 | 5.1 | 5.9 |
| 15564600 | 1,410 | 0 | 462 | 517 | 1,060 | 1,240 | 1,350 | 1,610 | 1,890 | 2,080 |
| 15564800 | 2,640 | 1 | 235,000 | 250,000 | 264,000 | 275,000 | 284,000 | 303,000 | 318,000 | 332,000 |
| 15564875 | 3,390 | 0 | 496 | 516 | 557 | 618 | 720 | 930 | 1,070 | 1,220 |
| 15564900 | 2,200 | 0 | 4,920 | 6,660 | 8,620 | 10,200 | 11,600 | 13,900 | 16,800 | 19,400 |
| 15565200 | 2,490 | 1 | 287,000 | 293,000 | 314,000 | 338,000 | 351,000 | 377,000 | 398,000 | 434,000 |
| 15565447 | 2,337 | 1 | 309,000 | 337,000 | 359,000 | 382,000 | 397,000 | 412,000 | 427,000 | 444,000 |
| 15621000 | 632 | 0 | 61.7 | 69.2 | 76.7 | 83.2 | 91.1 | 104 | 120 | 141 |
| 15635000 | 1,310 | 0 | 2.2 | 2.5 | 3.9 | 4.8 | 5.7 | 7.0 | 8.6 | 10.9 |
| 15668200 | 1,620 | 0 | 38.7 | 43.0 | 47.1 | 50.4 | 53.9 | 66.3 | 80.6 | 91.8 |
| 15712000 | 700 | 0 | 303 | 332 | 397 | 423 | 456 | 557 | 696 | 849 |
| 15743850 | 1,500 | 0 | 8.2 | 9.0 | 12.7 | 15.6 | 17.4 | 24.5 | 31.9 | 36.7 |
| 15744000 | 1,610 | 0 | 4,070 | 5,700 | 6,430 | 6,880 | 7,720 | 8,850 | 10,000 | 11,800 |
| 15744500 | 1,450 | 0 | 8,200 | 9,400 | 10,500 | 11,400 | 12,300 | 13,800 | 15,600 | 17,700 |
| 15747000 | 830 | 0 | 309 | 344 | 398 | 441 | 490 | 678 | 807 | 966 |
| 15896000 | 900 | 0 | 199 | 225 | 258 | 291 | 323 | 391 | 521 | 691 |
| 15896700 | 135 | 0 | 0.6 | 1.1 | 2.2 | 2.9 | 3.8 | 5.7 | 7.8 | 10.4 |
| 15904900 | 5,100 | 4 | 11.6 | 17.0 | 35.4 | 53.3 | 64.6 | 76.8 | 93.5 | 106 |
| 15906000 | 2,869 | 0 | 3.6 | 4.7 | 6.8 | 7.7 | 8.5 | 10.8 | 13.3 | 16.3 |
| 15908000 | 3,580 | 1 | 1,840 | 2,260 | 2,520 | 2,840 | 3,050 | 3,420 | 3,690 | 4,080 |

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

[**Station No.:** R, presently regulated; **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon; **Daily mean discharge: MONTH*n***, for the indicated month having an *n*-percent exceedance probability; $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Daily mean discharge, in cubic feet per second | | | | | |
|---|---|---|---|---|---|---|---|
| | | AUG98 | AUG95 | AUG90 | AUG85 | AUG80 | AUG70 |
| 15388960 | Porcupine River near International Boundary, YT | 5,790 | 6,710 | 7,620 | 8,500 | 8,980 | 10,700 |
| 15389000 | Porcupine River near Fort Yukon, AK | 4,300 | 4,730 | 5,930 | 6,690 | 7,240 | 9,830 |
| 15389500 | Chandalar River near Venetie, AK | 3,190 | 3,640 | 4,530 | 4,790 | 5,070 | 6,140 |
| 15439800 | Boulder Creek near Central, AK | 0.8 | 1.5 | 2.0 | 2.5 | 3.0 | 4.2 |
| 15453500 | Yukon River near Stevens Village, AK | 136,000 | 146,000 | 153,000 | 158,000 | 160,000 | 169,000 |
| 15457800 | Hess Creek near Livengood, AK | 9.0 | 19.1 | 24.5 | 34 | 44.9 | 80.2 |
| 15468000 | Yukon River at Rampart, AK | 125,000 | 140,000 | 148,000 | 160,000 | 167,000 | 183,000 |
| 15470000 | Chisana River at Northway Junction, AK | 2,110 | 2,710 | 3,140 | 3,650 | 3,920 | 4,310 |
| 15476000 | Tanana River near Tanacross, AK | 9,860 | 11,100 | 13,400 | 14,500 | 15,600 | 17,400 |
| 15476300 | Berry Creek near Dot Lake, AK | 38.2 | 42.6 | 46.0 | 48.0 | 51.0 | 56.4 |
| 15478040 | Phelan Creek near Paxson, AK | 33.6 | 47.5 | 81.2 | 111 | 137 | 174 |
| 15484000 | Salcha River near Salchaket, AK | 768 | 893 | 1,100 | 1,290 | 1,410 | 1,640 |
| 15485500[2] | Tanana River at Fairbanks, AK | 28,700 | 31,500 | 34,300 | 36,700 | 38,900 | 42,300 |
| 15493000 | Chena River near Two Rivers, AK | 375 | 453 | 533 | 600 | 648 | 734 |
| 15493700[1,R] | Chena River below Moose Creek Dam, AK | 686 | 752 | 837 | 895 | 947 | 1,050 |
| 15511000 | Little Chena River near Fairbanks, AK | 95.7 | 118 | 136 | 158 | 172 | 200 |
| 15514000 | Chena River at Fairbanks, AK | 716 | 806 | 1,020 | 1,140 | 1,230 | 1,380 |
| 15514500 | Wood River near Fairbanks, AK | 497 | 530 | 607 | 725 | 816 | 927 |
| 15515500 | Tanana River at Nenana, AK | 33,500 | 36,500 | 40,200 | 43,200 | 45,400 | 49,300 |
| 15515800 | Seattle Creek near Cantwell, AK | 18.5 | 19.4 | 21.0 | 22.3 | 23.2 | 26.2 |
| 15516000 | Nenana River near Windy, AK | 744 | 1,110 | 1,280 | 1,460 | 1,540 | 1,700 |
| 15518000 | Nenana River near Healy, AK | 3,320 | 4,270 | 4,910 | 5,180 | 5,560 | 6,210 |
| 15518080 | Lignite Creek above mouth near Healy, AK | 15.7 | 18.6 | 21.2 | 23 | 24.5 | 26.7 |
| 15518350 | Teklanika River near Lignite, AK | 620 | 679 | 821 | 900 | 947 | 1,030 |
| 15535000 | Caribou Creek near Chatanika, AK | 1.0 | 1.9 | 2.2 | 2.9 | 3.4 | 4.8 |
| 15564600 | Melozitna River near Ruby, AK | 700 | 765 | 914 | 1,000 | 1,100 | 1,250 |
| 15564800 | Yukon River at Ruby, AK | 205,000 | 223,000 | 244,000 | 251,000 | 256,000 | 267,000 |
| 15564875 | Middle Fork Koyukuk River near Wiseman, AK | 414 | 432 | 478 | 544 | 598 | 738 |
| 15564900 | Koyukuk River at Hughes, AK | 6,980 | 7,740 | 8,560 | 9,870 | 11,300 | 14,200 |
| 15565200 | Yukon River near Kaltag, AK | 230,000 | 242,000 | 271,000 | 279,000 | 288,000 | 318,000 |
| 15565447 | Yukon River at Pilot Station, AK | 308,000 | 314,000 | 326,000 | 338,000 | 350,000 | 369,000 |
| 15621000 | Snake River near Nome, AK | 58.7 | 64.7 | 72.9 | 80.5 | 101 | 132 |
| 15635000 | Eldorado Creek near Teller, AK | 5.2 | 6.1 | 6.9 | 7.4 | 9.1 | 12.8 |
| 15668200 | Crater Creek near Nome, AK | 29.5 | 32.9 | 38.1 | 44.8 | 50.4 | 57.4 |
| 15712000 | Kuzitrin River near Nome, AK | 318 | 337 | 377 | 403 | 436 | 513 |
| 15743850 | Dahl Creek near Kobuk, AK | 11.6 | 13.0 | 17.4 | 20.5 | 24.7 | 34.7 |
| 15744000 | Kobuk River at Ambler, AK | 5,820 | 6,120 | 6,460 | 6,830 | 7,270 | 8,370 |
| 15744500 | Kobuk River near Kiana, AK | 7,200 | 8,090 | 9,580 | 11,200 | 12,900 | 16,500 |
| 15747000 | Wulik River below Tutak Creek near Kivalina, AK | 301 | 374 | 511 | 612 | 672 | 969 |
| 15896000 | Kuparuk River near Deadhorse, AK | 121 | 142 | 164 | 186 | 214 | 281 |
| 15896700 | Putuligayuk River near Deadhorse, AK | 0.03 | 0.2 | 0.5 | 0.6 | 0.7 | 1.0 |
| 15904900 | Atigun River tributary near Pump Station 4, AK | 16.8 | 18.8 | 20.9 | 25.8 | 30.4 | 38.5 |
| 15906000 | Sagavanirktok River tributary near Pump Station 3, AK | 2.2 | 2.5 | 10.9 | 16.3 | 18.0 | 21.5 |
| 15908000 | Sagavanirktok River near Pump Station 3, AK | 1,510 | 1,640 | 1,820 | 2,050 | 2,240 | 2,580 |

[1]Record indicates regulated years. Station not included in regression analysis.
[2]Drainage area is indeterminate. Station not included in regression analysis.

**Table 8.** Monthly low-duration flow statistics for July, August, and September for streamflow-gaging stations in Regions 1–7, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AUG60 | AUG50 | SEPT98 | SEPT95 | SEPT90 | SEPT85 | SEPT80 | SEPT70 | SEPT60 | SEPT50 |
| 15388960 | 12,500 | 14,500 | 2,520 | 6,140 | 8,250 | 9,460 | 10,300 | 13,000 | 15,100 | 16,600 |
| 15389000 | 13,800 | 18,100 | 4,450 | 5,880 | 7,410 | 9,140 | 10,700 | 14,000 | 15,700 | 17,600 |
| 15389500 | 8,070 | 10,300 | 1,260 | 1,540 | 2,200 | 2,560 | 2,950 | 3,660 | 4,110 | 4,640 |
| 15439800 | 5.2 | 6.7 | 0.8 | 1.5 | 2.4 | 3.1 | 4.0 | 4.6 | 5.7 | 7.5 |
| 15453500 | 178,000 | 190,000 | 102,000 | 111,000 | 120,000 | 125,000 | 130,000 | 139,000 | 149,000 | 160,000 |
| 15457800 | 121 | 198 | 41.2 | 56.4 | 64.9 | 74.5 | 88.1 | 122 | 166 | 230 |
| 15468000 | 207,000 | 221,000 | 98,700 | 110,000 | 117,000 | 130,000 | 138,000 | 152,000 | 164,000 | 171,000 |
| 15470000 | 4,810 | 5,250 | 1,600 | 1,740 | 1,880 | 1,960 | 2,020 | 2,200 | 2,400 | 2,620 |
| 15476000 | 18,900 | 20,700 | 5,620 | 6,250 | 6,770 | 7,120 | 7,480 | 8,260 | 8,970 | 9,670 |
| 15476300 | 61.0 | 67.2 | 29.9 | 31.1 | 32.8 | 33.9 | 34.9 | 37.5 | 40.2 | 42.6 |
| 15478040 | 201 | 227 | 9.3 | 11.7 | 13.8 | 17.0 | 20.4 | 26.4 | 34.1 | 42.9 |
| 15484000 | 1,940 | 2,290 | 707 | 840 | 1,020 | 1,200 | 1,290 | 1,490 | 1,700 | 1,940 |
| 15485500[2] | 45,200 | 47,900 | 13,800 | 15,400 | 17,100 | 17,900 | 18,600 | 20,600 | 23,000 | 24,900 |
| 15493000 | 821 | 931 | 419 | 459 | 516 | 556 | 594 | 681 | 764 | 865 |
| 15493700[1,R] | 1,150 | 1,320 | 618 | 690 | 768 | 822 | 868 | 953 | 1,050 | 1,200 |
| 15511000 | 233 | 266 | 109 | 120 | 135 | 149 | 163 | 197 | 226 | 260 |
| 15514000 | 1,560 | 1,770 | 627 | 761 | 953 | 1,080 | 1,190 | 1,370 | 1,580 | 1,790 |
| 15514500 | 1,060 | 1,180 | 245 | 303 | 333 | 355 | 380 | 452 | 507 | 538 |
| 15515500 | 52,400 | 55,400 | 18,000 | 19,500 | 21,600 | 22,800 | 24,000 | 26,500 | 28,800 | 30,800 |
| 15515800 | 31.0 | 38.6 | 16.6 | 17.9 | 20.8 | 23.3 | 25.4 | 28.5 | 31.9 | 35.7 |
| 15516000 | 1,850 | 2,040 | 624 | 734 | 865 | 991 | 1,100 | 1,240 | 1,360 | 1,500 |
| 15518000 | 6,700 | 7,130 | 1,950 | 2,330 | 2,650 | 2,930 | 3,150 | 3,590 | 4,030 | 4,370 |
| 15518080 | 29.4 | 33.0 | 14.1 | 16.0 | 18.0 | 19.2 | 20.4 | 23.1 | 24.8 | 28.5 |
| 15518350 | 1,120 | 1,210 | 340 | 385 | 439 | 499 | 530 | 589 | 628 | 692 |
| 15535000 | 5.7 | 6.7 | 0.8 | 1.1 | 2.5 | 3.2 | 3.6 | 5.0 | 5.6 | 6.2 |
| 15564600 | 1,730 | 2,620 | 530 | 598 | 773 | 918 | 1,130 | 1,610 | 1,790 | 2,000 |
| 15564800 | 277,000 | 292,000 | 152,000 | 162,000 | 175,000 | 181,000 | 186,000 | 200,000 | 217,000 | 235,000 |
| 15564875 | 894 | 1,120 | 176 | 226 | 349 | 420 | 465 | 549 | 631 | 770 |
| 15564900 | 17,300 | 20,500 | 4,190 | 6,560 | 7,990 | 8,940 | 9,590 | 11,500 | 13,400 | 15,600 |
| 15565200 | 371,000 | 409,000 | 164,000 | 172,000 | 19,9000 | 218,000 | 242,000 | 275,000 | 306,000 | 326,000 |
| 15565447 | 384,000 | 391,000 | 231,000 | 250,000 | 272,000 | 284,000 | 300,000 | 323,000 | 344,000 | 359,000 |
| 15621000 | 151 | 175 | 55.3 | 74.8 | 90.7 | 102 | 116 | 145 | 171 | 204 |
| 15635000 | 17.4 | 22.4 | 5.4 | 6.4 | 8.1 | 11.3 | 14.4 | 17.0 | 20.0 | 23.0 |
| 15668200 | 64.3 | 73.4 | 16.9 | 18.7 | 24.6 | 37 | 41.5 | 50.9 | 60.8 | 70.5 |
| 15712000 | 573 | 634 | 291 | 320 | 334 | 347 | 380 | 495 | 558 | 700 |
| 15743850 | 38.4 | 47.5 | 17.5 | 19.9 | 21.2 | 22.3 | 23.4 | 26.2 | 30.0 | 39.3 |
| 15744000 | 9,660 | 11,600 | 4,670 | 4,840 | 5,160 | 5,760 | 6,720 | 9,270 | 10,600 | 12,000 |
| 15744500 | 20,100 | 24,800 | 8,560 | 9,070 | 10,800 | 12,100 | 13,200 | 15,900 | 17,900 | 21,400 |
| 15747000 | 1,270 | 1,580 | 278 | 333 | 426 | 496 | 582 | 783 | 968 | 1,150 |
| 15896000 | 418 | 797 | 156 | 190 | 234 | 284 | 360 | 538 | 732 | 985 |
| 15896700 | 1.6 | 2.1 | 0.2 | 0.3 | 0.5 | 0.8 | 1.1 | 1.7 | 2.6 | 4.8 |
| 15904900 | 51.7 | 61.5 | 1.0 | 1.1 | 1.9 | 2.9 | 3.3 | 5.7 | 9.3 | 11.8 |
| 15906000 | 25.5 | 32.9 | 2.6 | 5.5 | 7.3 | 9.1 | 11.8 | 15.1 | 18.6 | 22.5 |
| 15908000 | 2,900 | 3,320 | 579 | 700 | 825 | 926 | 1,020 | 1,250 | 1,480 | 1,660 |

**Table 9.** Seasonal low-duration flow statistics and low-flow frequencies for July-through-September for streamflow-gaging stations in Region 1, Alaska and conterminous basins in Canada

[**Station No.** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: J-S*n*,** for the season July-through-September having an n-percent exceedance probability; **J-SQ7*n***, for the season July-through-September for the 7-day, n-year low flow. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) | Mean basin elevation (feet) |
|---|---|---|---|---|---|---|
| 15008000 | Salmon River near Hyder, AK | 56 01 34 | 130 03 55 | 94.1 | 110 | 3,840 |
| 15010000 | Davis River near Hyder, AK | 55 45 00 | 130 12 00 | 80.0 | 175 | 3,400 |
| 15011500 | Red River near Metlakatla, AK | 55 08 29 | 130 31 50 | 45.3 | 200 | 1,700 |
| 15012000 | Winstanley Creek near Ketchikan, AK | 55 24 59 | 130 52 03 | 15.5 | 160 | 1,730 |
| 15015590 | Unuk River near Stewart, BC | 56 21 05 | 130 41 30 | 571 | 100 | 3,880 |
| 15018000 | Shelokum Lake outlet near Bell Island, AK | 55 59 00 | 131 39 00 | 15.6 | 165 | 1,700 |
| 15022000 | Harding River near Wrangell, AK | 56 12 48 | 131 38 12 | 67.4 | 175 | 2,400 |
| 15024750 | Goat Creek near Wrangell, AK | 56 39 40 | 131 58 14 | 17.3 | 175 | 2,560 |
| 15026000 | Cascade Creek near Petersburg, AK | 57 00 21 | 132 46 45 | 23.0 | 175 | 3,160 |
| 15028300 | Farragut River near Petersburg, AK | 57 10 24 | 133 06 36 | 151 | 175 | 2,540 |
| 15030000 | Sweetheart Falls Creek near Juneau, AK | 57 56 35 | 133 40 55 | 36.3 | 150 | 2,110 |
| 15031000 | Long River above Long Lake near Juneau, AK | 58 10 56 | 133 53 06 | 8.29 | 175 | 3,020 |
| 15034000[R] | Long River near Juneau, AK | 58 10 00 | 133 41 50 | 32.5 | 180 | 2,400 |
| 15036000 | Speel River near Juneau, AK | 58 12 10 | 133 36 40 | 226 | 175 | 3,100 |
| 15038000[R] | Crater Creek near Juneau, AK | 58 08 15 | 133 46 15 | 11.4 | 175 | 2,590 |
| 15039900 | Dorothy Lake outlet near Juneau, AK | 58 14 56 | 133 58 54 | 11.0 | 160 | 3,450 |
| 15040000 | Dorothy Creek near Juneau, AK | 58 13 40 | 134 02 25 | 15.2 | 150 | 3,100 |
| 15044000 | Carlson Creek near Juneau, AK | 58 19 00 | 134 10 15 | 24.3 | 200 | 2,200 |
| 15048000 | Sheep Creek near Juneau, AK | 58 16 30 | 134 18 50 | 4.57 | 150 | 1,900 |
| 15052000 | Lemon Creek near Juneau, AK | 58 23 30 | 134 25 15 | 12.1 | 180 | 3,430 |
| 15052500 | Mendenhall River near Auke Bay, AK | 58 25 47 | 134 34 22 | 85.1 | 180 | 3,260 |
| 15052800 | Montana Creek near Auke Bay, AK | 58 23 53 | 134 36 34 | 14.1 | 100 | 1,500 |
| 15053800 | Lake Creek at Auke Bay, AK | 58 23 40 | 134 37 50 | 2.50 | 80 | 1,170 |
| 15056100 | Skagway River at Skagway, AK | 59 28 02 | 135 17 00 | 145 | 100 | 3,900 |
| 15056200 | West Creek near Skagway, AK | 59 31 35 | 135 21 10 | 43.2 | 100 | 3,400 |
| 15056560 | Klehini River near Klukwan, AK | 59 24 47 | 135 59 49 | 284 | 80 | 3,480 |
| 15058000 | Purple Lake outlet near Metlakatla, AK | 55 06 00 | 131 26 00 | 6.67 | 150 | 860 |
| 15059500 | Whipple Creek near Ward Cove, AK | 55 26 30 | 131 47 38 | 5.29 | 125 | 880 |
| 15060000 | Perseverance Creek near Wacker, AK | 55 24 40 | 131 40 05 | 2.81 | 190 | 1,340 |
| 15066000 | Beaver Falls Creek near Ketchikan, AK | 55 22 55 | 131 28 25 | 5.80 | 190 | 1,630 |
| 15067900 | Upper Mahoney Lake outlet near Ketchikan, AK | 55 24 50 | 131 33 16 | 2.03 | 200 | 2,500 |
| 15068000 | Mahoney Creek near Ketchikan, AK | 55 25 34 | 131 30 40 | 5.70 | 200 | 1,680 |
| 15070000[R] | Swan Lake near Ketchikan, AK | 55 36 54 | 131 20 14 | 36.5 | 200 | 1,800 |
| 15072000 | Fish Creek near Ketchikan, AK | 55 23 31 | 131 11 38 | 32.1 | 180 | 1,300 |
| 15074000 | Ella Creek near Ketchikan, AK | 55 30 20 | 131 01 25 | 19.7 | 175 | 900 |
| 15076000 | Manzanita Creek near Ketchikan, AK | 55 36 00 | 130 59 00 | 33.9 | 200 | 1,300 |
| 15078000 | Grace Creek near Ketchikan, AK | 55 39 28 | 130 58 14 | 30.2 | 200 | 1,500 |
| 15080000 | Orchard Creek near Bell Island, AK | 55 50 00 | 131 27 00 | 59.0 | 150 | 1,600 |
| 15081497 | Staney Creek near Klawock, AK | 55 48 05 | 133 06 31 | 50.6 | 100 | 882 |
| 15081500 | Staney Creek near Craig, AK | 55 48 57 | 133 07 58 | 51.6 | 100 | 850 |

[1]Record includes regulated years. Station not included in regression analysis. Frequency statistics not calculated because station violates assumption of log-normal distribution of streamflow.

**Table 9.** Seasonal low-duration flow statistics and low-flow frequencies for July-through-September for streamflow-gaging stations in Region 1, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Seasonal low-duration flow | | | | | | | | Seasonal low-flow frequency statistics | |
| | J-S98 | J-S95 | J-S90 | J-S85 | J-S80 | J-S70 | J-S60 | J-S50 | J-S7Q2 | J-S7Q10 |
| 15008000 | 669 | 885 | 1,080 | 1,220 | 1,360 | 1,600 | 1,810 | 2,010 | 941 | 623 |
| 15010000 | 518 | 701 | 835 | 986 | 1,110 | 1,310 | 1,470 | 1,610 | 809 | 451 |
| 15011500 | 81.4 | 106 | 141 | 163 | 193 | 260 | 333 | 414 | 138 | 77.0 |
| 15012000 | 22.8 | 31.4 | 43.5 | 53.9 | 63.4 | 85.1 | 109 | 129 | 38.4 | 20.2 |
| 15015590 | 2,450 | 3,080 | 3,760 | 4,300 | 4,770 | 5,700 | 6,550 | 7,270 | 3,360 | 2,180 |
| 15018000 | 30.6 | 43.1 | 53.6 | 69.3 | 81.8 | 107 | 139 | 176 | 46.2 | 27.8 |
| 15022000 | 338 | 420 | 519 | 593 | 657 | 781 | 907 | 1,050 | 481 | 310 |
| 15024750 | 69.1 | 84.0 | 101 | 118 | 138 | 167 | 196 | 226 | 86.7 | 65.1 |
| 15026000 | 144 | 177 | 217 | 253 | 282 | 329 | 375 | 419 | 201 | 124 |
| 15028300 | 1,020 | 1,270 | 1,530 | 1,700 | 1,860 | 2,110 | 2,300 | 2,500 | 1,450 | 929 |
| 15030000 | 146 | 213 | 270 | 302 | 325 | 365 | 427 | 467 | 243 | 119 |
| 15031000 | 63.1 | 85.2 | 112 | 137 | 157 | 186 | 210 | 234 | 106 | 56.0 |
| 15034000[R] | 322 | 429 | 529 | 599 | 648 | 725 | 792 | 860 | 467 | 299 |
| 15036000 | 1,910 | 2,650 | 3,340 | 3,720 | 4,040 | 4,610 | 5,090 | 5,620 | 2,900 | 1,730 |
| 15038000[R] | 103 | 175 | 225 | 257 | 280 | 328 | 362 | 402 | 189 | 103 |
| 15039900 | 114 | 132 | 155 | 171 | 187 | 203 | 222 | 240 | 143 | 105 |
| 15040000 | 134 | 157 | 185 | 204 | 216 | 234 | 252 | 272 | 171 | 126 |
| 15044000 | 131 | 167 | 210 | 246 | 279 | 363 | 442 | 524 | 201 | 119 |
| 15048000 | 21.6 | 26.4 | 33.3 | 37.8 | 41.6 | 50.0 | 57.6 | 65.5 | 30.9 | 19.6 |
| 15052000 | 119 | 165 | 208 | 241 | 269 | 308 | 342 | 376 | 180 | 100 |
| 15052500 | 954 | 1,260 | 1,600 | 1,830 | 2,020 | 2,310 | 2,570 | 2,820 | 1,430 | 773 |
| 15052800 | 36.7 | 46.8 | 62.5 | 72.0 | 80.1 | 95.6 | 111 | 127 | 57.8 | 31.5 |
| 15053800 | 0.1 | 0.4 | 0.7 | 1.3 | 1.8 | 3.2 | 5.0 | 7.5 | 0.50 | 0.13 |
| 15056100 | 225 | 316 | 419 | 526 | 637 | 809 | 973 | 1,160 | 378 | 210 |
| 15056200 | 224 | 276 | 370 | 466 | 535 | 650 | 751 | 838 | 322 | 193 |
| 15056560 | 764 | 904 | 1,160 | 1,420 | 1,640 | 2,220 | 2,680 | 3,090 | 1,050 | 686 |
| 15058000 | 4.7 | 7.5 | 11.0 | 14.7 | 17.3 | 24.3 | 32.4 | 42.8 | 9.7 | 3.8 |
| 15059500 | 2.4 | 3.6 | 4.8 | 5.5 | 6.2 | 8.0 | 10.3 | 13.2 | 4.5 | 2.1 |
| 15060000 | 0.7 | 1.4 | 2.5 | 3.4 | 4.4 | 6.8 | 9.9 | 14.6 | 1.9 | 0.71 |
| 15066000 | 7.0 | 14.2 | 18.6 | 23.2 | 27.8 | 36.5 | 52.5 | 64.6 | 16.7 | 6.4 |
| 15067900 | 5.7 | 7.2 | 10.4 | 13.6 | 16.4 | 22.3 | 28.3 | 37.1 | 8.0 | 4.8 |
| 15068000 | 14.6 | 21.2 | 29.8 | 36.1 | 42.0 | 55.1 | 67.9 | 82.8 | 28.6 | 12.3 |
| 15070000[R] | 85.6 | 110 | 136 | 158 | 180 | 227 | 288 | 356 | 124 | 75.7 |
| 15072000 | 48.9 | 68.4 | 89.9 | 110 | 128 | 167 | 212 | 266 | 84.9 | 42.6 |
| 15074000 | 22.2 | 33.6 | 47.1 | 57.7 | 70.1 | 94.7 | 113 | 138 | 39.1 | 17.1 |
| 15076000 | 110 | 140 | 174 | 200 | 224 | 268 | 312 | 362 | 181 | 104 |
| 15078000 | 36.3 | 57.1 | 90.3 | 116 | 137 | 181 | 232 | 283 | 86.7 | 38.0 |
| 15080000 | 73.9 | 102 | 136 | 161 | 183 | 237 | 298 | 366 | 125 | 67.1 |
| 15081497 | 9.3 | 14.6 | 20.9 | 26.5 | 32.2 | 42.9 | 58.4 | 82.9 | 23.8 | 9.5 |
| 15081500 | 15.6 | 23.0 | 32.3 | 39.1 | 46.5 | 62.3 | 76.3 | 93.1 | 35.0 | 16.5 |

**Table 9.** Seasonal low-duration flow statistics and low-flow frequencies for July-through-September for streamflow-gaging stations in Region 1, Alaska and conterminous basins in Canada—*Continued*

[**Station No.** R, presently regulated. **Station name:** AK, Alaska; BC, British Columbia; YT, Yukon. **Daily mean discharge: J-S*n*,** for the season July-through-September having an n-percent exceedance probability; **J-SQ7*n***, for the season July-through-September for the 7-day, n-year low flow. $mi^2$, square mile; in., inch; –, no data available]

| Station No. | Station Name | Latitude (degrees, minutes, seconds) | Longitude (degrees, minutes, seconds) | Drainage area ($mi^2$) | Mean annual precipitation (in.) | Mean basin elevation (feet) |
|---|---|---|---|---|---|---|
| 15081580 | Black Bear Lake outlet near Klawock, AK | 55 33 25 | 132 52 33 | 1.82 | 100 | 2,300 |
| 15083500 | Perkins Creek near Metlakatla, AK | 54 56 48 | 132 10 15 | 3.38 | 150 | 730 |
| 15085100 | Old Tom Creek near Kasaan, AK | 55 23 44 | 132 24 25 | 5.90 | 100 | 1,000 |
| 15085600 | Indian Creek near Hollis, AK | 55 26 58 | 132 41 41 | 8.82 | 100 | 1,000 |
| 15085700 | Harris River near Hollis, AK | 55 27 47 | 132 42 11 | 28.7 | 120 | 1,400 |
| 15085800 | Maybeso Creek at Hollis, AK | 55 29 26 | 132 40 31 | 15.1 | 120 | 1,120 |
| 15086600 | Big Creek near Point Baker, AK | 56 07 54 | 133 08 56 | 11.2 | 110 | 680 |
| 15087545 | Municipal Watershed Creek near Petersburg, AK | 56 46 40 | 132 55 07 | 2.20 | 100 | 1,400 |
| 15087570 | Hamilton Creek near Kake, AK | 56 52 21 | 133 40 30 | 65.0 | 70 | 493 |
| 15087590 | Rocky Pass Creek near Point Baker, AK | 56 37 10 | 133 44 10 | 2.72 | 100 | 358 |
| 15087690 | Indian River near Sitka, AK | 57 04 01 | 135 17 42 | 10.1 | 140 | 1,340 |
| 15090000[R] | Green Lake near Sitka, AK | 56 59 14 | 135 06 37 | 28.8 | 160 | 2,100 |
| 15093400 | Sashin Creek near Big Port Walter, AK | 56 22 32 | 134 39 40 | 3.72 | 300 | 1,130 |
| 15094000 | Deer Lake outlet near Port Alexander, AK | 56 31 10 | 134 40 10 | 7.41 | 300 | 1,300 |
| 15098000 | Baranof River at Baranof, AK | 57 05 15 | 134 50 30 | 32.0 | 180 | 2,000 |
| 15100000 | Takatz Creek near Baranof, AK | 57 08 35 | 134 51 50 | 17.5 | 180 | 2,300 |
| 15101490[1,R] | Greens Creek at Greens Creek Mine near Juneau, AK | 58 05 00 | 134 37 54 | 8.62 | 98 | 2,450 |
| 15101500 | Greens Creek near Juneau, AK | 58 05 18 | 134 44 49 | 22.8 | 80 | 1,880 |
| 15102000 | Hasselborg Creek near Angoon, AK | 57 39 40 | 134 14 55 | 56.2 | 100 | 1,200 |
| 15106920 | Kadashan River above Hook Creek near Tenakee, AK | 57 39 46 | 135 11 06 | 10.2 | 100 | 1,020 |
| 15106940 | Hook Creek above tributary near Tenakee, AK | 57 40 39 | 135 07 42 | 4.48 | 100 | 1,260 |
| 15106960 | Hook Creek near Tenakee, AK | 57 40 22 | 135 10 40 | 8.00 | 100 | 1,160 |
| 15106980 | Tonalite Creek near Tenakee, AK | 57 40 42 | 135 13 17 | 14.5 | 100 | 950 |
| 15107000 | Kadashan River near Tenakee, AK | 57 41 43 | 135 12 59 | 37.7 | 100 | 970 |
| 15108000 | Pavlof River near Tenakee, AK | 57 50 30 | 135 02 09 | 24.3 | 100 | 920 |
| 15109000 | Fish Creek near Auke Bay, AK | 58 19 50 | 134 35 20 | 13.6 | 80 | 1,600 |

[1]Record includes regulated years. Station not included in regression analysis. Frequency statistics not calculated because station violates assumption of log-normal distribution of streamflow.

**Table 9.** Seasonal low-duration flow statistics and low-flow frequencies for July-through-September for streamflow-gaging stations in Region 1, Alaska and conterminous basins in Canada—*Continued*

| Station No. | Daily mean discharge, in cubic feet per second | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Seasonal low-duration flow | | | | | | | | Seasonal low-flow frequency statistics | |
| | J-S98 | J-S95 | J-S90 | J-S85 | J-S80 | J-S70 | J-S60 | J-S50 | J-S7Q2 | J-S7Q10 |
| 15081580 | 4.7 | 6.0 | 7.7 | 9.3 | 11.3 | 14.4 | 17.1 | 20.7 | 7.7 | 3.6 |
| 15083500 | 1.2 | 1.5 | 1.9 | 2.3 | 2.6 | 3.4 | 4.6 | 6.4 | 1.9 | 1.0 |
| 15085100 | 2.0 | 2.6 | 3.7 | 4.7 | 5.5 | 7.0 | 8.7 | 11.1 | 4.4 | 2.0 |
| 15085600 | 2.3 | 3.0 | 4.5 | 5.5 | 6.5 | 9.9 | 14.5 | 21.5 | 4.0 | 2.1 |
| 15085700 | 21.9 | 29.1 | 39.2 | 47.1 | 52.8 | 64.2 | 79 | 99.9 | 33.9 | 18.7 |
| 15085800 | 12.7 | 15.8 | 20.1 | 23.7 | 27.3 | 34.4 | 43.2 | 53.5 | 18.9 | 11.3 |
| 15086600 | 4.5 | 7.3 | 10.6 | 13.0 | 15.5 | 20.7 | 27.9 | 36.9 | 11.2 | 5.01 |
| 15087545 | 0.8 | 1.2 | 1.9 | 2.5 | 3.2 | 4.3 | 5.6 | 7.1 | 2.1 | 0.81 |
| 15087570 | 9.1 | 13.4 | 19.9 | 26.4 | 32.4 | 45.3 | 62.1 | 83.3 | 21.3 | 7.7 |
| 15087590 | 0.1 | 0.2 | 0.5 | 0.6 | 0.8 | 1.2 | 1.8 | 2.6 | 0.5 | 0.11 |
| 15087690 | 17.7 | 22.4 | 30.6 | 35.0 | 38.6 | 46.6 | 54.8 | 63.3 | 34.0 | 20.0 |
| 15090000[R] | 144 | 189 | 245 | 275 | 310 | 372 | 403 | 435 | 222 | 146 |
| 15093400 | 6.8 | 10.5 | 15.1 | 18.3 | 21.8 | 29.5 | 36.6 | 46.4 | 14.3 | 6.1 |
| 15094000 | 41.4 | 55.8 | 71.4 | 84.2 | 97.8 | 115 | 131 | 147 | 92.0 | 44.1 |
| 15098000 | 220 | 283 | 333 | 375 | 412 | 474 | 529 | 591 | 311 | 193 |
| 15100000 | 163 | 197 | 237 | 259 | 275 | 315 | 353 | 393 | 218 | 171 |
| 15101490[1,R] | 20.5 | 12.1 | 14.5 | 17.5 | 21.5 | 24.6 | 27.9 | 32.7 | – | – |
| 15101500 | 21.6 | 33.6 | 42.7 | 48.6 | 54.5 | 69.1 | 81.1 | 92.7 | 44.0 | 18.9 |
| 15102000 | 75.3 | 88.3 | 118 | 142 | 160 | 205 | 242 | 281 | 126 | 72.8 |
| 15106920 | 5.9 | 7.5 | 9.4 | 11.7 | 13.6 | 17.2 | 21.1 | 26.3 | 10.8 | 5.6 |
| 15106940 | 2.6 | 3.1 | 4.0 | 5.4 | 6.5 | 8.2 | 10.6 | 13.6 | 4.9 | 2.4 |
| 15106960 | 5.2 | 5.9 | 7.2 | 8.8 | 10.7 | 13.7 | 16.9 | 20.3 | 8.4 | 5.9 |
| 15106980 | 9.7 | 14.3 | 17.8 | 21.1 | 24.1 | 29.1 | 34.6 | 41.4 | 19.1 | 10.4 |
| 15107000 | 28.6 | 31.9 | 39.0 | 46.6 | 53.0 | 66.2 | 82.7 | 105 | 42.6 | 26.8 |
| 15108000 | 24.4 | 31.3 | 38.6 | 45.1 | 51.0 | 62.7 | 75.0 | 90.0 | 36.5 | 21.1 |
| 15109000 | 11.5 | 16.8 | 22.8 | 27.8 | 31.7 | 39.8 | 49.2 | 60.8 | 20.9 | 11.0 |

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Estimating Annual High-Flow Statistics and Monthly and Seasonal Low-Flow Statistics for Ungaged Sites on Streams in Alaska and Conterminous Basins in Canada

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