Prepared under the auspices of the U.S. Agency for International Development

Streamflow Characteristics of Streams in the Helmand Basin, Afghanistan

By Tara Williams-Sether

Data Series 333

U.S. Department of the Interior
U.S. Geological Survey

USGS Afghanistan Project Product Number 167

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Contents

Abstract 1
Introduction..... 1
History of the stream-gaging program in Afghanistan..... 4
Explanation of station summaries..... 4
Manuscripts..... 4
Statistics of monthly and annual mean discharges..... 5
Monthly and annual flow duration..... 6
Probability of occurrence of high or low discharges..... 6
Data considerations..... 7
Selected References..... 7
Streamflow statistics..... 9
3-0.000-2M Ghazni River near Shina..... 10
3-0.000-7M Ghazni River at Ghazni Bridge..... 16
3-0.000-7S Ghazni River at Nauburja..... 23
3-0.000-8W Ghazni River below Seraj Reservoir..... 29
3-1.1L0-5T Park River near Park Dasht..... 36
3-4.1L0-8T Paltu River near Sarafsar..... 42
3-4.L00-1A Paltu River above Sarde Reservoir..... 48
3-4.L00-2A Jilga River below Sarde Reservoir..... 54
3-4.L00-7A Jilga River at Gardez..... 61
3-4.L00-9T Jilga River near Mechalghu..... 67
3-5.R00-3T Syahgel River at Syahgel..... 73
3-8.1L0-1W Barikab River above Seraj Reservoir..... 79
3-8.R00-1W Sarab River above Seraj Reservoir..... 85
4-0.000-1M Shele Charkh River near Zaranj..... 92
4-0.000-2M Helmand River at Khwabgah..... 99
4-0.000-3M Helmand River at Char Burjak..... 105
4-0.000-4M Helmand River at Malakhan..... 112
4-0.000-5M Helmand River at Darweshan..... 118
4-0.000-6M Helmand River at Lashkargah..... 125
4-0.000-6S Helmand River at Girishk..... 131
4-0.000-7M Helmand River below Kajakai Reservoir..... 137
4-0.000-8M Helmand River at Dehraout..... 145
4-0.000-9M Helmand River at Gizab..... 152
4-0.000-10M Helmand River at Gardandewal..... 158
4-1.21R-7A Tarnak River near Shahjuy..... 165
4-1.222R-6A Lora River near Shinkay..... 171
4-1.22R-1A Arghastan River near Kandahar..... 177
4-1.2L0-5A Dori River near Takhtapul..... 184
4-1.L00-1A Arghandab River at Qala-i-Bust..... 190
4-1.L00-3A Arghandab River near Kandahar..... 198
4-1.L00-4A Arghandab River below Arghandab Reservoir..... 204
4-1.L00-5A Arghandab River above Arghandab Reservoir..... 212
4-1.L00-6A Arghandab River at Mizan..... 219

4-1.L00-9A Arghandab River at Sang-i-Masha..... 225
4-13.R00-4A Punjab River at Waras..... 231
4-14.R00-1A Markhana River at Dahane Rishqa..... 237
4-16.R00-3A Syahsang River near Gardandewal..... 243
4-3.L00-2T Sangin Wash (Seraj Canal) at Sangin..... 249
4-4.R00-2A Musa Qala River near Musa Qala..... 255
4-5.L00-1A Tirin River at Anarjuy/Dehraout..... 262
4-5.L00-4A Tirin River at Tirin..... 269
4-5.L00-8A Tirin River at Urosgan..... 276
4-6.R00-1A Kaj River at Yakhdan..... 282
5-0.000-4W Khash River at Dehmazang..... 288
5-0.000-5M Khash River at Dilaram..... 294
6-0.000-3M Farah River at Farah..... 301
6-0.000-4S Farah River near Daulatabad..... 308
6-0.000-5M Farah River near Petch Tangi..... 314
6-0.L00-1A Malmand River near Shawalat..... 321
7-0.000-7M Adraskan River at Adraskan..... 328
7-5.R00-1A Rud-i-Gaz River near Adraskan..... 335

Figures

1. Map showing location of streamflow-gaging stations for which streamflow statistics are published in this report..... 3

Tables

1. List of streamflow-gaging stations for which streamflow statistics are published in this report..... 2

Conversion Factors

SI to Inch/Pound

Multiply	By	To obtain
	Length	
meter (m)	3.281	foot (ft)
kilometer (km)	0.6214	mile (mi)
	Area	
square meter (m^2)	0.0002471	acre
hectare (ha)	2.471	acre
square hectometer (hm^2)	2.471	acre
square kilometer (km^2)	247.1	acre
square meter (m^2)	10.76	square foot (ft^2)
hectare (ha)	0.003861	square mile (mi^2)
square kilometer (km^2)	0.3861	square mile (mi^2)
	Volume	
cubic meter (m^3)	264.2	gallon (gal)

cubic meter (m^3)	0.0002642	million gallons (Mgal)
cubic meter (m^3)	35.31	cubic foot (ft^3)
cubic kilometer (km^3)	0.2399	cubic mile (mi^3)
cubic meter (m^3)	0.0008107	acre-foot (acre-ft)
	Flow rate	
cubic meter per second (m^3/s)	70.07	acre-foot per day (acre-ft/d)
cubic meter per year (m^3/yr)	0.000811	acre-foot per year (acre-ft/yr)
meter per second (m/s)	3.281	foot per second (ft/s)
cubic meter per second (m^3/s)	35.31	cubic foot per second (ft^3/s)

Altitude, as used in this report, refers to distance above mean sea level at an unknown vertical datum.

Definition of Terms

Climatic year is the 12-month period April 1 through March 31. The climatic year is designated by the calendar year in which it begins.

Cubic meters per second (m^3/s) is the rate of discharge representing a volume of 1 cubic meter passing a given point during 1 second and is equivalent to 1,000 liters per second or 60,000 liters per minute or 35.31 cubic feet per second.

Discharge is the volume of water in a stream at a given point and for a given period of time. Discharge is often used interchangeably with the term "streamflow."

Drainage area is the area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream upstream from the station. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Instantaneous discharge is the discharge at a particular instant of time.

Mean is the arithmetic average of a list of values.

Mean discharge is the arithmetic mean of individual discharges during a specific period.

Period of record is the time during which a streamflow-gaging station is in operation and for which the records are published.

Probability of occurrence is the likelihood that an event will occur. Probabilities are generally expressed as a decimal number between 0 and 1. If the probability is 0, the event will not occur, if the probability is 1, the event will occur absolutely. Probability also can be expressed as a percent, where 0 percent corresponds to 0 probability and 100 percent corresponds to a probability of 1.

Recurrence interval is the average time interval between occurrences of a hydrologic event of a given or greater magnitude, usually expressed in years.

Regulation is the artificial manipulation of the flow of a stream.

Stage (see "gage height")
Standard deviation is a measure of the variability of the values in a list of values.
Streamflow-gaging station is a particular site on a stream where a record of discharge is obtained.
Streamflow (see "discharge")
Surface water is the water on the surface of the earth.
Water year is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months.

Streamflow Characteristics of Streams in the Helmand Basin, Afghanistan

By Tara Williams-Sether

Abstract

Statistical summaries of streamflow data for all historical streamflow-gaging stations for the Helmand Basin upstream from the Sistan Wetlands are presented in this report. The summaries for each streamflow-gaging station include (1) manuscript (station description), (2) graph of the annual mean discharge for the period of record, (3) statistics of monthly and annual mean discharges, (4) graph of the annual flow duration, (5) monthly and annual flow duration, (6) probability of occurrence of annual high discharges, (7) probability of occurrence of annual low discharges, (8) probability of occurrence of seasonal low discharges, (9) annual peak discharge and corresponding gage height for the period of record, and (10) monthly and annual mean discharges for the period of record.

Introduction

A majority of the Afghan population lacks adequate, safe supplies of water because of contamination by a wide variety of sources, lack of water-resources management regulation, and lack of basic infrastructure, compounded by a recent 5-year drought and seasonal flooding.

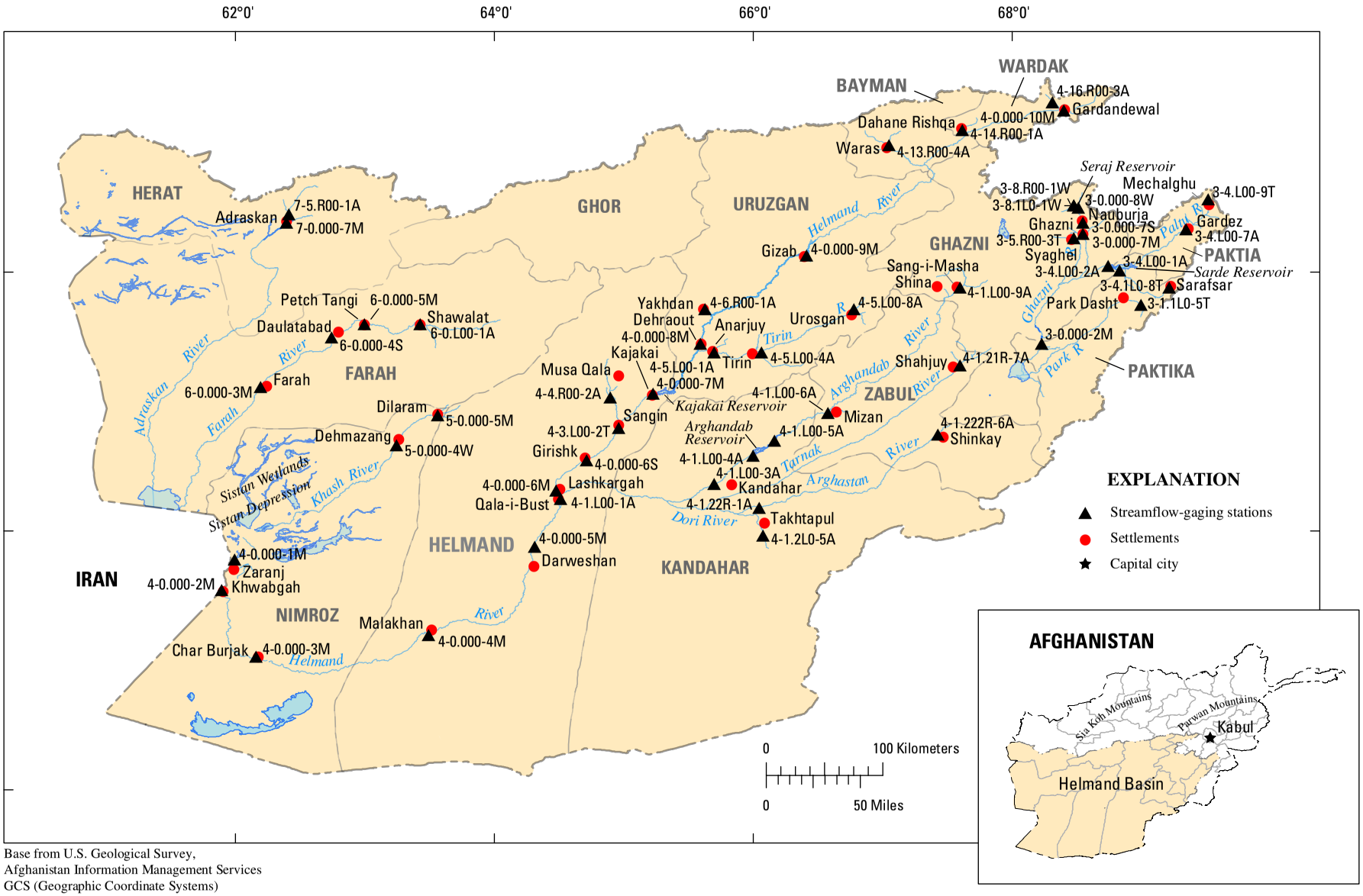
The Helmand Basin is the largest in Afghanistan. It covers the southern half of the country, draining waters from the Sia Koh Mountains in Herat Province to the eastern mountains in Gardez Province (currently known as the Paktia Province) and the Parwan Mountains northwest of Kabul, and finally to the unique Sistan depression between Iran and Afghanistan (Favre and Kamal, 2004). A typical desert environment, the rivers in the Helmand Basin are fed by melting snow from the high mountains and infrequent storms. Great fluctuations in streamflow, from flood to drought, can be expected.

Knowledge of the magnitude and time distribution of streamflow is essential for all aspects of water management and environmental planning. Agencies responsible for the development and management of Afghanistan's surface-water resources can use this knowledge for making safe, economical, and environmentally sound water-resource planning decisions. To provide the Afghan managers with necessary streamflow information, the U.S. Geological Survey, in cooperation with the U.S. Agency for International Development, computed streamflow statistics for data collected at historical gaging stations within the Helmand Basin.

The purpose of this report is to provide a comprehensive publication summarizing streamflow characteristics for all historical gaging stations for the Helmand Basin upstream from the Sistan Wetlands. The historical gaging stations used are listed in table 1 and their locations are shown in figure 1.

Table 1. List of streamflow-gaging stations for which streamflow statistics are published in this report.

Afghan ID Number	USGS ID Number	Station Name
3-0.000-2M	324200068060000	Ghazni River near Shina
3-0.000-7M	333300068250000	Ghazni River at Ghazni Bridge
3-0.000-7S	333800068250000	Ghazni River at Nauburja
3-0.000-8W	334500068230000	Ghazni River below Seraj Reservoir
3-1.1L0-5T	330000068520000	Park River near Park Dasht
3-4.1L0-8T	330800069050000	Paltu River near Sarafsar
3-4.L00-1A	331600068420000	Paltu River above Sarde Reservoir
3-4.L00-2A	331800068370000	Jilga River below Sarde Reservoir
3-4.L00-7A	333500069130000	Jilga River at Gardez
3-4.L00-9T	334900069230000	Jilga River near Mechalghu
3-5.R00-3T	333100068210000	Syahgel River at Syahgel
3-8.1L0-1W	334600068210000	Barikab River above Seraj Reservoir
3-8.R00-1W	334601068210000	Sarab River above Seraj Reservoir
4-0.000-1M	310200061520000	Shele Charkh River near Zaranj
4-0.000-2M	304800061460000	Helmand River at Khwabgah
4-0.000-3M	301700062020000	Helmand River at Char Burjak
4-0.000-4M	302700063220000	Helmand River at Malakhan
4-0.000-5M	310800064110000	Helmand River at Darweshan
4-0.000-6M	313400064210000	Helmand River at Lashkargah
4-0.000-6S	314800064350000	Helmand River at Girishk
4-0.000-7M	321900065060000	Helmand River below Kajakai Reservoir
4-0.000-8M	324200065280000	Helmand River at Dehraout
4-0.000-9M	332300066170000	Helmand River at Gizab
4-0.000-10M	343000068160000	Helmand River at Gardandewal
4-1.21R-7A	323200067280000	Tarnak River near Shahjuy
4-1.222R-6A	320000067180000	Lora River near Shinkay
4-1.22R-1A	312600065550000	Arghastan River near Kandahar
4-1.2L0-5A	311300065570000	Dori River near Takhtapul
4-1.L00-1A	313000064230000	Arghandab River at Qala-i-Bust
4-1.L00-3A	313700065340000	Arghandab River near Kandahar
4-1.L00-4A	315000065520000	Arghandab River below Arghandab Reservoir
4-1.L00-5A	315700066020000	Arghandab River above Arghandab Reservoir
4-1.L00-6A	321000066270000	Arghandab River at Mizan
4-1.L00-9A	330800067280000	Arghandab River at Sang-i-Masha
4-13.R00-4A	341400066550000	Punjab River at Waras
4-14.R00-1A	342100067290000	Markhana River at Dahane Rishqa
4-16.R00-3A	343400068110000	Syahsang River near Gardandewal
4-3.L00-2T	320300064500000	Sangin Wash (Seraj Canal) at Sangin
4-4.R00-2A	321700064460000	Musa Qala River near Musa Qala
4-5.L00-1A	323800065340000	Tirin River at Anarjuy/Dehraout
4-5.L00-4A	323800065560000	Tirin River at Tirin
4-5.L00-8A	325800066390000	Tirin River at Urosgan
4-6.R00-1A	325800065300000	Kaj River at Yakhdan
5-0.000-4W	315500063070000	Khash River at Dehmazang
5-0.000-5M	320900063260000	Khash River at Dilaram
6-0.000-3M	322200062040000	Farah River at Farah
6-0.000-4S	324500062370000	Farah River near Daulatabad
6-0.000-5M	325100062520000	Farah River near Petch Tangi
6-0.L00-1A	325100063180000	Malmand River near Shawalat
7-0.000-7M	333800062160000	Adraskan River at Adraskan
7-5.R00-1A	334200062170000	Rud-i-Gaz River near Adraskan



Base from U.S. Geological Survey,
Afghanistan Information Management Services
GCS (Geographic Coordinate Systems)
WGS (World Geodetic System) 1984 datum

Figure 1. Location of streamflow-gaging stations for which streamflow statistics are published in this report.

History of the Streamflow-Gaging Program in Afghanistan

River discharge measurements began in Afghanistan in the mid-1940s at a few sites. The number of sites increased over the years until the late 1970s. Measurements were discontinued soon after the Soviet invasion of Afghanistan in 1979. Until 1978, Afghanistan had a network of approximately 160 streamflow-gaging stations. No streamflow data were collected after September, 1980 until recently. In 2005, three historical streamflow-gaging stations were re-established and currently (2008) much of the historic network is in the process of being re-established.

Explanation of Station Summaries

Station summaries are presented so that each station description and tables of streamflow statistics and probabilities of occurrence are presented in the same order and format for each gaging station, including the same relative placement of the pages. Because the statistical information listed in the tables was created by "data retrievals" or from statistical program results, significant figures were not always rounded to U.S. Geological Survey standards. The order of presentation is as follows:

1. manuscript (station description),
2. graph of the annual mean discharge for the period of record,
3. table of statistics of monthly and annual mean discharges,
4. graph of the annual flow duration,
5. table of monthly and annual flow duration,
6. table of probability of occurrence of annual high discharges,
7. table of probability of occurrence of annual low discharges,
8. table of probability of occurrence of seasonal low discharges,
9. table of annual peak discharge and corresponding gage height for the period of record, and
10. table of monthly and annual mean discharges for the period of record.

Manuscripts

The location, drainage area, period of record, and other available information about each streamflow-gaging station included in this report are presented in manuscript form. This information is compiled from records maintained by the Democratic Republic of Afghanistan Ministry of Energy and Water and reports by the U.S. Geological Survey. The following comments clarify information presented under the various headings of the station manuscript.

LOCATION: Information on gaging station location is primarily limited to latitude and longitude. When available, further information is furnished with respect to cultural and physical features in the vicinity of the gaging station and the community or landmark included in the gaging station name.

DRAINAGE AREA: Drainage area is measured using Survey of India maps (where noted). The accuracy of the drainage areas is unknown.

ALTITUDE: The datum of the gage referenced to mean sea level.

PERIOD OF RECORD: The period of record is the period for which there are published records for the gaging station or for an equivalent gaging station. An equivalent gaging station is a gaging station that

was in operation prior to the subject gaging station, and whose location is such that records from it can reasonably be considered equivalent with records from the subject gaging station. This situation arises when a gaging station is relocated upstream or downstream and given a new gaging station number and name, but the changes in drainage area and other basin characteristics are not significantly different.

GAGE: The type of gage or recorder that is or was used to collect data. A condensed history of the types, locations, and datums of previous gages are given under this heading when available.

Statistics of Monthly and Annual Mean Discharges

Statistics of monthly and annual mean discharges presented for each gaging station include (1) the maximum, minimum, and mean monthly discharges and (2) the maximum, minimum, and mean annual discharges. The water years (October 1 through September 30) in which the maximum and minimum discharges occurred are listed with the respective values, and the standard deviation and coefficient of variation of the monthly and annual mean discharges are listed with the respective values. Also, the percentage of the annual discharge that is comprised by each monthly mean discharge is listed in the table.

Each of the statistics is explained in the following paragraphs. As an aid to the readers' understanding of how the monthly mean and annual mean discharges are determined, data for the gaging station Arghandab River above Arghandab Reservoir (4-1.L00-5A) are used as an example. Each monthly mean is the mean of the daily values for the month. Months or years for which all daily values are not available are not included in the compilation of statistics.

The maximum monthly mean discharge is the maximum value of all the monthly mean values for the period of record. The maximum mean value for October is 18.7 cubic meters per second (m^3/s), which occurred during water year 1966. Similarly, the minimum monthly mean discharge is the minimum value of all the monthly mean values. The minimum mean value for October is 1.08 m^3/s, which occurred during water year 1972. The maximum and minimum monthly mean values can be found in the statistics of monthly and annual mean discharges table or by searching the monthly and annual mean discharges table.

The mean monthly discharge is the mean of all the monthly mean discharges for a given month for the period of record, and the standard deviation is a measure of the variability of the values. The mean monthly discharge for October is 11.1 m^3/s, and the standard deviation is 4.1 m^3/s. The mean monthly discharge for October is the same as the mean of all October daily values for the period of record used. However, the standard deviation is smaller than the standard deviation obtained using all daily values. The standard deviation is smaller because the monthly values have less variability than the daily values.

The coefficient of variation is the ratio of the standard deviation to the mean. The coefficient of variation is dimensionless. Because monthly mean discharges are much greater in spring than in winter, the standard deviations also are much greater in spring than in winter. However, dividing the standard deviation by the mean monthly discharge tends to equalize the measures for all months so a more meaningful comparison among months can be made.

The percentage of the annual discharge is the percent of the annual discharge that occurred during each month. It is calculated by dividing the mean discharge for the month by the total of the 12 monthly mean discharges and multiplying by 100. Because of rounding of the monthly percentage, the sum of the 12 percentages may not equal 100 percent

The maximum, minimum, and mean annual discharges are selected or computed from the annual mean discharges for the period of record. The water years of occurrence of the maximum and minimum values are listed with the respective values, and the standard deviation of the mean of the annual mean values is listed with the mean value. The minimum annual mean discharge of 8.61 m^3/s occurred in 1971, and the maximum annual mean discharge of 84.8 m^3/s occurred in 1957. The mean annual discharge for the period of record is 41.6 m^3/s.

Monthly and Annual Flow Duration

The monthly and annual flow duration table is a magnitude and frequency analysis of daily discharge values. It is computed by tabulating the number of daily discharge values that fall within pre-selected class limits, computing the percentage of values within each class, and interpolating discharge values for the percentages shown in the table. Monthly values are calculated from daily values in all complete months in the record, and annual figures are calculated for all complete water years. For example, if the 90-percent flow duration value for October is 6.12 m^3/s, then 90 percent of all October daily discharge values for the period of record were equal to or greater than 6.12 m^3/s.

Probability of Occurrence of High or Low Discharges

The probabilities of occurrence of annual high discharges, annual low discharges, and seasonal low discharges are presented in three tables for each gaging station. Probability of occurrence is an estimate of the likelihood that a particular discharge in a stream will be equaled or exceeded in 1 year or, in the case of low flows, the likelihood that the discharge will not be equaled or exceeded during the year. The probability of occurrence of a high flow is called the exceedance probability, and the probability of occurrence of low flow is called the nonexceedance probability. For example, if the instantaneous discharge for the 0.20 exceedance probability is listed as 520 m^3/s, then a 20 percent chance exists that a discharge equal to or greater than 520 m^3/s will occur once during the year.

Recurrence interval is another way of expressing annual probability and it is the reciprocal of probability of occurrence. The recurrence interval for an exceedance probability of 0.20 is 5 years (1 divided by 0.20). For a long discharge record the annual maximum discharge can be expected to equal or exceed 520 m^3/s on average once every 5 years.

The table of probability of annual high discharges for each gaging station lists the maximum instantaneous discharge and the maximum mean discharge for 3, 7, 15, and 30 consecutive-day periods for selected exceedance probabilities and recurrence intervals. Values for the maximum instantaneous discharge are computed from the streamflow record according to the guidelines established by the Hydrology Subcommittee of the Interagency Advisory Committee on Water Data (1982). No adjustments are made for length of record and a station skew instead of a regional skew was used in the computations.

Values for the maximum mean discharges for 3, 7, 15, and 30 consecutive-day periods are computed from the annual high mean values of the corresponding periods. The computations are based on the log-Pearson Type III distribution using values obtained for the water year.

The table of probability of annual low discharges for each gaging station lists the minimum mean discharge for 1, 3, 7, 14, 30, 60, 90, 120, and 183 consecutive-day periods for selected nonexceedance probabilities and recurrence intervals. Values for the minimum mean discharges are computed from the annual low discharge values of the corresponding periods using the log-Pearson Type III distribution. Probabilities of annual low discharges are computed using values obtained for the climatic year (April 1 through March 31).

The table of probability of seasonal low discharges for each gaging station lists the minimum mean discharge for 1, 7, 14, and 30 consecutive-day periods for selected probabilities and recurrence intervals. These values are computed from the seasonal low mean values of the corresponding periods using the log-Pearson Type III distribution.

If the log-Pearson Type III distribution curve for the high, low or seasonal discharges failed to fit the data at the upper or lower ends, graphical interpretations were not made. Cautionary notes are provided for the user in these instances.

The annual low discharge and the seasonal low discharges that occur in any given year are sensitive to natural-channel processes, such as evapotranspiration, and human-induced hydrologic modifications,

such as the operation of many small water-storage reservoirs; the effects of surface-water withdrawal for agricultural, municipal, and industrial use; and the effects of return flow to the river. Thus, the statistics in tables are given for recurrence intervals that generally are within twice the period of record.

DATA CONSIDERATIONS

The reliability of statistical data is related to the length of record for a stream. The Hydrology Subcommittee of the Interagency Advisory Committee on Water Data (1982) recommends that at least 10 years of record be used for computing flood frequency estimates. Therefore, the length of record criterion for inclusion of a gaging station in this report is at least 10 years. However, the record length for each gaging stations in Afghanistan can vary substantially. The 10-year requirement was relaxed so all statistics could be computed for all gaging stations. Subsequently, extreme high or low flows may be included in the streamflow record of one gaging station and not in another, resulting in inconsistencies in the streamflow statistics when comparing gaging-station data. Differences in statistical data for pre- and post-regulation periods were not addressed in this report.

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STREAMFLOW STATISTICS

3- 0.000-2M GHAZNI RIVER NEAR SHINA

(U.S. Geological Survey identification number: 324200068060000)

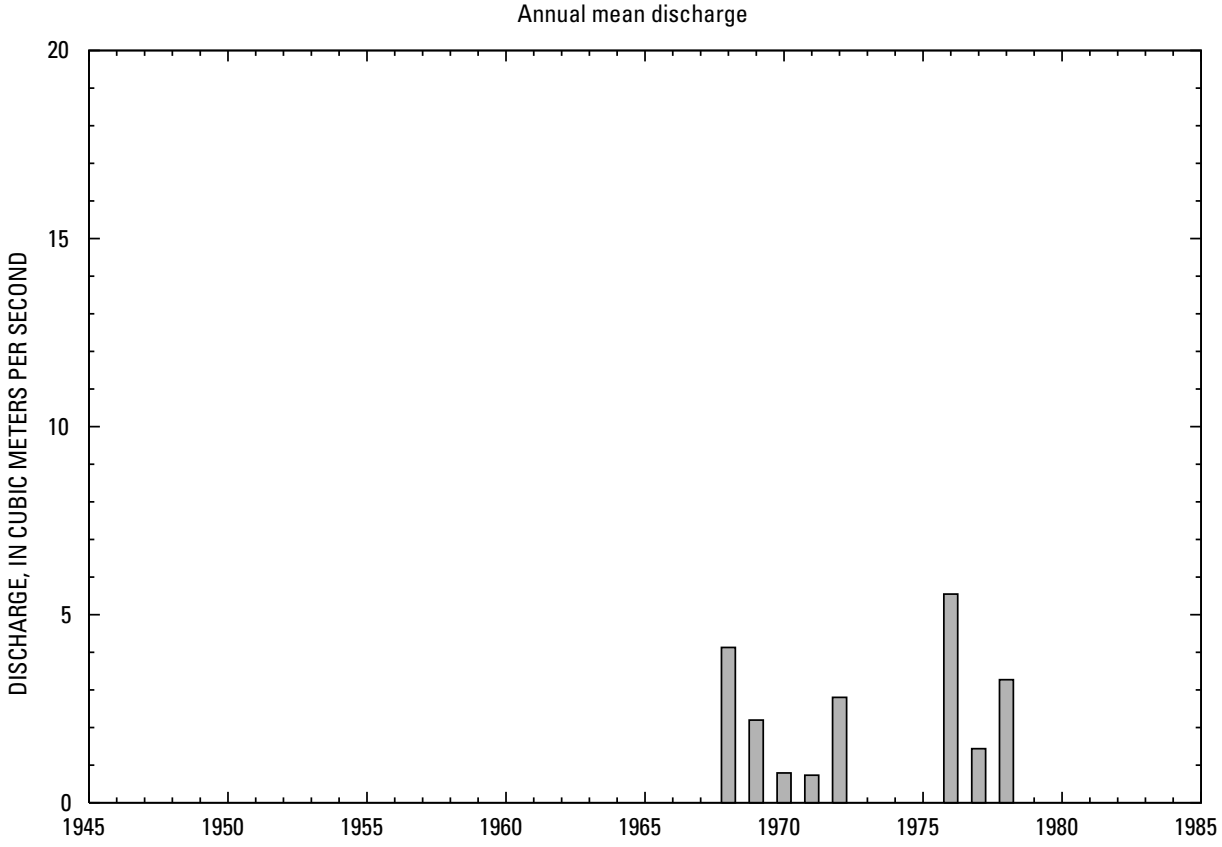
LOCATION: Lat 32º42'N., long 68º06'E., about 20 km upstream from Lake Ab-i-Istada, and about 35 km southeast of Moqur.

DRAINAGE AREA: 11,680 km^2.

ALTITUDE: 1,989 meters plus mean sea level.

PERIOD OF RECORD: July 18, 1967 to April 30, 1979.

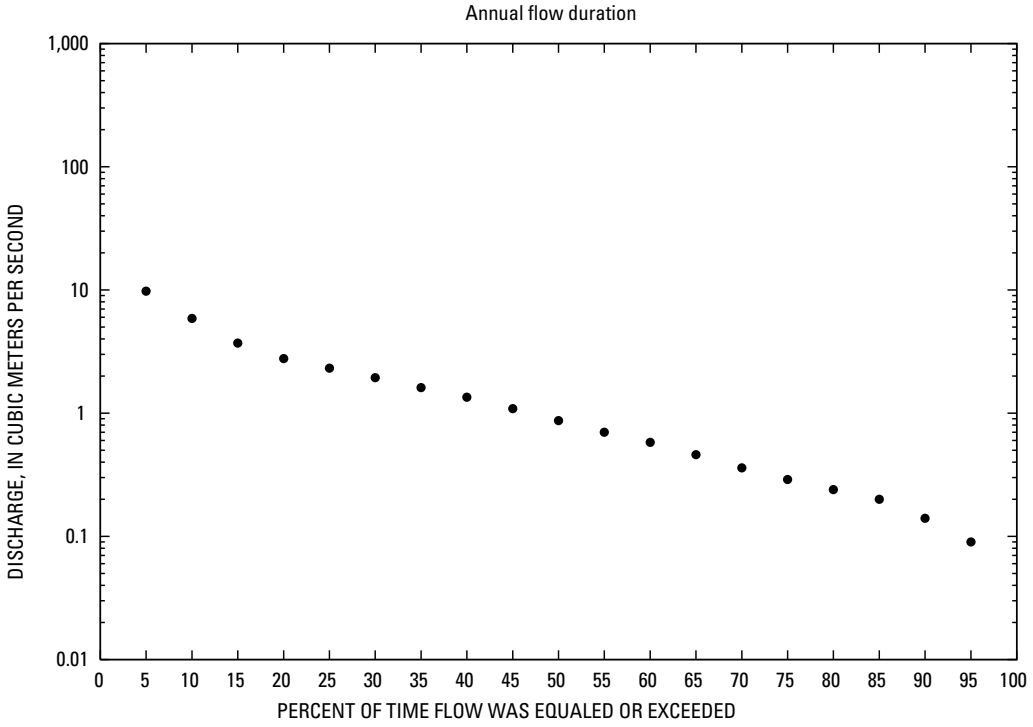
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	0.846	1977	0.163	1970	0.42	0.22	0.52	1.15
November	1.87	1977	0.471	1970	1.00	0.44	0.44	2.75
December	3.53	1968	0.579	1970	2.45	1.37	0.56	6.75
January	10.5	1968	0.989	1970	3.65	2.81	0.77	10.0
February	9.59	1968	1.12	1971	4.57	3.31	0.73	12.6
March	25.4	1973	2.20	1977	7.47	6.79	0.91	20.6
April	30.8	1976	0.203	1971	8.82	10.5	1.19	24.3
May	8.53	1972	0.096	1970	2.23	3.12	1.40	6.15
June	1.93	1972	0.075	1970	0.69	0.73	1.07	1.89
July	21.2	1978	0.045	1970	3.30	7.26	2.20	9.07
August	3.92	1978	0.086	1971	1.18	1.33	1.12	3.26
September	1.97	1976	0.131	1967	0.56	0.57	1.02	1.54
Annual	5.55	1976	0.735	1971	2.61	1.68	0.64	100



3- 0.000-2M GHAZNI RIVER NEAR SHINA, Continued

Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.99	0.91	0.64	0.17	0.09	0.06	0.03	0.07	0.06	0.13	0.28	0.58	0.09
90	1.05	1.27	1.13	0.19	0.14	0.1	0.05	0.11	0.07	0.17	0.31	0.78	0.14
85	1.16	1.37	1.27	0.25	0.16	0.11	0.05	0.12	0.08	0.22	0.39	0.99	0.2
80	1.43	1.48	1.81	0.29	0.17	0.11	0.08	0.18	0.11	0.23	0.46	1.12	0.24
75	2.09	1.75	2.28	0.37	0.19	0.16	0.11	0.21	0.12	0.25	0.52	1.4	0.29
70	2.4	1.84	2.64	0.55	0.2	0.17	0.18	0.29	0.15	0.26	0.62	1.66	0.36
65	2.49	1.95	2.93	1.03	0.23	0.17	0.22	0.38	0.2	0.27	0.66	1.82	0.46
60	2.58	2.44	3.23	1.17	0.27	0.18	0.29	0.42	0.24	0.29	0.7	1.96	0.58
55	2.66	2.61	3.86	1.41	0.3	0.21	0.38	0.46	0.32	0.3	0.73	2.06	0.7
50	2.75	2.81	4.17	1.95	0.39	0.29	0.44	0.53	0.39	0.32	0.78	2.15	0.87
45	3.03	3.01	4.52	3.37	0.56	0.39	0.52	0.67	0.45	0.35	0.92	2.28	1.09
40	3.29	3.17	5.92	4.29	0.93	0.48	0.62	0.75	0.48	0.45	1.01	2.41	1.35
35	3.47	3.48	6.8	5.28	1.38	0.76	1.01	0.83	0.52	0.49	1.12	2.5	1.61
30	3.65	3.93	7.49	6.66	1.65	0.9	1.23	0.9	0.55	0.56	1.2	2.6	1.94
25	3.88	5.31	8.1	9.31	1.84	1.16	1.35	0.97	0.59	0.59	1.37	2.74	2.32
20	4.19	6.95	9.44	12.2	2.07	1.5	1.47	1.12	0.63	0.64	1.52	3.11	2.77
15	4.95	8.92	12.2	16.3	2.33	1.74	1.6	1.32	0.7	0.71	1.64	3.34	3.71
10	7.07	12.1	19.2	24.1	3.12	2	2	1.76	0.81	0.75	1.88	3.75	5.87
5	7.98	14.3	29.2	29.5	12	2.13	6.75	3.86	0.94	0.8	2.18	4.48	9.77

3- 0.000-2M GHAZNI RIVER NEAR SHINA, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	9.00	8.18	3.69	1.94	1.50
0.95	1.05	13.6	9.88	5.28	3.12	2.42
0.90	1.11	17.7	11.4	6.63	4.12	3.16
0.80	1.25	25.4	14.3	9.07	5.88	4.42
0.50	2	57.8	26.5	18.7	12.5	8.81
0.20	5	159	64.3	46.2	29.3	18.6
0.10	10	291	115	79.8	47.5	28.2
0.04	25	592	237	152	82.2	44.6
0.02	50	970	399	237	119	60.7
0.01	100	1,550	661	363	168	80.6
0.005	200	2,430	1,080	546	233	105
0.002	500	4,290	ng	ng	ng	ng

3- 0.000-2M GHAZNI RIVER NEAR SHINA, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.004	0.006	0.013	0.019	0.035	0.050	0.055	0.058	0.118
0.10	10	0.007	0.011	0.019	0.027	0.049	0.071	0.079	0.087	0.164
0.20	5	0.014	0.021	0.032	0.043	0.072	0.107	0.121	0.140	0.243
0.50	2	0.058	0.073	0.090	0.108	0.157	0.226	0.271	0.343	0.526

3- 0.000-2M GHAZNI RIVER NEAR SHINA, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.284	0.548	0.562	0.658	0.048	0.054	0.056	0.066
0.10	10	0.434	0.704	0.758	0.876	0.074	0.082	0.087	0.105
0.20	5	0.674	0.933	1.05	1.21	0.125	0.137	0.149	0.188
0.50	2	1.27	1.50	1.74	2.11	0.339	0.373	0.425	0.609
		June-July-August				September-October-November			
0.05	20	0.005	0.013	0.020	0.033	0.010	0.028	0.035	0.092
0.10	10	0.012	0.022	0.033	0.053	0.020	0.042	0.050	0.112
0.20	5	0.027	0.042	0.058	0.093	0.043	0.068	0.078	0.143
0.50	2	0.117	0.136	0.170	0.253	0.154	0.167	0.182	0.241

3- 0.000-2M GHAZNI RIVER NEAR SHINA, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1968	30-Apr	--	38.0	1973	16-Mar	--	35.0
1969	10-Jan	--	63.4	1976	3-Sep	--	278
1970	9-Mar	--	38.0	1977	11-Jul	--	25.0
1971	6-Mar	--	17.1	1978	7-Jul	--	389
1972	18-Mar	--	40.0	1979	30-Mar	--	263
Annual peak discharge, from highest to lowest							
1978	7-Jul	--	389	1970	9-Mar	--	38.0
1976	3-Sep	--	278	1968	30-Apr	--	38.0
1979	30-Mar	--	263	1973	16-Mar	--	35.0
1969	10-Jan	--	63.4	1977	11-Jul	--	25.0
1972	18-Mar	--	40.0	1971	6-Mar	--	17.1

3- 0.000-2M GHAZNI RIVER NEAR SHINA, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1967	--	--	--	--	--	--	--	--	--	--	2.92	0.131	--
1968	0.282	1.13	3.53	10.5	9.59	8.39	12.7	2.12	0.388	0.482	0.453	0.18	4.13
1969	0.364	0.621	5.5	5.99	6.12	5.27	1.24	0.282	0.21	0.199	0.218	0.518	2.2
1970	0.163	0.471	0.579	0.989	2.02	3.21	0.458	0.096	0.075	0.045	0.95	0.545	0.794
1971	0.271	0.676	1.23	1.13	1.12	3.58	0.203	0.16	0.114	0.089	0.086	0.142	0.735
1972	0.259	0.543	1.5	1.95	1.83	7.42	6.98	8.53	1.93	1.25	0.748	0.55	2.8
1973	0.553	0.924	3.05	3.69	2.22	25.4	19.8	1.84	0.974	--	--	--	--
1976	0.491	1.32	2.15	2.65	8.97	8.14	30.8	6.48	1.85	1.44	0.987	1.97	5.55
1977	0.846	1.87	2.27	3.53	2.7	2.2	1.21	0.248	0.174	1.66	0.381	0.25	1.44
1978	0.287	1.21	2.55	2.5	2.82	2.48	0.375	0.344	0.47	21.2	3.92	0.748	3.27
1979	0.664	1.22	2.17	3.59	8.28	8.66	14.4	--	--	--	--	--	--

3- 0.000-7M GHAZNI RIVER AT GHAZNI BRIDGE

(U.S. Geological Survey identification number: 333300068250000)

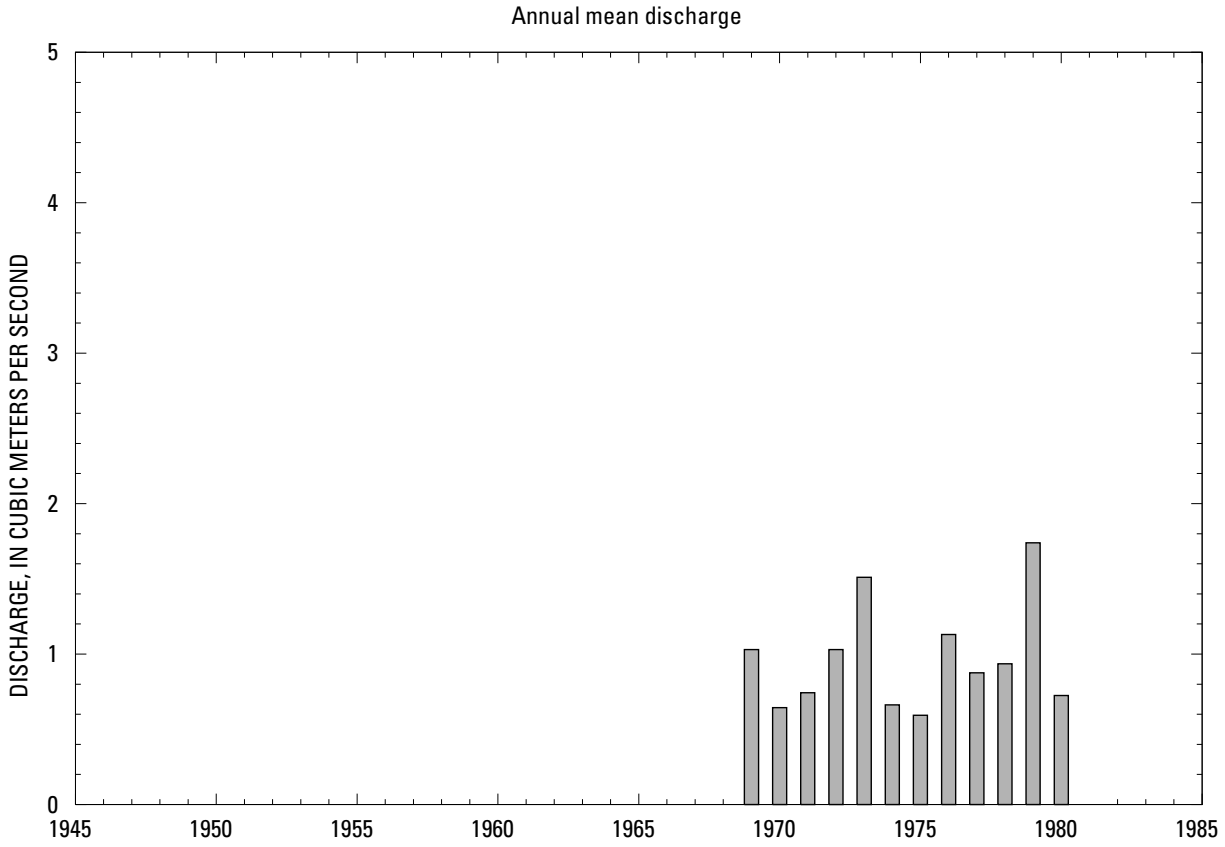
LOCATION: Lat 33º33'N., long 68º25'E., on downstream side of pier, near center of span of bridge on Kabul-Kandahar Highway, at Ghazni.

DRAINAGE AREA: 1,555 km^2.

ALTITUDE: 2,173 meters plus mean sea level.

PERIOD OF RECORD: April 11, 1968 to September 30, 1980.

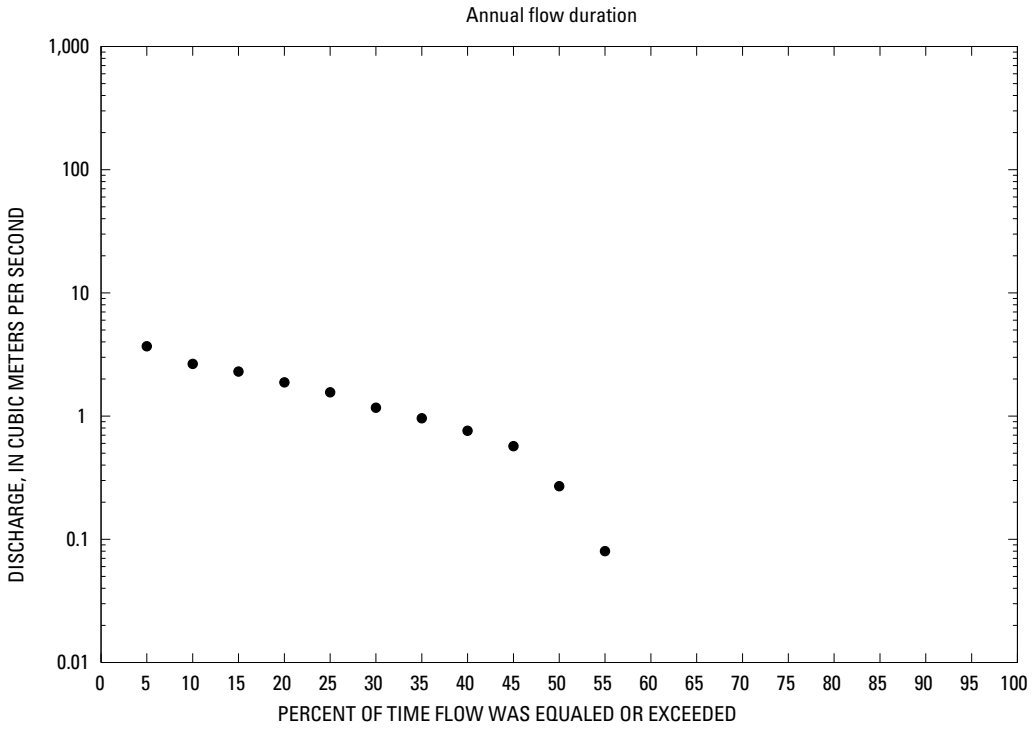
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m^3/s, meters per second; m, more than 2 years of occurrence]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	0.989	1979	0	1976	0.20	0.27	1.39	1.67
November	1.89	1969	0.333	1975	0.99	0.46	0.47	8.34
December	2.90	1969	0.707	1980	1.54	0.64	0.41	13.1
January	3.57	1969	0.956	1972	2.27	0.85	0.37	19.2
February	2.42	1977	0.739	1980	1.54	0.52	0.34	13.0
March	3.56	1973	0.163	1970	1.04	1.07	1.02	8.83
April	8.23	1979	0	1971	2.35	2.72	1.16	19.9
May	2.42	1968	0	1975, 1980	0.67	0.76	1.12	5.70
June	1.50	1979	0	1971, 1980	0.61	0.47	0.78	5.12
July	1.87	1978	0	m	0.25	0.58	2.33	2.11
August	0.809	1978	0	m	0.09	0.23	2.63	0.73
September	1.20	1978	0	m	0.27	0.34	1.24	2.31
Annual	1.74	1979	0.593	1975	0.97	0.35	0.37	100



3- 0.000-7M GHAZNI RIVER AT GHAZNI BRIDGE, Continued

Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.92	0.26	0.01	0	0	0	0	0	0	0	0.03	0.59	0
90	0.97	0.66	0.1	0	0	0	0	0	0	0	0.2	0.73	0
85	1.1	0.71	0.16	0	0	0	0	0	0	0	0.27	0.85	0
80	1.56	0.78	0.19	0	0	0	0	0	0	0	0.4	0.93	0
75	1.62	0.9	0.22	0.01	0	0	0	0	0	0	0.46	0.99	0
70	1.77	0.97	0.26	0.01	0	0	0	0	0.01	0	0.54	1.03	0
65	1.94	1.06	0.31	0.02	0	0	0	0	0.01	0	0.65	1.21	0
60	2.11	1.3	0.47	0.02	0	0	0	0	0.02	0	0.72	1.27	0
55	2.17	1.4	0.53	0.09	0	0	0	0	0.02	0	0.77	1.42	0.08
50	2.32	1.49	0.58	0.28	0	0	0	0	0.02	0	0.85	1.46	0.27
45	2.36	1.59	0.64	0.79	0	0	0	0	0.02	0	0.94	1.5	0.57
40	2.4	1.71	0.76	1.52	0	0	0	0	0.02	0.02	1.01	1.68	0.76
35	2.45	1.82	0.88	2.44	0	0	0	0	0.03	0.07	1.09	1.76	0.96
30	2.68	2.11	1	3.35	0	0.29	0	0	0.03	0.13	1.27	1.89	1.17
25	2.83	2.37	1.12	3.92	0.52	1.01	0	0	0.03	0.21	1.41	2	1.56
20	3.15	2.43	1.23	4.91	0.9	1.44	0	0	0.36	0.28	1.53	2.1	1.88
15	3.48	2.49	1.87	6.58	1.92	1.86	0	0	0.73	0.38	1.71	2.19	2.3
10	3.57	2.55	2.63	7.93	2.99	2.26	0.03	0	1.16	0.57	1.98	2.4	2.65
5	0	2.7	4.86	8.78	4.59	2.74	0.51	0.02	1.71	0.81	2.33	2.85	3.69

3- 0.000-7M GHAZNI RIVER AT GHAZNI BRIDGE, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	1.60	[1]1.83	[1]1.83	[1]1.74	[1]1.27
0.95	1.05	2.80	2.66	2.44	2.10	1.63
0.90	1.11	3.90	3.23	2.86	2.37	1.89
0.80	1.25	6.10	4.07	3.48	2.79	2.28
0.50	2	16.3	6.24	5.13	4.05	3.38
0.20	5	52.6	9.39	7.66	6.40	5.25
0.10	10	105	11.5	9.51	8.41	6.74
0.04	25	234	14.3	12.0	11.6	8.92
0.02	50	407	16.4	14.0	[1]14.5	10.8
0.01	100	685	18.5	16.1	[1]17.9	12.9
0.005	200	1,120	20.6	18.4	[1]21.9	15.2
0.002	500	2,110	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 0.000-7M GHAZNI RIVER AT GHAZNI BRIDGE, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	ng	ng	ng	ng	0	0	0	0.042
0.10	10	ng	ng	ng	ng	ng	0	0	0.015	0.071
0.20	5	ng	ng	ng	ng	ng	0	0	0.025	0.122
0.50	2	ng	ng	ng	ng	ng	0	0.021	0.054	0.267

Probability of occurrence of seasonal low discharges

[m^3/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.096	0.143	0.459	0.681	ng	ng	ng	0
0.10	10	0.148	0.226	0.548	0.814	ng	ng	ng	0
0.20	5	0.236	0.366	0.672	0.988	ng	ng	ng	0
0.50	2	0.512	0.755	0.959	1.34	ng	ng	ng	0
		June-July-August				September-October-November			
0.05	20	ng	ng	ng	ng	ng	ng	0	0
0.10	10	ng	ng	ng	ng	ng	ng	0	0
0.20	5	ng	ng	ng	ng	ng	ng	0	0
0.50	2	ng	ng	ng	ng	ng	ng	0	0.031

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m^3/s)	Water year	Date	Gage height (meters)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1968	18-May	--	25.6	1975	18-Jan	--	3.48
1969	23-Apr	--	6.70	1976	25-Apr	--	9.40
1970	12-Aug	--	112	1977	12-Jul	--	76.4
1971	4-May	--	4.06	1978	13-Jul	--	237
1972	26-Jun	--	21.0	1979	29-Mar	--	19.0
1973	16-Aug	--	29.8	1980	8-Apr	--	5.80
1974	27-Apr	--	9.85				
Annual peak discharge, from highest to lowest							
1978	13-Jul	--	237	1974	27-Apr	--	9.85
1970	12-Aug	--	112	1976	25-Apr	--	9.40
1977	12-Jul	--	76.4	1969	23-Apr	--	6.70
1973	16-Aug	--	29.8	1980	8-Apr	--	5.80
1968	18-May	--	25.6	1971	4-May	--	4.06
1972	26-Jun	--	21.0	1975	18-Jan	--	3.48
1979	29-Mar	--	19.0				

3- 0.000-7M GHAZNI RIVER AT GHAZNI BRIDGE, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1968	--	--	--	--	--	--	--	2.42	0.678	0	0.006	0.34	--
1969	0.244	1.89	2.9	3.57	1.82	0.272	0.067	0.458	1.08	0	0	0.127	1.03
1970	0.061	0.985	1.03	2.34	1.18	0.163	0.436	1.4	0.043	0	0.076	0.039	0.644
1971	0.212	1.14	1.56	2.26	2.08	0.797	0	0.956	0	0	0	0	0.743
1972	0.031	1.11	0.737	0.956	0.769	2.75	3.39	1.3	0.867	0.033	0	0.425	1.03
1973	0.131	0.639	2.1	3.54	1.46	3.56	4.95	0.005	0.918	0.045	0.232	0.63	1.51
1974	0.249	0.63	0.995	1.6	1.39	0.52	1.44	0.078	0.865	0	0	0.267	0.663
1975	0.015	0.333	1.5	2.12	1.36	0.494	0.554	0	0.576	0	0	0.216	0.593
1976	0	0.681	1.61	2.15	1.75	1.04	5.2	0.536	0.411	0.007	0	0.266	1.13
1977	0.025	0.674	1.6	3.23	2.42	0.43	0.121	0.042	0.843	1.15	0	0.043	0.875
1978	0.056	0.799	1.64	2.24	2.14	0.198	0.01	0.23	0.092	1.87	0.809	1.2	0.935
1979	0.989	1.68	2.14	2.23	1.35	1.42	8.23	1.33	1.5	0.129	0	0	1.74
1980	0.353	1.26	0.707	1.05	0.739	0.882	3.78	0	0	0	0	0	0.725

3- 0.000-7S GHAZNI RIVER AT NAUBURJA

(U.S. Geological Survey identification number: 333800068250000)

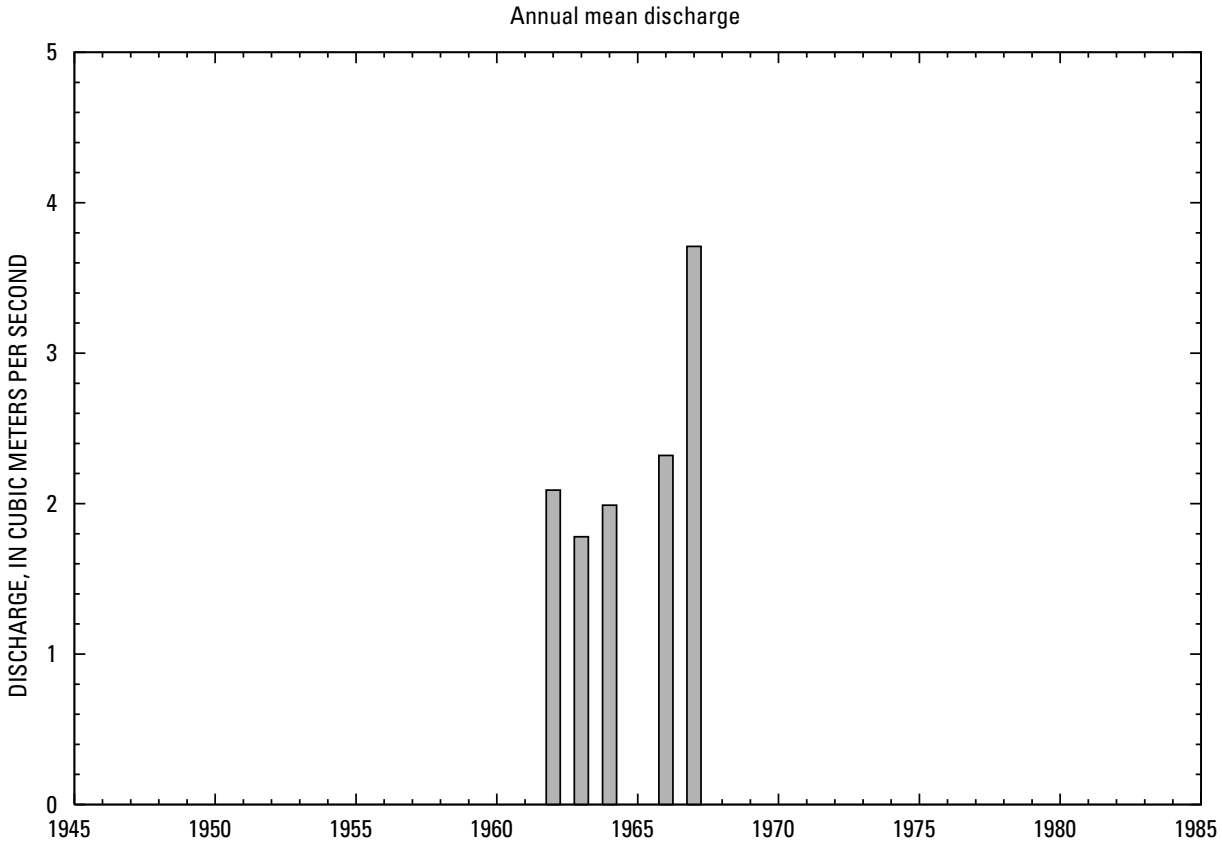
LOCATION: Lat 33º38'N., long 68º25'E.

DRAINAGE AREA: 1,425 km^2.

ALTITUDE: 2,235 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1961 to September 30, 1967.

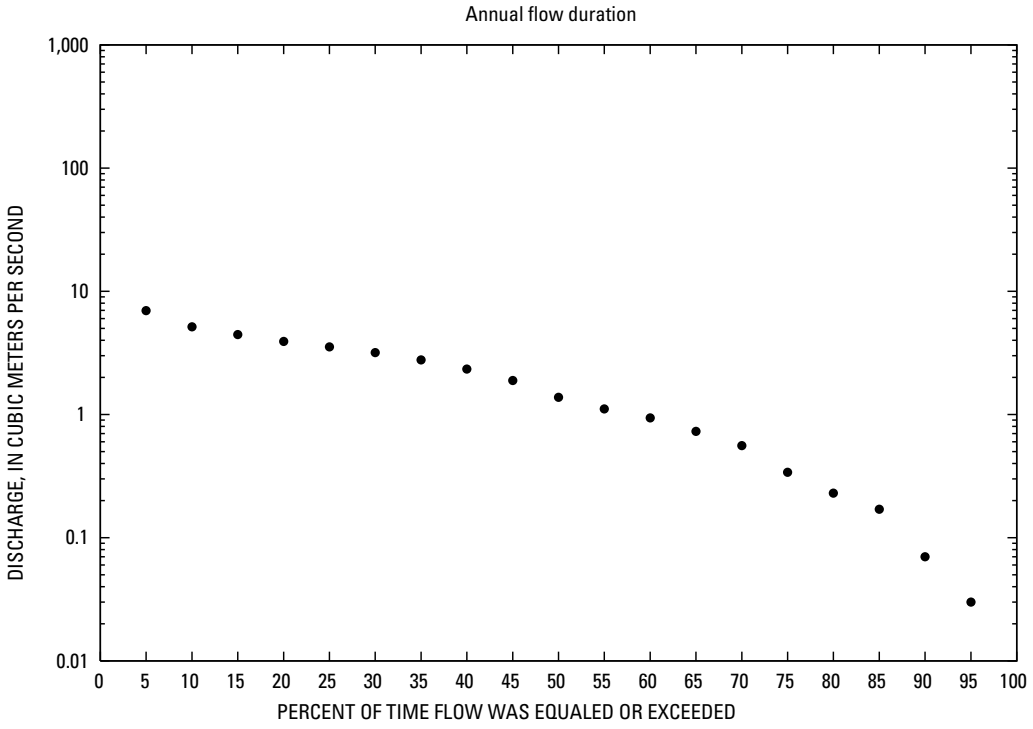
GAGE: --



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	2.45	1962	0.468	1967	1.63	0.79	0.49	5.60
November	3.09	1962	1.50	1967	2.19	0.60	0.27	7.51
December	5.62	1966	2.79	1967	3.77	1.03	0.27	12.9
January	5.05	1966	2.98	1964	3.95	0.84	0.21	13.5
February	3.21	1966	0.877	1962	2.18	0.92	0.42	7.46
March	2.86	1967	1.02	1963	1.93	0.76	0.39	6.60
April	12.5	1967	1.22	1963	6.11	4.58	0.75	20.9
May	11.5	1967	0.048	1962	3.24	4.83	1.49	11.1
June	2.85	1962	0.128	1964	1.74	1.11	0.64	5.96
July	1.86	1967	0.123	1964	0.54	0.74	1.38	1.85
August	1.10	1967	0.068	1966	0.33	0.44	1.31	1.14
September	4.23	1965	0.037	1963	1.58	1.59	1.01	5.40
Annual	3.71	1967	1.78	1963	2.38	0.77	0.32	100



3- 0.000-7S GHAZNI RIVER AT NAUBURJA, Continued

Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	2.86	0.66	0.58	0.77	0	0.08	0.07	0.04	0.02	0.24	1.13	2.39	0.03
90	2.97	0.68	0.64	0.84	0	0.13	0.07	0.05	0.03	0.42	1.47	2.5	0.07
85	3.03	0.69	0.7	1.06	0.01	0.15	0.08	0.06	0.04	0.53	1.56	2.84	0.17
80	3.14	0.72	0.74	1.49	0.01	0.17	0.13	0.07	0.07	0.59	1.6	2.96	0.23
75	3.29	0.75	0.92	2.33	0.01	0.2	0.14	0.08	0.11	0.63	1.62	3.06	0.34
70	3.43	0.79	0.99	2.54	0.02	0.31	0.15	0.08	0.19	0.67	1.65	3.24	0.56
65	3.61	1.04	1.02	3.04	0.02	0.43	0.17	0.09	0.22	0.81	1.74	3.3	0.73
60	3.65	1.07	1.04	3.62	0.02	0.5	0.2	0.15	0.25	0.91	1.93	3.36	0.94
55	3.72	1.1	1.07	4.25	0.04	0.66	0.21	0.17	0.29	1.09	2.14	3.42	1.11
50	3.82	1.13	1.1	4.72	0.65	0.75	0.22	0.18	0.45	1.2	2.19	3.62	1.38
45	3.87	2.73	1.14	5.11	1.04	0.88	0.25	0.19	0.64	1.44	2.34	3.68	1.89
40	4.06	3.16	1.25	5.87	1.31	1.03	0.27	0.2	0.93	1.67	2.49	3.74	2.34
35	4.3	3.29	1.52	6.69	2.08	1.21	0.29	0.24	1.03	1.86	2.53	3.82	2.77
30	4.46	3.6	2.23	7.53	3.42	2.51	0.3	0.25	1.63	2.13	2.57	4.06	3.18
25	4.52	3.76	2.41	8.73	5.28	3.74	0.33	0.27	2.72	2.29	2.62	4.18	3.54
20	4.63	3.91	3.45	9.85	6.66	4.04	0.38	0.28	4.21	2.42	2.68	4.39	3.92
15	4.71	4.05	4.24	12.1	8.89	4.35	0.47	0.61	4.85	2.7	2.88	5.02	4.45
10	4.83	4.22	4.49	14.3	10.4	4.8	0.79	0.84	5.4	3.73	3.01	5.86	5.15
5	0	0	0	17.9	15	5.47	4.76	1.45	0	4.8	3.29	6.23	6.96

3- 0.000-7S GHAZNI RIVER AT NAUBURJA, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m³/s)	Maximum mean discharge[2]			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	3.80	4.11	4.31	3.38	2.55
0.95	1.05	5.10	5.24	5.11	4.00	3.12
0.90	1.11	6.10	6.02	5.70	4.48	3.55
0.80	1.25	7.80	7.20	6.62	5.26	4.25
0.50	2	13.1	10.4	9.34	7.74	6.45
0.20	5	24.4	15.6	14.3	12.8	10.8
0.10	10	35.1	19.7	18.5	17.4	14.9
0.04	25	53.2	25.5	25.1	25.2	21.6
0.02	50	70.9	30.3	31.0	32.8	28.0
0.01	100	92.8	35.5	37.9	42.1	35.8
0.005	200	120	41.3	46.0	53.7	45.5
0.002	500	166	ng	ng	ng	ng

[1]Less than 10 years of data used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

3- 0.000-7S GHAZNI RIVER AT NAUBURJA, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	ng	0.010	[1]0.009	[1]0.006	0.031	0.074	0.224	0.581
0.10	10	ng	ng	0.010	[1]0.009	[1]0.008	0.036	0.091	0.257	0.645
0.20	5	ng	ng	0.010	0.010	0.011	0.046	0.118	0.301	0.722
0.50	2	ng	ng	0.010	0.011	0.023	0.084	0.202	0.397	0.851

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 0.000-7S GHAZNI RIVER AT NAUBURJA, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.515	0.572	[1]0.544	0.941	0	0	0	0.014
0.10	10	0.567	0.616	0.709	1.19	0	0	0	0.039
0.20	5	0.637	0.677	0.942	1.54	0	0	0	0.113
0.50	2	0.798	0.818	1.47	2.29	0.035	0.037	0.041	0.575
		June-July-August				September-October-November			
0.05	20	0.005	0.024	[1]0.023	0.036	0.006	0.006	0.010	0.019
0.10	10	0.007	0.032	[1]0.031	0.043	0.014	0.014	0.022	0.045
0.20	5	0.011	0.044	0.044	0.057	0.033	0.033	0.053	0.116
0.50	2	0.028	0.083	0.096	0.119	0.135	0.138	0.199	0.470

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 0.000-7S GHAZNI RIVER AT NAUBURJA, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1962	14-Apr	--	8.10	1965	4-Sep	--	9.90
1963	15-May	--	41.2	1966	24-Dec	--	6.41
1964	10-Apr	--	17.7	1967	22-Apr	--	20.3
Annual peak discharge, from highest to lowest							
1963	15-May	--	41.2	1965	4-Sep	--	9.90
1967	22-Apr	--	20.3	1962	14-Apr	--	8.10
1964	10-Apr	--	17.7	1966	24-Dec	--	6.41

3- 0.000-7S GHAZNI RIVER AT NAUBURJA, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1962	2.45	3.09	4.09	4.52	0.877	1.65	4.18	0.048	2.85	0.335	0.249	0.692	2.09
1963	1.15	2.39	3.67	3.8	1.66	1.02	1.22	3.59	2.39	0.251	0.07	0.037	1.78
1964	1.29	1.87	2.89	2.98	2.47	1.56	9.09	0.434	0.128	0.123	0.172	1.04	1.99
1965	2.04	2.58	3.55	--	--	--	--	--	--	--	--	4.23	--
1966	2.41	1.73	5.62	5.05	3.21	2.54	3.56	0.641	2.24	0.127	0.068	0.711	2.32
1967	0.468	1.5	2.79	3.41	2.67	2.86	12.5	11.5	1.09	1.86	1.1	2.75	3.71

3- 0.000-8W GHAZNI RIVER BELOW SERAJ RESERVOIR

(U.S. Geological Survey identification number: 334500068230000)

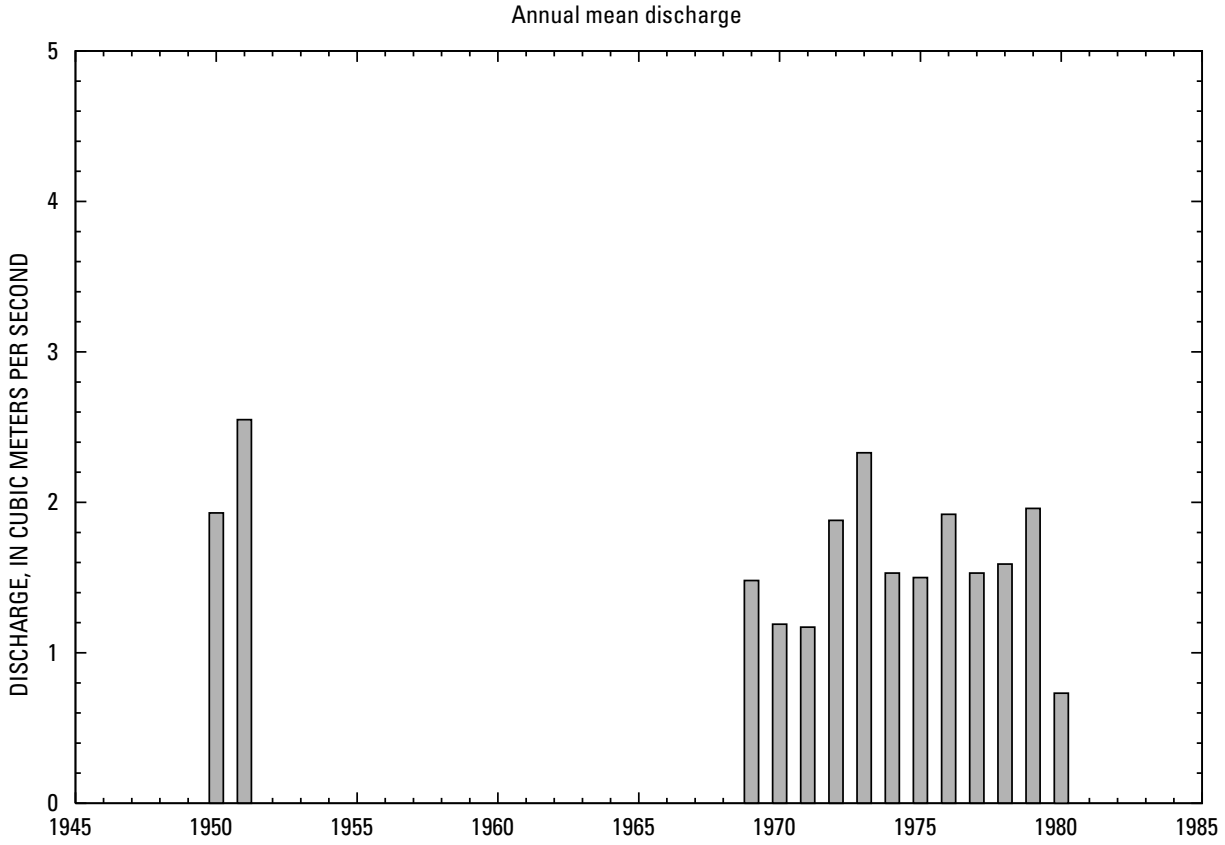
LOCATION: Lat 33º45'N., long 68º23'E., 500 m downstream, from Seraj Dam and about 24 km upstream from Ghazni.

DRAINAGE AREA: 1,165 km^2.

ALTITUDE: 2,338 meters plus mean sea level.

PERIOD OF RECORD: December 7, 1947 to September 30, 1980.

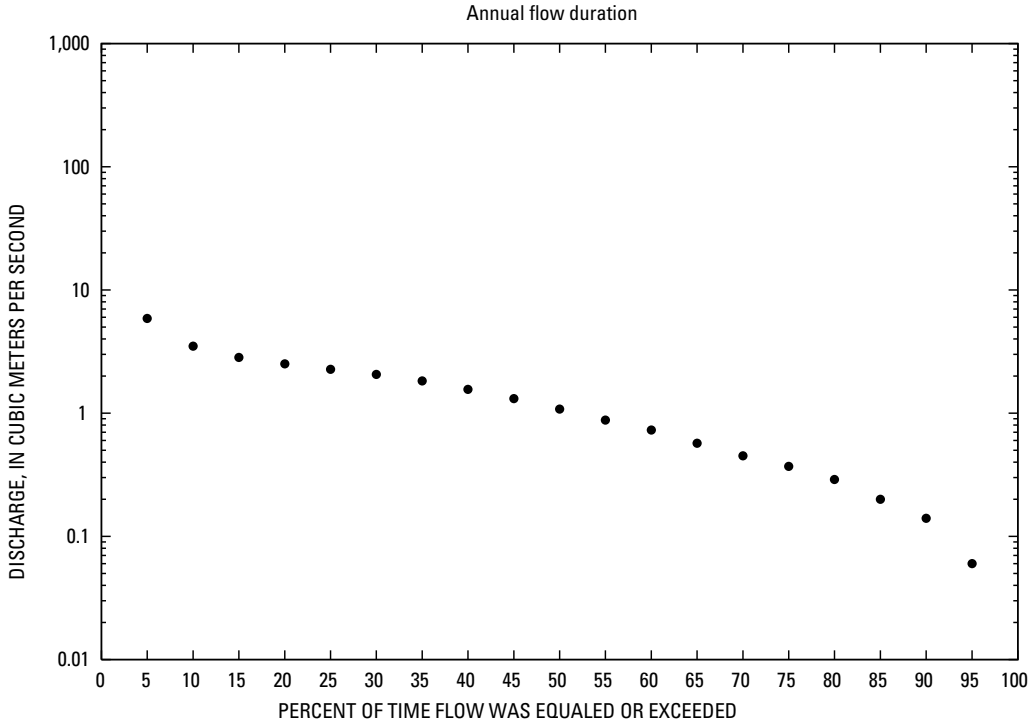
GAGE: Water-stage recorder. January 11 to May 10, 1948, at site 14 km downstream at different datum; March 1, 1949 to April 30, 1952, at same site but different datum.



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	3.39	1973	0.526	1980	1.30	0.82	0.63	6.20
November	3.76	1969	1.12	1976	2.24	0.74	0.33	10.7
December	3.37	1952	0.881	1980	2.15	0.66	0.31	10.2
January	3.51	1952	0.897	1980	2.11	0.68	0.32	10.1
February	3.44	1952	0.669	1980	1.76	0.74	0.42	8.42
March	4.82	1952	0.171	1969	1.61	1.45	0.90	7.69
April	9.44	1979	0.324	1971	3.69	2.66	0.72	17.6
May	5.85	1951	0.090	1980	2.32	1.69	0.73	11.0
June	3.72	1976	0.330	1971	1.83	1.36	0.74	8.75
July	1.84	1978	0.012	1973	0.44	0.47	1.06	2.10
August	1.37	1978	0.010	1973	0.44	0.41	0.92	2.10
September	2.71	1978	0.064	1979	1.07	0.68	0.63	5.11
Annual	2.55	1951	0.731	1980	1.66	0.48	0.29	100



3- 0.000-8W GHAZNI RIVER BELOW SERAJ RESERVOIR, Continued

Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.81	0.16	0.08	0.32	0.11	0.06	0.02	0.02	0.05	0.07	0.92	0.74	0.06
90	0.98	0.49	0.15	0.35	0.35	0.08	0.05	0.04	0.07	0.4	1.16	1.02	0.14
85	1.22	0.67	0.19	0.39	0.43	0.17	0.06	0.07	0.09	0.44	1.37	1.41	0.2
80	1.61	0.82	0.23	0.47	0.46	0.21	0.07	0.11	0.18	0.48	1.46	1.56	0.29
75	1.74	1.21	0.26	0.79	0.51	0.23	0.08	0.17	0.21	0.6	1.53	1.62	0.37
70	1.9	1.45	0.31	1.01	0.63	0.27	0.16	0.19	0.25	0.65	1.59	1.8	0.45
65	1.98	1.6	0.47	1.38	0.74	0.36	0.19	0.2	0.29	0.79	1.65	1.99	0.57
60	2.03	1.75	0.51	1.82	0.83	0.38	0.21	0.21	0.39	0.84	1.81	2.07	0.73
55	2.08	1.82	0.56	2.36	0.96	0.41	0.23	0.27	0.42	0.89	1.92	2.15	0.88
50	2.16	1.9	0.77	2.85	1.12	0.54	0.31	0.3	0.46	1.02	2.01	2.24	1.08
45	2.24	1.97	1.05	3.43	1.26	0.65	0.33	0.32	0.51	1.15	2.12	2.28	1.31
40	2.32	2.04	1.35	3.95	1.46	0.79	0.37	0.46	0.56	1.27	2.26	2.32	1.56
35	2.4	2.13	2.38	4.7	1.7	1.01	0.41	0.49	0.69	1.39	2.43	2.35	1.83
30	2.49	2.23	2.55	5.25	2.35	1.22	0.45	0.51	0.82	1.5	2.6	2.39	2.06
25	2.58	2.33	2.73	5.8	2.97	1.54	0.49	0.56	1.2	1.77	2.77	2.54	2.27
20	2.65	2.43	2.91	6.65	4.05	2.47	0.58	0.62	1.45	1.93	2.99	2.72	2.51
15	2.71	2.58	3.4	7.49	5.52	6.55	0.7	0.7	2.11	2.27	3.28	2.88	2.83
10	2.78	2.82	3.99	8.43	6.89	7.53	0.94	1.04	3.34	2.79	3.67	3.07	3.5
5	3.36	3.17	5.02	10	8.35	8.52	1.1	1.23	5.16	3.28	4.13	3.38	5.88

3- 0.000-8W GHAZNI RIVER BELOW SERAJ RESERVOIR, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge[1]			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	2.60	2.82	2.50	2.79	1.99
0.95	1.05	4.10	4.50	3.97	3.73	2.46
0.90	1.11	5.10	5.53	4.91	4.31	2.78
0.80	1.25	6.50	6.86	6.14	5.09	3.25
0.50	2	9.60	9.33	8.57	6.83	4.54
0.20	5	13.0	11.3	10.7	8.86	6.59
0.10	10	14.8	12.0	11.6	10.0	8.15
0.04	25	16.5	12.5	12.4	11.3	10.4
0.02	50	17.6	12.7	12.8	12.2	12.2
0.01	100	18.5	12.9	13.0	13.0	14.2
0.005	200	19.2	13.0	13.2	13.7	16.3
0.002	500	20.1	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 0.000-8W GHAZNI RIVER BELOW SERAJ RESERVOIR, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.010	0.015	0.017	0.018	0.020	0.023	0.031	0.112	0.427
0.10	10	0.017	0.022	0.027	0.031	0.038	0.046	0.063	0.182	0.516
0.20	5	0.030	0.037	0.046	0.056	0.076	0.098	0.134	0.302	0.644
0.50	2	0.089	0.096	0.122	0.153	0.212	0.300	0.410	0.639	0.951

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.011	0.035	0.380	0.637	0.019	0.021	0.023	0.101
0.10	10	0.030	0.094	0.483	0.774	0.033	0.037	0.046	0.132
0.20	5	0.091	0.254	0.644	0.975	0.062	0.071	0.096	0.191
0.50	2	0.524	1.00	1.12	1.50	0.198	0.227	0.327	0.428
		June-July-August				September-October-November			
0.05	20	0.016	0.017	0.018	0.019	0.019	0.020	0.055	0.135
0.10	10	0.027	0.030	0.032	0.035	0.038	0.041	0.090	0.235
0.20	5	0.048	0.056	0.062	0.071	0.078	0.089	0.155	0.414
0.50	2	0.138	0.163	0.186	0.216	0.241	0.288	0.374	0.888

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m^3/s)	Water year	Date	Gage height (meters)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1948	2-Apr	0.30	3.45	1972	28-Apr	--	9.63
1949	10-Apr	10.46	5.66	1973	15-Apr	--	9.63
1950	28-Apr	10.52	6.85	1974	6-Jun	--	9.63
1951	6-May	10.75	12.8	1975	8-Jun	--	8.80
1952	7-Apr	10.61	8.97	1976	22-Apr	--	11.1
1968	9-Apr	--	11.6	1977	1-Jun	--	10.2
1969	27-Sep	--	7.60	1978	5-Jul	--	18.8
1970	21-May	--	10.7	1979	16-Apr	--	14.4
1971	2-May	--	12.3	1980	29-Oct	--	4.00
Annual peak discharge, from highest to lowest							
1978	5-Jul	--	18.8	1973	15-Apr	--	9.63
1979	16-Apr	--	14.4	1972	28-Apr	--	9.63
1951	6-May	10.75	12.8	1952	7-Apr	10.61	8.97
1971	2-May	--	12.3	1975	8-Jun	--	8.80
1968	9-Apr	--	11.6	1969	27-Sep	--	7.60
1976	22-Apr	--	11.1	1950	28-Apr	10.52	6.85
1970	21-May	--	10.7	1949	10-Apr	10.46	5.66
1977	1-Jun	--	10.2	1980	29-Oct	--	4.00
1974	6-Jun	--	9.63	1948	2-Apr	0.30	3.45

3- 0.000-8W GHAZNI RIVER BELOW SERAJ RESERVOIR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1948	--	--	--	2.12	2.07	2.52	2.22	--	--	--	--	--	--
1949	--	--	--	--	--	2.99	3.25	0.564	0.4	0.4	0.636	0.488	--
1950	1.04	1.92	2.26	2.43	2.1	2.76	5.34	3.04	0.682	0.503	0.701	0.484	1.93
1951	1.37	1.87	2.27	2.55	2.01	2.69	7.13	5.85	1.3	1.01	1.27	1.26	2.55
1952	1.9	2.86	3.37	3.51	3.44	4.82	6.74	--	--	--	--	--	--
1968	--	--	--	--	--	--	--	5.27	2.9	0.471	0.45	1.27	--
1969	1.14	3.76	2.8	1.94	1.27	0.171	0.984	1.74	1.28	0.683	0.667	1.31	1.48
1970	0.946	1.48	1.61	1.64	1.11	0.435	1.81	3.67	0.444	0.058	0.194	0.841	1.19
1971	0.67	3.24	1.99	1.01	1.47	0.619	0.324	3.56	0.33	0.28	0.194	0.403	1.17
1972	0.544	2.02	1.91	1.97	0.85	2.74	4.02	3.17	3.16	0.155	0.246	1.82	1.88
1973	3.39	2.81	2.33	2.6	1.84	3.65	6.25	0.944	3.14	0.012	0.01	1.1	2.33
1974	2.54	2.55	1.01	1.17	1.27	0.333	3.04	1	3.41	0.258	0.245	1.64	1.53
1975	0.928	1.53	2.24	2.54	2.35	0.223	2.62	0.691	3.21	0.234	0.246	1.32	1.5
1976	0.665	1.12	1.77	2.2	2.27	1.21	5.68	1.86	3.72	0.743	0.477	1.48	1.92
1977	1.64	1.87	2.56	2.75	2.56	0.404	1.18	0.956	3.45	0.296	0.227	0.552	1.53
1978	0.573	1.8	2.42	2.32	2.1	0.237	0.393	2.6	0.745	1.84	1.37	2.71	1.59
1979	1.61	2.93	2.76	2.19	0.856	0.751	9.44	2.05	0.75	0.06	0.068	0.064	1.96
1980	0.526	1.78	0.881	0.897	0.669	0.858	2.23	0.09	0.429	0.042	0.04	0.391	0.731

3- 1.1L0-5T PARK RIVER NEAR PARK DASHT

(U.S. Geological Survey identification number: 330000068520000)

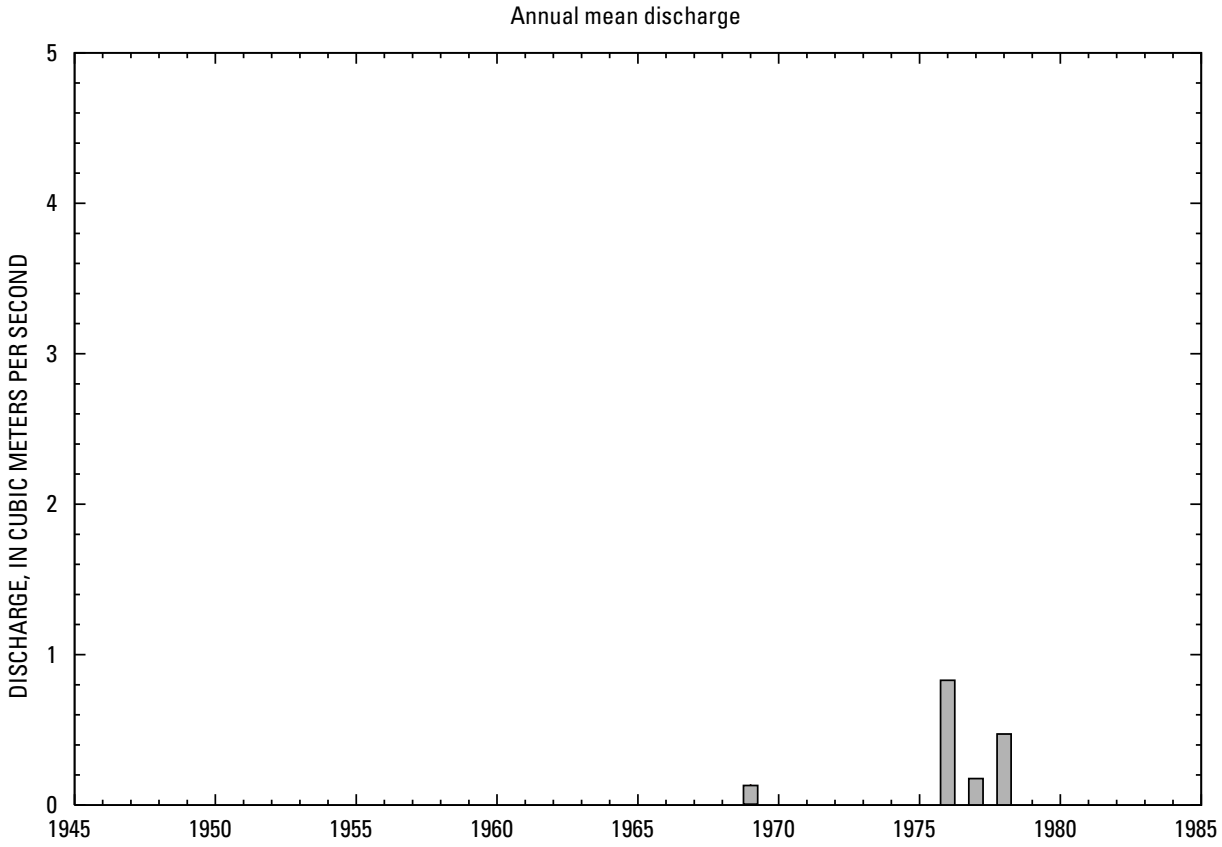
LOCATION: Lat 33º00'N., long 68º52'E.

DRAINAGE AREA: 260 km^2.

ALTITUDE: 2,290 meters plus mean sea level.

PERIOD OF RECORD: January 16, 1968 to April 30, 1979.

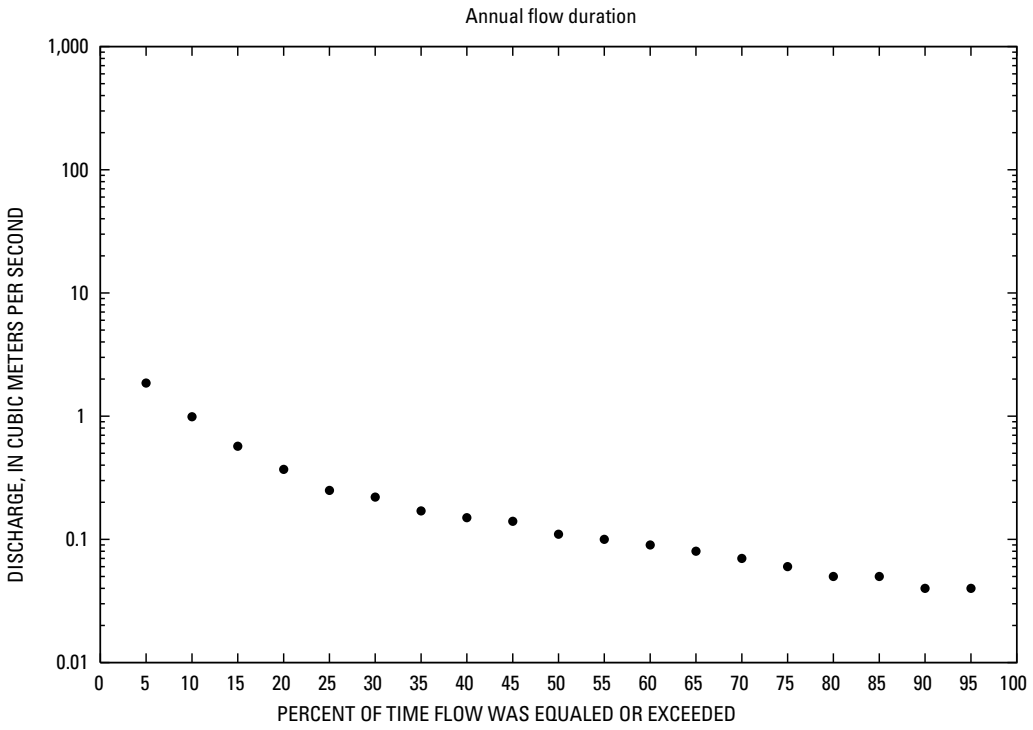
GAGE: --



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	0.091	1976	0.040	1978	0.06	0.02	0.32	1.12
November	0.104	1979	0.048	1978	0.06	0.02	0.33	1.19
December	0.133	1969	0.043	1970	0.09	0.03	0.35	1.72
January	0.149	1977	0.041	1970	0.11	0.04	0.37	1.98
February	1.13	1976	0.070	1969	0.32	0.37	1.17	5.85
March	3.58	1968	0.144	1969	1.48	1.26	0.85	27.2
April	3.83	1979	0.552	1969	1.89	1.41	0.75	34.8
May	1.42	1976	0.088	1978	0.46	0.55	1.18	8.52
June	0.272	1976	0.057	1978	0.13	0.09	0.68	2.33
July	1.97	1978	0.042	1968	0.55	0.82	1.48	10.2
August	0.447	1976	0.039	1969	0.20	0.20	0.97	3.72
September	0.172	1976	0.030	1968	0.08	0.06	0.79	1.44
Annual	0.829	1976	0.136	1969	0.40	0.32	0.80	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.04	0.05	0.13	0.23	0.05	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.04
90	0.05	0.06	0.16	0.3	0.08	0.04	0.04	0.04	0.03	0.04	0.04	0.05	0.04
85	0.05	0.07	0.17	0.42	0.11	0.05	0.04	0.04	0.04	0.04	0.05	0.06	0.05
80	0.08	0.09	0.18	0.58	0.12	0.05	0.04	0.04	0.04	0.04	0.05	0.07	0.05
75	0.1	0.09	0.21	0.71	0.14	0.06	0.05	0.04	0.04	0.05	0.05	0.07	0.06
70	0.1	0.1	0.23	0.75	0.15	0.06	0.05	0.05	0.04	0.05	0.05	0.07	0.07
65	0.1	0.12	0.48	0.79	0.15	0.07	0.05	0.05	0.04	0.05	0.06	0.08	0.08
60	0.11	0.14	0.54	0.85	0.16	0.08	0.05	0.05	0.04	0.06	0.06	0.08	0.09
55	0.11	0.15	0.71	0.99	0.19	0.08	0.05	0.05	0.05	0.06	0.07	0.08	0.1
50	0.11	0.16	0.88	1.04	0.2	0.1	0.06	0.05	0.05	0.06	0.07	0.09	0.11
45	0.11	0.17	1.07	1.1	0.2	0.1	0.08	0.1	0.05	0.07	0.07	0.1	0.14
40	0.12	0.19	1.73	1.47	0.27	0.11	0.18	0.11	0.05	0.07	0.07	0.1	0.15
35	0.13	0.2	1.92	1.81	0.31	0.12	0.2	0.13	0.08	0.07	0.07	0.1	0.17
30	0.13	0.25	2.05	1.9	0.4	0.15	0.32	0.2	0.1	0.08	0.08	0.11	0.22
25	0.14	0.28	2.14	1.99	0.51	0.18	0.36	0.22	0.12	0.08	0.08	0.12	0.25
20	0.15	0.5	2.23	2.31	0.56	0.2	0.4	0.26	0.13	0.08	0.08	0.13	0.37
15	0.16	0.71	2.47	3.33	0.65	0.24	0.49	0.31	0.14	0.09	0.09	0.14	0.57
10	0.16	0.84	3.07	5.16	0.92	0.28	0.56	0.43	0.15	0	0	0.15	0.99
5	0.2	0	5.42	7.12	2.08	0.32	1.41	0.89	0.16	0	0	0.16	1.86

3- 1.1L0-5T PARK RIVER NEAR PARK DASHT, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	0.300	[2]0.158	[2]0.170	[2]0.241	[2]0.266
0.95	1.05	1.1	[2]0.421	[2]0.440	[2]0.463	[2]0.408
0.90	1.11	2.1	[2]0.700	0.708	0.652	0.520
0.80	1.25	4.4	1.28	1.22	0.985	0.709
0.50	2	17.1	3.94	3.17	2.13	1.34
0.20	5	58.3	11.5	7.34	4.54	2.72
0.10	10	106	19.9	10.9	6.68	4.03
0.04	25	193	35.1	16.2	10.0	6.25
0.02	50	279	50.3	20.5	13.0	8.40
0.01	100	383	69.2	25.1	16.4	11.0
0.005	200	508	92.3	29.9	20.3	14.3
0.002	500	706	ng	ng	ng	ng

[1]Less than 10 years of data used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

3- 1.1L0-5T PARK RIVER NEAR PARK DASHT, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.018	0.018	0.024	0.027	0.027	0.029	0.029	0.031	0.033
0.10	10	0.021	0.021	0.026	0.029	0.030	0.032	0.032	0.035	0.039
0.20	5	0.025	0.025	0.028	0.031	0.033	0.035	0.037	0.041	0.047
0.50	2	0.032	0.032	0.033	0.036	0.040	0.045	0.052	0.057	0.070

3- 1.1L0-5T PARK RIVER NEAR PARK DASHT, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.034	0.037	0.037	0.038	0.031	[1]0.030	0.046	0.062
0.10	10	0.038	0.041	0.043	0.046	0.042	0.042	0.057	0.074
0.20	5	0.044	0.048	0.051	0.057	0.061	0.063	0.076	0.097
0.50	2	0.057	0.061	0.069	0.081	0.125	0.137	0.146	0.198
		June-July-August				September-October-November			
0.05	20	0.018	0.023	0.027	0.031	0.026	0.026	0.027	0.026
0.10	10	0.020	0.025	0.028	0.033	0.028	0.028	0.029	0.029
0.20	5	0.024	0.027	0.030	0.037	0.030	0.030	0.031	0.033
0.50	2	0.036	0.037	0.041	0.053	0.037	0.037	0.039	0.044

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 1.1L0-5T PARK RIVER NEAR PARK DASHT, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1968	10-Mar	--	11.7	1977	30-Jun	--	13.0
1969	10-Dec	--	1.27	1978	6-Jul	--	100
1970	25-Mar	--	5.30	1979	1-Apr	--	25.0
1976	13-Jul	--	89.0				
Annual peak discharge, from highest to lowest							
1978	6-Jul	--	100	1968	10-Mar	--	11.7
1976	13-Jul	--	89.0	1970	25-Mar	--	5.30
1979	1-Apr	--	25.0	1969	10-Dec	--	1.27
1977	30-Jun	--	13.0				

3- 1.1L0-5T PARK RIVER NEAR PARK DASHT, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1968	--	--	--	--	0.168	3.58	1.52	0.371	0.075	0.042	0.043	0.03	--
1969	0.044	0.06	0.133	0.115	0.07	0.144	0.552	0.285	0.103	0.05	0.039	0.037	0.136
1970	0.055	0.051	0.043	0.041	0.072	0.748	--	--	--	--	--	--	--
1976	0.091	0.051	0.075	0.088	1.13	2.21	3.49	1.42	0.272	0.547	0.447	0.172	0.829
1977	0.058	0.075	0.125	0.149	0.15	0.176	0.805	0.149	0.125	0.16	0.103	0.04	0.176
1978	0.04	0.048	0.093	0.108	0.315	1.3	1.13	0.088	0.057	1.97	0.379	0.111	0.472
1979	0.078	0.104	0.092	0.145	0.318	2.17	3.83	--	--	--	--	--	--

3- 4.1L0-8T PALTU RIVER NEAR SARAFSAR

(U.S. Geological Survey identification number: 330800069050000)

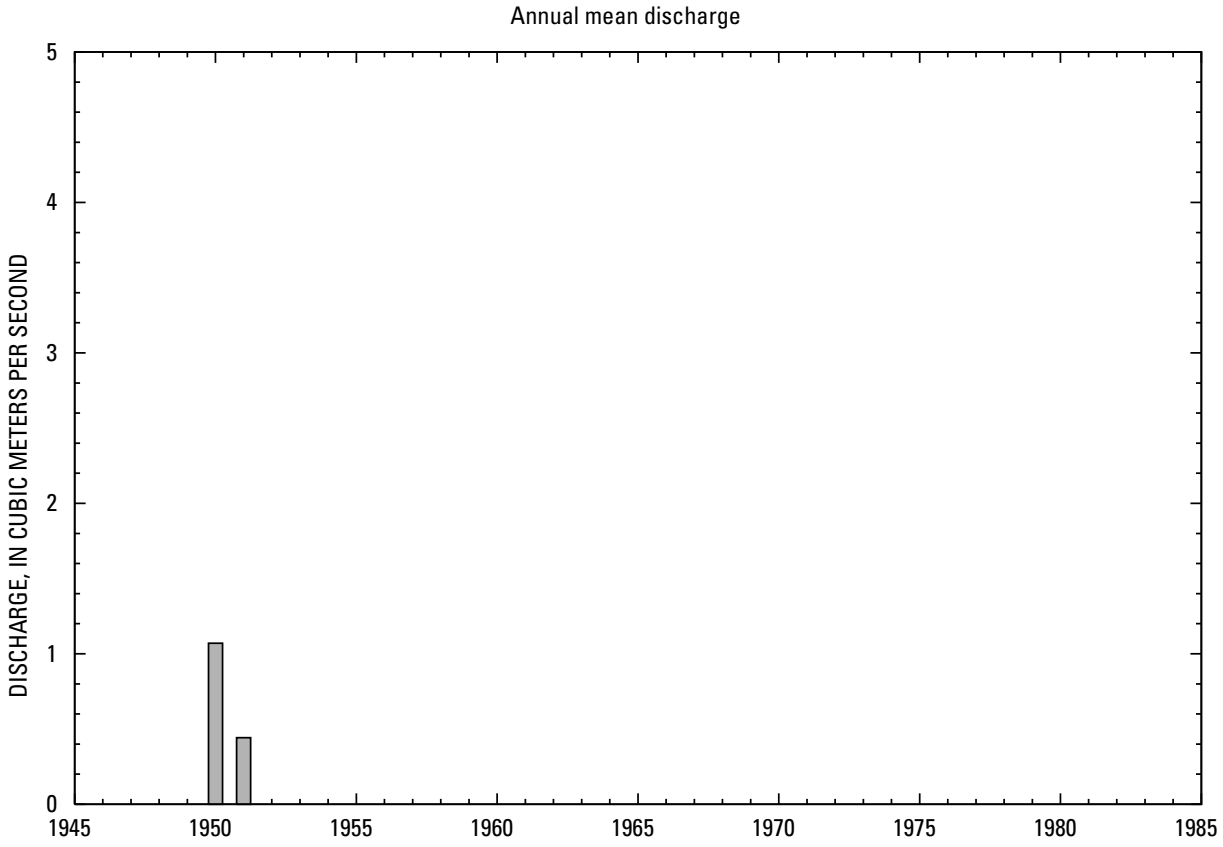
LOCATION: Lat 33º08'N., long 69º05'E., on right bank of Paltu River, 1 km downstream from the Paltu Dam, about 19km east of Sarafsar, 51 km south of Gardez, and 72 km southeast of Ghazni.

DRAINAGE AREA: 105 km^2.

ALTITUDE: 2,633 meters plus mean sea level.

PERIOD OF RECORD: May 1, 1949 to April 15, 1952.

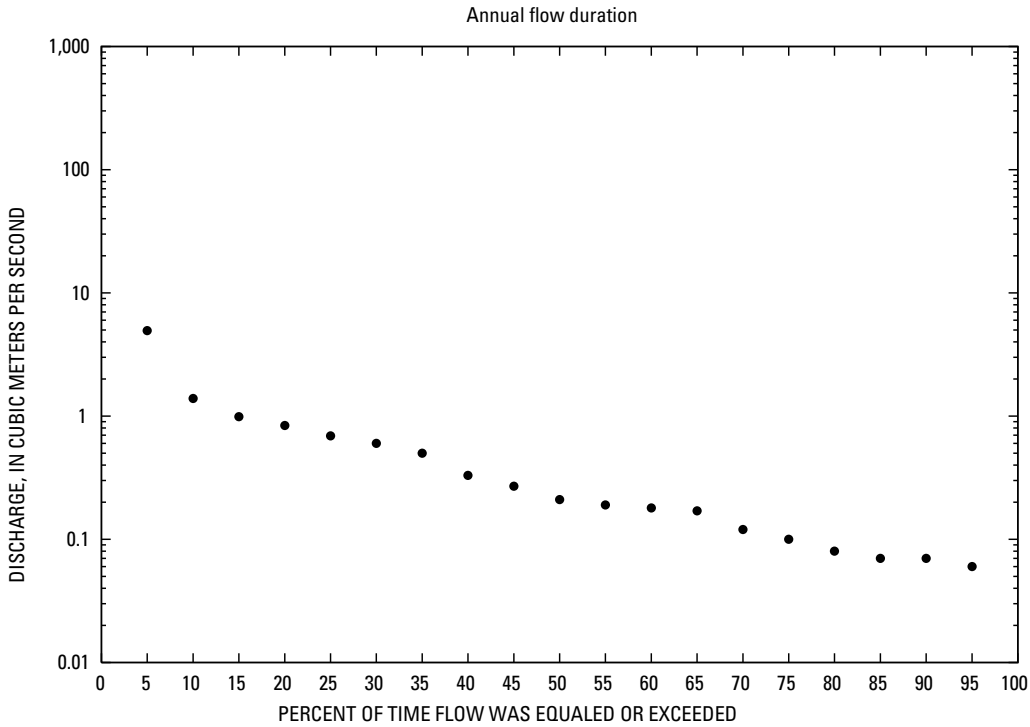
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	0.358	1952	0.070	1950	0.17	0.16	0.93	1.98
November	0.406	1952	0.093	1950	0.22	0.16	0.74	2.53
December	0.421	1952	0.090	1950	0.23	0.17	0.74	2.63
January	0.429	1952	0.066	1950	0.22	0.19	0.84	2.54
February	0.457	1952	0.126	1950	0.26	0.17	0.67	2.99
March	1.15	1950	0.512	1951	0.74	0.36	0.48	8.46
April	6.86	1950	1.01	1951	3.93	4.14	1.05	45.0
May	3.55	1950	0.767	1949	1.75	1.56	0.89	20.0
June	0.627	1951	0.344	1949	0.50	0.14	0.29	5.74
July	0.591	1951	0.185	1950	0.33	0.23	0.69	3.77
August	0.522	1951	0.086	1949	0.25	0.24	0.98	2.81
September	0.290	1951	0.043	1950	0.13	0.14	1.05	1.50
Annual	1.07	1950	0.442	1951	0.76	0.44	0.59	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.06	0.06	0.24	0.88	0.59	0.21	0.11	0.06	0.03	0.06	0.08	0.08	0.06
90	0.06	0.07	0.35	0.89	0.62	0.25	0.12	0.06	0.04	0.06	0.09	0.08	0.07
85	0.07	0.11	0.45	0.91	0.74	0.27	0.14	0.06	0.04	0.06	0.09	0.09	0.07
80	0.07	0.12	0.51	0.93	0.81	0.29	0.15	0.07	0.04	0.07	0.09	0.09	0.08
75	0.08	0.19	0.53	0.94	0.83	0.31	0.15	0.07	0.06	0.07	0.11	0.11	0.1
70	0.09	0.19	0.55	0.97	0.86	0.34	0.17	0.07	0.06	0.07	0.12	0.12	0.12
65	0.17	0.2	0.56	1.04	0.88	0.38	0.18	0.08	0.06	0.07	0.14	0.17	0.17
60	0.17	0.2	0.56	1.18	0.9	0.41	0.2	0.09	0.06	0.08	0.15	0.17	0.18
55	0.17	0.2	0.57	1.29	0.92	0.42	0.21	0.11	0.07	0.09	0.17	0.17	0.19
50	0.18	0.21	0.58	1.63	0.95	0.52	0.25	0.12	0.07	0.09	0.17	0.18	0.21
45	0.18	0.21	0.59	4.87	1	0.62	0.26	0.15	0.07	0.12	0.18	0.18	0.27
40	0.18	0.24	0.75	5.21	1.06	0.63	0.3	0.18	0.07	0.14	0.18	0.2	0.33
35	0.18	0.25	0.77	5.45	1.17	0.63	0.54	0.29	0.08	0.15	0.2	0.21	0.5
30	0	0.44	0.83	6.23	1.51	0.64	0.56	0.32	0	0.31	0.4	0	0.6
25	0	0.45	0.87	6.66	1.98	0.64	0.57	0.41	0	0.33	0.41	0	0.69
20	0	0.46	1.19	7.24	2.7	0.65	0.59	0.43	0	0	0.41	0	0.84
15	0	0.47	1.25	7.92	4.18	0.66	0.6	0.47	0	0	0.41	0	0.99
10	0	0.48	1.32	8.91	5.02	0.73	0.61	0.52	0	0	0.42	0	1.39
5	0	0	1.47	0	5.3	0.93	0.64	0.54	0	0	0	0	4.95

3- 4.1L0-8T PALTU RIVER NEAR SARAFSAR, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	ng	ng	ng	ng
0.95	1.05	ng	ng	ng	ng	ng
0.90	1.11	ng	ng	ng	ng	ng
0.80	1.25	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng
0.04	25	ng	ng	ng	ng	ng
0.02	50	ng	ng	ng	ng	ng
0.01	100	ng	ng	ng	ng	ng
0.005	200	ng	ng	ng	ng	ng
0.002	500	ng	ng	ng	ng	ng

3- 4.1L0-8T PALTU RIVER NEAR SARAFSAR, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng	ng

3- 4.1L0-8T PALTU RIVER NEAR SARAFSAR, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng
		June-July-August				September-October-November			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng

3- 4.1L0-8T PALTU RIVER NEAR SARAFSAR, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1950	3-Apr	2.19	15.3				
1951	11-Aug	2.24	22.1				
Annual peak discharge, from highest to lowest							
1951	11-Aug	2.24	22.1				
1950	3-Apr	2.19	15.3				

3- 4.1L0-8T PALTU RIVER NEAR SARAFSAR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1949	--	--	--	--	--	--	--	0.767	0.344	0.211	0.086	0.06	--
1950	0.07	0.093	0.09	0.066	0.126	1.15	6.86	3.55	0.534	0.185	0.128	0.043	1.07
1951	0.09	0.164	0.179	0.17	0.2	0.512	1.01	0.931	0.627	0.591	0.522	0.29	0.442
1952	0.358	0.406	0.421	0.429	0.457	0.554	--	--	--	--	--	--	--

3- 4.L00-1A PALTU RIVER ABOVE SARDE RESERVOIR

(U.S. Geological Survey identification number: 331600068420000)

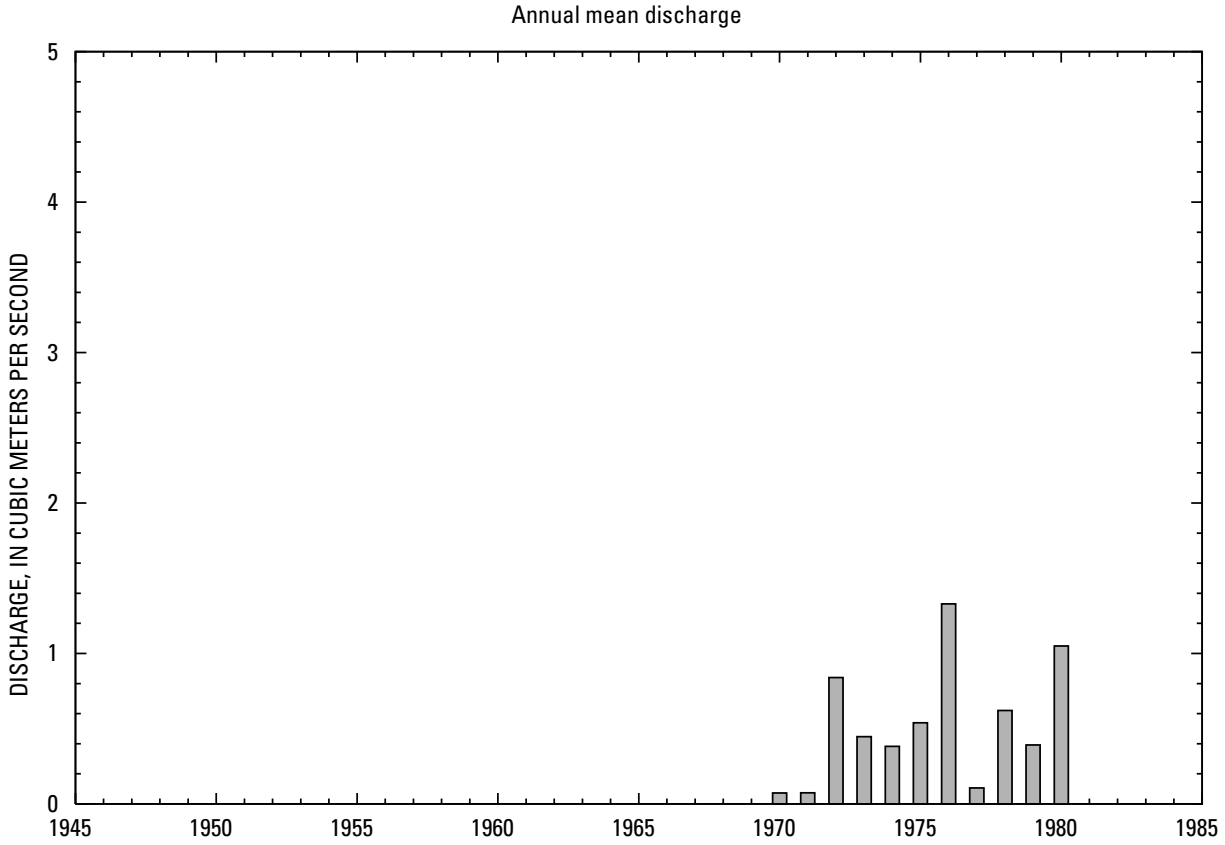
LOCATION: Lat 33º16'N., long 68º42'E., on right bank 1 km upstream from Sarde Dam, about 51 km southwest of Gardez.

DRAINAGE AREA: 805 km^2.

ALTITUDE: 2,115 meters plus mean sea level.

PERIOD OF RECORD: May 6, 1969 to September 30, 1980.

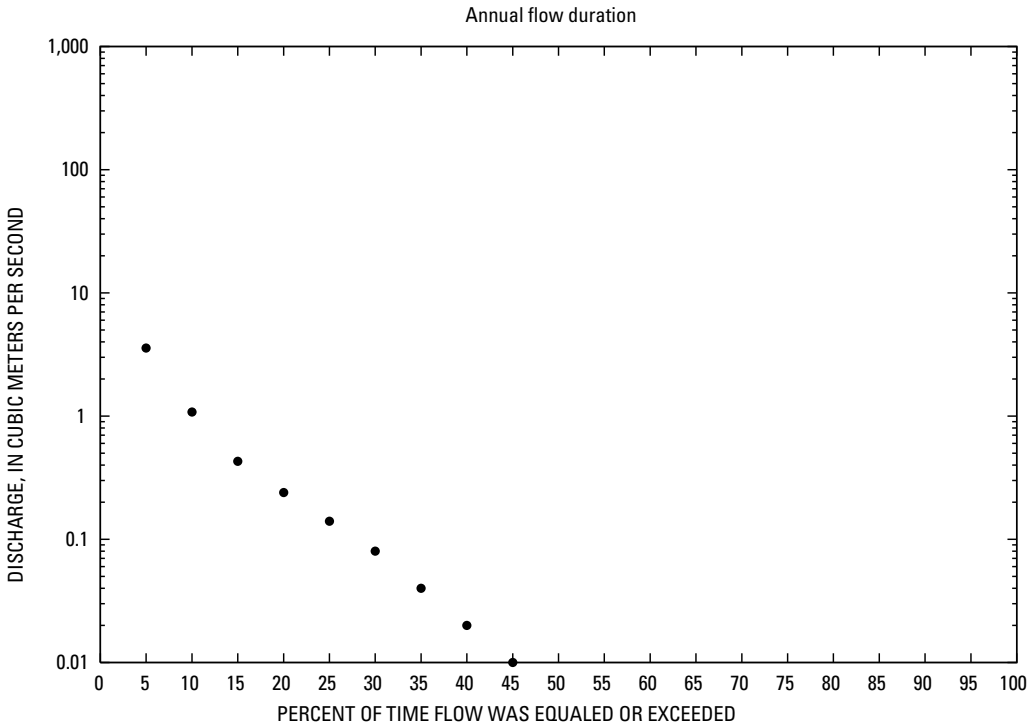
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m^3/s, meters per second; m, more than 2 years of occurrence; ng, no data]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	0	m	0	m	0	0	ng	0
November	0.404	1978	0	m	0.05	0.12	2.63	0.72
December	0.167	1979	0	1972	0.06	0.06	0.95	1.03
January	0.271	1979	0.010	m	0.13	0.11	0.89	2.02
February	2.32	1973	0.010	1974, 1975	0.50	0.70	1.40	7.95
March	3.15	1980	0.091	1977	1.53	1.26	0.82	24.2
April	8.14	1976	0	1970, 1971	2.45	2.72	1.11	38.8
May	3.13	1976	0	m	0.67	1.14	1.70	10.6
June	0.219	1972	0	m	0.02	0.06	3.46	0.29
July	3.15	1978	0	m	0.39	0.91	2.37	6.11
August	2.54	1978	0	m	0.48	0.77	1.60	7.63
September	0.324	1976	0	m	0.05	0.11	2.38	0.73
Annual	1.33	1976	0.073	1970	0.53	0.41	0.77	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0
90	0.01	0.01	0.02	0	0	0	0	0	0	0	0	0	0
85	0.02	0.02	0.09	0	0	0	0	0	0	0	0	0	0
80	0.02	0.02	0.13	0	0	0	0	0	0	0	0	0.01	0
75	0.02	0.03	0.17	0.01	0	0	0	0	0	0	0	0.01	0
70	0.04	0.05	0.24	0.02	0	0	0	0	0	0	0	0.01	0
65	0.05	0.05	0.36	0.06	0	0	0	0	0	0	0	0.02	0
60	0.08	0.06	0.45	0.33	0	0	0	0	0	0	0	0.02	0
55	0.09	0.08	0.67	0.57	0	0	0	0	0	0	0	0.02	0
50	0.1	0.15	0.75	0.87	0	0	0	0	0	0	0	0.04	0
45	0.13	0.22	0.92	1.06	0	0	0	0	0	0	0	0.05	0.01
40	0.14	0.25	1.08	1.66	0	0	0	0	0	0	0	0.06	0.02
35	0.15	0.28	1.83	2.58	0	0	0	0	0	0	0	0.09	0.04
30	0.16	0.31	2.44	3.19	0	0	0	0	0	0	0	0.1	0.08
25	0.2	0.35	2.75	3.71	0.01	0	0	0	0	0	0	0.13	0.14
20	0.26	0.4	2.99	4.9	0.13	0	0	0.01	0	0	0	0.14	0.24
15	0.3	0.66	3.3	5.93	1.02	0	0.02	0.02	0	0	0.03	0.15	0.43
10	0.35	0.91	4.11	7.13	3.71	0	0.12	0.43	0	0	0.06	0.16	1.08
5	0.38	2.46	4.62	8.75	5.25	0	1.55	2.83	0.02	0	0.1	0.22	3.57

3- 4.L00-1A PALTU RIVER ABOVE SARDE RESERVOIR, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	0.200	[1]0.080	[1]0.073	[1]0.088	[1]0.083
0.95	1.05	1.00	0.468	0.387	0.350	0.279
0.90	1.11	2.10	1.03	0.817	0.661	0.497
0.80	1.25	4.60	2.37	1.79	1.30	0.935
0.50	2	15.7	7.92	5.61	3.67	2.59
0.20	5	38.2	17.2	11.7	7.58	5.68
0.10	10	53.8	22.3	15.0	9.95	7.88
0.04	25	71.6	27.0	18.0	12.4	10.5
0.02	50	82.8	29.4	19.6	13.8	12.3
0.01	100	92.2	31.1	20.7	15.0	14.0
0.005	200	100	32.3	21.5	15.9	15.4
0.002	500	108	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 4.L00-1A PALTU RIVER ABOVE SARDE RESERVOIR, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	ng	ng	ng	ng	ng	ng	0	0
0.10	10	ng	ng	ng	ng	ng	ng	ng	0	0
0.20	5	ng	ng	ng	ng	ng	ng	ng	0	0
0.50	2	ng	ng	ng	ng	ng	ng	ng	0.003	0.019

3- 4.L00-1A PALTU RIVER ABOVE SARDE RESERVOIR, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0	0	0	0	ng	ng	ng	0
0.10	10	0	0	0.001	0.002	ng	ng	ng	0
0.20	5	0	0	0.004	0.009	ng	ng	ng	0
0.50	2	0.008	0.012	0.017	0.033	ng	ng	ng	0
		June-July-August				September-October-November			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng

3- 4.L00-1A PALTU RIVER ABOVE SARDE RESERVOIR, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1970	18-Feb	--	1.04	1976	25-Jul	--	16.5
1971	13-May	--	1.10	1977	17-Apr	--	12.7
1972	27-Apr	--	46.4	1978	20-Aug	--	16.5
1973	5-Aug	--	62.1	1979	30-Mar	--	14.4
1974	8-Apr	--	28.0	1980	29-Mar	--	8.60
1975	19-Aug	--	25.1				
Annual peak discharge, from highest to lowest							
1973	5-Aug	--	62.1	1979	30-Mar	--	14.4
1972	27-Apr	--	46.4	1977	17-Apr	--	12.7
1974	8-Apr	--	28.0	1980	29-Mar	--	8.60
1975	19-Aug	--	25.1	1971	13-May	--	1.10
1978	20-Aug	--	16.5	1970	18-Feb	--	1.04
1976	25-Jul	--	16.5				

3- 4.L00-1A PALTU RIVER ABOVE SARDE RESERVOIR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1969	--	--	--	--	--	--	--	--	0	0	0	0	--
1970	0	0	0.028	0.159	0.199	0.148	0	0	0	0	0.126	0.23	0.073
1971	0	0	0.121	0.35	0.321	0.098	0	0.008	0	0	0	0	0.074
1972	0	0	0	0.206	0.401	2.63	4.83	1.82	0.219	0.004	0	0	0.84
1973	0	0.011	0.04	0.04	2.32	0.824	0.491	0	0	0.825	0.956	0	0.447
1974	0	0	0.009	0.01	0.01	2.52	2.02	0.007	0	0	0	0	0.383
1975	0	0	0.008	0.01	0.01	2.78	2.1	0.229	0	0	1.29	0	0.539
1976	0	0.018	0.14	0.14	0.448	2.85	8.14	3.13	0	0.606	0.226	0.324	1.33
1977	0	0.023	0.125	0.111	0.1	0.091	0.617	0	0	0.045	0.165	0	0.106
1978	0	0.404	0.064	0.095	0.135	0.519	0.436	0	0	3.15	2.54	0	0.621
1979	0	0.041	0.167	0.271	0.272	1.17	2.32	0	0	0	0.478	0	0.392
1980	0	0.004	0.011	0.01	1.31	3.15	5.98	2.17	0	0	0	0	1.05

3- 4.L00-2A JILGA RIVER BELOW SARDE RESERVOIR

(U.S. Geological Survey identification number: 331800068370000)

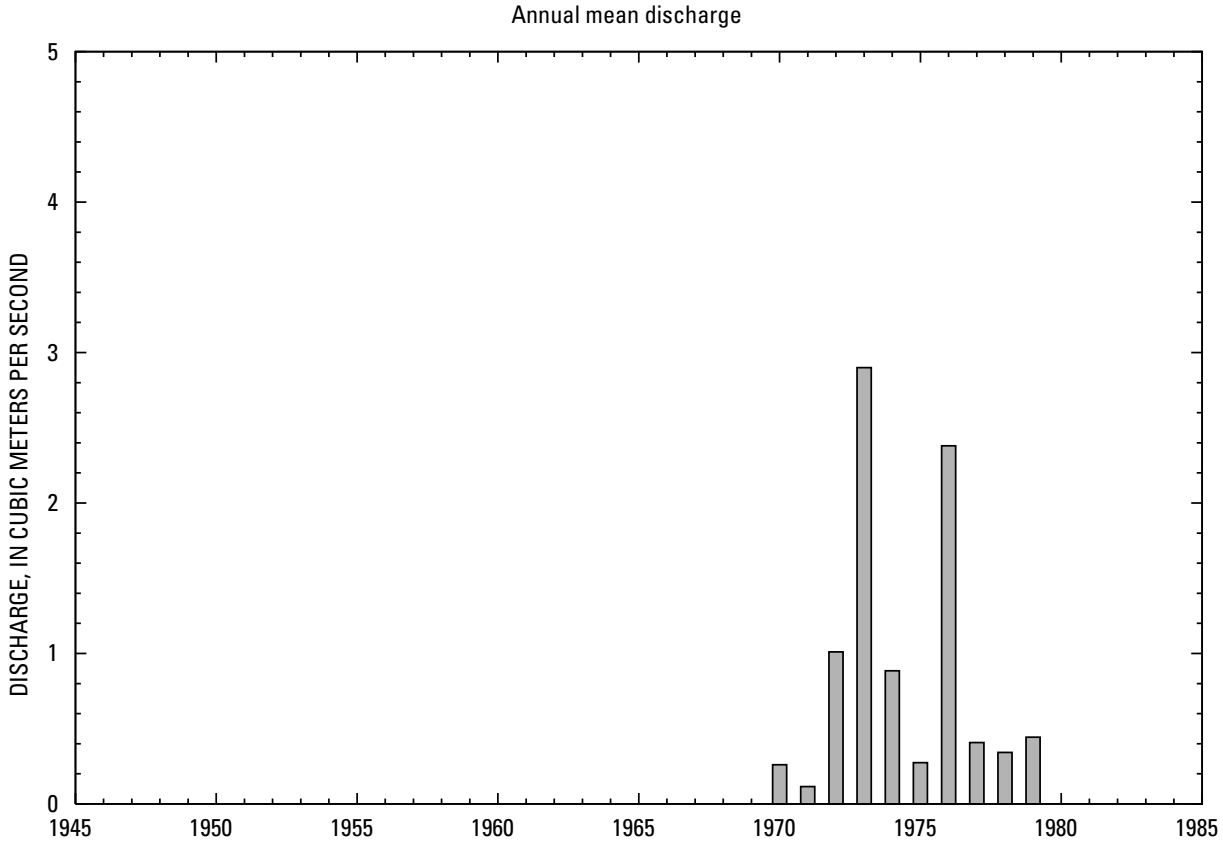
LOCATION: Lat 33º18'N., long 68º37'E.

DRAINAGE AREA: 4,340 km^2.

ALTITUDE: 2,086 meters plus mean sea level.

PERIOD OF RECORD: April 8, 1969 to September 30, 1979.

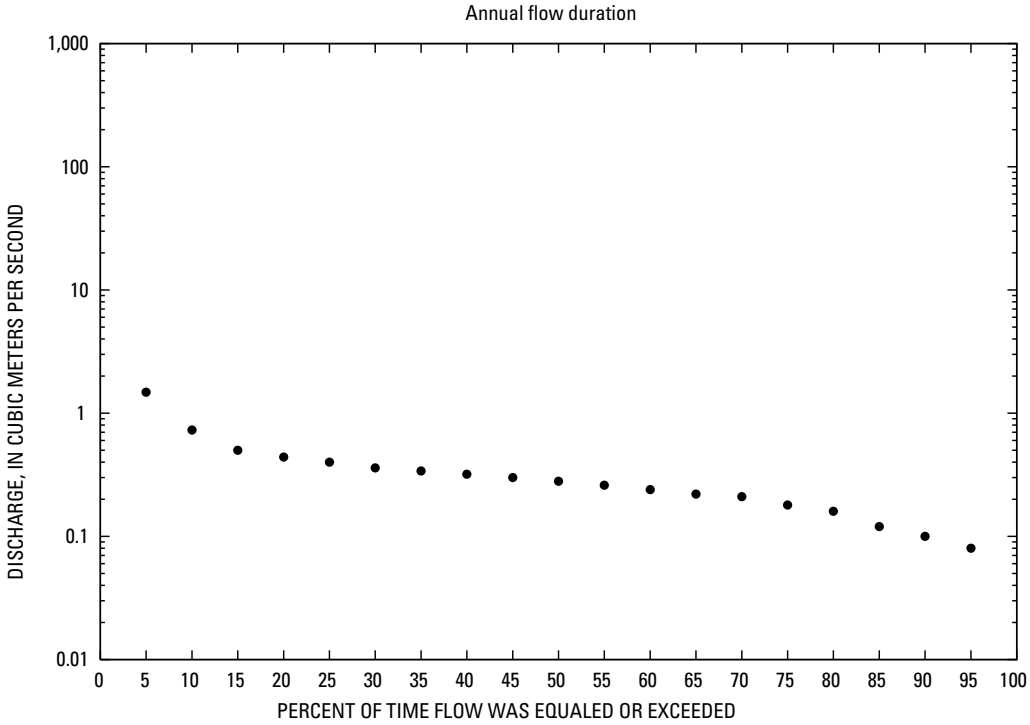
GAGE: --



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	0.393	1977	0.039	1972	0.22	0.11	0.51	2.05
November	0.324	1977	0.070	1970	0.21	0.09	0.44	1.93
December	0.320	1977	0.067	1972	0.21	0.09	0.42	1.92
January	0.301	1979	0.050	1972	0.21	0.09	0.44	1.94
February	0.786	1973	0.074	1972	0.28	0.21	0.72	2.67
March	18.5	1973	0.191	1972	2.59	5.74	2.22	24.3
April	21.9	1976	0.210	1971	4.04	7.09	1.76	37.8
May	7.98	1972	0.104	1971	1.56	2.45	1.57	14.6
June	1.47	1972	0.108	1971	0.50	0.39	0.79	4.65
July	0.675	1973	0.108	1971	0.36	0.19	0.51	3.39
August	0.477	1974	0.052	1971	0.27	0.14	0.49	2.58
September	0.361	1976	0.100	1970	0.23	0.10	0.41	2.20
Annual	2.90	1973	0.115	1971	0.90	0.97	1.07	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.05	0.07	0.14	0.16	0.11	0.11	0.11	0.07	0.03	0.04	0.05	0.07	0.08
90	0.1	0.1	0.16	0.27	0.19	0.13	0.14	0.1	0.1	0.07	0.08	0.08	0.1
85	0.1	0.11	0.18	0.31	0.24	0.2	0.17	0.12	0.1	0.1	0.1	0.1	0.12
80	0.11	0.11	0.19	0.34	0.3	0.24	0.19	0.13	0.11	0.11	0.11	0.11	0.16
75	0.11	0.14	0.21	0.36	0.33	0.26	0.2	0.18	0.13	0.13	0.13	0.13	0.18
70	0.17	0.17	0.22	0.38	0.35	0.3	0.23	0.22	0.2	0.14	0.14	0.14	0.21
65	0.19	0.19	0.24	0.4	0.37	0.31	0.26	0.23	0.21	0.17	0.18	0.2	0.22
60	0.2	0.21	0.26	0.42	0.39	0.32	0.3	0.24	0.22	0.2	0.2	0.21	0.24
55	0.23	0.22	0.29	0.44	0.41	0.32	0.31	0.25	0.24	0.21	0.2	0.21	0.26
50	0.24	0.23	0.32	0.49	0.44	0.36	0.32	0.29	0.25	0.24	0.21	0.21	0.28
45	0.24	0.26	0.34	0.55	0.48	0.38	0.32	0.3	0.26	0.25	0.22	0.22	0.3
40	0.25	0.3	0.37	0.62	0.53	0.39	0.36	0.31	0.27	0.25	0.25	0.22	0.32
35	0.26	0.31	0.4	0.75	0.58	0.42	0.37	0.32	0.27	0.26	0.26	0.24	0.34
30	0.27	0.32	0.45	0.89	0.79	0.48	0.38	0.33	0.28	0.3	0.27	0.25	0.36
25	0.29	0.33	0.69	1.11	0.91	0.58	0.39	0.37	0.32	0.31	0.28	0.27	0.4
20	0.3	0.34	1.31	2.12	1	0.73	0.5	0.38	0.33	0.32	0.31	0.28	0.44
15	0.31	0.36	1.77	4.2	1.19	0.94	0.62	0.45	0.34	0.32	0	0.31	0.5
10	0	0.38	11.4	11.3	1.7	0.98	0.65	0.48	0.36	0.33	0	0.32	0.73
5	0	0.4	17.6	14.5	4.64	1.48	0.83	0.51	0.38	0	0	0.33	1.48

3- 4.L00-2A JILGA RIVER BELOW SARDE RESERVOIR, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge[1]			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	0.100	0.109	0.089	0.079	0.075
0.95	1.05	0.400	0.270	0.229	0.207	0.184
0.90	1.11	0.800	0.458	0.395	0.356	0.305
0.80	1.25	1.80	0.902	0.795	0.709	0.579
0.50	2	7.60	3.74	0.345	2.91	2.13
0.20	5	29.5	18.4	17.8	13.6	8.72
0.10	10	57.9	45.6	45.0	31.9	19.0
0.04	25	116	126	128	82.9	45.2
0.02	50	180	252	260	157	80.7
0.01	100	264	478	501	283	137
0.005	200	373	874	930	492	226
0.002	500	561	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 4.L00-2A JILGA RIVER BELOW SARDE RESERVOIR, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.015	0.016	0.017	0.021	0.032	0.040	0.046	0.059	0.061
0.10	10	0.032	0.034	0.035	0.042	0.055	0.065	0.073	0.087	0.090
0.20	5	0.064	0.069	0.072	0.080	0.095	0.106	0.115	0.130	0.132
0.50	2	0.161	0.168	0.176	0.183	0.193	0.152	0.214	0.224	0.229

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.017	0.036	0.041	0.049	0.066	0.091	0.102	0.119
0.10	10	0.033	0.054	0.060	0.069	0.081	0.105	0.118	0.138
0.20	5	0.066	0.082	0.090	0.100	0.105	0.129	0.144	0.168
0.50	2	[1]0.162	0.157	0.166	0.175	0.190	0.209	0.229	0.264
		June-July-August				September-October-November			
0.05	20	0.030	0.045	0.050	0.067	0.015	0.015	0.021	0.030
0.10	10	0.053	0.070	0.075	0.096	0.030	0.030	0.039	0.050
0.20	5	0.094	0.109	0.116	0.140	0.061	0.061	0.072	0.086
0.50	2	0.208	0.211	0.219	0.245	0.160	0.163	0.171	0.184

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meter)	Peak discharge (m^3/s)	Water year	Date	Gage height (meter)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1969	25-Sep	--	2.50	1975	16-May	--	5.82
1970	29-Apr	--	1.37	1976	25-Apr	--	96.9
1971	7-Apr	--	0.38	1977	14-Mar	--	1.65
1972	6-May	--	28.1	1978	19-Aug	--	33.0
1973	6-Mar	--	26.9	1979	2-Apr	--	7.15
1974	24-Mar	--	11.8				
Annual peak discharge, from highest to lowest							
1976	25-Apr	--	96.9	1975	16-May	--	5.82
1978	19-Aug	--	33.0	1969	25-Sep	--	2.50
1972	6-May	--	28.1	1977	14-Mar	--	1.65
1973	6-Mar	--	26.9	1970	29-Apr	--	1.37
1974	24-Mar	--	11.8	1971	7-Apr	--	0.38
1979	2-Apr	--	7.15				

3- 4.L00-2A JILGA RIVER BELOW SARDE RESERVOIR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1969	--	--	--	--	--	--	--	0.709	0.335	0.157	0.129	0.22	--
1970	0.102	0.07	0.094	0.11	0.19	0.24	0.505	0.91	0.432	0.22	0.138	0.1	0.26
1971	0.112	0.118	0.124	0.1	0.1	0.219	0.21	0.104	0.108	0.108	0.052	0.023	0.115
1972	0.039	0.089	0.067	0.05	0.074	0.191	0.729	7.98	1.47	0.555	0.421	0.314	1.01
1973	0.218	0.282	0.259	0.247	0.786	18.5	11.1	1.04	0.98	0.675	0.274	0.25	2.9
1974	0.25	0.207	0.2	0.252	0.388	4.45	2.53	0.412	0.524	0.619	0.477	0.262	0.885
1975	0.253	0.217	0.29	0.283	0.229	0.235	0.303	0.319	0.28	0.296	0.353	0.223	0.274
1976	0.178	0.18	0.21	0.193	0.131	0.229	21.9	4.45	0.332	0.341	0.334	0.361	2.38
1977	0.393	0.324	0.32	0.31	0.323	1.17	0.393	0.413	0.387	0.329	0.231	0.29	0.408
1978	0.32	0.282	0.216	0.228	0.311	0.408	0.667	0.327	0.26	0.407	0.402	0.275	0.342
1979	0.32	0.287	0.27	0.301	0.315	0.267	2.02	0.452	0.352	0.274	0.213	0.264	0.443

3- 4.L00-7A JILGA RIVER AT GARDEZ

(U.S. Geological Survey identification number: 333500069130000)

LOCATION: Lat 33º35'N., long 69º13'E.

DRAINAGE AREA: 1,065 km^2.

ALTITUDE: 2,294 meters plus mean sea level.

PERIOD OF RECORD: August 6, 1970 to September 30, 1978.

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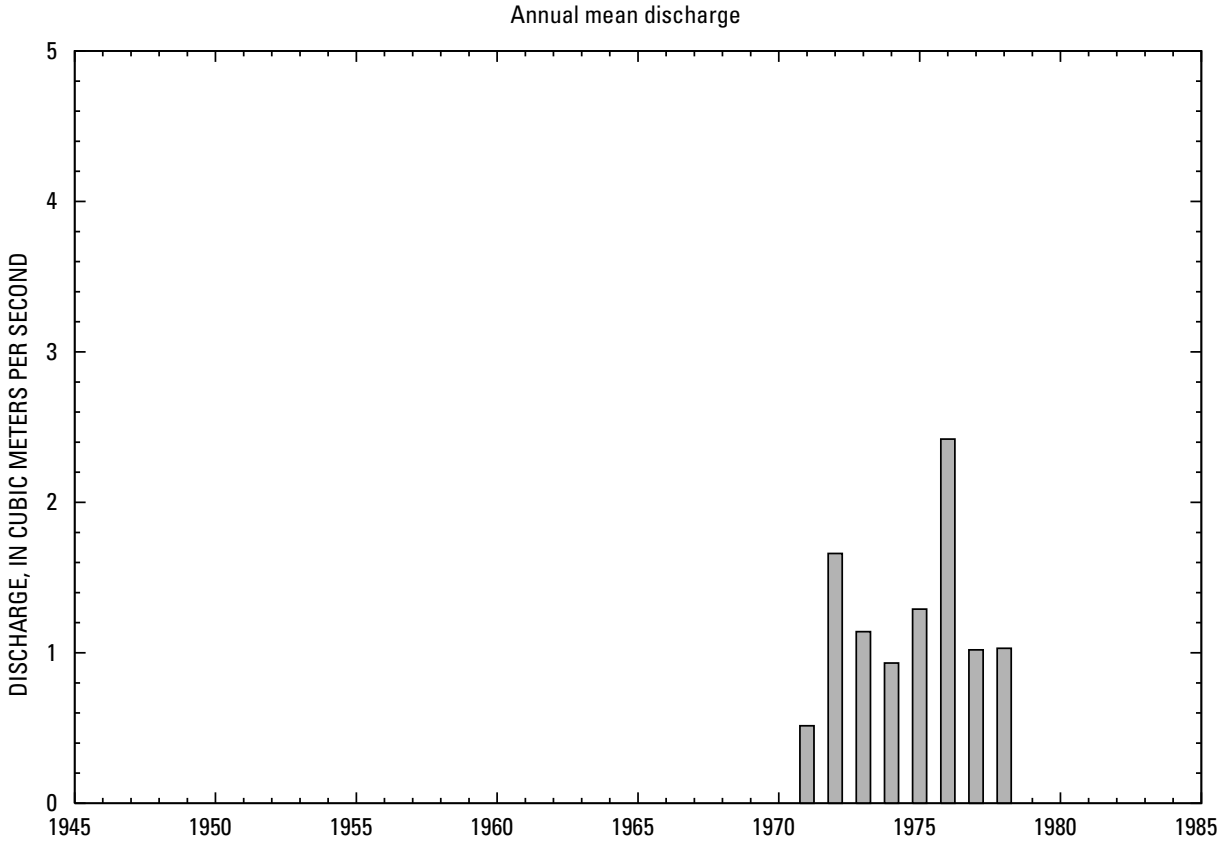
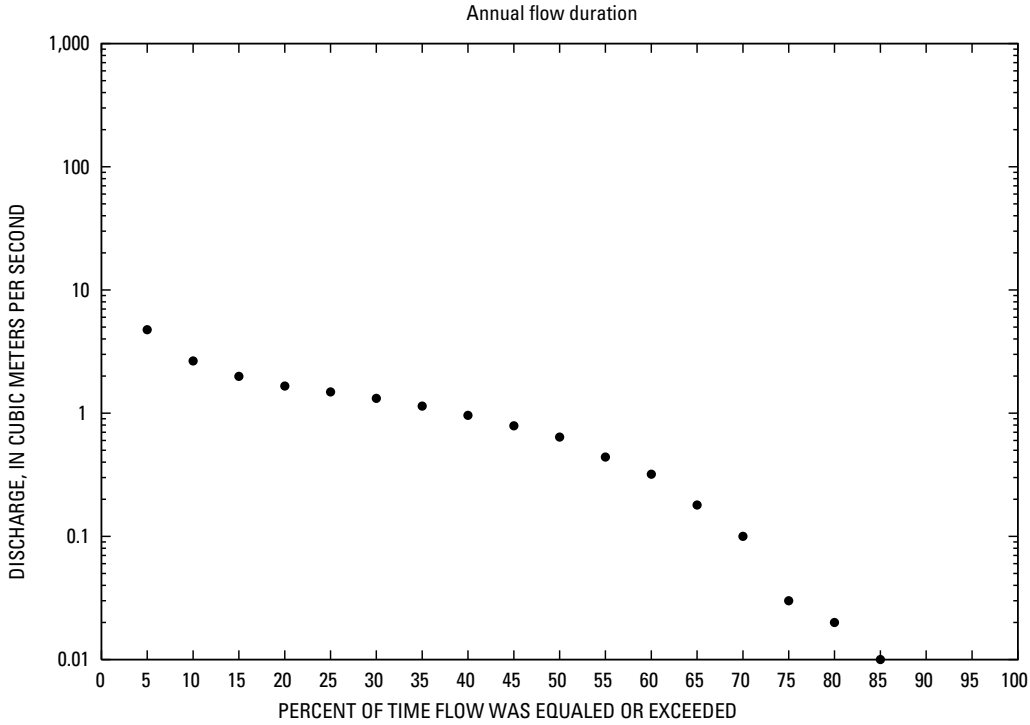


Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	0.726	1977	0.029	1972	0.37	0.24	0.67	2.43
November	1.38	1977	0.317	1972	0.89	0.37	0.41	5.88
December	1.99	1977	0.565	1971	1.22	0.55	0.45	8.06
January	1.94	1977	0.360	1972	1.21	0.52	0.43	8.00
February	1.78	1978	0.582	1972	1.31	0.42	0.32	8.67
March	3.36	1976	1.63	1971	2.60	0.58	0.22	17.2
April	17.3	1976	0.700	1971	5.29	5.54	1.05	35.1
May	5.53	1972	0.002	1977	1.15	1.84	1.60	7.65
June	0.674	1972	0.004	1977	0.16	0.24	1.57	1.03
July	2.16	1973	0	1971	0.55	0.73	1.33	3.64
August	0.936	1975	0	1977	0.23	0.33	1.43	1.52
September	0.440	1976	0.002	1977	0.12	0.14	1.14	0.83
Annual	2.42	1976	0.515	1971	1.25	0.57	0.46	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.32	0.46	1.04	0.17	0	0	0	0	0	0	0.3	0.44	0
90	0.47	0.64	1.24	0.56	0	0	0	0	0	0.01	0.33	0.59	0
85	0.64	0.75	1.33	0.92	0.01	0	0	0	0	0.03	0.4	0.63	0.01
80	0.69	0.87	1.47	1.28	0.01	0	0.01	0	0	0.1	0.45	0.66	0.02
75	0.77	1.1	1.62	1.53	0.01	0	0.01	0	0.01	0.11	0.57	0.74	0.03
70	0.91	1.18	1.72	1.75	0.02	0.01	0.01	0	0.02	0.11	0.61	0.77	0.1
65	0.97	1.23	1.84	1.97	0.02	0.01	0.01	0	0.02	0.12	0.77	0.86	0.18
60	1.04	1.3	2.07	2.18	0.03	0.01	0.02	0	0.05	0.15	0.86	0.97	0.32
55	1.26	1.36	2.18	2.85	0.05	0.01	0.02	0.01	0.06	0.2	0.91	1.16	0.44
50	1.34	1.4	2.26	3.51	0.08	0.02	0.02	0.01	0.07	0.27	1	1.27	0.64
45	1.37	1.43	2.41	4.07	0.13	0.02	0.02	0.02	0.09	0.31	1.03	1.31	0.79
40	1.39	1.47	2.62	4.59	0.41	0.02	0.03	0.02	0.11	0.37	1.06	1.36	0.96
35	1.44	1.5	2.75	5.12	0.53	0.02	0.05	0.04	0.11	0.42	1.08	1.42	1.14
30	1.52	1.53	2.93	5.66	0.72	0.02	0.12	0.09	0.12	0.54	1.12	1.48	1.32
25	1.58	1.56	3.1	6.23	0.9	0.03	0.29	0.12	0.15	0.61	1.15	1.6	1.49
20	1.64	1.6	3.4	7.17	1.15	0.09	0.43	0.14	0.2	0.73	1.19	1.78	1.66
15	1.71	1.64	3.93	8.21	1.9	0.28	0.92	0.19	0.3	0.83	1.25	1.92	1.99
10	1.93	1.68	4.47	9.78	3.49	0.32	1.89	0.29	0.34	0.91	1.34	2.04	2.65
5	0	1.78	5.48	18.9	8.03	0.43	3.41	0.66	0.45	0.98	1.49	2.17	4.76

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	2.80	2.02	1.89	1.59	1.13
0.95	1.05	5.00	2.39	2.22	1.91	1.56
0.90	1.11	6.70	2.72	2.52	2.19	1.88
0.80	1.25	9.50	3.34	3.06	2.70	2.43
0.50	2	17.7	5.84	5.22	4.63	4.29
0.20	5	31.7	13.2	11.3	9.82	8.40
0.10	10	42.2	22.7	18.8	16.0	12.5
0.04	25	56.5	44.4	35.4	28.9	19.7
0.02	50	67.8	[2]72.2	55.8	44.3	27.0
0.01	100	79.5	[2]116	[2]86.8	66.9	36.3
0.005	200	91.6	[2]184	[2]134	[2]100	48.1
0.002	500	108	ng	ng	ng	ng

[1]Less than 10 years of data used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

3- 4.L00-7A JILGA RIVER AT GARDEZ, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	ng	ng	ng	0	0	0.001	0.002	0.020
0.10	10	ng	ng	ng	ng	0	0	0.002	0.004	0.035
0.20	5	ng	ng	ng	ng	0	0	0.005	0.013	0.067
0.50	2	ng	ng	ng	ng	0.002	0.010	0.030	0.077	0.201

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.258	0.272	0.312	0.342	0	0	0	0.001
0.10	10	0.342	0.365	0.411	0.448	0	0	0	0.003
0.20	5	0.471	0.507	0.559	0.607	0	0	0.003	0.013
0.50	2	0.813	0.876	0.933	1.00	0.019	0.026	0.048	0.176
		June-July-August				September-October-November			
0.05	20	0	0	0	0	0	0	0	0
0.10	10	0	0	0	0	0	0	0	0.001
0.20	5	0	0	0	0	0	0	0	0.004
0.50	2	0	0	0	0.004	0	0.012	0.028	0.029

3- 4.L00-7A JILGA RIVER AT GARDEZ, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1971	26-Mar	--	5.11	1975	14-Aug	--	24.4
1972	30-Jun	--	25.5	1976	19-Apr	--	50.0
1973	16-Aug	--	28.8	1977	17-Apr	--	12.8
1974	7-Apr	--	12.8	1978	5-Jul	--	10.0
Annual peak discharge, from highest to lowest							
1976	19-Apr	--	50.0	1977	17-Apr	--	12.8
1973	16-Aug	--	28.8	1974	7-Apr	--	12.8
1972	30-Jun	--	25.5	1978	5-Jul	--	10.0
1975	14-Aug	--	24.4	1971	26-Mar	--	5.11

3- 4.L00-7A JILGA RIVER AT GARDEZ, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1970	--	--	--	--	--	--	--	--	--	--	--	0.174	--
1971	0.211	0.543	0.565	1.11	1.35	1.63	0.7	0.012	0.005	0	0.088	0.032	0.515
1972	0.029	0.317	0.569	0.36	0.582	2.67	8.71	5.53	0.674	0.524	0.003	0.003	1.66
1973	0.148	0.604	0.825	0.676	0.836	2.9	3.86	0.75	0.35	2.16	0.362	0.177	1.14
1974	0.675	1.2	1.81	1.53	1.64	2.46	1.44	0.174	0.171	0.083	0.004	0.031	0.932
1975	0.33	0.899	1.07	1.01	1.19	2.18	6.06	1.51	0.007	0.079	0.936	0.2	1.29
1976	0.371	1.1	1.4	1.62	1.46	3.36	17.3	0.961	0.019	0.884	0.386	0.44	2.42
1977	0.726	1.38	1.99	1.94	1.62	2.32	2.31	0.002	0.004	0.013	0	0.002	1.02
1978	0.441	1.05	1.5	1.41	1.78	3.26	1.94	0.285	0.01	0.646	0.054	0.062	1.03

3- 4.L00-9T JILGA RIVER NEAR MECHALGHU

(U.S. Geological Survey identification number: 334900069230000)

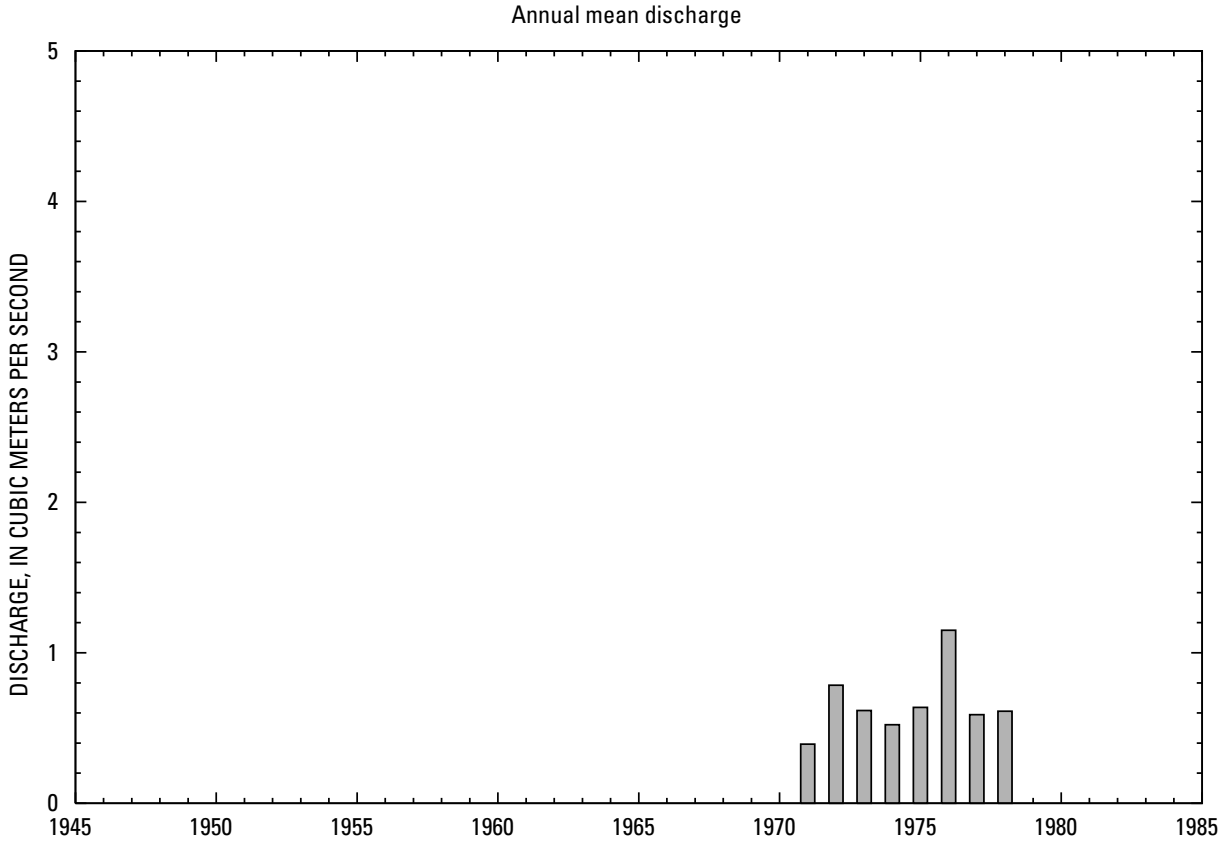
LOCATION: Lat 33º49'N., long 69º23'E.

DRAINAGE AREA: 65 km^2.

ALTITUDE: 2,690 meters plus mean sea level.

PERIOD OF RECORD: August 11, 1970 to September 30, 1978.

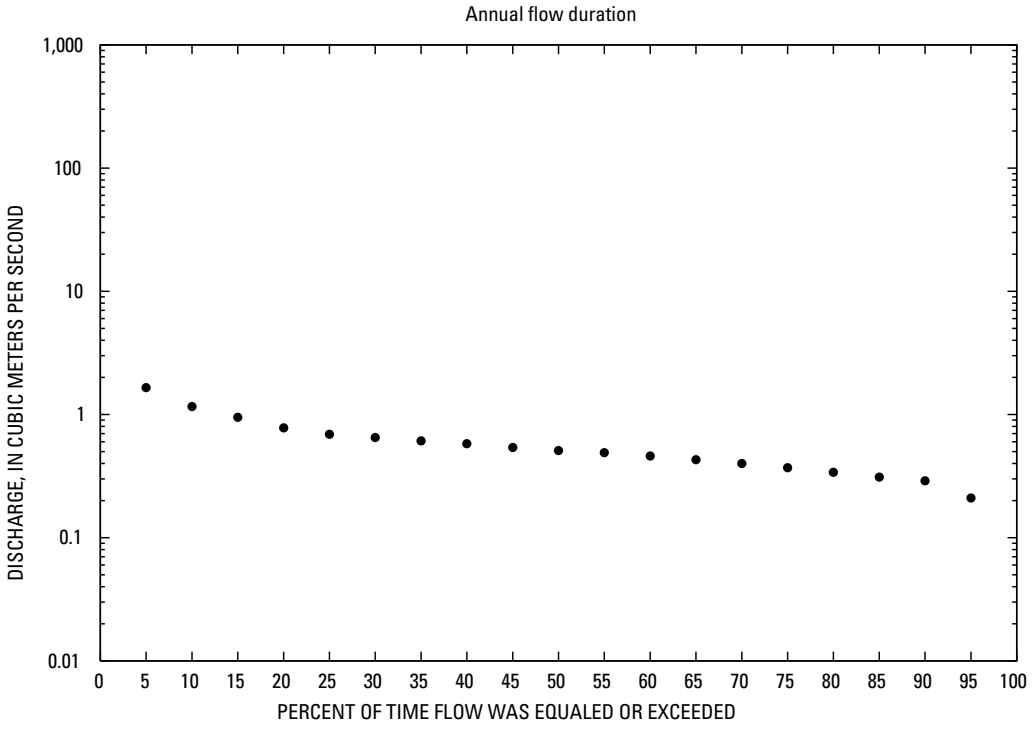
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	0.626	1977	0.344	1975	0.47	0.10	0.22	5.86
November	0.625	1977	0.177	1973	0.43	0.14	0.32	5.38
December	0.707	1978	0.222	1973	0.46	0.17	0.37	5.73
January	0.652	1978	0.098	1973	0.41	0.21	0.51	5.10
February	0.691	1978	0.209	1973	0.44	0.18	0.41	5.52
March	1.09	1978	0.518	1971	0.78	0.20	0.25	9.79
April	4.49	1976	0.627	1971	1.86	1.35	0.73	23.4
May	2.18	1976	0.380	1971	1.06	0.56	0.53	13.3
June	1.09	1972	0.297	1978	0.61	0.29	0.48	7.69
July	1.04	1976	0.334	1971	0.60	0.25	0.41	7.52
August	0.687	1976	0.311	1978	0.45	0.14	0.32	5.62
September	0.653	1976	0.233	1978	0.40	0.14	0.34	5.07
Annual	1.15	1976	0.393	1971	0.66	0.23	0.34	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.08	0.2	0.36	0.63	0.38	0.29	0.27	0.28	0.2	0.34	0.16	0.23	0.21
90	0.15	0.21	0.4	0.67	0.44	0.29	0.28	0.29	0.21	0.35	0.24	0.24	0.29
85	0.16	0.26	0.41	0.71	0.64	0.3	0.29	0.29	0.27	0.36	0.3	0.29	0.31
80	0.17	0.3	0.46	0.75	0.65	0.35	0.3	0.3	0.28	0.36	0.33	0.34	0.34
75	0.26	0.31	0.51	0.87	0.66	0.42	0.33	0.3	0.3	0.37	0.36	0.35	0.37
70	0.3	0.31	0.52	0.92	0.67	0.44	0.36	0.32	0.33	0.37	0.37	0.36	0.4
65	0.31	0.32	0.57	1.01	0.68	0.44	0.41	0.36	0.34	0.41	0.38	0.37	0.43
60	0.34	0.36	0.59	1.09	0.81	0.45	0.43	0.37	0.35	0.44	0.4	0.38	0.46
55	0.36	0.4	0.69	1.14	0.83	0.46	0.44	0.39	0.37	0.45	0.41	0.41	0.49
50	0.43	0.46	0.73	1.23	0.87	0.48	0.45	0.41	0.38	0.46	0.42	0.44	0.51
45	0.49	0.5	0.78	1.39	1.02	0.55	0.58	0.44	0.39	0.47	0.43	0.45	0.54
40	0.55	0.52	0.81	1.57	1.16	0.62	0.62	0.46	0.4	0.48	0.44	0.46	0.58
35	0.56	0.54	0.83	1.74	1.23	0.65	0.64	0.48	0.41	0.49	0.46	0.55	0.61
30	0.57	0.56	0.87	1.91	1.28	0.7	0.65	0.49	0.46	0.56	0.56	0.56	0.65
25	0.59	0.59	0.96	2.31	1.31	0.75	0.69	0.52	0.48	0.57	0.58	0.57	0.69
20	0.6	0.61	0.99	2.6	1.42	0.86	0.75	0.56	0.57	0.57	0.6	0.64	0.78
15	0.62	0.64	1.11	3.09	1.53	0.9	0.84	0.59	0.59	0.6	0.63	0.66	0.95
10	0.63	0.68	1.23	3.69	1.67	0.93	1.04	0.6	0.61	0	0	0.68	1.16
5	0.66	0.73	1.53	5.29	2.43	1.09	1.29	0.63	0.63	0	0	0.85	1.65

3- 4.L00-9T JILGA RIVER NEAR MECHALGHU, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	0.700	0.569	0.492	0.468	0.434
0.95	1.05	1.20	0.794	0.667	0.627	0.583
0.90	1.11	1.60	0.973	0.806	0.752	0.696
0.80	1.25	2.30	1.28	1.04	0.960	0.883
0.50	2	5.00	2.32	1.86	1.66	1.48
0.20	5	11.3	4.75	3.74	3.24	2.74
0.10	10	17.9	7.23	5.69	4.82	3.92
0.04	25	30.0	11.8	9.27	7.65	5.92
0.02	50	42.4	16.4	13.0	10.5	7.86
0.01	100	58.3	22.5	17.9	14.2	10.3
0.005	200	78.6	30.4	24.3	19.0	13.2
0.002	500	114	ng	ng	ng	ng

[1]Less than 10 years of data used.

3- 4.L00-9T JILGA RIVER NEAR MECHALGHU, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.060	0.067	0.069	0.069	0.074	0.123	0.145	0.164	0.230
0.10	10	0.082	0.097	0.102	0.104	0.109	0.160	0.184	0.205	0.262
0.20	5	0.117	0.145	0.155	0.159	0.165	0.213	0.240	0.261	0.306
0.50	2	0.219	0.269	0.290	0.299	0.308	0.339	0.366	0.386	0.405

3- 4.L00-9T JILGA RIVER NEAR MECHALGHU, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.073	0.075	[1]0.074	0.080	0.256	0.281	0.324	0.392
0.10	10	0.108	0.115	0.115	0.122	0.279	0.313	0.355	0.453
0.20	5	0.166	0.181	0.183	0.190	0.313	0.358	0.399	0.530
0.50	2	0.318	0.348	0.361	0.369	0.406	0.466	0.504	0.683
		June-July-August				September-October-November			
0.05	20	0.136	0.215	0.226	0.249	0.067	0.096	0.131	0.184
0.10	10	0.158	0.230	0.246	0.272	0.100	0.133	0.165	0.215
0.20	5	0.191	0.254	0.274	0.306	0.154	0.187	0.213	0.258
0.50	2	0.277	0.318	0.349	0.386	0.300	0.320	0.325	0.354

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 4.L00-9T JILGA RIVER NEAR MECHALGHU, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1971	30-Jul	--	20.8	1975	25-Apr	--	4.12
1972	28-Apr	--	7.34	1976	18-Apr	--	17.4
1973	2-Jul	--	4.40	1977	17-Apr	--	1.91
1974	23-Mar	--	1.50	1978	5-Jul	--	4.00
Annual peak discharge, from highest to lowest							
1971	30-Jul	--	20.8	1975	25-Apr	--	4.12
1976	18-Apr	--	17.4	1978	5-Jul	--	4.00
1972	28-Apr	--	7.34	1977	17-Apr	--	1.91
1973	2-Jul	--	4.40	1974	23-Mar	--	1.50

3- 4.L00-9T JILGA RIVER NEAR MECHALGHU, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1970	--	--	--	--	--	--	--	--	--	--	--	0.372	--
1971	0.423	0.399	0.39	0.353	0.367	0.518	0.627	0.38	0.313	0.334	0.34	0.267	0.393
1972	0.36	0.323	0.324	0.166	0.264	0.85	3.16	1.22	1.09	0.859	0.418	0.401	0.785
1973	0.416	0.177	0.222	0.098	0.209	0.71	1.8	1.22	0.756	0.679	0.535	0.558	0.616
1974	0.561	0.469	0.463	0.51	0.535	0.826	0.713	0.62	0.496	0.375	0.345	0.354	0.522
1975	0.344	0.39	0.333	0.3	0.3	0.56	1.99	1.3	0.54	0.507	0.606	0.475	0.637
1976	0.544	0.492	0.56	0.577	0.648	0.979	4.49	2.18	0.951	1.04	0.687	0.653	1.15
1977	0.626	0.625	0.648	0.589	0.5	0.692	1.02	0.819	0.45	0.438	0.335	0.314	0.589
1978	0.456	0.546	0.707	0.652	0.691	1.09	1.08	0.735	0.297	0.55	0.311	0.233	0.612

3- 5.R00-3T SYAHGEL RIVER AT SYAHGEL

(U.S. Geological Survey identification number: 333100068210000)

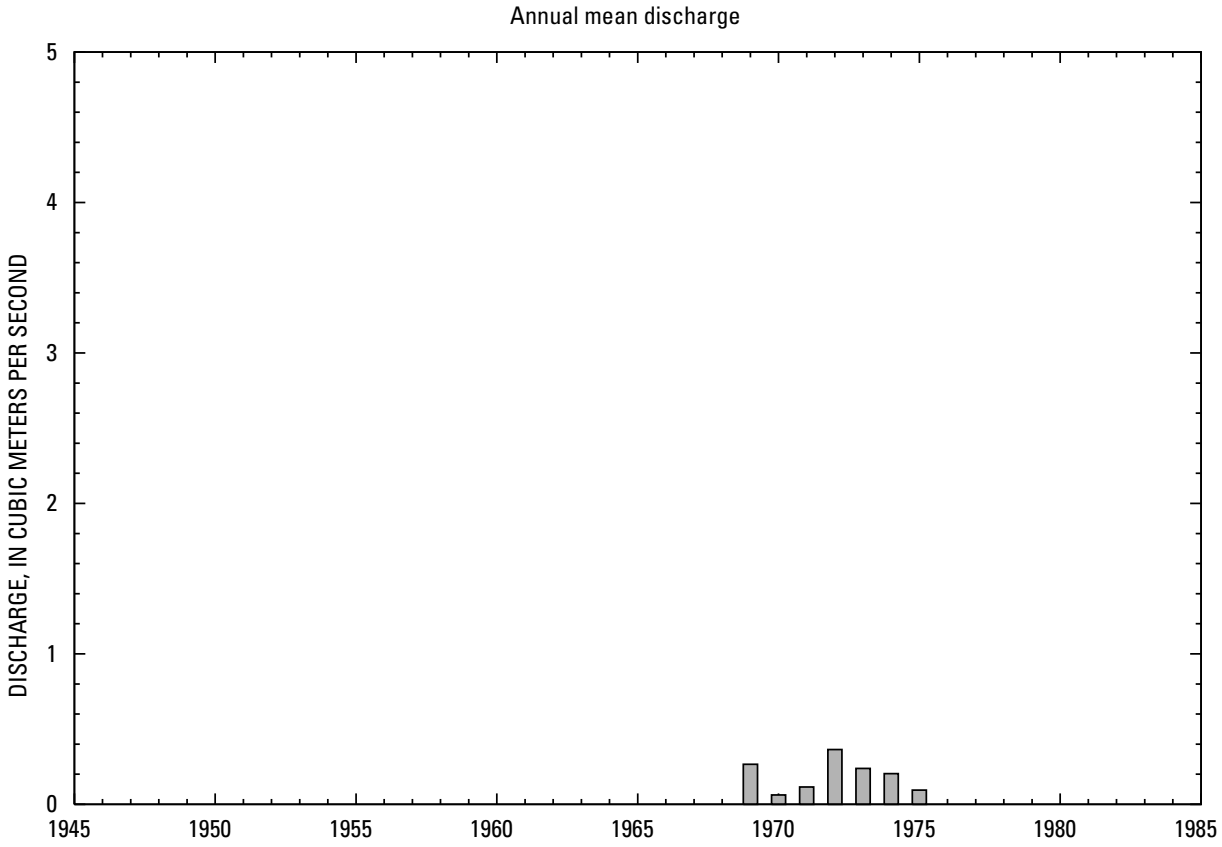
LOCATION: Lat 33º31'N., long 68º21'E.

DRAINAGE AREA: 145 km^2.

ALTITUDE: 2,241 meters plus mean sea level.

PERIOD OF RECORD: April 7, 1968 to September 22, 1976.

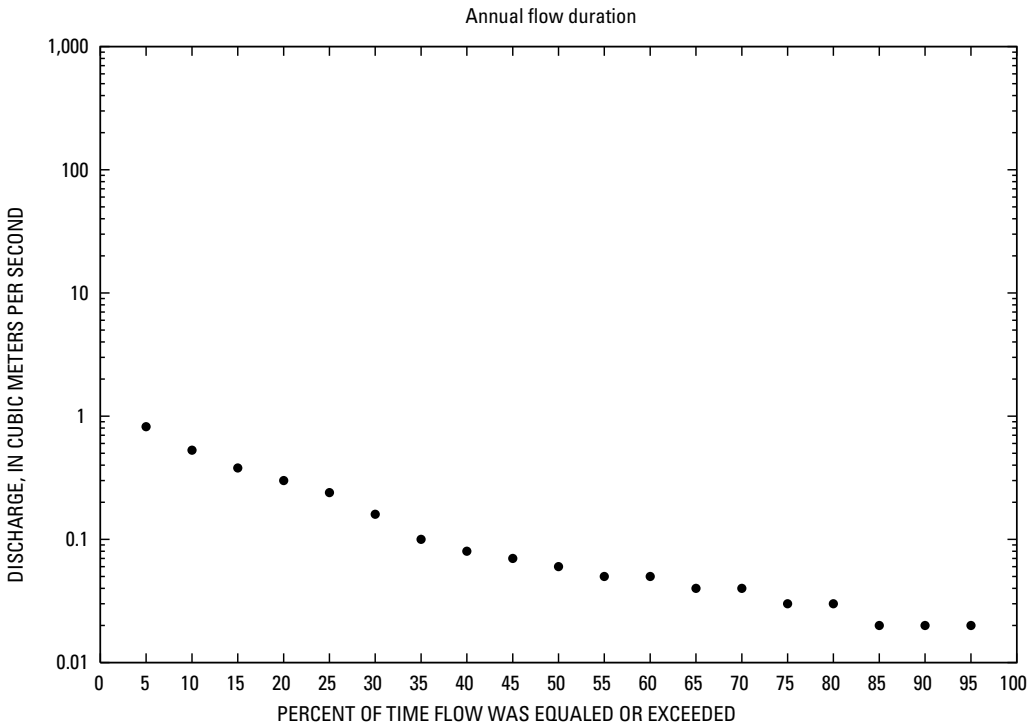
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	0.110	1970	0.010	1969	0.04	0.03	0.86	1.43
November	0.220	1973	0.010	1969	0.05	0.07	1.29	2.08
December	0.390	1973	0.034	1969	0.12	0.14	1.11	4.84
January	0.796	1969	0.066	1975	0.29	0.26	0.9	11.2
February	0.960	1969	0.078	1975	0.34	0.29	0.85	13.5
March	0.727	1976	0.154	1970	0.42	0.19	0.45	16.3
April	1.94	1972	0.057	1969	0.57	0.66	1.16	22.3
May	1.07	1968	0.023	1971	0.34	0.38	1.12	13.5
June	0.606	1972	0.012	1970	0.14	0.18	1.30	5.54
July	0.298	1969	0.025	1972	0.10	0.10	0.96	4.02
August	0.410	1969	0.019	1972	0.10	0.12	1.18	4.05
September	0.060	1969	0.012	1970	0.03	0.02	0.49	1.29
Annual	0.364	1972	0.062	1970	0.19	0.11	0.56	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.04	0.06	0.07	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.02
90	0.06	0.07	0.11	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02
85	0.07	0.08	0.15	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02
80	0.08	0.1	0.19	0.05	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.04	0.03
75	0.08	0.11	0.23	0.06	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.04	0.03
70	0.09	0.15	0.25	0.07	0.05	0.04	0.03	0.03	0.03	0.02	0.03	0.04	0.04
65	0.1	0.2	0.28	0.08	0.06	0.04	0.03	0.03	0.03	0.03	0.03	0.05	0.04
60	0.13	0.24	0.34	0.14	0.07	0.05	0.04	0.04	0.03	0.03	0.03	0.05	0.05
55	0.21	0.25	0.38	0.23	0.08	0.05	0.04	0.04	0.03	0.03	0.03	0.06	0.05
50	0.23	0.27	0.4	0.31	0.11	0.06	0.04	0.04	0.03	0.03	0.03	0.06	0.06
45	0.25	0.29	0.42	0.37	0.2	0.06	0.05	0.05	0.03	0.03	0.03	0.07	0.07
40	0.26	0.31	0.45	0.47	0.32	0.07	0.05	0.05	0.04	0.03	0.04	0.07	0.08
35	0.27	0.33	0.47	0.52	0.36	0.09	0.06	0.05	0.04	0.04	0.04	0.09	0.1
30	0.28	0.35	0.52	0.6	0.43	0.11	0.06	0.06	0.04	0.04	0.04	0.11	0.16
25	0.29	0.42	0.57	0.89	0.53	0.12	0.07	0.08	0.04	0.04	0.05	0.13	0.24
20	0.35	0.54	0.61	1	0.66	0.16	0.08	0.1	0.05	0.04	0.06	0.2	0.3
15	0.54	0.69	0.67	1.29	0.85	0.22	0.14	0.13	0.05	0.06	0.07	0.34	0.38
10	0.68	0.82	0.82	1.64	0.93	0.3	0.19	0.15	0.07	0.07	0.16	0.37	0.53
5	1	1.09	0.93	1.91	1.24	0.44	0.36	0.66	0.09	0.14	0	0	0.82

3- 5.R00-3T SYAHGEL RIVER AT SYAHGEL, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	0.800	0.242	0.135	0.124	0.095
0.95	1.05	1.60	0.362	0.232	0.213	0.171
0.90	1.11	2.20	0.458	0.310	0.283	0.232
0.80	1.25	3.20	0.621	0.443	0.400	0.332
0.50	2	5.90	1.18	0.879	0.770	0.641
0.20	5	10.1	2.45	1.76	1.48	1.19
0.10	10	12.8	3.70	2.55	2.07	1.63
0.04	25	16.0	5.92	3.78	2.97	2.24
0.02	50	18.3	8.14	4.89	3.74	2.74
0.01	100	20.4	11.0	6.16	4.60	3.28
0.005	200	22.4	14.5	7.62	5.57	3.85
0.002	500	24.8	ng	ng	ng	ng

[1]Less than 10 years data used.

3- 5.R00-3T SYAHGEL RIVER AT SYAHGEL, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.007	0.007	0.009	0.010	0.010	0.015	0.015	0.017	0.022
0.10	10	0.008	0.008	0.010	0.012	0.012	0.016	0.016	0.019	0.025
0.20	5	0.010	0.010	0.011	0.014	0.015	0.017	0.018	0.021	0.031
0.50	2	0.013	0.013	0.015	0.018	0.021	0.022	0.024	0.027	0.046

3- 5.R00-3T SYAHGEL RIVER AT SYAHGEL, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.008	0.011	[1]0.010	0.024	0.006	0.008	0.008	0.013
0.10	10	0.010	0.013	0.013	0.028	0.008	0.012	0.012	0.020
0.20	5	0.013	0.017	0.019	0.034	0.014	0.019	0.020	0.031
0.50	2	0.028	0.033	0.040	0.059	0.040	0.051	0.058	0.084
		June-July-August				September-October-November			
0.05	20	0.007	0.008	0.010	0.010	0.008	0.009	0.009	0.009
0.10	10	0.008	0.009	0.012	0.013	0.009	0.011	0.011	0.011
0.20	5	0.010	0.011	0.015	0.017	0.011	0.013	0.013	0.014
0.50	2	0.014	0.016	0.022	0.031	0.016	0.019	0.019	0.022

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 5.R00-3T SYAHGEL RIVER AT SYAHGEL, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1968	19-May	--	2.58	1973	7-Aug	--	5.20
1969	9-May	--	3.00	1974	12-May	--	10.0
1970	7-Jul	--	6.60	1975	11-Aug	--	12.0
1971	4-Jul	--	9.00	1976	23-Apr	--	1.69
1972	26-Apr	--	10				
Annual peak discharge, from highest to lowest							
1975	11-Aug	--	12.0	1973	7-Aug	--	5.20
1974	12-May	--	10.0	1969	9-May	--	3.00
1972	26-Apr	--	10.0	1968	19-May	--	2.58
1971	4-Jul	--	9.00	1976	23-Apr	--	1.69
1970	7-Jul	--	6.60				

3- 5.R00-3T SYAHGEL RIVER AT SYAHGEL, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1968	--	--	--	--	--	--	--	1.07	0.181	0.047	0.072	0.054	--
1969	0.01	0.01	0.034	0.796	0.96	0.263	0.057	0.19	0.149	0.298	0.41	0.06	0.266
1970	0.11	0.048	0.08	0.073	0.081	0.154	0.075	0.027	0.012	0.046	0.022	0.012	0.062
1971	0.02	0.036	0.053	0.089	0.146	0.58	0.1	0.023	0.022	0.238	0.028	0.034	0.115
1972	0.032	0.042	0.058	0.254	0.237	0.332	1.94	0.82	0.606	0.025	0.019	0.027	0.364
1973	0.044	0.22	0.39	0.308	0.314	0.396	0.629	0.283	0.093	0.065	0.097	0.03	0.238
1974	0.03	0.03	0.293	0.533	0.481	0.546	0.318	0.071	0.045	0.048	0.045	0.026	0.204
1975	0.02	0.02	0.043	0.066	0.078	0.336	0.293	0.062	0.045	0.035	0.107	0.021	0.094
1976	0.026	0.02	0.039	0.178	0.457	0.727	1.14	0.553	0.121	0.122	0.132	--	--

3- 8.1L0-1W BARIKAB RIVER ABOVE SERAJ RESERVOIR

(U.S. Geological Survey identification number: 334600068210000)

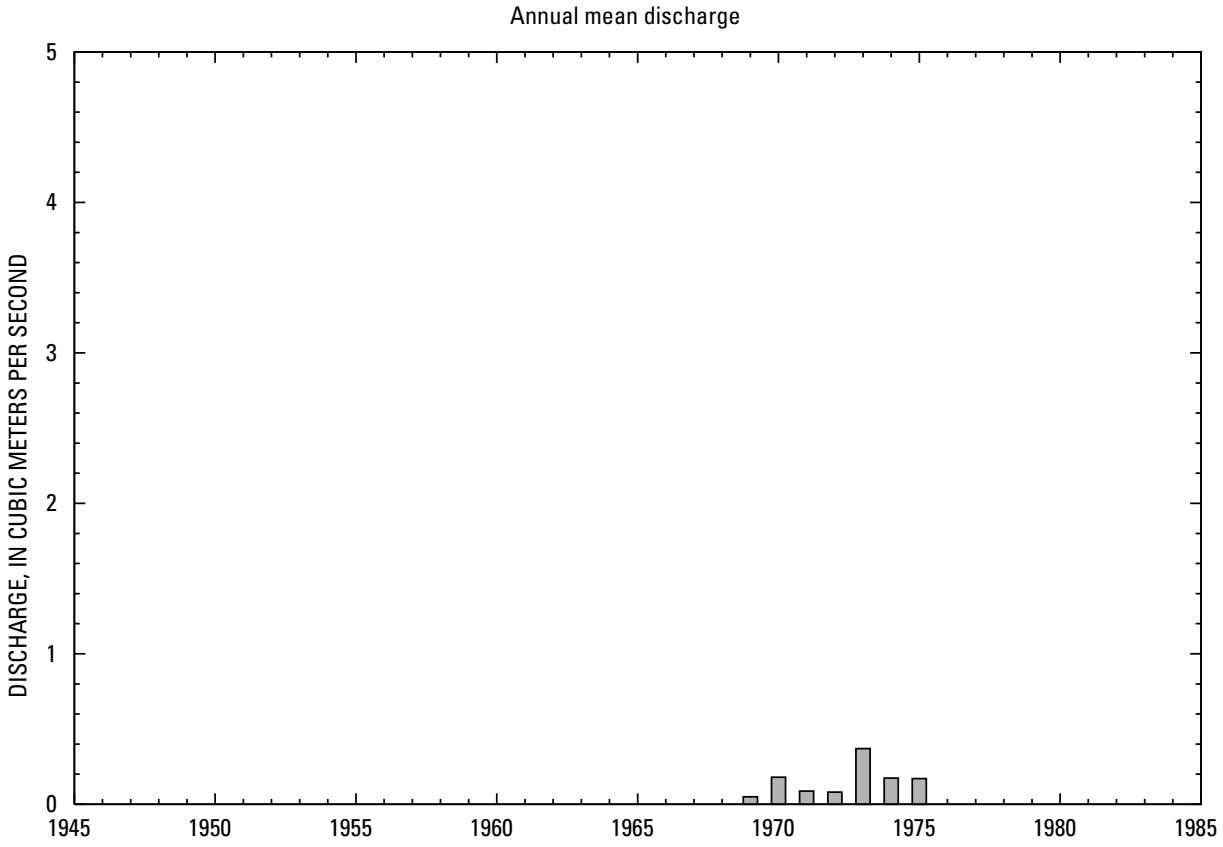
LOCATION: Lat 33º46'N., long 68º21'E., on left bank at Khojagan.

DRAINAGE AREA: 165 km^2.

ALTITUDE: 2,386 meters plus mean sea level.

PERIOD OF RECORD: April 16, 1968 to September 18, 1976.

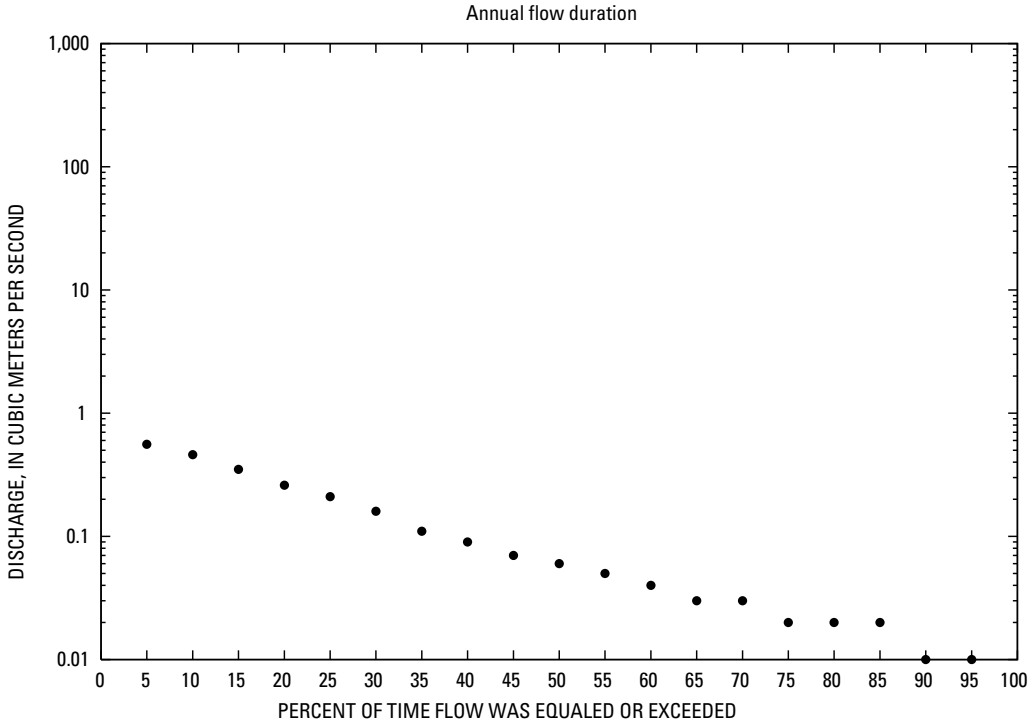
GAGE: Staff gage read once or twice daily.



Statistics of monthly and annual mean discharges

[m³/s, meters per second; m, more than 2 years of occurrence]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	0.215	1975	0.010	m	0.06	0.07	1.25	3.12
November	0.465	1973	0.011	1976	0.13	0.15	1.17	6.87
December	0.640	1973	0.010	1976	0.17	0.21	1.24	8.73
January	0.575	1973	0.010	1969	0.24	0.21	0.84	12.8
February	0.496	1973	0.010	1969	0.23	0.18	0.77	12.3
March	0.639	1973	0.014	1969	0.29	0.21	0.73	15.2
April	1.35	1973	0.067	1971	0.51	0.47	0.93	26.5
May	0.117	1969	0.035	1971	0.07	0.03	0.40	3.66
June	0.106	1974	0.010	1971	0.04	0.03	0.73	2.30
July	0.170	1974	0.019	1975	0.06	0.05	0.80	3.23
August	0.359	1970	0.005	1971	0.08	0.11	1.35	4.19
September	0.083	1968	0	1971	0.02	0.03	1.17	1.18
Annual	0.370	1973	0.050	1969	0.16	0.11	0.67	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.01	0.01	0.02	0.04	0.02	0.01	0.01	0	0	0.01	0.01	0.01	0.01
90	0.02	0.02	0.02	0.05	0.03	0.01	0.01	0.01	0	0.01	0.02	0.02	0.01
85	0.02	0.02	0.04	0.06	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.02	0.02
80	0.03	0.03	0.07	0.07	0.04	0.02	0.02	0.02	0.01	0.01	0.02	0.02	0.02
75	0.05	0.05	0.11	0.09	0.04	0.02	0.02	0.02	0.01	0.01	0.03	0.03	0.02
70	0.13	0.09	0.12	0.1	0.04	0.02	0.03	0.02	0.01	0.02	0.03	0.05	0.03
65	0.16	0.13	0.18	0.11	0.05	0.03	0.03	0.03	0.01	0.02	0.03	0.06	0.03
60	0.16	0.14	0.22	0.15	0.05	0.03	0.03	0.03	0.02	0.02	0.05	0.06	0.04
55	0.17	0.18	0.24	0.23	0.05	0.03	0.03	0.04	0.02	0.02	0.06	0.07	0.05
50	0.18	0.23	0.29	0.28	0.06	0.04	0.04	0.05	0.02	0.02	0.07	0.09	0.06
45	0.2	0.26	0.34	0.35	0.06	0.04	0.04	0.05	0.02	0.02	0.08	0.12	0.07
40	0.26	0.27	0.37	0.46	0.07	0.04	0.04	0.06	0.02	0.04	0.1	0.14	0.09
35	0.34	0.29	0.39	0.53	0.07	0.05	0.06	0.07	0.02	0.06	0.12	0.15	0.11
30	0.41	0.38	0.41	0.6	0.08	0.06	0.07	0.08	0.03	0.09	0.16	0.17	0.16
25	0.42	0.42	0.43	0.71	0.09	0.07	0.08	0.08	0.03	0.1	0.19	0.19	0.21
20	0.44	0.46	0.44	0.82	0.1	0.08	0.09	0.09	0.04	0.11	0.22	0.29	0.26
15	0.48	0.49	0.48	1.06	0.12	0.09	0.1	0.09	0.05	0.13	0.26	0.34	0.35
10	0.56	0.51	0.51	1.46	0.13	0.09	0.15	0.1	0	0.18	0.31	0.57	0.46
5	0	0.53	0.64	2.01	0.18	0.11	0.24	0.1	0	0.23	0.58	0.66	0.56

3- 8.1L0-1W BARIKAB RIVER ABOVE SERAJ RESERVOIR, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m^3/s)	Maximum mean discharge[2]			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	0.100	0.075	0.069	0.069	0.062
0.95	1.05	0.100	0.154	0.149	0.134	0.119
0.90	1.11	0.200	0.224	0.218	0.188	0.166
0.80	1.25	0.300	0.353	0.339	0.281	0.243
0.50	2	0.800	0.823	0.731	0.581	0.485
0.20	5	3.00	1.88	1.44	1.14	0.913
0.10	10	6.10	2.86	1.99	1.60	1.24
0.04	25	13.9	4.46	2.73	2.25	1.70
0.02	50	24.2	5.92	3.31	2.79	2.06
0.01	100	40.7	7.61	3.90	3.36	2.44
0.005	200	66.5	9.56	4.50	3.97	2.84
0.002	500	123	ng	ng	ng	ng

[1]Less than 10 years of data used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

3- 8.1L0-1W BARIKAB RIVER ABOVE SERAJ RESERVOIR, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second;ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	0	0	0	ng	0.002	0.005	0.007	0.010
0.10	10	ng	0	0	0	ng	0.003	0.006	0.009	0.014
0.20	5	ng	0.006	0.009	0.009	ng	[1]0.006	0.009	0.011	0.020
0.50	2	ng	0.009	0.010	0.010	ng	0.012	0.016	0.021	0.039

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 8.1L0-1W BARIKAB RIVER ABOVE SERAJ RESERVOIR, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.005	0.005	0.005	0.005	0.007	0.008	0.010	0.015
0.10	10	0.008	0.009	0.009	0.010	0.008	0.011	0.013	0.021
0.20	5	0.014	0.015	0.017	0.020	0.010	0.014	0.017	0.030
0.50	2	0.042	0.047	0.055	0.071	0.015	0.024	0.029	0.051
		June-July-August				September-October-November			
0.05	20	0	0	0	0.005	0	0	0	0
0.10	10	0	0	0	0.008	0	0	0	0
0.20	5	0	0.007	0.009	0.012	0	0.007	0.007	0.007
0.50	2	0.012	0.012	0.018	0.024	0.010	0.011	0.011	0.012

3- 8.1L0-1W BARIKAB RIVER ABOVE SERAJ RESERVOIR, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1968	11-Aug	--	0.09	1973	17-Apr	--	2.22
1969	14-May	--	0.28	1974	7-Apr	--	0.58
1970	21-Aug	--	15.1	1975	11-Apr	--	1.10
1971	16-Jul	--	0.50	1976	20-Apr	--	1.64
1972	13-Apr	--	1.10				
Annual peak discharge, from highest to lowest							
1970	21-Aug	--	15.1	1974	7-Apr	--	0.58
1973	17-Apr	--	2.22	1971	16-Jul	--	0.50
1976	20-Apr	--	1.64	1969	14-May	--	0.28
1975	11-Apr	--	1.10	1968	11-Aug	--	0.09
1972	13-Apr	--	1.10				

3- 8.1L0-1W BARIKAB RIVER ABOVE SERAJ RESERVOIR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1968	--	--	--	--	--	--	--	0.062	0.077	0.08	0.081	0.083	--
1969	0.097	0.075	0.042	0.01	0.01	0.014	0.074	0.117	0.06	0.043	0.05	0.01	0.05
1970	0.017	0.083	0.193	0.39	0.417	0.467	0.134	0.039	0.025	0.026	0.359	0.018	0.18
1971	0.01	0.027	0.085	0.214	0.274	0.28	0.067	0.035	0.01	0.043	0.005	0	0.087
1972	0.01	0.02	0.022	0.029	0.026	0.083	0.591	0.101	0.015	0.029	0.017	0.035	0.081
1973	0.105	0.465	0.64	0.575	0.496	0.639	1.35	0.075	0.046	0.04	0.023	0.01	0.37
1974	0.013	0.138	0.228	0.446	0.344	0.238	0.277	0.064	0.106	0.17	0.057	0.014	0.174
1975	0.215	0.231	0.115	0.163	0.201	0.435	0.554	0.049	0.019	0.019	0.039	0.01	0.17
1976	0.01	0.011	0.01	0.122	0.106	0.168	1.01	0.087	0.037	0.105	0.09	--	--

3- 8.R00-1W SARAB RIVER ABOVE SERAJ RESERVOIR

(U.S. Geological Survey identification number: 334601068210000)

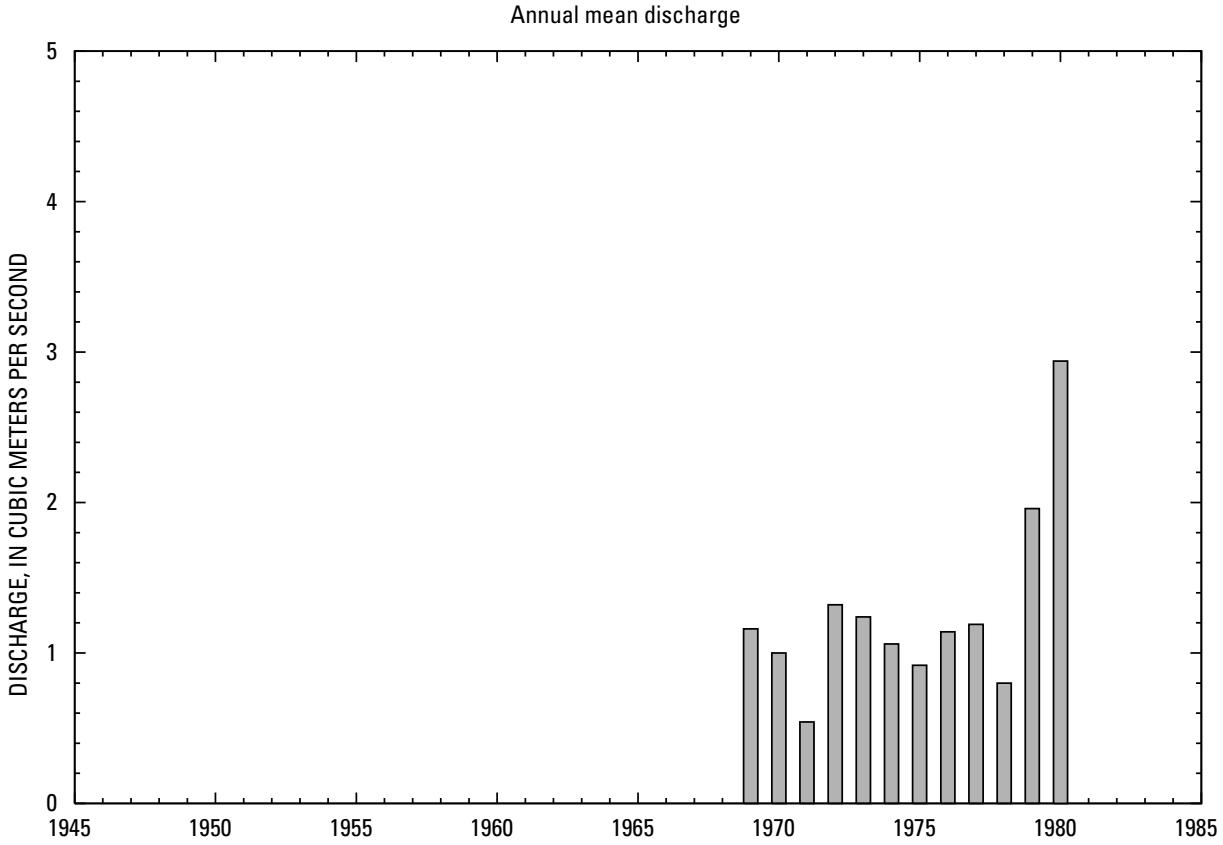
LOCATION: Lat 33º46’01’’N., long 68º21’E., on right bank at Khojagan.

DRAINAGE AREA: 730 km^2.

ALTITUDE: 2,385 meters plus mean sea level.

PERIOD OF RECORD: April 16, 1968 to September 30, 1980.

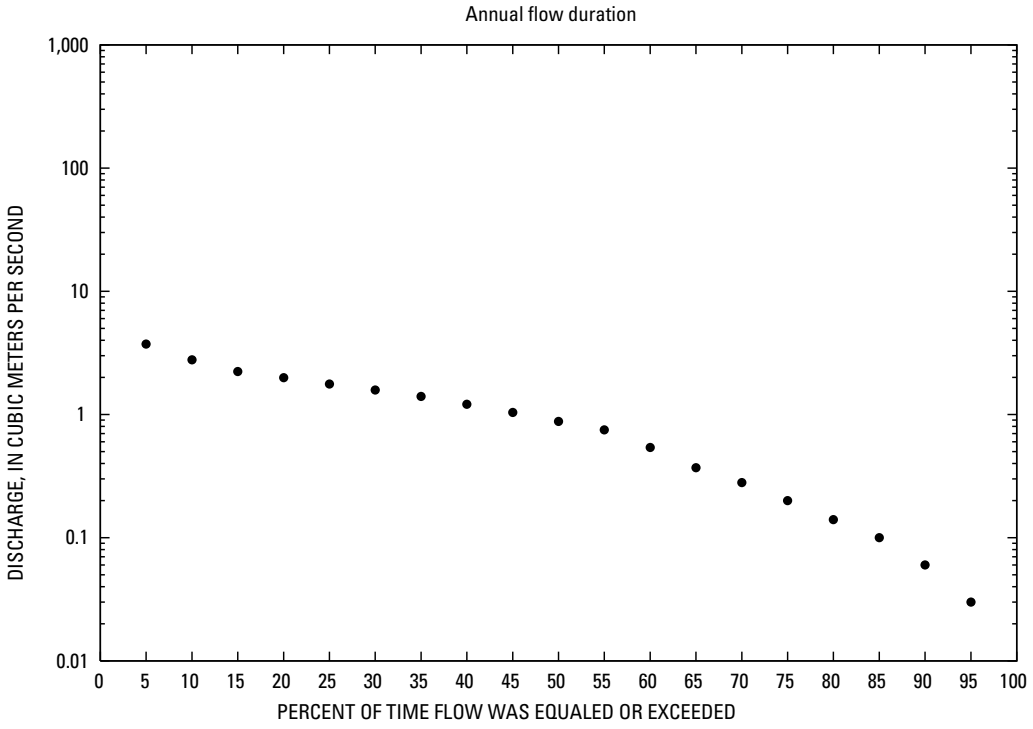
GAGE: Staff gage read once or twice daily.



Statistics of monthly and annual mean discharges

[m^3/s, meters per second; m, more than 2 years of occurrence]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	1.37	1969	0.155	1976	0.55	0.36	0.66	3.56
November	2.61	1980	0.606	1976	1.34	0.59	0.44	8.63
December	3.20	1980	0.893	1976	1.59	0.66	0.41	10.2
January	3.27	1980	0.908	1971	1.75	0.72	0.41	11.2
February	3.40	1980	0.770	1976	1.72	0.76	0.44	11.1
March	4.58	1980	0.851	1976	2.12	0.95	0.45	13.6
April	10.4	1980	0.716	1969	3.62	3.31	0.91	23.3
May	5.26	1980	0.122	1978	1.50	1.60	1.07	9.62
June	1.45	1980	0.020	1971	0.42	0.45	1.07	2.68
July	0.755	1978	0.040	1970	0.38	0.26	0.69	2.45
August	1.68	1970	0.028	1975	0.41	0.46	1.13	2.63
September	0.662	1968	0.010	m	0.15	0.19	1.24	1.00
Annual	2.94	1980	0.542	1971	1.27	0.62	0.49	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.85	0.79	0.81	0.24	0.09	0.03	0.04	0.02	0.01	0.06	0.59	0.91	0.03
90	0.92	0.8	0.91	0.32	0.11	0.05	0.05	0.03	0.01	0.1	0.75	0.95	0.06
85	0.93	0.81	1.14	0.4	0.18	0.07	0.06	0.04	0.02	0.12	0.83	1.01	0.1
80	1	0.89	1.4	0.74	0.21	0.09	0.08	0.05	0.02	0.14	0.87	1.06	0.14
75	1.17	1.13	1.48	1	0.24	0.1	0.09	0.06	0.02	0.16	0.93	1.13	0.2
70	1.29	1.39	1.54	1.37	0.29	0.12	0.1	0.07	0.02	0.21	0.98	1.16	0.28
65	1.46	1.45	1.66	1.65	0.32	0.17	0.15	0.1	0.04	0.28	1.02	1.24	0.37
60	1.51	1.47	1.8	1.92	0.35	0.2	0.17	0.12	0.05	0.33	1.05	1.27	0.54
55	1.59	1.5	1.9	2.25	0.43	0.22	0.18	0.14	0.07	0.39	1.13	1.34	0.75
50	1.64	1.56	1.98	2.72	0.55	0.25	0.2	0.16	0.1	0.44	1.2	1.44	0.88
45	1.67	1.67	2.05	2.94	0.72	0.27	0.22	0.17	0.11	0.52	1.25	1.48	1.04
40	1.75	1.74	2.13	3.21	0.88	0.3	0.24	0.18	0.12	0.61	1.29	1.52	1.21
35	1.96	1.82	2.2	3.7	1.29	0.35	0.29	0.19	0.13	0.68	1.37	1.57	1.4
30	2.09	2.06	2.29	4.17	1.61	0.41	0.4	0.22	0.15	0.75	1.46	1.79	1.58
25	2.36	2.14	2.4	4.73	2.12	0.48	0.57	0.4	0.18	0.83	1.58	2.07	1.77
20	2.42	2.23	2.71	5.78	2.76	0.59	0.64	0.5	0.33	0.92	1.82	2.13	1.99
15	2.49	2.42	2.92	7.33	3.83	0.66	0.73	0.56	0.36	1.03	2.2	2.2	2.23
10	0	3.12	3.54	9.9	4.31	0.99	0.85	0.72	0.38	1.24	2.37	2.36	2.78
5	0	0	4.04	11.2	5.22	1.29	1.05	1.06	0.63	1.51	2.68	0	3.73

3- 8.R00-1W SARAB RIVER ABOVE SERAJ RESERVOIR, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	1.80	1.55	0.978	[1]0.995	0.953
0.95	1.05	2.30	2.07	1.52	1.43	1.31
0.90	1.11	2.70	2.47	1.92	1.75	1.58
0.80	1.25	3.50	3.12	2.56	2.27	2.01
0.50	2	7.10	5.19	4.48	3.86	3.34
0.20	5	18.5	9.43	7.88	6.86	5.92
0.10	10	34.6	13.4	10.6	9.44	8.20
0.04	25	74.4	20.0	14.6	13.5	11.9
0.02	50	129	26.3	18.0	17.1	15.2
0.01	100	219	34.1	21.8	21.3	19.2
0.005	200	368	43.7	25.9	[1]26.2	23.9
0.002	500	720	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

3- 8.R00-1W SARAB RIVER ABOVE SERAJ RESERVOIR, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	0.005	0.005	0.005	0.006	0.017	0.029	0.053	0.117
0.10	10	0.004	0.007	0.008	0.008	0.008	0.023	0.041	0.070	0.145
0.20	5	0.009	0.011	0.012	0.012	0.014	0.033	0.061	0.099	0.189
0.50	2	0.027	0.028	0.032	0.034	0.040	0.071	0.130	0.184	0.314

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.598	0.655	0.685	0.713	0.039	0.048	0.075	0.114
0.10	10	0.694	0.746	0.776	0.818	0.051	0.065	0.100	0.156
0.20	5	0.836	0.882	0.912	0.972	0.076	0.097	0.146	0.233
0.50	2	1.21	1.25	1.28	1.38	0.185	0.237	0.339	0.552
		June-July-August				September-October-November			
0.05	20	0.006	0.009	0.018	0.020	0	0.005	0.005	0.005
0.10	10	0.010	0.014	0.024	0.030	0.003	0.008	0.008	0.009
0.20	5	0.017	0.023	0.035	0.048	0.010	0.013	0.014	0.017
0.50	2	0.048	0.062	0.078	0.113	0.044	[1]0.043	0.047	0.059

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m^3/s)	Water year	Date	Gage height (meters)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1968	11-Apr	--	7.60	1975	14-Apr	--	6.22
1969	20-Nov	--	2.71	1976	17-Jul	--	25.0
1970	23-Aug	--	35.2	1977	13-Apr	--	2.96
1971	16-Jul	--	5.00	1978	5-Jul	--	8.00
1972	12-May	--	5.06	1979	17-Apr	--	11.9
1973	18-Apr	--	5.56	1980	18-Apr	--	90.0
1974	20-Apr	--	3.30				
Annual peak discharge, from highest to lowest							
1980	18-Apr	--	90.0	1973	18-Apr	--	5.56
1970	23-Aug	--	35.2	1972	12-May	--	5.06
1976	17-Jul	--	25.0	1971	16-Jul	--	5.00
1979	17-Apr	--	11.9	1974	20-Apr	--	3.30
1978	5-Jul	--	8.00	1977	13-Apr	--	2.96
1968	11-Apr	--	7.60	1969	20-Nov	--	2.71
1975	14-Apr	--	6.22				

3- 8.R00-1W SARAB RIVER ABOVE SERAJ RESERVOIR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1968	--	--	--	--	--	--	--	2.78	0.78	0.724	0.648	0.662	--
1969	1.37	2.25	2.2	2.13	2.14	1.93	0.716	0.743	0.171	0.07	0.144	0.102	1.16
1970	0.615	1.6	1.48	1.7	1.52	2.02	1.13	0.201	0.062	0.04	1.68	0.01	1
1971	0.293	1	1.07	0.908	0.78	0.948	0.914	0.219	0.02	0.328	0.039	0.01	0.542
1972	0.265	1.02	1.43	1.61	1.72	2.37	3.37	3.1	0.557	0.306	0.085	0.077	1.32
1973	0.565	1.15	1.73	1.94	1.83	2.72	3.45	0.471	0.302	0.444	0.292	0.03	1.24
1974	0.233	1.02	1.44	2.48	2.42	1.74	2.13	0.447	0.295	0.422	0.152	0.015	1.06
1975	0.545	0.96	0.99	0.912	0.955	1.68	4.11	0.67	0.107	0.095	0.028	0.01	0.918
1976	0.155	0.606	0.893	0.985	0.77	0.851	5.07	2.55	0.245	0.665	0.578	0.345	1.14
1977	0.967	1.7	2.16	2.34	2.2	2.33	1.61	0.27	0.229	0.21	0.167	0.108	1.19
1978	0.178	0.912	1.12	1.22	1.45	1.92	0.892	0.122	0.072	0.755	0.841	0.135	0.799
1979	0.719	1.28	1.35	1.49	1.48	2.32	9.68	2.62	1.13	0.713	0.505	0.36	1.96
1980	0.743	2.61	3.2	3.27	3.4	4.58	10.4	5.26	1.45	0.183	0.152	0.148	2.94

4- 0.000-1M SHELE CHARKH RIVER NEAR ZARANJ

(U.S. Geological Survey identification number: 310200061520000)

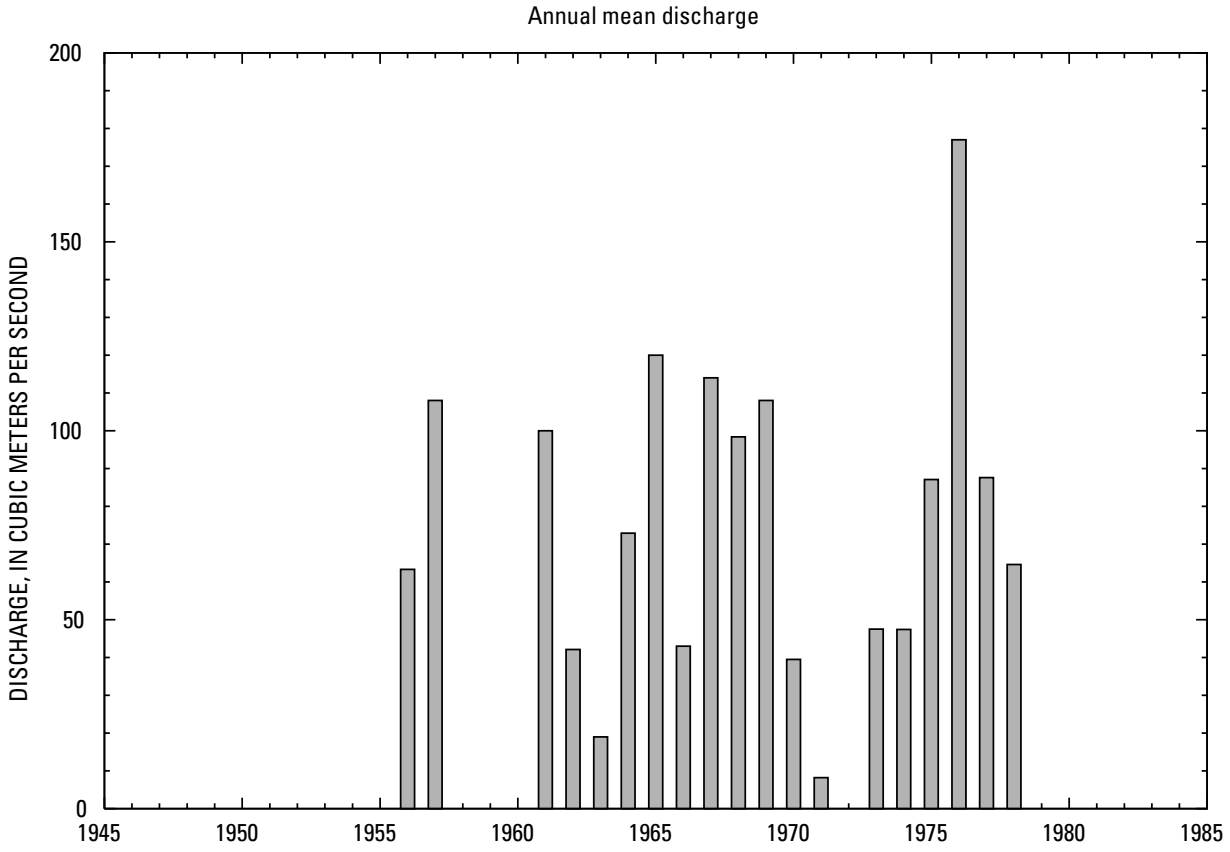
LOCATION: Lat 31º02'N., long 61º52'E., on left bank at bridge site at Shele Charkh, 8 km south of Qala-i-Kang, 24 km southwest of Chakhansur, 28 km downstream from Sistan diversion, and about 105 km downstream from Char Burjak.

DRAINAGE AREA: --

ALTITUDE: 476 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1955 to June 1, 1979.

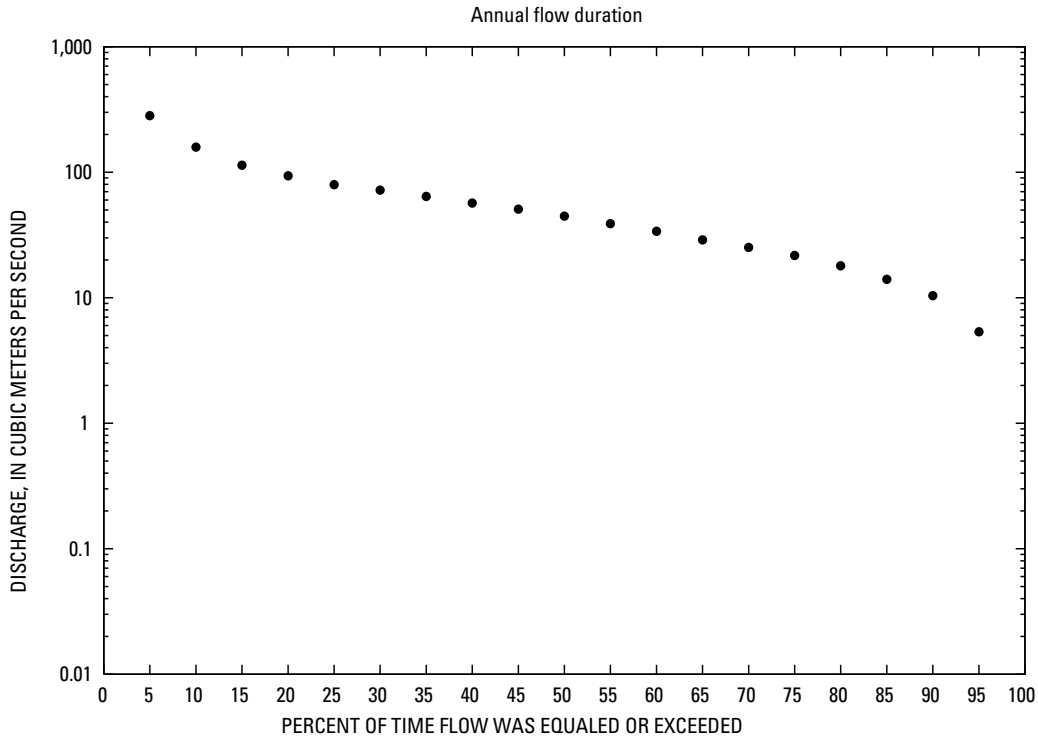
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	67.6	1977	2.73	1963	26.6	18.4	0.69	2.84
November	78.4	1977	1.84	1963	30.4	20.2	0.67	3.26
December	85.4	1962	8.19	1963	44.5	23.2	0.52	4.76
January	124	1977	15.6	1967	64.2	31.9	0.50	6.87
February	133	1968	13.6	1971	79.4	36.5	0.46	8.50
March	281	1976	6.10	1971	82.8	61.5	0.74	8.86
April	448	1976	7.21	1971	153	138	0.90	16.4
May	737	1967	11.5	1971	255	216	0.85	24.3
June	241	1965	2.44	1971	92.7	72.0	0.78	9.92
July	93.5	1976	0.003	1971	43.9	27.4	0.62	4.70
August	85.2	1956	0	1971	33.8	24.1	0.71	3.62
September	73.1	1956	0	1971	27.6	19.7	0.71	2.95
Annual	177	1976	8.21	1971	76.2	41.0	0.54	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	12.5	14.7	11.7	9.97	12.5	3.88	0.02	4.75	1	3.85	3.19	12.1	5.36
90	19	22	24.5	16.2	22.2	7.82	5.66	6.97	5.05	4.91	5.59	16.8	10.4
85	25.3	28.9	28.2	21.7	30.6	23	11.2	9.46	7.99	6.88	8.77	19.4	14
80	30.2	35.7	35.1	29.2	41.5	27.1	14	11.9	10.5	10.3	13.1	21.3	18
75	35	43.7	43.8	40.7	68.1	30.1	18.3	13.5	11.4	11.5	15	23.2	21.7
70	39.2	49.1	48.5	46.9	82.8	34.7	21.9	15.3	13.1	14	17.1	25	25.2
65	43.2	54.1	53.1	57.4	101	41.2	24.3	17.7	14.7	16.2	19	26.7	28.9
60	46.2	60.5	57.3	65.2	127.3	48.5	26.7	20.5	17	18.8	21.1	29	33.9
55	50.1	65.5	61.5	71.7	145.1	56.3	29.9	22.7	18.5	21.9	22.5	32.4	39
50	56.4	68.8	66	79.2	181.2	66.1	35.5	24.2	22.7	23	23.8	35.5	44.7
45	63.2	72	70.5	88.9	223.4	77.6	41.1	28.3	25.4	24	26.6	39.1	50.8
40	67.7	78.1	75.3	108.2	267.4	91.3	46.7	31.4	28.2	26.7	31.5	44.8	56.8
35	76.9	84.8	80.3	122.1	299.8	105.8	52.2	39.3	31.7	28.9	35	51.3	64.2
30	83.7	92.1	85.9	145.2	335.6	120.4	56.8	45.6	37.9	30.9	38	59.6	72
25	88.5	100.1	95.1	203	375.2	138.1	61	49.8	42.6	35.9	41.2	66.3	79.7
20	92.8	109.4	105.3	249.8	424.6	156.5	65.3	55.1	45.7	41	44.9	71.5	93.7
15	98.7	121	116.5	293.5	498.2	184.4	69.5	63.5	50	45.7	56.8	75.8	113.7
10	107.4	141.4	137.6	411.3	561	217.7	74.3	67.9	57.8	51.6	67.8	80.1	158.5
5	118.9	186	182.5	558.2	720.5	261.8	94	78.9	67.8	68.1	75	91	282.3

4- 0.000-1M SHELE CHARKH RIVER NEAR ZARANJ, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge[1]			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	29.1	1.38	4.26	1.35	2.62
0.95	1.05	72.2	12.5	18.4	9.89	12.5
0.90	1.11	113	33.1	36.7	24.2	25.8
0.80	1.25	189	90.1	70.1	61.6	56.4
0.50	2	457	367	262	241	189
0.20	5	979	840	660	575	451
0.10	10	1,390	1,080	960	769	632
0.04	25	1,970	1,280	1,350	953	836
0.02	50	2,410	1,360	1,620	1,050	965
0.01	100	2,870	1,420	1,860	1,120	1,070
0.005	200	3,330	1,450	2,090	1,160	1,160
0.002	500	3,940	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 0.000-1M SHELE CHARKH RIVER NEAR ZARANJ, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	[1]3	[1]7	14	30	60	90	120	183
0.05	20	1.18	0	0	2.05	2.63	3.39	4.46	5.31	7.08
0.10	10	2.07	1.48	1.76	3.15	4.08	5.15	6.52	7.75	10.3
0.20	5	3.88	3.25	3.85	5.12	6.63	8.19	10.0	11.8	15.6
0.50	2	11.1	9.35	10.6	11.6	14.6	17.6	20.5	23.8	30.3

[1]Data does not fit log-Pearson Type III curve, use with caution.

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	4.56	6.58	7.68	10.4	5.56	6.57	[1]4.11	10.3
0.10	10	6.80	9.27	11.1	14.2	8.34	9.95	[1]7.21	15.1
0.20	5	10.6	13.7	16.5	20.1	13.2	15.8	[1]13.2	23.6
0.50	2	22.5	26.5	31.5	36.0	28.7	34.2	[1]33.9	51.3
		June-July-August				September-October-November			
0.05	20	0	0	0	0	0	0	2.29	2.78
0.10	10	3.16	3.58	4.14	5.29	1.29	2.05	3.53	4.39
0.20	5	6.13	6.97	7.93	9.99	3.12	4.42	5.78	7.31
0.50	2	15.9	17.7	19.4	23.5	10.1	12.2	13.5	16.9

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1956	24-Jul	--	345	1969	20-Apr	--	1,000
1957	13-May	--	1,019	1970	1-Feb	--	380
1961	15-Apr	4.99	1,044	1971	11-Jan	--	58.8
1962	3-Jan	2.64	142	1973	11-May	--	147
1963	15-May	--	115	1974	27-Feb	--	185
1964	4-May	--	828	1975	23-May	--	645
1965	30-Apr	--	1,040	1976	2-May	--	1,304
1966	3-Mar	--	91.6	1977	13-Jan	--	500
1967	7-May	--	1,582	1978	23-Apr	--	329
1968	4-May	--	450	1979	16-Feb	--	1,006
Annual peak discharge, from highest to lowest							
1967	7-May	--	1,582	1968	4-May	--	450
1976	2-May	--	1,304	1970	1-Feb	--	380
1961	15-Apr	4.99	1,044	1956	24-Jul	--	345
1965	30-Apr	--	1,040	1978	23-Apr	--	329
1957	13-May	--	1,019	1974	27-Feb	--	185
1979	16-Feb	--	1,006	1973	11-May	--	147
1969	20-Apr	--	1,000	1962	3-Jan	2.64	142
1964	4-May	--	828	1963	15-May	--	115
1975	23-May	--	645	1966	3-Mar	--	91.6
1977	13-Jan	--	500	1971	11-Jan	--	58.8

4- 0.000-1M SHELE CHARKH RIVER NEAR ZARANJ, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1956	35	22	62.4	46	46.8	97	56.2	108	37.8	87.3	85.2	73.1	63.3
1957	59.7	62.2	70.5	101	116	155	264	268	137	29	15.8	17	108
1961	27.7	62.1	78.2	85.6	80	59	248	373	105	34.2	23.1	24.3	100
1962	24.7	38.2	85.4	103	63.7	71.5	39	23.9	29.1	16	6.47	5	42.1
1963	2.73	1.84	8.19	17.4	32.5	24.8	17.5	41.1	34.9	20.9	15.2	11.6	19
1964	4.99	5.91	21.2	70.6	89	68.7	128	318	56.6	50.1	43.8	15.2	72.9
1965	14.6	15.5	29.2	54.4	105	57.2	277	537	241	69	22.9	15.6	120
1966	21.5	45	63.4	64.9	65.1	66.5	68.2	65	23.1	12.3	11.7	11.2	43
1967	10.8	13.6	24.8	15.6	39.3	27.1	117	737	186	76.2	66.5	47.2	114
1968	17.1	22	61	91.8	133	167	127	278	135	62.1	50.5	36.7	98.4
1969	22.1	22.5	57.9	43.4	71.3	95.5	427	306	160	40	24	31.4	108
1970	29.2	35.4	47.4	102	116	66.9	26.7	26.9	4.72	4.05	9	10.2	39.5
1971	4.94	7.79	19.9	25	13.6	6.1	7.21	11.5	2.44	0.003	0	0	8.21
1973	42.2	37.3	25.5	29.7	25.2	34.4	41.6	117	57.2	61.5	50.3	46.1	47.5
1974	45.9	35.2	24.3	44.1	95.7	89.7	61.4	68.7	36.6	24.2	22.9	24.1	47.4
1975	21.7	16.4	30.9	54.2	78.3	41.6	106	392	165	55.5	38.1	43.6	87.1
1976	50.5	42.4	39.7	61	111	281	448	663	197	93.5	76.5	61.7	177
1977	67.6	78.4	71.1	124	129	112	115	150	95.4	43.4	35.7	33.2	87.6
1978	13.7	21.6	52.3	101	54.2	58.4	108	191	56.8	54.2	44.8	17.1	64.6
1979	14.3	23.2	16.5	49.9	124	75.7	380	431	--	--	--	--	--

4- 0.000-2M HELMAND RIVER AT KHWABGAH

(U.S. Geological Survey identification number: 304800061460000)

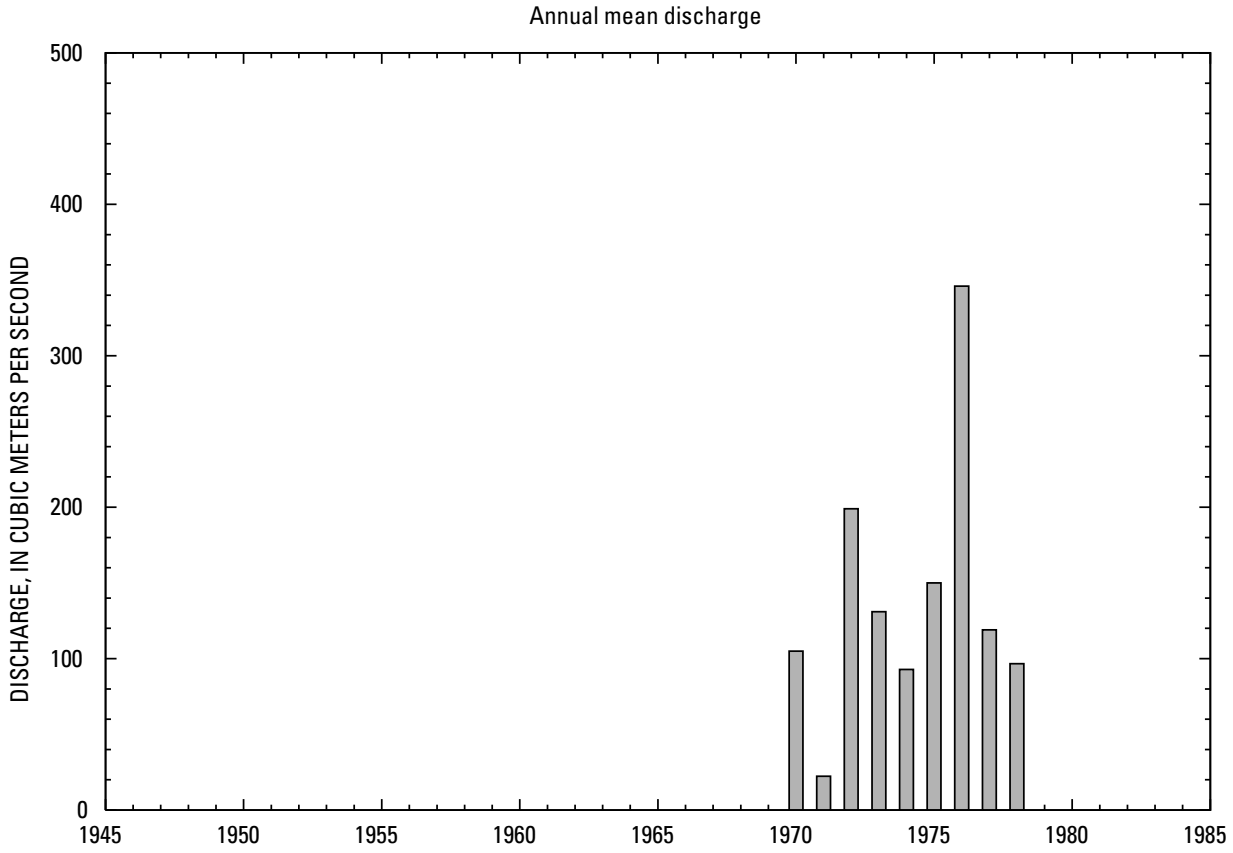
LOCATION: Lat 30º48'N., long 61º46'E.

DRAINAGE AREA: 137,765 km^2, of which approximately 19,400 km^2 is considered noncontributing.

ALTITUDE: 491 meters plus mean sea level.

PERIOD OF RECORD: January 24, 1969 to May 31, 1979.

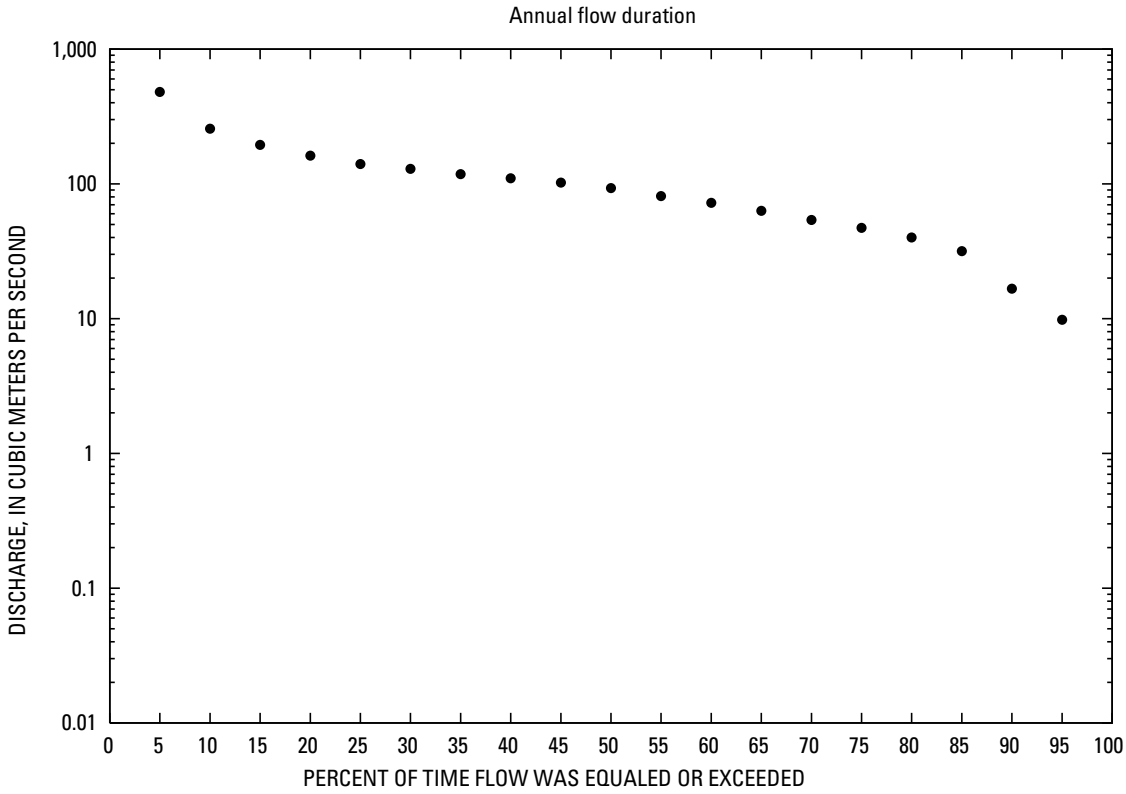
GAGE: --



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	118	1973	5.52	1972	66.5	39.5	0.59	3.74
November	132	1977	10.6	1972	67.9	37.7	0.56	3.82
December	113	1977	11.5	1972	68.7	29.0	0.42	3.86
January	185	1970	44.5	1971	111	40.7	0.37	6.22
February	224	1970	34.3	1971	136	53.4	0.39	7.66
March	520	1976	11.8	1971	177	135	0.76	9.94
April	1,110	1976	24.6	1971	350	328	0.94	19.7
May	1,240	1976	33.7	1971	425	351	0.83	23.9
June	398	1976	12.1	1971	166	126	0.76	9.31
July	165	1976	10.2	1971	84.5	52.6	0.62	4.75
August	126	1976	5.59	1971	64.4	42.0	0.65	3.62
September	112	1972	4.97	1971	62.9	37.8	0.60	3.54
Annual	346	1976	22.4	1971	140	90.6	0.65	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	31.7	34.7	12.7	22.8	34.6	9.12	11	4.5	4.78	5.3	8.23	11.3	9.82
90	43.3	41.4	53.3	32.7	67.8	26.2	12.7	9.12	6.8	8.22	14.3	14.7	16.7
85	49.5	58.7	71.4	69.1	91.4	43.3	27.1	13.8	19.2	15.5	17.4	45.4	31.7
80	55.1	71	80.1	95.7	129.9	50.1	31	15.5	27.6	19.3	34.3	48.4	40
75	63.5	81.6	90.5	117.1	147.5	57	39.2	18.1	32.7	42.6	39.1	50.3	47.2
70	68.8	87.7	99.9	128.4	159.9	68.4	43.9	33.9	40.5	45.5	41.1	52.1	54
65	73	93.9	108.6	138.3	194.3	85.8	48.1	37.3	45.1	50.1	45.6	54.4	63.1
60	84.8	101	116.5	147.2	235.9	100.1	53.3	42.2	51.2	54.5	61.3	57	72.3
55	92.8	115.9	123.9	156	275.8	118.1	63.3	46.3	55.2	58.5	66.7	59.8	81.3
50	97.2	127.6	131.3	175.5	371.5	130.2	72.4	51	58.6	62.6	69.9	63	93.1
45	101.5	137.9	143.3	216	423.4	140	79	61.6	61.4	68.9	74.4	65.9	102.2
40	106.6	143.9	155.7	270	474.4	159.6	86.5	72.1	71.9	77.7	79.8	68.5	110
35	114.7	151.7	165.9	341.8	503.3	182	106.2	78.4	81.4	81.9	84.6	71	118.1
30	123.6	172	175.9	401.1	532.1	205.7	115.5	95.8	90.6	95.7	90	75.1	129.3
25	134	189.5	186.6	496.2	571.7	231.7	123	104.1	102.7	102.9	95.3	80.8	140.6
20	163.8	201.4	202.7	662.4	614	265.8	130.6	108.8	109.2	109.6	100.1	95.7	162
15	188.2	210.8	219.7	735.9	678.5	312.6	139.9	113.5	112.1	115.8	107.4	103.9	194.4
10	201	221.7	253.8	839.2	878.6	365.6	150	121	115.1	121.4	120.9	109.6	257
5	224.6	245	503.5	1165.5	1156.1	461	165.5	139.6	118	126.7	0	129.7	481.6

4- 0.000-2M HELMAND RIVER AT KHWABGAH, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	33.7	31.7	27.6	27.4
0.95	1.05	ng	84.6	73.3	65.2	61.2
0.90	1.11	345	133	112	100	92.0
0.80	1.25	457	221	183	164	147
0.50	2	773	529	437	391	341
0.20	5	1,280	1,110	962	844	732
0.10	10	1,660	1,550	1,410	1,210	1,060
0.04	25	2,170	2,140	2,060	1,740	1,530
0.02	50	2,580	[1]2,590	[1]2,610	2,170	1,920
0.01	100	3,000	[1]3,030	[1]3,190	2,620	2,340
0.005	200	3,440	[1]3,470	[1]3,820	3,080	2,790
0.002	500	4,040	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 0.000-2M HELMAND RIVER AT KHWABGAH, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	3.54	3.66	3.77	4.00	5.26	6.72	7.32	8.12	10.5
0.10	10	6.05	6.24	6.49	7.02	9.36	12.2	13.1	14.2	17.7
0.20	5	10.8	11.1	11.7	12.8	17.2	22.3	23.9	25.2	30.2
0.50	2	27.0	28.0	29.8	33.0	41.7	52.1	55.2	57.3	64.7

4- 0.000-2M HELMAND RIVER AT KHWABGAH, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	11.9	13.2	14.3	15.2	9.85	10.8	11.8	17.8
0.10	10	16.6	19.7	21.6	23.7	18.5	20.5	22.4	29.4
0.20	5	23.9	29.6	32.8	37.0	34.4	38.5	42.1	51.0
0.50	2	42.3	52.6	57.7	67.0	76.2	85.3	94.8	124
		June-July-August				September-October-November			
0.05	20	4.26	4.50	4.70	6.56	5.05	5.34	5.62	6.53
0.10	10	7.51	7.96	8.33	11.0	9.13	9.64	10.3	11.7
0.20	5	14.0	14.9	15.6	19.5	17.1	18.0	19.5	21.5
0.50	2	38.8	41.0	42.5	48.8	43.4	45.3	49.1	52.5

4- 0.000-2M HELMAND RIVER AT KHWABGAH, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1969	21-Apr	--	1,244	1975	22-May	--	1,078
1970	1-Feb	--	680	1976	3-May	--	2,071
1971	11-Jan	--	76.6	1977	13-Jan	--	772
1972	2-May	--	1,431	1978	30-Dec	--	470
1973	4-May	--	436	1979	16-Feb	--	1,006
1974	24-Jan	--	348				
Annual peak discharge, from highest to lowest							
1976	3-May	--	2,071	1970	1-Feb	--	680
1972	2-May	--	1,431	1978	30-Dec	--	470
1969	21-Apr	--	1,244	1973	4-May	--	436
1975	22-May	--	1,078	1974	24-Jan	--	348
1979	16-Feb	--	1,006	1971	11-Jan	--	76.6
1977	13-Jan	--	772				

4- 0.000-2M HELMAND RIVER AT KHWABGAH, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1969	--	--	--	--	146	193	649	606	308	102	72.14	83.85	--
1970	78.96	92.68	103	185	224	200	152	119	50.99	24.43	15.27	19.02	105
1971	14.86	22.29	50.03	44.54	34.33	11.77	24.59	33.71	12.07	10.19	5.59	4.97	22.38
1972	5.52	10.56	11.52	95.49	118	298	556	678	256	138	109	112	199
1973	118	105	71.2	85.57	86.81	116	139	332	142	146	120	110	131
1974	109	83.79	57.75	105	166	157	107	111	70.29	48.67	49.55	55.06	92.91
1975	50.9	40.09	75.45	110	160	104	255	592	230	77.46	52.64	58.27	150
1976	71.25	74.59	71.37	95.68	180	520	1,110	1,240	398	165	126	102	346
1977	114	132	113	163	159	146	161	195	111	52.29	40.19	41.1	119
1978	46.77	51.67	85.06	135	77.07	99.9	154	251	77.37	81.16	53.07	43.03	96.63
1979	55.34	66.27	48.87	87.27	147	100	540	516	--	--	--	--	--

4- 0.000-3M HELMAND RIVER AT CHAR BURJAK

(U.S. Geological Survey identification number: 301700062020000)

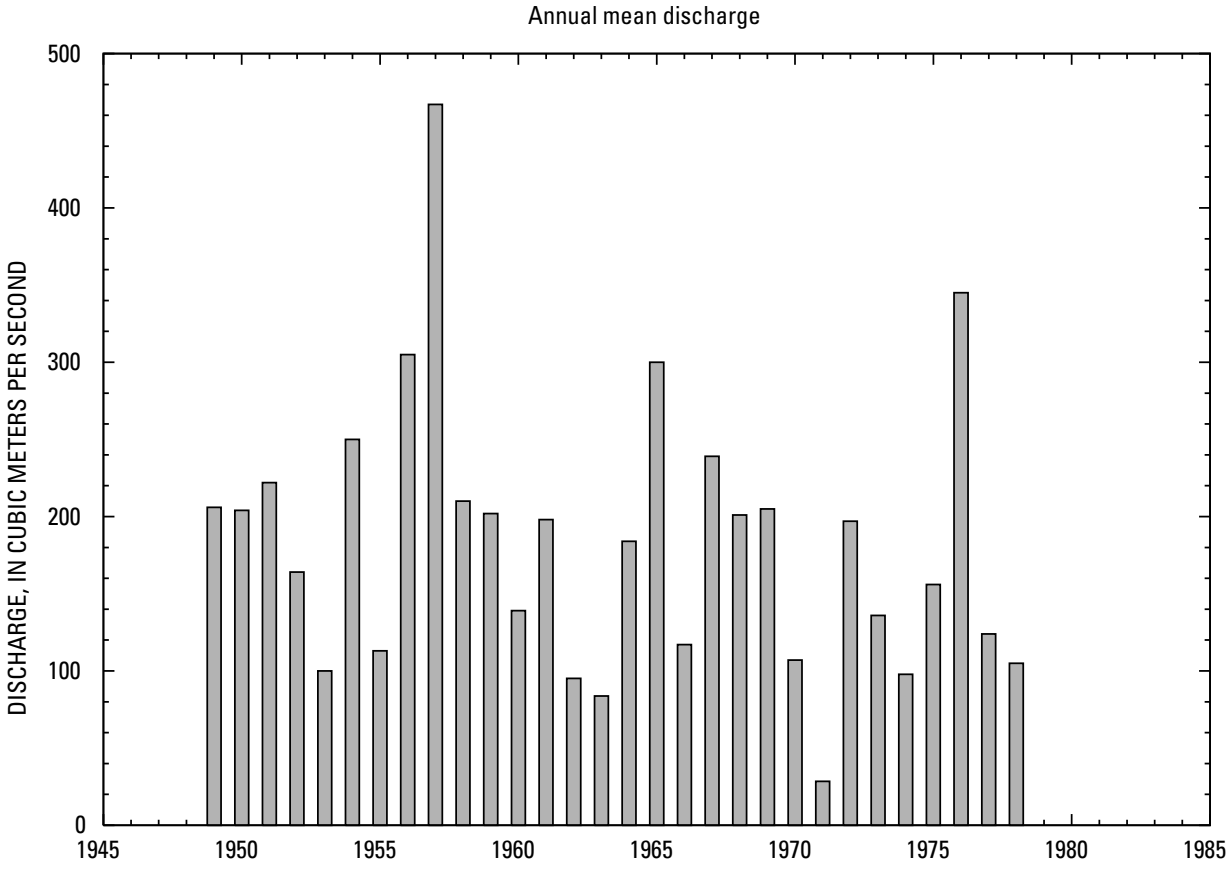
LOCATION: Lat 30º17'N., long 62º02'E., on right bank 1.2 km downstream from Char Burjak, about 80 km upstream from international boundary, and about 445 km downstream from Kajakai Dam.

DRAINAGE AREA: 136,735 km^2, of which approximately 19,100 km^2 is considered noncontributing.

ALTITUDE: 524 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1948 to May 21, 1979.

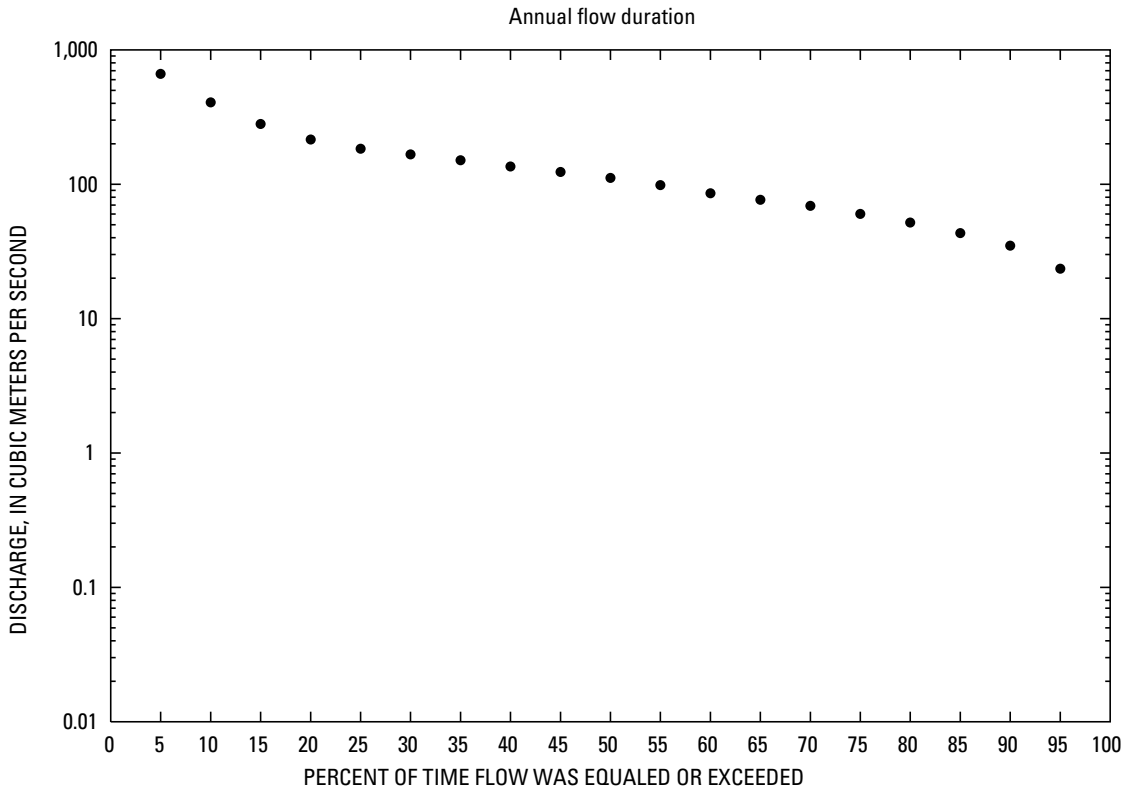
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	172	1958	13.0	1972	66.3	39.2	0.59	3.02
November	150	1966	18.5	1972	72.4	36.3	0.50	3.29
December	295	1958	16.5	1972	96.2	57.1	0.59	4.38
January	257	1957	41.6	1950	127	60.3	0.48	5.77
February	536	1954	41.8	1971	171	88.4	0.52	7.78
March	519	1976	17.3	1971	218	128	0.59	9.93
April	1,600	1957	33.9	1971	438	376	0.86	19.9
May	1,500	1957	46.3	1971	517	382	0.74	23.5
June	622	1957	17.2	1971	226	145	0.64	10.3
July	410	1956	15.2	1971	111	76.7	0.69	5.07
August	299	1956	11.2	1971	83.9	57.5	0.69	3.82
September	172	1957	11.5	1971	71.3	42.0	0.59	3.25
Annual	467	1957	28.5	1971	183	89.7	0.49	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	40.5	57.5	63.5	61.4	72.9	45.6	26.3	17.4	14.2	14.3	21.4	32.4	23.5
90	45.1	69.2	85.2	78.3	91.1	58.1	39.1	25.2	20.9	18.9	28.5	37.7	34.9
85	50.5	81.8	98.1	100.2	136.3	75.9	44.2	27.6	23.1	24.6	33.4	41.4	43.3
80	59.2	88.6	107.6	116.3	151.4	92.4	51.2	31.6	27.3	29.9	37.2	45.4	52
75	62.6	96.3	114.1	132.8	167	112.5	55.2	37.4	33	32.9	39.4	50	60.2
70	69.2	109.6	120.5	150.8	204.2	133.5	59.7	45.1	44.6	38.4	41.1	54.8	69.1
65	89.6	125.5	128.4	165.9	273.5	148.2	65.3	50.7	51.2	45.9	46.2	59	76.6
60	98.8	134.5	137.7	204	324.6	158.2	73.5	56.3	54.9	52.8	57.8	64.3	85.7
55	107.7	142.6	147.4	238.8	382.5	170.2	79.4	64.2	58.3	56.5	63.2	70.8	98.7
50	115.5	152.3	160.1	280.8	432.2	184.7	84.7	70	62	60.6	70.7	77.5	111.5
45	122.5	161.3	172.7	339.7	483.8	200.2	101.3	76.5	68.6	68.4	74	83.3	123.6
40	132.9	168.9	185	379.5	533.3	216.6	126	85.4	74.2	72.1	77.2	91.2	135.5
35	153.9	176.6	197.3	454.3	583.9	235.2	133	103.8	79.4	75.4	80	105.1	150.8
30	167.8	187.6	222.1	539.2	644.3	260.2	138.3	114.4	88	78.7	82.8	114	166.9
25	178	199.7	259.5	608.2	728.6	290.1	143.6	120.8	105.8	82.3	91.6	125.1	183.9
20	185.2	213.4	296.3	684.7	845.7	327.3	150.9	127.2	114.5	86.3	101.2	144.4	215.6
15	192.4	233.8	328.6	808.3	965.6	378.7	159.9	137.3	121.5	114.3	109.1	159.9	281.4
10	208.8	272.2	372.9	1036.5	1106.7	445.8	173.2	149.3	127.7	127.6	132.6	173.7	406.7
5	254.4	385.8	511	1388	1303.3	572	215.9	166.4	169.4	143	160.4	187.7	662.8

4- 0.000-3M HELMAND RIVER AT CHAR BURJAK, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	70.2	63.1	53.8	50.5
0.95	1.05	266	163	143	122	109
0.90	1.11	352	244	211	180	160
0.80	1.25	489	379	327	281	246
0.50	2	883	773	676	594	513
0.20	5	1,520	1,340	1,220	1,100	959
0.10	10	1,970	1,700	1,570	1,450	1,280
0.04	25	2,570	2,090	1,990	1,880	1,680
0.02	50	3,030	2,340	2,280	2,190	1,980
0.01	100	3,500	2,560	2,550	2,470	2,260
0.005	200	3,970	2,750	[2]2,790	2,750	2,540
0.002	500	4,600	ng	ng	ng	ng

[1]Historic peaks of 1885 and 1903 not used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

4- 0.000-3M HELMAND RIVER AT CHAR BURJAK, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	12.4	12.7	13.1	13.8	15.1	16.4	17.6	19.2	23.6
0.10	10	16.0	16.4	17.0	18.3	20.1	22.1	23.8	25.9	31.5
0.20	5	21.3	21.7	22.8	24.9	27.7	30.7	33.2	36.1	43.4
0.50	2	34.4	35.2	37.2	41.1	47.0	52.8	57.2	62.1	73.8

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	[1]15.1	11.1	11.7	13.9	28.8	30.8	33.6	41.9
0.10	10	[1]20.5	17.8	19.0	24.2	39.9	44.0	49.2	60.1
0.20	5	29.0	29.2	31.7	42.0	57.1	64.8	74.0	89.9
0.50	2	53.0	61.2	67.7	86.7	103	119	137	175
		June-July-August				September-October-November			
0.05	20	14.4	14.9	15.5	17.6	13.2	14.0	14.8	15.7
0.10	10	19.3	20.4	21.7	24.4	17.0	18.2	19.6	21.0
0.20	5	27.0	29.4	31.7	35.3	22.8	24.6	26.8	29.2
0.50	2	49.3	55.4	60.2	66.2	38.7	41.7	45.6	51.1

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1885	--	--	16,980	1965	29-Apr	--	1,660
1903	--	--	2,590	1966	26-Dec	--	275
1949	15-Mar	12.23	2,266	1967	3-May	--	1,638
1950	2-Feb	11.30	1,623	1968	5-May	--	830
1951	12-May	--	1,585	1969	21-Apr	--	1,154
1953	18-Feb	--	283	1970	31-Jan	--	826
1955	18-Mar	10.02	861	1971	8-Jan	--	73
1956	10-Apr	11.25	1,620	1972	2-May	--	1,038
1957	21-Mar	12.98	3,311	1973	9-May	--	451
1958	14-Dec	10.20	903	1974	23-Jan	--	388
1959	4-Mar	9.81	915	1975	25-Apr	--	790
1960	20-May	9.55	719	1976	27-Mar	--	1,900
1961	14-Apr	--	1,288	1977	14-Jan	--	700
1962	2-Jan	--	215	1978	29-Dec	--	577
1963	16-May	--	532	1979	16-Feb	--	810
1964	1-May	--	810				
Annual peak discharge, from highest to lowest							
1885	--	--	16,980	1968	5-May	--	830
1957	21-Mar	12.98	3,311	1970	31-Jan	--	826
1903	--	--	2,590	1979	16-Feb	--	810
1949	15-Mar	12.23	2,266	1964	1-May	--	810
1976	27-Mar	--	1,900	1975	25-Apr	--	790
1965	29-Apr	--	1,660	1960	20-May	9.55	719
1950	2-Feb	11.30	1,623	1978	29-Dec	--	577
1956	10-Apr	11.25	1,620	1963	16-May	--	532
1951	12-May	--	1,585	1973	9-May	--	451
1961	14-Apr	--	1,288	1974	23-Jan	--	388
1969	21-Apr	--	1,154	1953	18-Feb	--	283
1972	2-May	--	1,038	1966	26-Dec	--	275
1959	4-Mar	9.81	915	1962	2-Jan	--	215
1958	14-Dec	10.20	903	1971	8-Jan	--	73
1955	18-Mar	10.02	861				

4- 0.000-3M HELMAND RIVER AT CHAR BURJAK, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1949	17.53	26.36	33.06	45.95	118	480	1,020	487	149	52.64	26.35	20.5	206
1950	23.95	30.81	38.46	41.55	236	247	554	836	311	76.95	32.42	22.97	204
1951	31.27	39.08	42.24	44.79	71.99	286	650	944	378	97.88	37.86	31.1	222
1952	31.7	41.1	47	58.1	131	323	617	442	168	55.8	27.2	26.2	164
1953	30.85	38.77	43.18	57.35	122	100	137	149	156	131	132	107	100
1954	71.11	67.66	58.61	101	536	346	572	718	305	80.46	88.79	82.2	250
1955	71.8	79.77	102	179	168	176	107	131	136	58.18	73.67	75.42	113
1956	73.8	74.02	132	126	94.01	270	1,150	657	218	410	299	153	305
1957	109	101	111	257	282	503	1,600	1,500	622	232	130	172	467
1958	172	121	295	248	226	178	288	355	190	158	148	143	210
1959	141	110	101	122	136	284	460	424	239	168	131	111	202
1960	82.22	79.94	136	126	80.99	84.17	167	403	318	78.88	50.98	55.17	139
1961	70.68	144	165	174	164	128	470	626	228	75.92	69.9	64.71	198
1962	70.96	98.25	167	178	150	140	91.06	83.25	84.75	45.83	21.25	14.21	95.17
1963	13.89	27.61	55.34	92.78	134	122	69.68	159	117	79.61	72.99	63.54	83.72
1964	43.87	38.24	134	206	235	231	314	508	175	139	123	52.44	184
1965	58.03	62.67	77.24	142	251	217	725	1,180	569	180	72.69	66.97	300
1966	80.21	150	189	190	175	149	147	137	53.57	43.24	47.95	46.24	117
1967	42.82	61.24	59.15	61.59	165	112	376	1,220	412	149	122	78.77	239
1968	45.26	68.1	105	172	201	398	264	527	276	140	119	86.64	201
1969	55.09	56.88	147	107	145	195	614	572	303	106	75.9	88.53	205
1970	83.35	98.4	109	215	224	171	138	121	59.2	32.44	19.51	22.44	107
1971	19.02	28.25	51.82	48.87	41.79	17.26	33.89	46.3	17.21	15.25	11.18	11.48	28.48
1972	13.05	18.5	16.51	107	124	328	490	622	262	145	118	118	197
1974	114	86.39	60.32	113	178	161	109	121	70.29	54.7	53.58	58.84	97.86
1975	52.15	40.53	84.7	117	178	114	283	577	235	77.73	58.99	61.85	156
1976	82.87	83.24	76.82	102	196	519	1,160	1,170	369	161	119	109	345
1977	123	135	113	178	170	149	172	202	115	52.21	42.67	43.73	124
1978	48.97	54.45	98.67	139	87.14	107	186	252	77.6	90.6	73.15	47.38	105
1979	61.9	74.88	54.71	86.72	182	107	462	--	--	--	--	--	--

4- 0.000-4M HELMAND RIVER AT MALAKHAN

(U.S. Geological Survey identification number: 302700063220000)

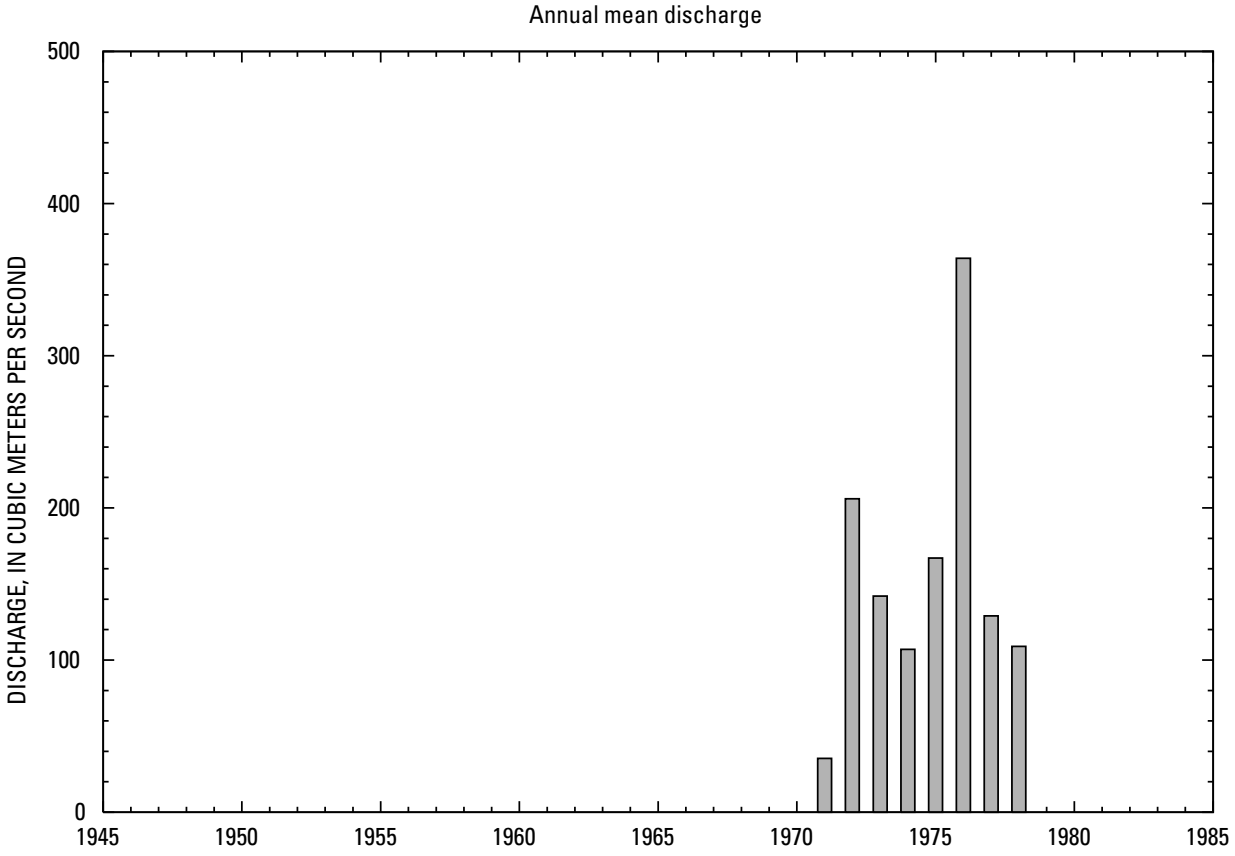
LOCATION: Lat 30º27'N., long 63º22'E.

DRAINAGE AREA: 132,880 km^2, of which approximately 17400 km^2 is considered noncontributing.

ALTITUDE: 591 meters plus mean sea level.

PERIOD OF RECORD: January 19, 1970 to September 30, 1978.

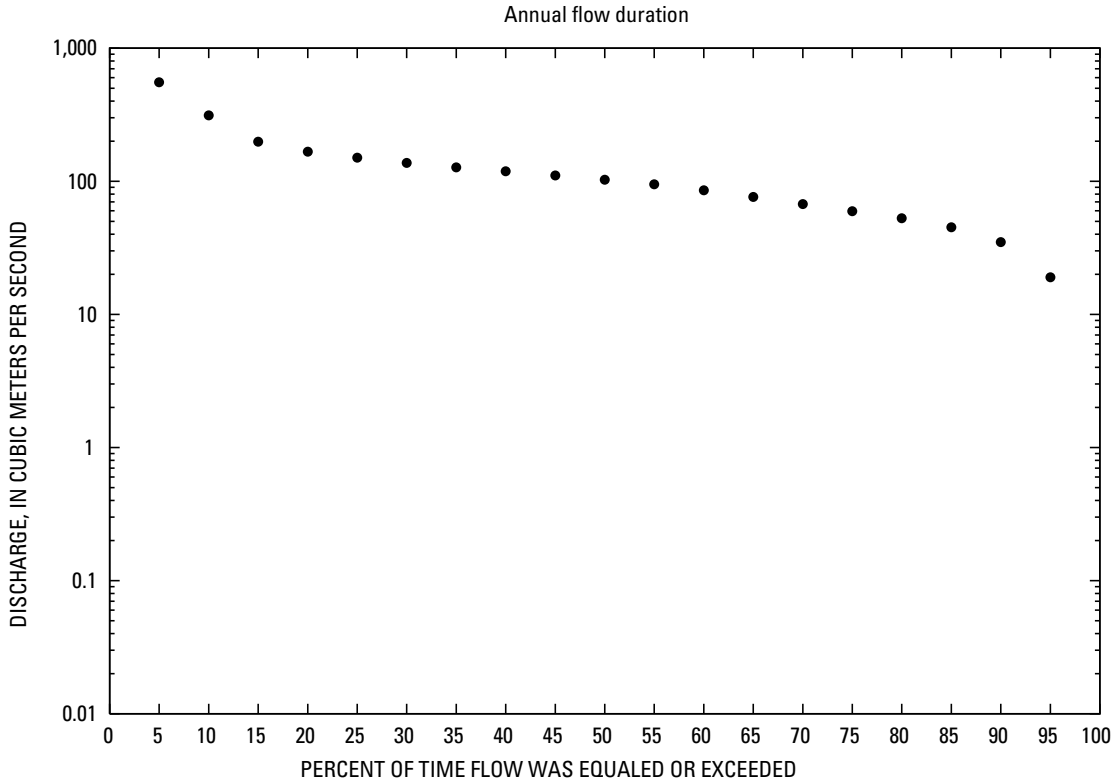
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	130	1977	13.6	1972	75.0	45.6	0.61	4.13
November	142	1977	34.3	1972	77.6	38.6	0.50	4.27
December	129	1977	30.8	1972	86.6	30.3	0.35	4.77
January	174	1977	65.4	1971	120	32.4	0.27	6.62
February	226	1970	46.1	1971	147	60.2	0.41	8.08
March	576	1976	24.3	1971	199	165	0.83	11.0
April	1,270	1976	41.6	1971	333	378	1.13	18.4
May	1,200	1976	53.5	1971	394	368	0.93	21.7
June	357	1976	20.7	1971	148	110	0.74	8.16
July	175	1976	15.5	1971	90.9	54.9	0.60	5.01
August	133	1972	16.0	1971	75.0	44.5	0.59	4.14
September	124	1972	14.8	1971	68.5	40.6	0.59	3.78
Annual	364	1976	35.4	1971	157	97.1	0.62	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	49.9	49.4	19.7	36.8	54	18.2	15.8	16	13.7	12.4	23.3	31.2	19
90	60.2	52.6	35.5	57.9	61.5	31.2	16.6	17.9	19.4	15.8	31.4	33.2	34.9
85	67.5	71.8	81.4	77.3	84.6	51.8	29.2	22.8	22.6	22.9	36.4	61.2	45.2
80	75.3	88.3	91.7	98.3	119.4	57.1	43.2	27.7	25.7	24.5	40.3	67.8	52.8
75	82.4	92.1	97.5	122.9	140.5	61.5	47	38.7	40.2	26	42.1	70.3	59.6
70	90.7	95.9	104.9	134.5	154.4	65.2	49.6	40.2	45.2	49.4	43.5	71.8	67.3
65	96.9	102.7	114.4	142.7	163.4	72	53.1	42.1	49.7	51.8	51.3	73.4	76.2
60	101.4	117.9	123	150.4	173.4	95	58.2	55.3	54	55.2	57	74.9	85.6
55	104.2	134.3	131.1	157.9	210.4	105.6	62.8	56.8	58.8	59.8	65.2	76.8	94.8
50	107	144.1	139.4	165.4	245.4	119.6	69.7	58.4	61.6	67.8	79.9	78.8	102.9
45	109.9	149.5	147.9	175	290.5	127.1	78	59.9	63.8	81.8	85.4	80.7	110.7
40	113.2	154.9	156.4	184.7	361.7	136.8	100.4	65.3	66.8	87.5	90.7	83	118.9
35	116.5	163.2	163.7	235.8	433.7	153.4	104.5	105.9	71.7	110.6	94.3	85.4	127.4
30	119.8	172.1	170.6	320.6	469.2	170.1	108.6	111	110.1	113.8	100.2	87.9	137.4
25	126.9	188	177.6	373	546.3	191.9	115.2	116.8	113.3	116.9	105.7	92.6	150.3
20	135.9	202.4	187.7	458	628.6	224.5	134	124.4	116.4	120.1	109.7	100.1	167.1
15	144.9	215.6	208.3	662	742.6	255.5	147.4	133.1	119.4	123.2	120.5	112.2	198.4
10	173.5	227.8	440.8	760	931.6	317.8	160.4	142.3	122.4	126.3	139.4	129.1	313.1
5	246.9	271	686.7	1345	1210.6	359.4	196.3	151.4	126	135.7	143.6	140.8	554.4

4- 0.000-4M HELMAND RIVER AT MALAKAN, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	51.0	44.8	38.3	33.7
0.95	1.05	ng	111	94.4	83.4	72.9
0.90	1.11	ng	165	138	124	108
0.80	1.25	564	258	216	195	170
0.50	2	805	569	486	441	386
0.20	5	1,230	1,150	1,030	923	814
0.10	10	1,580	[2]1,600	1,500	1,320	1,170
0.04	25	2,110	[2]2,220	[2]2,190	1,890	1,690
0.02	50	2,580	[2]2,720	[2]2,770	2,360	2,120
0.01	100	3,110	[2]3,220	[2]3,400	2,860	2,580
0.005	200	3,720	[2]3,740	[2]4,100	3,380	3,070
0.002	500	4,670	ng	ng	ng	ng

[1]Less than 10 years of data used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

4- 0.000-4M HELMAND RIVER AT MALAKAN, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	8.54	8.74	9.65	10.4	12.8	13.6	14.0	14.1	18.9
0.10	10	12.8	13.1	14.3	15.2	18.3	19.4	20.2	20.6	26.4
0.20	5	20.1	20.6	22.1	23.3	27.0	28.9	30.2	31.3	38.2
0.50	2	42.0	43.1	45.5	47.3	51.8	55.4	58.5	61.4	69.7

4- 0.000-4M HELMAND RIVER AT MALAKAN, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	21.1	26.2	29.8	31.0	18.4	20.8	22.9	28.4
0.10	10	27.5	33.4	37.4	40.2	30.3	33.4	36.3	39.9
0.20	5	37.0	43.4	47.8	52.9	49.0	52.7	57.1	59.9
0.50	2	59.5	66.3	70.5	80.1	87.2	91.5	102	128
		June-July-August				September-October-November			
0.05	20	13.6	14.2	14.2	15.0	10.1	10.9	11.2	12.5
0.10	10	18.6	19.3	19.5	20.7	15.1	16.2	16.8	18.4
0.20	5	26.8	27.7	28.0	30.0	23.4	25.0	26.2	28.1
0.50	2	51.2	52.4	53.5	57.9	48.3	51.1	54.0	56.8

4- 0.000-4M HELMAND RIVER AT MALAKAN, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1970	30-Jan	--	982	1975	21-May	--	898
1971	8-Jan	--	105	1976	29-Apr	--	2,143
1972	1-May	--	1,166	1977	13-Jan	--	900
1973	8-May	--	481	1978	27-Dec	--	778
1974	21-Jan	--	620				
Annual peak discharge, from highest to lowest							
1976	29-Apr	--	2,143	1978	27-Dec	--	778
1972	1-May	--	1,166	1974	21-Jan	--	620
1970	30-Jan	--	982	1973	8-May	--	481
1977	13-Jan	--	900	1971	8-Jan	--	105
1975	21-May	--	898				

4- 0.000-4M HELMAND RIVER AT MALAKAN, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1970	--	--	--	--	226	182	153	121	62.3	36.8	25	23.7	--
1971	23.6	35.4	67.7	65.4	46.1	24.3	41.6	53.5	20.7	15.5	16	14.8	35.4
1972	13.6	34.3	30.8	125	119	338	533	624	242	151	133	124	206
1973	121	108	84.6	96.6	98.8	125	179	357	151	143	127	113	142
1974	120	98.2	78.8	141	190	170	117	122	73.3	59.9	59.2	62.3	107
1975	53.4	43.2	103	125	182	119	299	626	236	91.6	66.5	65.7	167
1976	84.3	86.4	83.7	103	195	576	1,270	1,200	357	175	126	117	364
1977	130	142	129	174	174	158	186	199	117	57.1	46	47	129
1978	54	72.9	115	131	88.6	98.5	218	244	73.4	88.6	76.6	49.2	109

4- 0.000-5M HELMAND RIVER AT DARWESHAN

(U.S. Geological Survey identification number: 310800064110000)

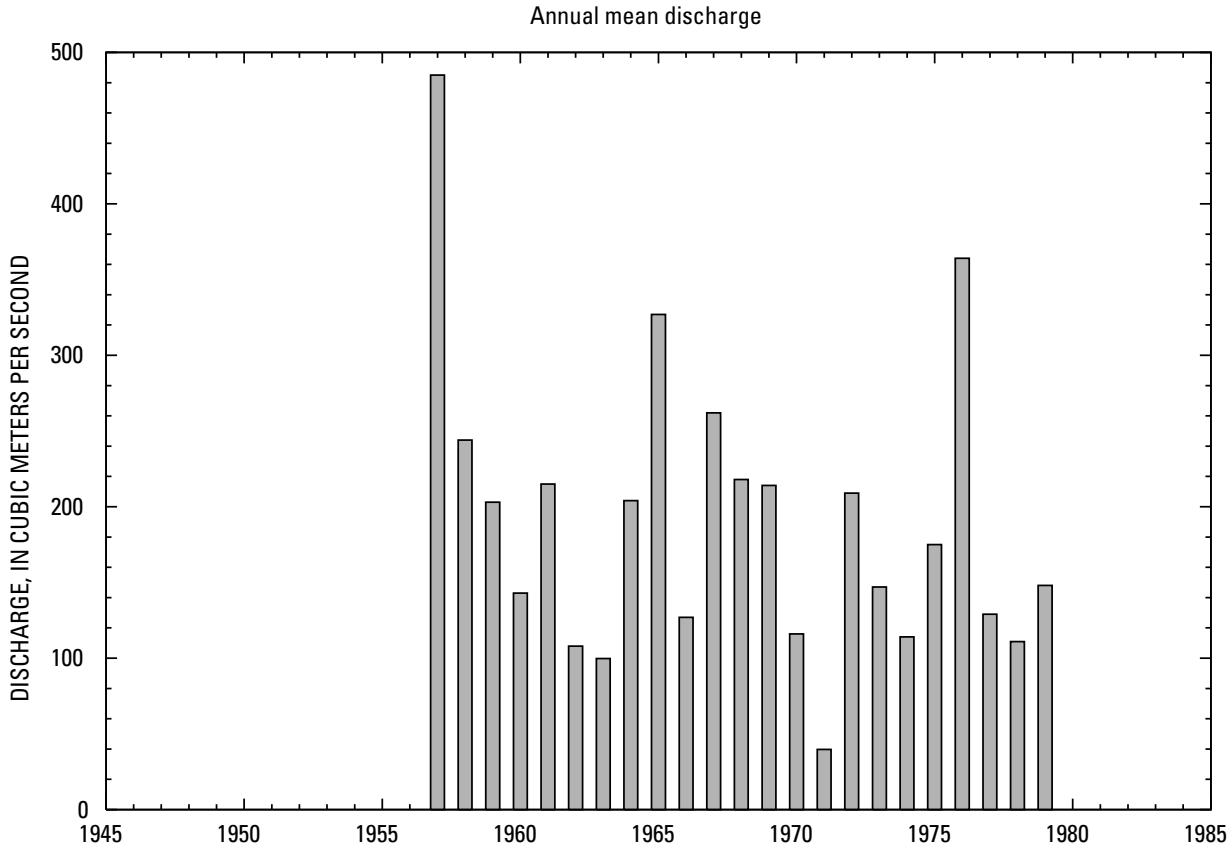
LOCATION: Lat 31º08'N., long 64º11'E., at road bridge in Darweshan, 55 km downstream from Arghandab River, and 180 km downstream from Kajakai Dam.

DRAINAGE AREA: 118,335 km^2, of which approximately 4,400 km^2 is considered noncontributing.

ALTITUDE: 713 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1956 to April 7, 1980.

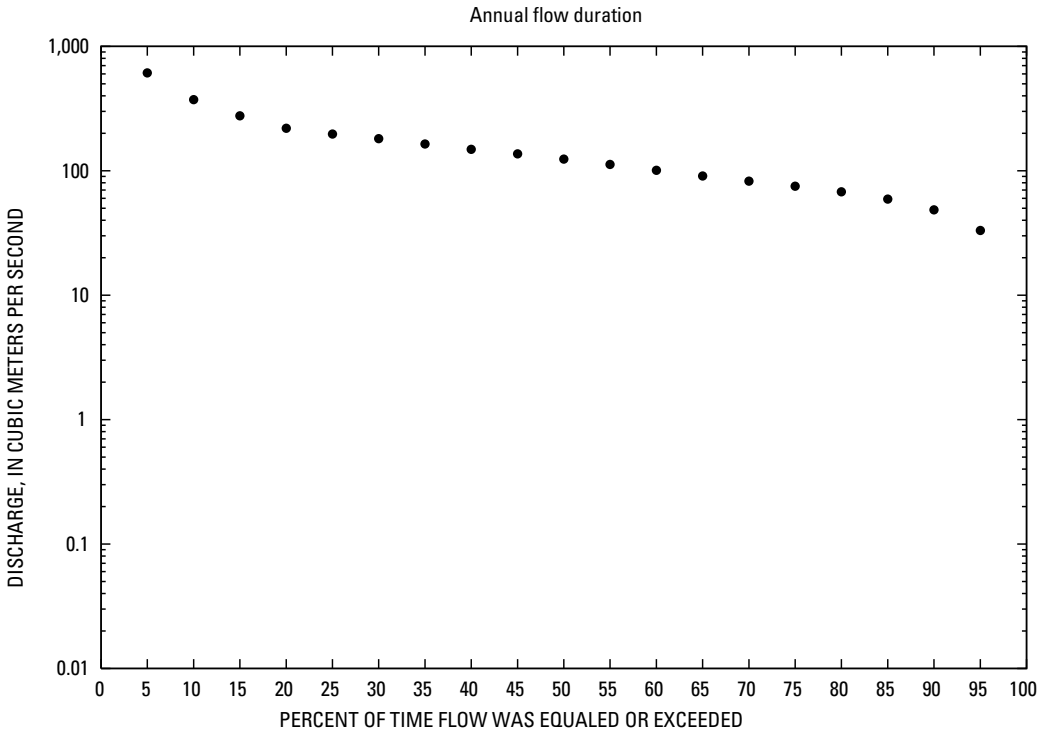
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	192	1958	15.7	1972	82.1	41.4	0.50	3.54
November	178	1961	34.4	1972	93.5	38.9	0.42	4.03
December	350	1958	30.8	1972	128	67.0	0.52	5.53
January	312	1957	70.2	1971	161	62.6	0.39	6.97
February	311	1957	49.8	1971	178	64.2	0.36	7.68
March	662	1980	30.8	1971	232	168	0.72	10.0
April	1,590	1957	47.8	1971	436	391	0.90	18.8
May	1,450	1957	51.4	1971	507	399	0.79	21.9
June	616	1957	22.1	1971	212	147	0.69	9.17
July	235	1957	17.8	1971	115	57.4	0.50	4.96
August	169	1958	20.5	1971	90.3	44.5	0.49	3.90
September	190	1957	17.5	1971	81.1	44.0	0.54	3.50
Annual	485	1957	39.8	1971	191	99.0	0.52	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	68	64.3	58.6	67.7	68.4	47.7	29.5	22.7	21.2	24.3	33.2	56.2	33.1
90	79	77.2	84.7	81.9	95.4	58.8	44.7	32.3	28.8	28.3	45	64	48.5
85	88.2	87.1	97.1	101.2	115.3	65.2	50.8	38.3	36.1	36.6	50.8	70	59.2
80	97.7	96.6	106.9	124.8	156.1	88.3	54.7	42.9	40.3	46.1	56.4	74.8	67.7
75	103.7	110	116.4	143.9	173.2	104.2	59.5	50.4	46.9	51.2	66.5	78.2	75.1
70	107.8	126.8	126.5	159.3	207.2	115.7	66.5	56.8	52.2	55.9	69.9	81.6	82.6
65	111.4	138.4	136.1	175	266	132.6	78.5	61.7	57.7	60.9	73.9	84.9	90.9
60	115	148.2	144.3	199.7	311.3	147.3	86.5	67.7	62.5	67	77	88.4	100.9
55	120.5	157.6	152.4	237.9	361	159.2	91.9	74	65.5	71.1	79.1	91.9	112.5
50	126.8	167.6	164.1	264.8	404.1	171.1	101.9	80.5	69	74.9	81.1	101.5	124.3
45	144.1	176.9	178.4	296.1	443.6	184.6	114.7	87.5	73.1	79.2	85.1	111.9	136.5
40	180.2	185.3	190.6	338	485.8	198.8	137.1	92.8	80.5	84.4	91.5	120.2	148.8
35	192.3	193.7	202.3	374.3	529.2	213.6	146.7	120.8	90.1	90.2	101.5	127.9	164.4
30	198.5	205.4	218.6	439.7	589	237.9	153	131	102.2	96	109.3	149.1	181.3
25	204.7	217.3	248.2	537.4	668.6	269.7	160.1	136.3	119.1	102.1	116.3	168.6	197.2
20	214.2	234.9	287.8	634.1	783.2	308.5	169.8	140.6	128.2	117.6	129.2	184.6	219.4
15	227.6	257	318.4	736.2	952.4	353.9	180	144.8	134.4	129.4	139.9	198.2	276.2
10	260.9	289.5	446.4	1152.2	1160.9	422.6	190.9	156.1	142	144.5	173	211.2	372.8
5	292.1	331.6	681.5	1615.5	1383.5	556.5	214.6	172.3	176.8	182.5	185.5	257.2	612.6

4- 0.000-5M HELMAND RIVER AT DARWESHAN, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	87.3	78.6	71.3	69.5
0.95	1.05	329	180	156	140	127
0.90	1.11	456	258	220	196	174
0.80	1.25	657	387	328	290	251
0.50	2	1,220	777	661	581	491
0.20	5	2,030	1,410	1,230	1,080	921
0.10	10	2,560	1,860	1,660	1,460	1,260
0.04	25	3,180	2,420	2,240	1,970	1,740
0.02	50	3,600	2,840	2,680	2,370	2,120
0.01	100	4,000	3,240	3,130	2,780	2,530
0.005	200	4,370	3,630	3,580	3,190	2,970
0.002	500	4,820	ng	ng	ng	ng

4- 0.000-5M HELMAND RIVER AT DARWESHAN, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	14.5	15.6	17.4	19.0	21.8	23.6	25.5	26.7	33.3
0.10	10	19.2	20.5	22.4	24.9	28.0	30.7	33.1	35.2	43.1
0.20	5	26.2	27.7	29.8	33.1	37.1	40.9	44.0	47.5	57.1
0.50	2	43.4	45.3	47.3	52.1	58.5	65.4	70.1	76.3	89.9

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	32.2	36.7	40.4	45.7	28.9	34.9	38.5	51.8
0.10	10	40.4	44.5	48.1	55.3	39.8	46.4	51.5	65.3
0.20	5	52.2	55.9	59.5	69.0	56.5	64.0	71.6	86.7
0.50	2	80.4	84.2	88.9	103	98.6	110	124	151
		June-July-August				September-October-November			
0.05	20	16.6	20.8	22.4	24.6	17.1	18.1	19.8	21.9
0.10	10	22.7	27.8	30.3	33.0	22.2	23.3	25.8	28.5
0.20	5	32.4	38.6	42.4	45.9	29.6	30.9	34.5	38.3
0.50	2	59.7	68.5	74.9	80.0	48.3	50.5	55.5	62.7

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m^3/s)	Water year	Date	Gage height (meters)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1957	18-Mar	709.80	3,764	1969	18-Apr	--	1,364
1958	13-Dec	707.44	1,319	1970	29-Jan	--	1,444
1959	3-Mar	707.49	1,354	1971	6-Jan	--	107
1960	19-May	706.34	680	1972	21-Jan	--	1,418
1961	11-Apr	--	2,717	1973	6-May	--	478
1962	3-Mar	--	260	1974	20-Jan	--	800
1963	14-May	--	710	1975	18-May	--	945
1964	19-Feb	707.44	1,237	1976	24-Mar	--	2,235
1965	24-Apr	709.16	2,122	1977	11-Jan	--	1,451
1966	23-Dec	--	322	1978	26-Dec	--	985
1967	1-May	--	2,334	1979	14-Feb	--	1,400
1968	3-May	--	955	1980	22-Mar	--	2,263
Annual peak discharge, from highest to lowest							
1957	18-Mar	709.80	3,764	1958	13-Dec	707.44	1,319
1961	11-Apr	--	2,717	1964	19-Feb	707.44	1,237
1967	1-May	--	2,334	1978	26-Dec	--	985
1980	22-Mar	--	2,263	1968	3-May	--	955
1976	24-Mar	--	2,235	1975	18-May	--	945
1965	24-Apr	709.16	2,122	1974	20-Jan	--	800
1977	11-Jan	--	1,451	1963	14-May	--	710
1970	29-Jan	--	1,444	1960	19-May	706.34	680
1972	21-Jan	--	1,418	1973	6-May	--	478
1979	14-Feb	--	1,400	1966	23-Dec	--	322
1969	18-Apr	--	1,364	1962	3-Mar	--	260
1959	3-Mar	707.49	1,354	1971	6-Jan	--	107

4- 0.000-5M HELMAND RIVER AT DARWESHAN, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1957	110	142	157	312	311	555	1,590	1,450	616	235	147	190	485
1958	192	137	350	280	253	213	377	399	212	176	169	163	244
1959	151	108	107	127	136	293	458	397	216	175	144	125	203
1960	88.8	85	157	139	85.5	98.1	189	420	247	76.4	57.4	64.4	143
1961	76.2	178	199	195	169	127	497	685	216	91.6	77.8	71	215
1962	91.4	119	195	196	149	148	95.6	99.1	104	54	27.9	21.9	108
1963	25.9	50.6	81.1	125	141	135	94.6	169	129	89.2	86.8	72.8	99.8
1964	48.4	56.5	183	231	267	242	388	516	170	149	138	57.3	204
1965	68.1	72.1	94	169	252	252	950	1,200	532	189	78.1	80.9	327
1966	93.1	175	215	207	184	144	162	130	57.6	52.9	54.2	53.2	127
1967	58.1	79	90.4	78.1	188	118	593	1,180	379	158	139	81.5	262
1968	59.8	84.8	136	209	226	384	293	563	269	156	141	95.6	218
1969	69.9	71.4	162	117	151	189	661	564	285	112	86.4	101	214
1970	98.8	110	119	244	199	179	158	120	65.2	40.7	34.2	32.1	116
1971	29.5	45.4	75.2	70.2	49.8	30.8	47.8	51.4	22.1	17.8	20.5	17.5	39.8
1972	15.7	34.4	30.8	131	111	375	566	606	232	155	127	127	209
1973	124	108	82.6	98.4	102	133	181	344	149	162	139	132	147
1974	132	106	87.6	152	198	182	125	128	72.9	63.8	61.3	63.1	114
1975	52.8	49.8	103	127	188	123	345	629	236	104	76.7	71.6	175
1976	83.8	84.4	81	103	196	607	1,320	1,190	326	168	106	109	364
1977	121	132	109	169	177	150	200	218	119	60.4	47.1	49	129
1978	54.8	69.6	119	125	89.2	103	229	244	72.7	93.7	78.2	49.2	111
1979	70.4	79	64.8	100	192	125	503	352	157	63.3	41.3	38	148
1980	54.3	66	78.1	170	257	662	--	--	--	--	--	--	--

4- 0.000-6M HELMAND RIVER AT LASHKARGAH

(U.S. Geological Survey identification number: 313400064210000)

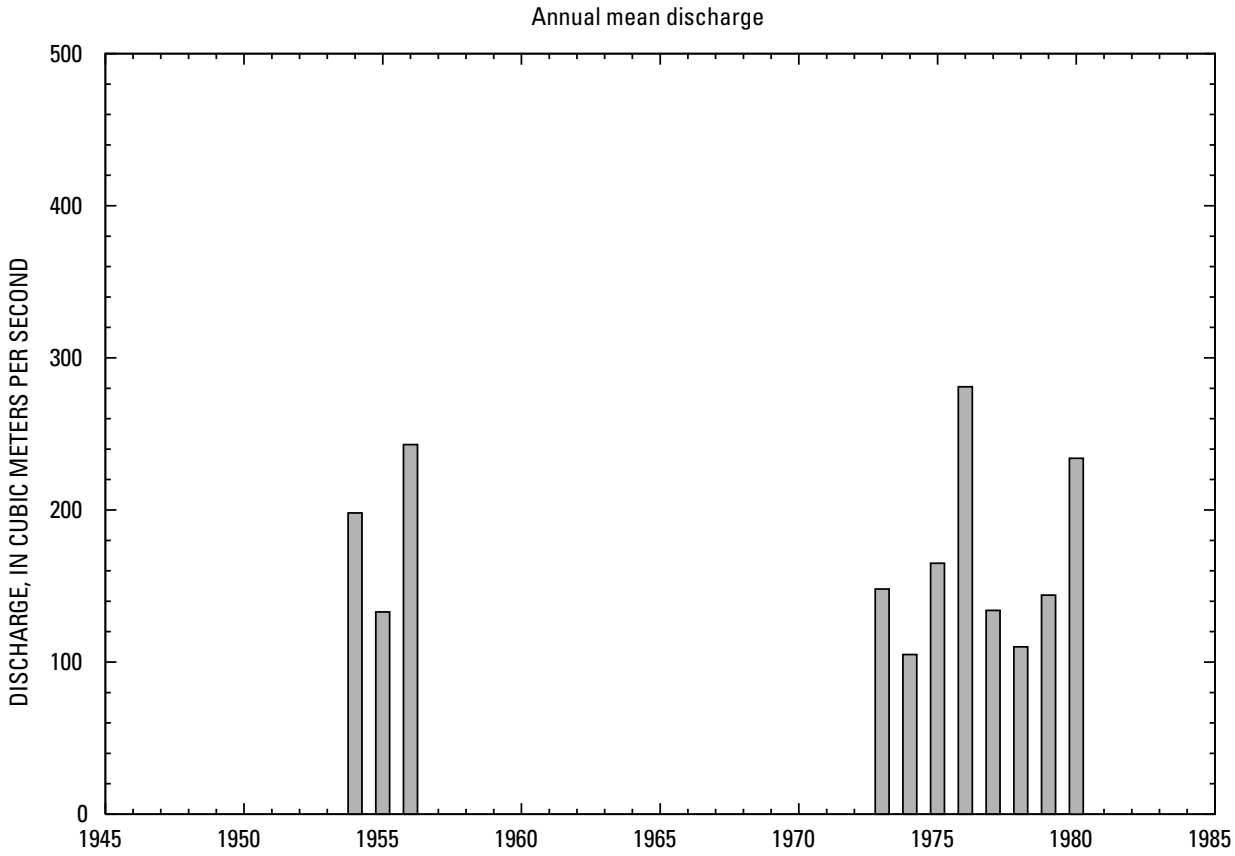
LOCATION: Lat 31º34'N., long 64º21'E., on bridge pier at Lashkargah, 8 km upstream from Arghandab River, and 117 km downstream from Kajakai Dam.

DRAINAGE AREA: 61,720 km^2.

ALTITUDE: 775 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1953 to September 30, 1980.

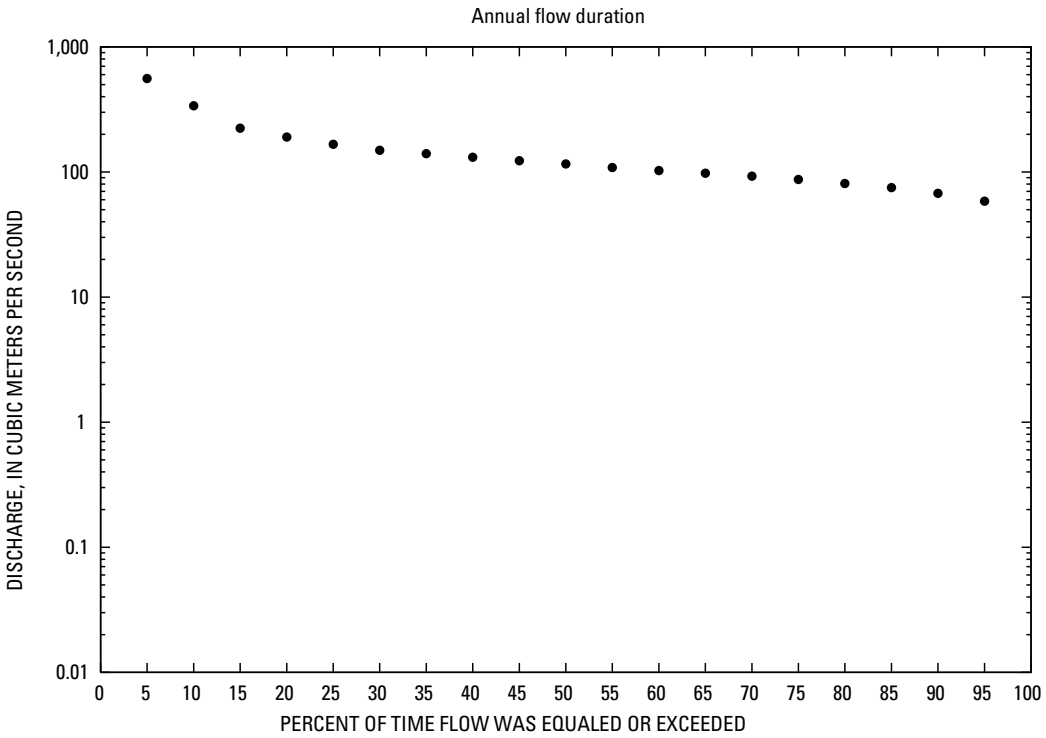
GAGE: Staff gage read once or twice daily.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	141	1977	57.9	1980	96.4	27.4	0.28	4.32
November	163	1957	62.5	1975	99.4	30.2	0.30	4.46
December	174	1957	68.1	1954	105	32.4	0.31	4.71
January	287	1957	90.2	1979	136	56.3	0.41	6.09
February	271	1957	100	1978	162	54.3	0.34	7.27
March	432	1957	86.3	1975	201	111	0.55	9.04
April	1,080	1957	92.3	1974	472	356	0.75	21.2
May	984	1957	143	1974	475	284	0.60	21.3
June	276	1976	66.0	1978	175	65.0	0.37	7.86
July	185	1956	58.8	1978	111	42.1	0.38	4.99
August	210	1956	54.1	1979	101	44.3	0.44	4.55
September	162	1956	43.5	1979	94.4	33.6	0.36	4.23
Annual	281	1976	105	1974	172	58.4	0.34	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	71.7	87.2	77.5	90.1	141.2	64.3	58.4	52	42.6	49.4	58.5	54.5	58.5
90	83.1	100.1	84.9	101.3	148.7	79.4	62	60.9	48.5	57.2	62.6	62	67.5
85	87.1	104	96.2	116.7	166.9	87	71.3	64	63.5	59.6	65	65.7	75
80	95.8	109.4	106.7	127.4	196.4	108	73.6	66.9	65.2	62	67.5	72.3	81
75	98	115	114	133.9	213.6	121.8	75.8	70.7	69.1	66.7	73.7	79.9	87.1
70	100.1	120.9	119.8	140.8	260.1	135.2	78.1	74.3	74.4	73.5	85.3	83.7	92.6
65	102.2	126.1	125.1	159.3	304.1	140.6	80.8	76.6	76.2	81.1	88.3	87.4	97.8
60	106.5	131.3	130.8	202.8	337.5	146.7	84.3	79.5	77.9	87.6	91.4	90.7	102.9
55	111.8	137.6	137.6	231.7	375.8	152.8	87.8	83.3	82.6	93.2	93.8	93.7	108.5
50	116.4	143.9	144.8	284.8	430.5	158.3	92	88.3	92.6	97.5	96.1	96.7	115.9
45	121.8	149.9	153	364.5	462.3	164.9	96.5	93.5	96.4	100.1	98.5	99.8	123.3
40	130.6	156.8	165.2	448.4	491.2	172.6	104.3	97.9	99.4	102.7	100.8	103.9	131.2
35	137.8	165.7	179.9	525.8	537	181.7	119.5	117.3	103.4	105.3	104.7	108.2	140.2
30	144.3	176.1	190.2	661.5	588.2	194.5	128.6	121	111	107.9	110.2	112.5	149.2
25	152.2	185.9	214.1	808.5	650.5	207.6	134.4	124.6	118.1	123.5	116.1	130.5	166.7
20	173.8	196.5	253.4	903.9	708.9	228.3	140.2	128	120.8	130	122.3	139	190.2
15	202.9	214.2	284.1	983.8	775.9	266.2	148.9	133	123.6	136.8	141.5	147.6	223.8
10	219.4	267.3	418.2	1090	913.2	302.8	157.9	142.7	128.1	144.2	150.5	158.2	338.5
5	245.2	296.9	557.8	1200	1125.5	348.5	211.7	199.3	187.6	157.4	160.2	170.7	559.6

4- 0.000-6M HELMAND RIVER AT LASHKARGAH, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	261	55.1	[1]56.6	52.8	48.3
0.95	1.05	387	124	120	107	94.7
0.90	1.11	472	184	173	153	133
0.80	1.25	596	284	261	229	198
0.50	2	903	584	528	463	400
0.20	5	1,320	1,040	953	862	758
0.10	10	1,590	1,340	1,240	1,150	1,030
0.04	25	1,920	1,700	1,610	1,540	1,410
0.02	50	2,160	1,940	1,870	1,830	1,710
0.01	100	2,380	2,160	[1]2,110	2,120	2,020
0.005	200	2,610	2,360	2,350	[1]2,410	2,330
0.002	500	2,890	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 0.000-6M HELMAND RIVER AT LASHKARGAH, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	3.91	5.88	13.5	23.6	45.2	47.1	50.7	53.9	60.6
0.10	10	7.29	10.6	21.1	31.5	50.6	52.7	56.1	59.6	66.1
0.20	5	14.3	19.6	33.1	42.6	57.7	60.4	63.8	67.7	73.8
0.50	2	41.5	49.2	61.2	65.6	72.7	78.4	82.5	87.3	92.9

4- 0.000-6M HELMAND RIVER AT LASHKARGAH, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	6.52	13.0	[1]11.8	55.7	23.1	27.2	31.1	45.4
0.10	10	12.8	23.1	[1]22.3	62.8	34.1	40.7	45.5	58.2
0.20	5	25.3	40.6	41.3	72.4	51.2	61.8	67.9	78.4
0.50	2	64.7	84.1	89.1	94.4	91.6	113	122	136
		June-July-August				September-October-November			
0.05	20	12.3	47.1	50.0	53.0	9.86	14.7	23.4	45.4
0.10	10	19.7	50.4	53.5	57.7	19.0	24.4	32.4	52.5
0.20	5	32.1	55.4	58.8	64.2	36.0	40.4	45.5	61.9
0.50	2	65.5	69.1	72.9	80.4	78.0	[1]77.3	[1]75.0	82.0

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 0.000-6M HELMAND RIVER AT LASHKARGAH, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1954	10-Feb	3.70	835	1975	19-May	--	918
1955	15-Mar	4.58	1,234	1976	27-Apr	--	1,862
1956	9-Apr	4.54	1,214	1977	28-Apr	--	361
1957	5-May	4.78	1,406	1978	25-Dec	--	738
1973	5-May	--	500	1979	13-Feb	--	690
1974	26-Jan	--	610	1980	21-Mar	--	1,295
Annual peak discharge, from highest to lowest							
1976	27-Apr	--	1,862	1954	10-Feb	3.70	835
1957	5-May	4.78	1,406	1978	25-Dec	--	738
1980	21-Mar	--	1,295	1979	13-Feb	--	690
1955	15-Mar	4.58	1,234	1974	26-Jan	--	610
1956	9-Apr	4.54	1,214	1973	5-May	--	500
1975	19-May	--	918	1977	28-Apr	--	361

4- 0.000-6M HELMAND RIVER AT LASHKARGAH, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1954	104	85.4	68.1	90.4	268	206	386	622	248	85.9	122	100	198
1955	81.4	88.4	116	203	181	200	134	156	161	84.2	96.1	99.5	133
1956	98.5	97.7	148	142	127	237	864	495	154	185	210	162	243
1957	103	163	174	287	271	432	1,080	984	--	--	--	--	--
1973	134	115	87	107	120	124	184	339	154	153	136	123	148
1974	123	112	92.4	125	146	114	92.3	143	90.6	77.9	75.6	74.9	105
1975	62.6	62.5	116	114	146	86.3	286	605	232	111	84.8	78	165
1976	94.6	95.4	98	127	136	282	934	945	276	139	121	122	281
1977	141	144	127	114	154	135	206	232	138	82.4	68.2	64.3	134
1978	61.8	73	85.9	100	100	112	255	229	66	58.8	75.3	105	110
1979	94.8	89.8	70.7	90.2	132	120	386	382	190	81.4	54.1	43.5	144
1980	57.9	66.3	76.8	129	164	369	853	571	217	164	72.9	65.7	234

4- 0.000-6S HELMAND RIVER AT GIRISHK

(U.S. Geological Survey identification number: 314800064350000)

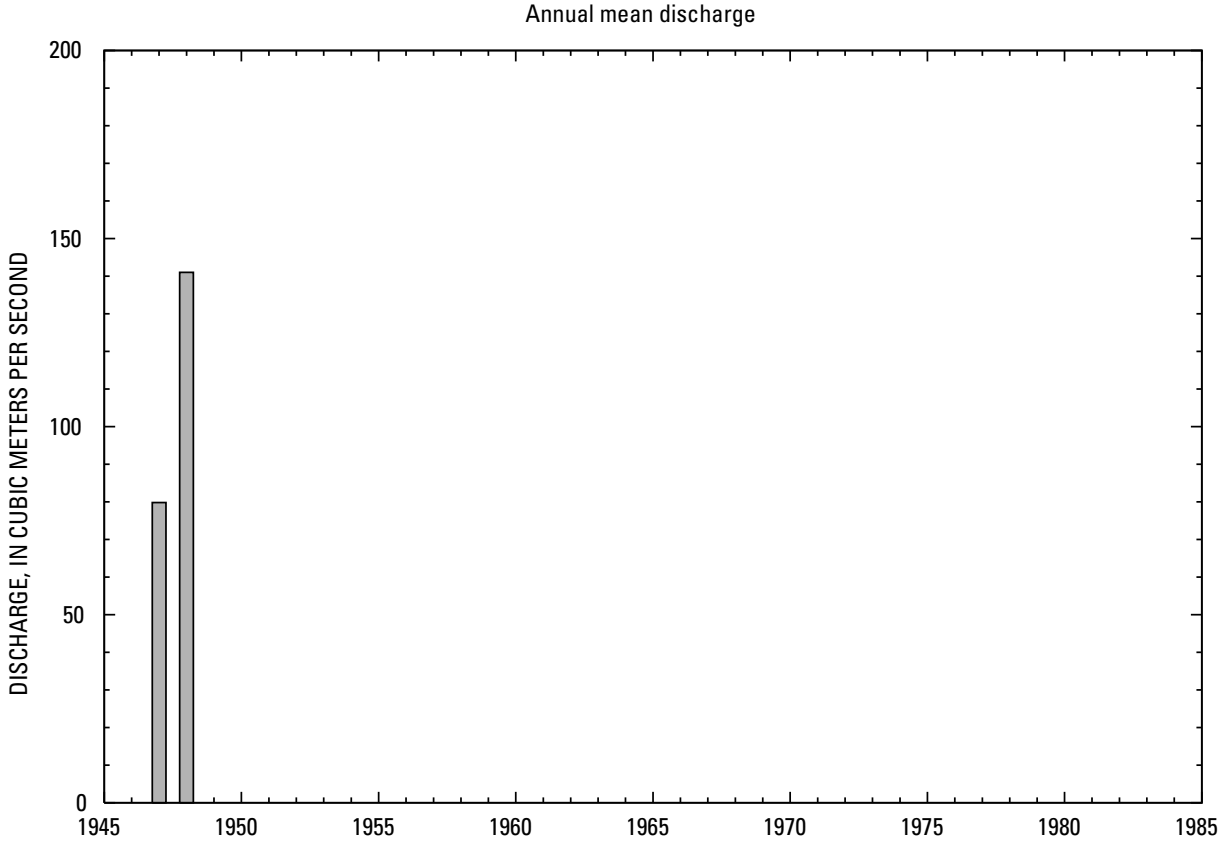
LOCATION: Lat 31º48'N., long 64º35'E., on left bank under highway bridge, 2.5 km east of Girishk, 51 km upstream from Arghandab River and 73 km downstream from Kajakai Dam.

DRAINAGE AREA: 58,070 km^2 (from Survey of India maps).

ALTITUDE: 821 meters plus mean sea level.

PERIOD OF RECORD: July 1, 1946 to March 11, 1949.

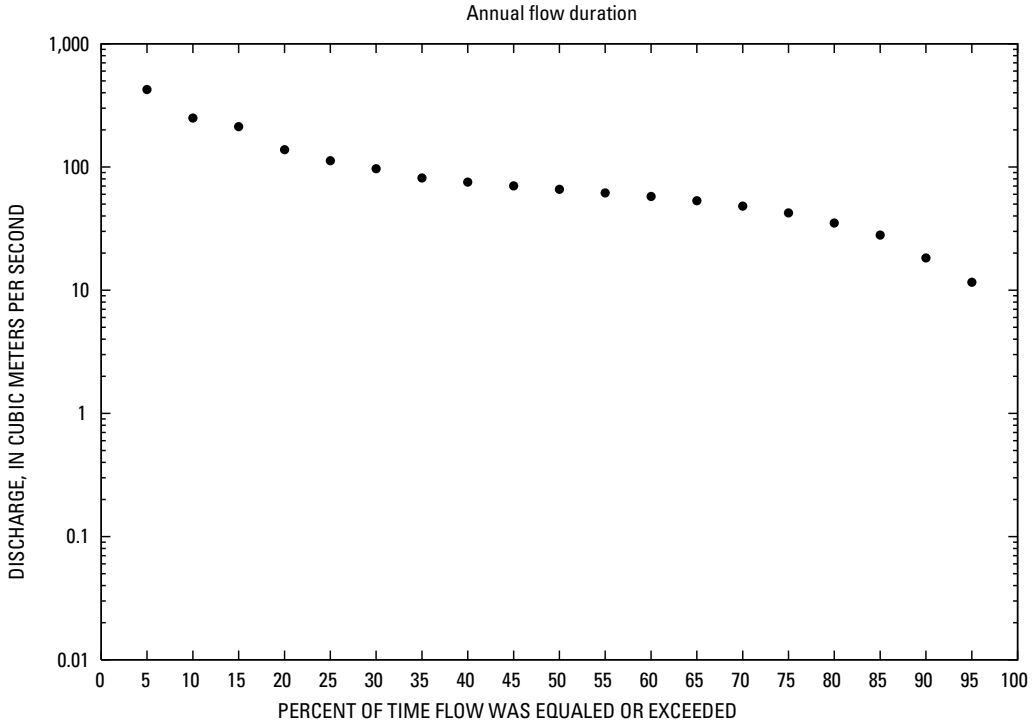
GAGE: Water-stage recorder. February 16 to April 30, 1947, at site 5 km upstream at different datum.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	50.1	1947	33.0	1948	42.9	8.85	0.21	3.18
November	61.6	1949	49.0	1948	57.0	6.93	0.12	4.23
December	67.5	1947	62.6	1948	65.6	2.63	0.04	4.87
January	74.0	1947	67.5	1948	70.0	3.48	0.05	5.20
February	114	1949	77.9	1948	93.9	18.4	0.20	6.97
March	279	1948	161	1947	220	83.4	0.38	16.3
April	565	1948	211	1947	388	250	0.65	28.8
May	332	1948	131	1947	232	142	0.61	17.2
June	111	1948	67.6	1947	89.3	30.7	0.34	6.62
July	51.9	1948	23.0	1947	37.9	14.5	0.38	2.81
August	34.4	1948	10.2	1947	24.5	12.7	0.52	1.82
September	38.6	1946	13.7	1947	27.4	12.6	0.46	2.04
Annual	141	1948	79.8	1947	110	43.3	0.39	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	60.7	71.1	106.1	169	102.5	47	13	9.69	11.5	24.4	44	57.9	11.6
90	62.1	73.8	110.5	197	111.4	50.5	14.4	9.87	11.9	27	45.3	60.9	18.3
85	62.4	75.2	114.5	209.4	122.9	58.5	16.6	10.1	12.4	31.1	47.4	62.1	28
80	64.1	76.9	118	213.1	127.8	62.9	24.3	10.3	13.6	35.5	52.3	62.3	35.1
75	64.7	78.3	121.8	216.8	131.4	67.6	29.8	10.7	15.2	36.9	52.8	63.8	42.4
70	65.1	79.3	126.8	220.8	135	69.5	32.8	11.2	18.2	38.2	53.8	64.2	48.1
65	66.6	80.5	132.8	224.9	138.6	75.4	34.3	24.1	24.4	40.4	56.8	64.6	53.2
60	67.1	82	155	229	150.8	81.1	34.8	26.5	25.8	42.5	58.1	64.9	57.6
55	68.4	84.2	197.9	235	159.1	90.4	35.4	27.3	27.7	43.6	58.5	65.2	61.6
50	69.2	85.9	221.5	241	165.6	93	35.9	27.7	29.1	44.4	58.8	65.4	65.9
45	70.4	87	229.2	400	171.9	94.8	38.8	28.1	30.4	45	59.6	65.8	70.3
40	71.7	88	240.4	443	212.4	96.2	42	28.7	34	45.6	59.9	66.4	75.4
35	72.5	89.7	257.4	478	230.4	98.2	45.4	29.5	35.2	47.6	60.2	66.6	81.4
30	73.2	93	275.4	498.7	255.1	101	47.7	30.7	36.2	48.8	61.1	66.7	96.7
25	75	97.1	288.6	542	294.5	106.5	49.4	32.2	37.1	50	62.3	66.9	112.4
20	75.5	99.2	295.9	631	345.8	110	51.4	34.4	37.9	51.1	62.7	68	138.1
15	76.5	102.4	303.3	655.8	428.4	117	54.3	36.8	39.2	53.2	63.1	69.5	212.5
10	78.3	108	318.7	698	479.6	127.5	56.8	38.8	40.7	54.7	64.2	70.9	249.6
5	79.7	123	393.5	735	527.6	140	59.8	0	42.2	55.5	0.05	74.3	425.7

4- 0.000-6S HELMAND RIVER AT GIRISHK, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	ng	ng	ng	ng
0.95	1.05	ng	ng	ng	ng	ng
0.90	1.11	ng	ng	ng	ng	ng
0.80	1.25	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng
0.04	25	ng	ng	ng	ng	ng
0.02	50	ng	ng	ng	ng	ng
0.01	100	ng	ng	ng	ng	ng
0.005	200	ng	ng	ng	ng	ng
0.002	500	ng	ng	ng	ng	ng

4- 0.000-6S HELMAND RIVER AT GIRISHK, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng	ng

4- 0.000-6S HELMAND RIVER AT GIRISHK, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng
		June-July-August				September-October-November			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng

4- 0.000-6S HELMAND RIVER AT GIRISHK, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1947	22-Mar	28.90	317				
1948	8-Mar	18.08	1,019				
1949	10-Mar	--	912				
Annual peak discharge, from highest to lowest							
1948	8-Mar	18.08	1,019				
1949	10-Mar	--	912				
1947	22-Mar	28.90	317				

4- 0.000-6S HELMAND RIVER AT GIRISHK, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1946	--	--	--	--	--	--	--	--	--	38.9	28.8	38.6	--
1947	50.1	60.3	67.5	74	89.8	161	211	131	67.6	23	10.2	13.7	79.8
1948	33	49	62.6	67.5	77.9	279	565	332	111	51.9	34.4	30	141
1949	45.5	61.6	66.7	68.6	114	--	--	--	--	--	--	--	--

4- 0.000-7M HELMAND RIVER BELOW KAJAKAI RESERVOIR

(U.S. Geological Survey identification number: 321900065060000)

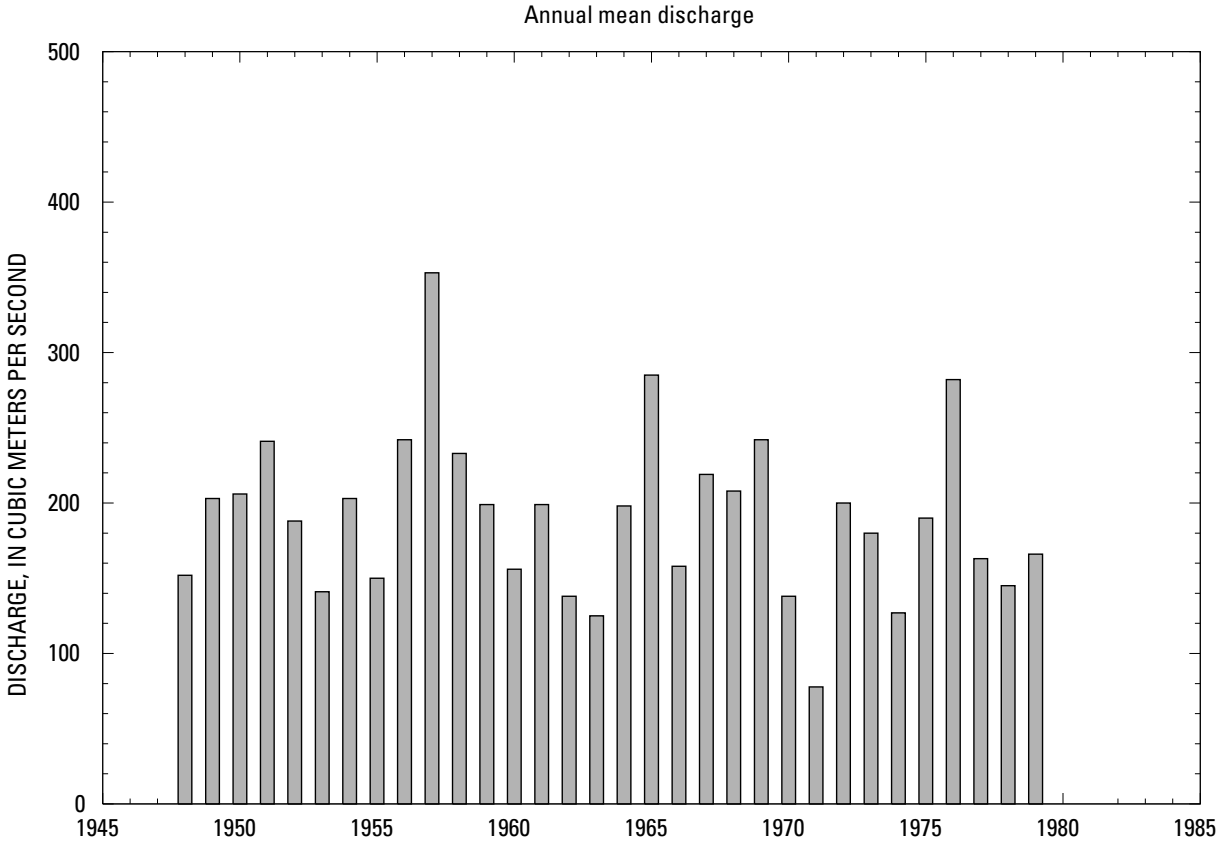
LOCATION: Lat 32º19'N., long 65º06'E., on left bank 1 km east of Kajakai, 2 km downstream from Kajakai Dam, and 123 km upstream from Arghandab River.

DRAINAGE AREA: 46,600 km^2 (from Survey of India maps).

ALTITUDE: 955 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1947 to April 6, 1980.

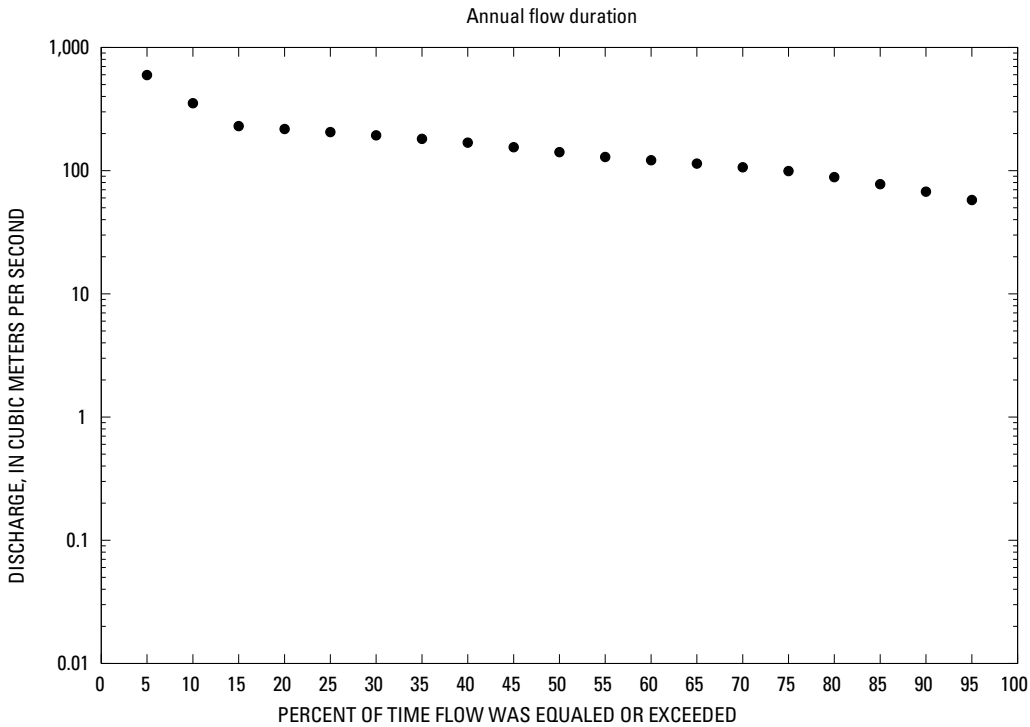
GAGE: Water-stage recorder. Datum of gage is 960.169 m above mean sea level (Survey of India datum).



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	207	1958	41.0	1948	108	40.2	0.37	4.71
November	219	1966	54.2	1948	110	37.2	0.34	4.79
December	209	1966	60.8	1972	117	41.0	0.35	5.10
January	206	1958	52.9	1972	118	47.2	0.40	5.14
February	204	1969	42.7	1971	129	46.5	0.36	5.65
March	346	1952	61.7	1972	172	71.6	0.42	7.51
April	985	1957	100	1960	407	262	0.64	17.8
May	1,180	1957	112	1971	479	276	0.58	20.9
June	536	1957	76.0	1971	235	99.7	0.42	10.3
July	237	1957	62.0	1948	155	51.7	0.33	6.77
August	216	1958	38.9	1948	139	53.7	0.39	6.08
September	209	1957	42.4	1948	121	45.6	0.38	5.28
Annual	353	1957	77.8	1971	191	54.8	0.29	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	53	48	66.8	101.5	122.7	104.6	70	52.7	51.7	50.9	57.6	62.4	57.8
90	60.5	60.9	88.9	108.8	148.1	114.9	82.4	58.9	56	55.4	65.4	71	67.6
85	69.7	72.5	98.1	122	174.3	132	89.1	66.1	60.3	63.2	72	76.4	77.8
80	74.3	80.4	107.1	137.6	200.3	141.7	98.4	70.9	64.8	68.1	77.4	81.8	88.6
75	78	88	115.5	163.2	217.8	152.3	112.7	90.1	69.3	71.3	81.7	87.3	99.1
70	81.3	94.2	123.9	176.9	267.3	164	121.1	121.8	93.1	76.8	86.1	91.2	106.6
65	84.3	100.3	134.1	190.8	309.4	176.9	129.5	127.6	103.8	84.9	90.5	95.1	114.1
60	89.3	106.5	147	203	343.4	191	139.1	132	112.7	102.4	94.9	99	121.6
55	99.8	113.9	158.9	211.6	379.3	204.5	144.2	136	117.1	105.9	99.4	102.9	129.2
50	103.8	123.1	165.1	220.4	418.9	212.5	149.3	139.5	121.6	109.3	104	106.8	141.4
45	107.7	132.3	171.2	239.1	461.7	220.5	155.7	142.9	126.1	112.6	108.5	111.2	155.1
40	116.6	144.6	177.4	383.7	504.7	229.7	162.2	147	130.6	115.8	113.1	116.4	168.8
35	122.8	161.9	183.6	467.9	550.6	241.6	185.9	152.4	137.9	119.8	117.9	121.6	181.5
30	158.4	176.2	189.7	532.2	602.4	254.8	201.9	188.7	145.5	124.1	124.5	126.8	193.6
25	177.6	183.5	199.7	612.5	657	277.3	212.6	196.2	153.1	129.3	131.1	132	205.7
20	184.6	190.8	211.9	686.9	723.6	307.7	216.9	200.6	171.6	135.1	137.7	146.8	217.8
15	188.6	198.1	224.1	774	819.1	348	221.3	205	185.4	150.7	144.3	176.8	229.9
10	192.7	205.4	253.8	928.9	916.5	390.2	225.7	210	194.5	172.3	164	189.9	352.4
5	196.7	212.6	346.7	1121.4	1033.3	455	230.3	215.4	203.7	192.9	196.7	203	596.8

4- 0.000-7M HELMAND RIVER BELOW KAJAKAI RESERVOIR, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	87.8	[1]89.3	[1]89.6	[1]89.8	[1]91.2
0.95	1.05	174	174	173	169	162
0.90	1.11	243	242	238	230	215
0.80	1.25	356	351	342	326	298
0.50	2	686	665	636	592	523
0.20	5	1,210	1,150	1,080	979	857
0.10	10	1,560	1,480	1,370	1,230	1,080
0.04	25	2,010	1,880	1,720	1,530	1,350
0.02	50	2,340	2,170	1,970	1,740	1,550
0.01	100	2,650	2,450	2,200	1,940	1,730
0.005	200	2,950	2,710	2,430	2,130	1,910
0.002	500	3,330	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 0.000-7M HELMAND RIVER BELOW KAJAKAI RESERVOIR, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.431	1.20	ng	33.6	42.5	47.8	52.8	57.2	61.4
0.10	10	1.82	4.72	ng	40.1	49.3	55.3	60.6	65.1	70.7
0.20	5	7.69	17.1	ng	49.1	58.4	65.4	70.8	75.5	83.1
0.50	2	51.9	73.8	ng	96.4	78.3	87.2	93.0	98.2	110

Probability of occurrence of seasonal low discharges

[m^3/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	1.35	ng	39.4	47.8	ng	59.9	62.4	74.5
0.10	10	5.56	ng	48.8	55.5	ng	71.4	74.9	85.6
0.20	5	21.0	ng	62.0	66.5	ng	87.2	92.6	103
0.50	2	[1]94.6	ng	92.3	93.5	ng	123	135	148
		June-July-August				September-October-November			
0.05	20	31.1	47.1	49.7	52.2	ng	ng	41.2	49.5
0.10	10	41.0	58.6	62.6	65.8	ng	ng	48.1	57.1
0.20	5	56.0	75.1	81.0	84.9	ng	ng	57.8	67.4
0.50	2	94.7	115	124	129	ng	ng	80.8	90.8

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1948	8-Mar	2.76	877	1964	1-May	--	693
1949	26-Apr	3.79	1,418	1965	6-May	--	1,275
1950	11-May	3.10	1,056	1966	4-Nov	1.16	232
1951	7-May	3.70	1,370	1967	29-Apr	--	1,820
1952	20-Apr	2.65	821	1968	1-May	--	785
1953	28-May	1.32	221	1969	17-Apr	--	1,214
1954	3-May	2.84	911	1970	3-Jan	--	195
1955	30-May	1.47	263	1971	21-Apr	--	153
1956	21-Apr	--	1,259	1972	29-Apr	--	1,100
1957	5-May	--	1,692	1973	5-May	--	547
1958	27-Apr	2.26	705	1974	15-May	--	245
1959	23-Apr	2.11	623	1975	18-May	--	851
1960	18-May	2.15	662	1976	25-Apr	--	1,724
1961	7-May	--	911	1977	25-Apr	--	402
1962	30-Nov	1.08	209	1978	19-Apr	--	582
1963	10-Jun	--	213	1979	18-Apr	--	685
Annual peak discharge, from highest to lowest							
1967	29-Apr	--	1,820	1958	27-Apr	2.26	705
1976	25-Apr	--	1,724	1964	1-May	--	693
1957	5-May	--	1,692	1979	18-Apr	--	685
1949	26-Apr	3.79	1,418	1960	18-May	2.15	662
1951	7-May	3.70	1,370	1959	23-Apr	2.11	623
1965	6-May	--	1,275	1978	19-Apr	--	582
1956	21-Apr	--	1,259	1973	5-May	--	547
1969	17-Apr	--	1,214	1977	25-Apr	--	402
1972	29-Apr	--	1,100	1955	30-May	1.47	263
1950	11-May	3.10	1,056	1974	15-May	--	245
1961	7-May	--	911	1966	4-Nov	1.16	232
1954	3-May	2.84	911	1953	28-May	1.32	221
1948	8-Mar	2.76	877	1963	10-Jun	--	213
1975	18-May	--	851	1962	30-Nov	1.08	209
1952	20-Apr	2.65	821	1970	3-Jan	--	195
1968	1-May	--	785	1971	21-Apr	--	153

4- 0.000-7M HELMAND RIVER BELOW KAJAKAI RESERVOIR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1948	41	54.2	61.8	60.3	72.2	276	604	379	129	62	38.9	42.4	152
1949	55.5	68.2	71.7	72.2	114	329	871	470	178	89.5	62.2	57.5	203
1950	72	83.8	86.4	103	116	223	488	784	289	103	57.8	56.7	206
1951	70	76.3	75.9	78.6	90.4	310	636	920	363	131	71.1	65.7	241
1952	72.3	85.3	87	90.7	148	346	651	424	166	80.8	53.5	59.5	188
1953	73.7	83.8	83.5	80.8	71.1	143	197	216	217	196	193	135	141
1954	112	93.3	69.3	84.4	173	178	419	643	259	121	152	130	203
1955	113	117	137	188	179	135	155	195	179	126	142	135	150
1956	128	128	131	124	124	144	913	499	147	179	215	179	242
1957	108	133	134	173	159	193	985	1,180	536	237	175	209	353
1958	207	101	185	206	203	212	398	399	243	220	216	202	233
1959	187	137	118	118	117	141	371	376	234	214	202	164	199
1960	121	105	155	127	105	107	100	405	265	128	124	120	156
1961	116	206	198	185	166	106	182	625	232	132	130	107	199
1962	124	145	203	190	173	158	123	158	161	98.3	69.6	59.5	138
1963	54.6	82.3	83.3	128	171	162	118	129	174	152	141	112	125
1964	73.7	73.8	190	175	160	171	303	492	233	214	192	89.8	198
1965	106	107	103	132	189	203	641	998	463	229	126	123	285
1966	132	219	209	195	181	175	181	158	116	115	113	102	158
1967	99.4	113	109	77.3	82	87.3	407	782	329	212	202	118	219
1968	102	114	112	173	188	195	259	503	298	219	200	135	208
1969	107	105	107	111	204	201	712	622	303	158	140	145	242
1970	134	134	133	191	180	176	186	154	113	97.9	88.4	75.8	138
1971	64.1	80.6	95.4	56.5	42.7	84.9	116	112	76	70.5	67.6	64.7	77.8
1972	55.1	66.8	60.8	52.9	53.8	61.7	483	620	307	227	211	194	200
1973	174	145	104	101	106	134	223	386	202	209	196	176	180
1974	154	123	101	75.4	108	70.6	117	199	148	154	141	131	127
1975	96.5	90.7	115	84.8	106	117	324	622	256	165	148	142	190
1976	132	115	106	109	90	161	877	911	335	188	184	177	282

4- 0.000-7M HELMAND RIVER BELOW KAJAKAI RESERVOIR, Continued

Monthly and annual mean discharges, in cubic meters per second—Continued

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1977	174	165	130	74.2	132	171	256	260	189	150	133	122	163
1978	85.3	71.7	106	94.9	80.5	113	328	313	152	139	137	119	145
1979	111	96.7	94	80.9	67.2	113	408	400	226	143	131	119	166
1980	104	98.6	100	91.9	115	275	--	--	--	--	--	--	--

4- 0.000-8M HELMAND RIVER AT DEHRAOUT

(U.S. Geological Survey identification number: 324200065280000)

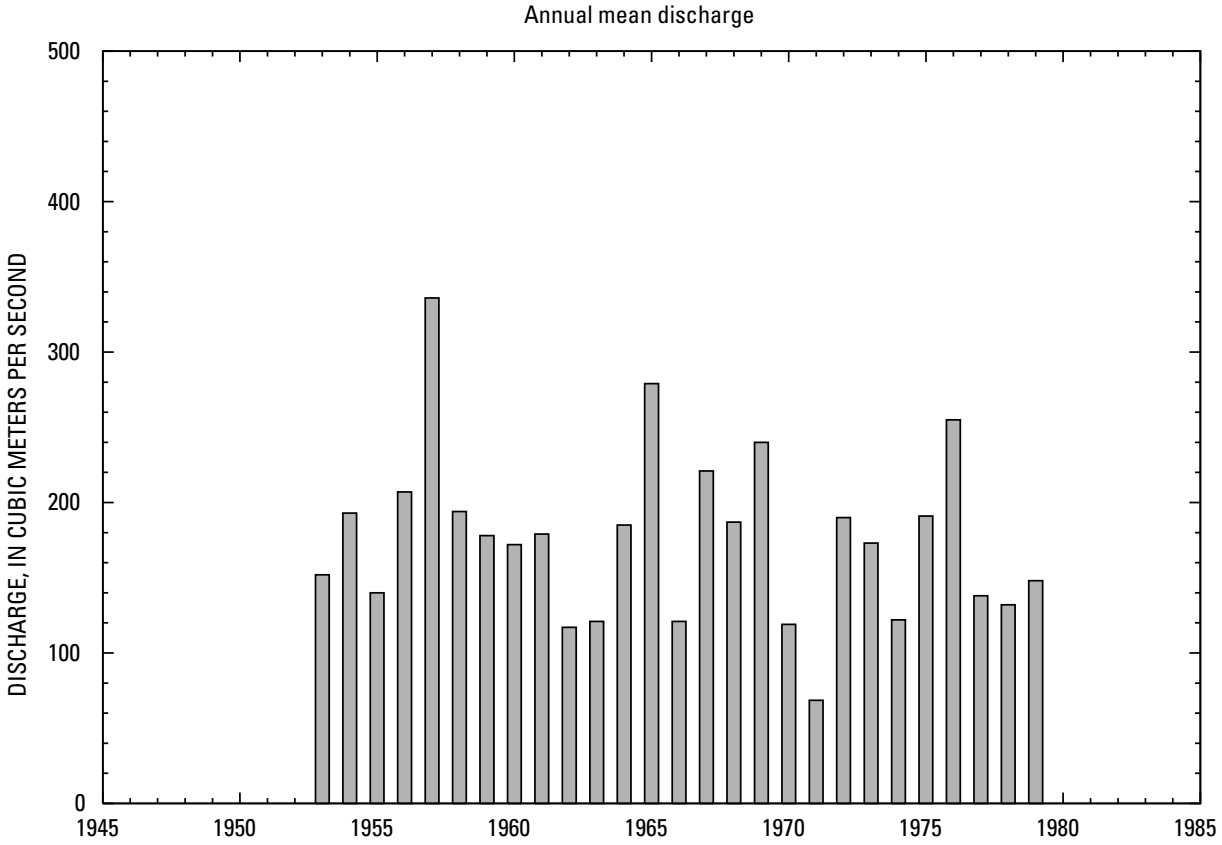
LOCATION: Lat 32º42'N., long 65º28'E., on right bank 10 km upstream from Dehraout, 15 km upstream from Tirin River, 70 km upstream from Kajakai Dam, and 120 km north of Kandahar.

DRAINAGE AREA: 36,990 km^2 (Survey of India maps).

ALTITUDE: 1,065 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1952 to September 30, 1979.

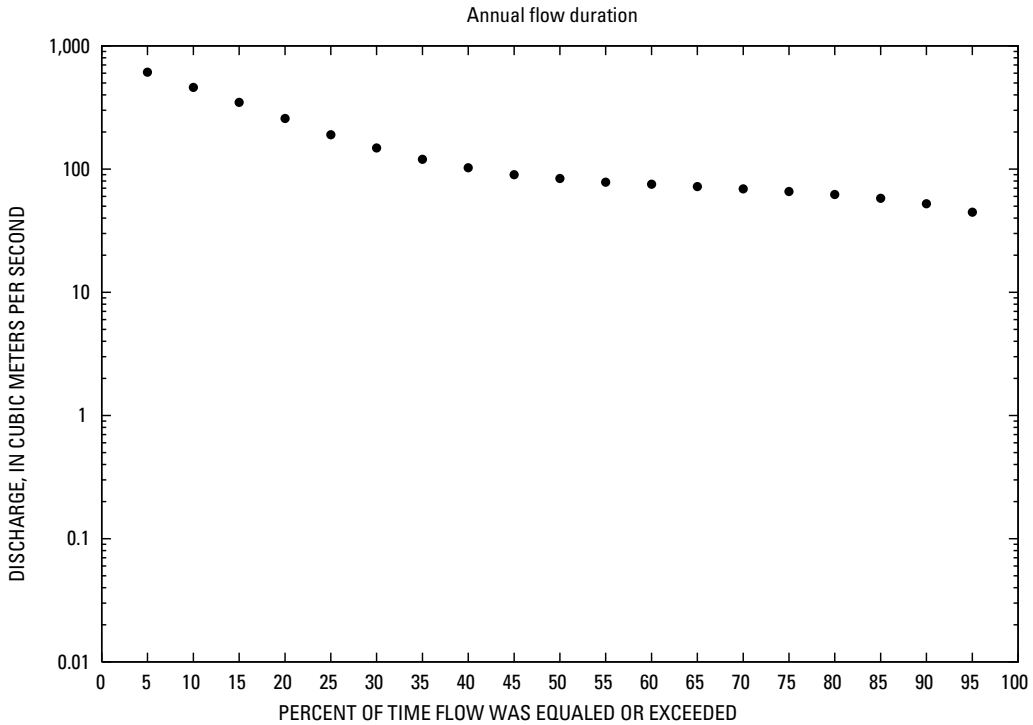
GAGE: Water-stage recorder. Prior to November 18, 1952, staff gage at site 2 km upstream at different datum.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	98.3	1958	37.0	1972	67.7	13.2	0.19	3.20
November	141	1970	46.3	1972	79.0	19.5	0.25	3.73
December	142	1958	47.6	1972	78.6	18.2	0.23	3.71
January	137	1958	54.8	1967	80.1	17.8	0.22	3.79
February	200	1965	68.8	1971	106	31.5	0.30	5.00
March	492	1957	111	1971	280	106	0.38	13.2
April	1,130	1957	199	1971	557	227	0.41	26.4
May	1,160	1957	100	1971	461	235	0.51	21.8
June	473	1957	36.8	1971	198	100	0.51	9.37
July	176	1957	23.7	1971	91.8	39.7	0.43	4.34
August	96.0	1965	21.1	1971	59.2	17.0	0.29	2.80
September	77.6	1969	26.1	1971	56.8	12.8	0.23	2.68
Annual	336	1957	68.6	1971	176	56.9	0.32	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	56.6	63.0	91.8	195.8	150.4	61.4	40.9	35.4	38.6	48.6	58.5	56.8	44.7
90	59.9	67.2	109.6	251.1	195.0	78.2	46.8	39.1	42.4	52.0	60.7	60.9	52.4
85	63.0	70.7	122.6	300.0	225.2	92.5	50.8	42.1	43.7	55.2	62.7	63.6	57.9
80	65.8	73.4	134.6	342.5	245.7	107.9	54.1	44.2	44.8	57.1	64.6	65.5	62.2
75	68.2	75.6	148.8	374.5	274.2	119.9	58.1	46.1	46.2	58.8	66.6	67.3	65.7
70	69.7	77.9	165.4	405.1	302.7	129.7	62.9	48.0	47.8	60.5	68.8	69.0	69.1
65	71.2	80.8	179.7	436.3	327.1	139.6	68.5	50.5	50.5	62.1	71.2	70.6	72.2
60	72.4	84.3	196.8	463.3	350.1	150.3	73.7	53.2	52.7	63.5	72.6	71.7	75.3
55	73.5	89.5	220.7	490.0	372.2	160.8	77.8	55.6	54.5	64.9	73.9	72.8	78.4
50	74.9	95.5	242.2	520.2	400.5	171.2	81.9	58.3	56.3	66.4	75.2	74.0	83.9
45	76.8	100.4	261.8	549.8	430.0	181.9	86.1	61.8	59.3	67.9	76.5	75.4	90.0
40	78.7	106.2	287.6	577.6	460.4	193.6	91.8	63.9	62.2	69.5	77.8	77.2	102.6
35	80.6	111.1	310.1	599.3	501.3	208.3	98.2	66.1	64.0	71.5	79.8	80.4	120.1
30	82.9	115.6	334.6	621.0	539.9	225.6	104.7	68.2	65.5	73.4	82.2	83.1	148.6
25	85.7	119.7	370.2	663.3	582.7	246.2	111.2	70.4	66.8	74.8	84.9	85.7	190.1
20	89.3	129.4	405.6	716.6	642.1	272.6	120.9	72.5	68.9	76.9	87.9	88.6	257.2
15	96.6	141.9	466.0	791.3	722.1	309.2	133.1	75.6	71.5	81.4	91.8	93.1	348.4
10	106.0	159.4	517.6	946.0	846.1	352.0	151.1	80.4	74.3	86.0	99.1	100.9	459.9
5	124.2	187.5	582.8	1106.0	952.4	439.3	178.3	91.7	77.2	92.3	121.2	110.8	613.0

4- 0.000-8M HELMAND RIVER AT DEHRAOUT, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	278	268	260	234	206
0.95	1.05	396	366	347	318	285
0.90	1.11	475	432	405	372	337
0.80	1.25	590	526	488	450	409
0.50	2	880	763	696	638	584
0.20	5	1,280	1,100	988	892	816
0.10	10	1,550	1,320	1,190	1,060	963
0.04	25	1,890	1,620	1,440	1,260	1,140
0.02	50	2,140	1,840	1,630	1,410	1,270
0.01	100	2,390	2,060	1,830	1,560	1,390
0.005	200	2,640	2,280	2,020	1,710	1,510
0.002	500	2,970	ng	ng	ng	ng

4- 0.000-8M HELMAND RIVER AT DEHRAOUT, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	28.9	29.1	29.4	29.8	30.4	31.8	33.7	36.4	42.7
0.10	10	34.2	34.5	34.8	35.2	36.0	37.7	39.7	42.6	48.2
0.20	5	41.0	41.3	41.6	42.1	43.0	45.1	47.3	50.2	55.1
0.50	2	53.9	54.3	54.7	55.2	56.3	58.9	61.6	64.9	68.9

Probability of occurrence of seasonal low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	49.7	52.9	53.8	55.6	65.9	74.9	86.8	114
0.10	10	51.9	55.2	56.4	58.2	76.5	87.6	102	139
0.20	5	55.2	58.7	60.1	62.0	91.0	106	124	174
0.50	2	63.6	67.4	69.4	71.4	124	150	178	256
		June-July-August				September-October-November			
0.05	20	29.0	29.5	30.0	30.8	30.4	31.0	31.9	34.8
0.10	10	34.2	34.8	35.3	36.4	35.8	36.3	37.2	39.8
0.20	5	40.8	41.6	42.2	43.7	42.5	43.0	43.8	46.1
0.50	2	54.0	55.0	55.9	58.6	55.1	55.6	56.3	58.0

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1953	7-Mar	--	693	1967	28-Apr	--	1,750
1954	30-Mar	--	860	1968	30-Apr	--	1,106
1955	15-Mar	--	1,152	1969	15-Apr	--	1,969
1956	2-Apr	--	1,361	1970	12-Apr	--	399
1957	3-May	--	1,873	1971	14-Apr	--	290
1958	27-Apr	--	736	1972	28-Apr	--	1,030
1959	11-Apr	--	691	1973	25-Apr	--	630
1960	3-May	--	951	1974	23-Mar	--	555
1961	3-Apr	--	903	1975	4-Apr	--	1,264
1962	1-May	--	540	1976	25-Apr	--	1,529
1963	13-May	--	722	1977	14-Apr	--	573
1964	24-Apr	--	1,105	1978	17-Apr	--	714
1965	16-Apr	--	1,079	1979	30-Mar	--	818
1966	13-Apr	--	588				
Annual peak discharge, from highest to lowest							
1969	15-Apr	--	1,969	1979	30-Mar	--	818
1957	3-May	--	1,873	1958	27-Apr	--	736
1967	28-Apr	--	1,750	1963	13-May	--	722
1976	25-Apr	--	1,529	1978	17-Apr	--	714
1956	2-Apr	--	1,361	1953	7-Mar	--	693
1975	4-Apr	--	1,264	1959	11-Apr	--	691
1955	15-Mar	--	1,152	1973	25-Apr	--	630
1968	30-Apr	--	1,106	1966	13-Apr	--	588
1964	24-Apr	--	1,105	1977	14-Apr	--	573
1965	16-Apr	--	1,079	1974	23-Mar	--	555
1972	28-Apr	--	1,030	1962	1-May	--	540
1960	3-May	--	951	1970	12-Apr	--	399
1961	3-Apr	--	903	1971	14-Apr	--	290
1954	30-Mar	--	860				

4- 0.000-8M HELMAND RIVER AT DEHRAOUT, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1953	69.2	76	73	68.8	105	328	430	333	180	60.2	52.7	53	152
1954	61.9	66.4	66.1	77.4	125	336	611	509	210	119	68.8	66.2	193
1955	76.8	82.6	76.2	70.4	73.3	254	297	378	190	79	48.4	47.4	140
1956	59.4	62.5	67.4	80.3	92.7	344	926	421	143	156	66.4	64.6	207
1957	73.7	78.6	71.3	92.3	116	492	1,130	1,160	473	176	90.2	74.6	336
1958	98.3	130	142	137	151	316	571	359	189	94.7	68.7	68.6	194
1959	75.1	78	87.7	85.9	102	406	557	353	159	90.5	70.7	67.3	178
1960	66.9	84.8	102	85.5	105	183	438	561	223	94.4	62.6	59.2	172
1961	67.8	74.3	71.3	69.9	72.8	181	634	565	192	90	65.8	61.8	179
1962	68.1	77.2	77.6	73.9	86	144	328	273	131	54.5	44.9	50.7	117
1963	60	60.1	62.4	59.9	69.5	116	210	440	204	74.7	51.3	46.4	121
1964	54.8	75.1	71.8	69	99.2	313	686	481	178	84.8	55.3	54.6	185
1965	66.2	74.9	77.8	109	200	408	773	868	431	170	96	75.8	279
1966	89	93.4	82.9	78.6	104	119	323	279	136	59	43.8	46	121
1967	60.4	66.3	59.1	54.8	106	217	710	779	314	135	82.6	68.3	221
1968	83.2	91	84.8	80.9	101	329	506	462	265	102	67.8	65.9	187
1969	70.9	82.3	104	96.9	118	458	808	575	281	124	78.8	77.6	240
1970	87.9	141	102	103	107	166	319	189	80.1	48.2	44	45.1	119
1971	56.4	59.9	61.8	60.5	68.8	111	199	100	36.8	23.7	21.1	26.1	68.6
1972	37	46.3	47.6	61.1	70.4	383	634	546	237	96.1	59.3	57.6	190
1973	67.5	76.2	83.8	76.6	168	383	554	368	130	72.6	49.3	51.8	173
1974	61.8	70.1	73.2	74.9	79.2	294	393	213	82.7	44.4	36	39.5	122
1975	54.5	65.9	75.1	77.2	93.8	280	644	563	224	92.1	59.2	58.1	191
1976	67.5	74.5	77.7	77.2	102	308	920	827	307	154	75.3	73.8	255
1977	84.1	95.5	86	103	154	256	412	229	108	51.9	42.5	43	138
1978	53.4	74.2	67.5	67.4	99	255	470	250	93.8	67.1	48.7	44.8	132
1979	55.1	75.6	69.2	70.9	86.4	179	568	363	153	64.9	49	45.7	148

4- 0.000-9M HELMAND RIVER AT GIZAB

(U.S. Geological Survey identification number: 332300066170000)

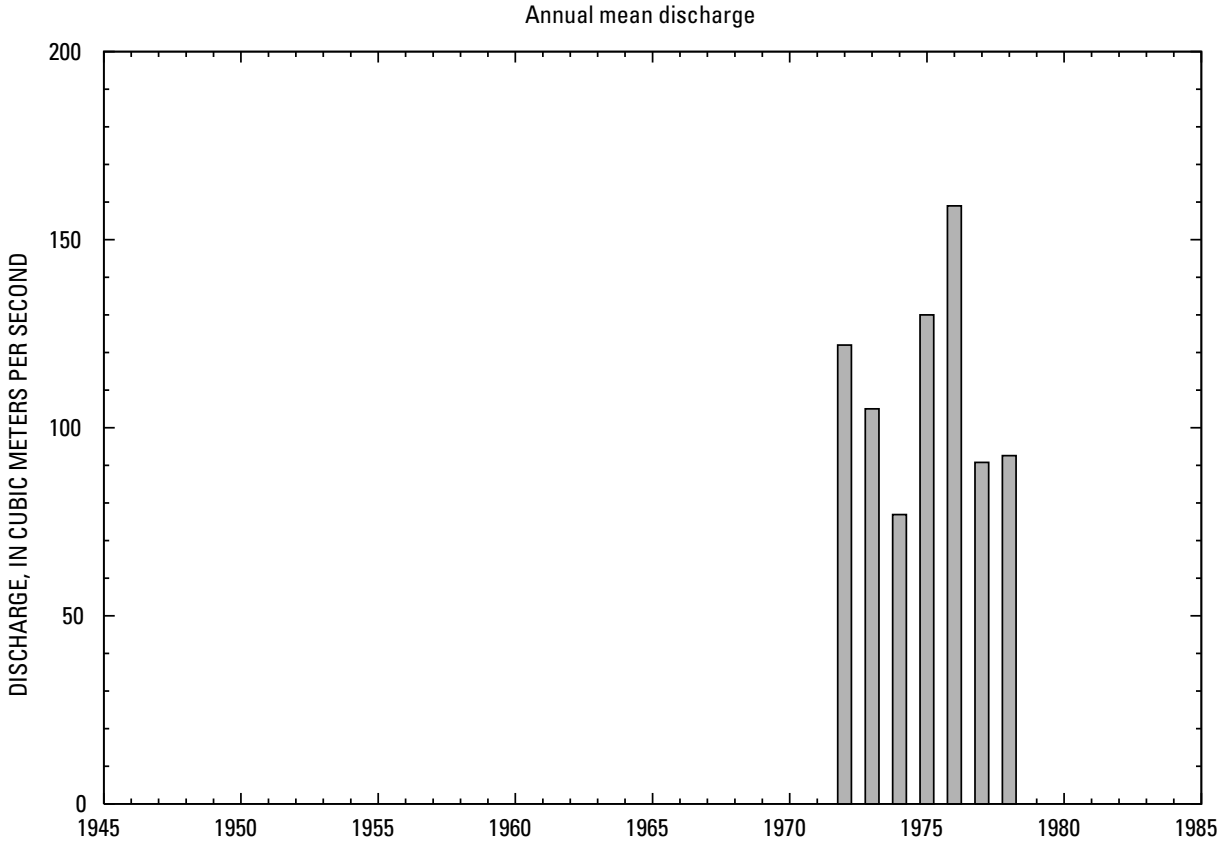
LOCATION: Lat 33º23'N., long 66º17'E.

DRAINAGE AREA: 20,750 km^2.

ALTITUDE: 1,325 meters plus mean sea level.

PERIOD OF RECORD: July 19, 1971 to March 11, 1979.

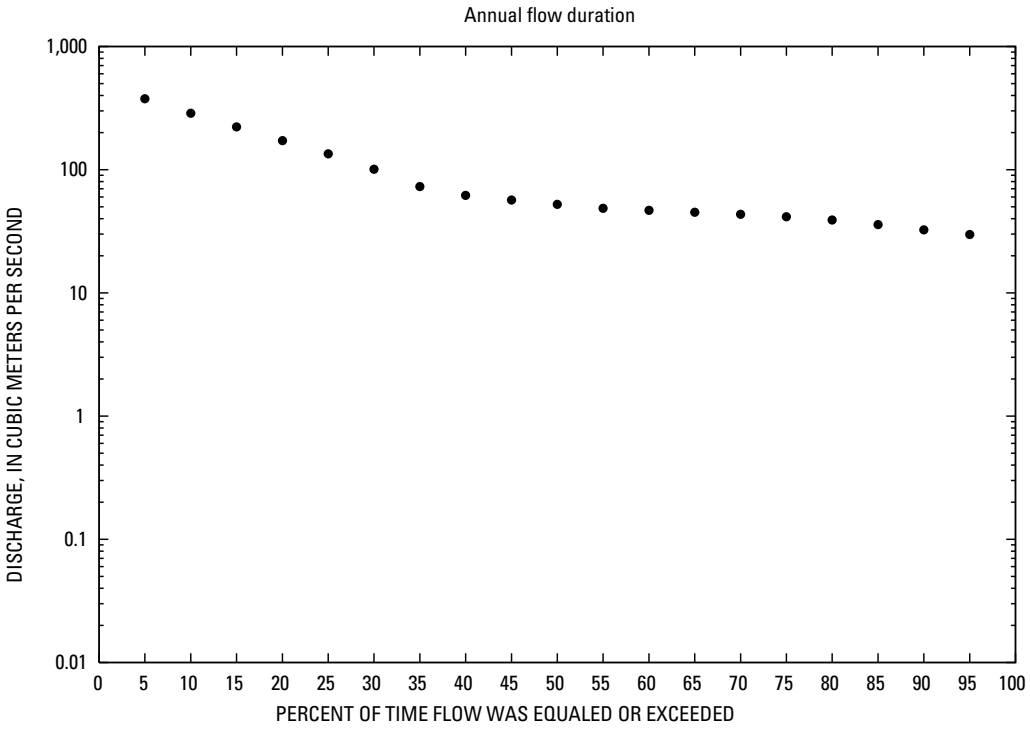
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	50.0	1977	28.2	1972	41.3	6.56	0.16	3.11
November	61.2	1977	32.2	1972	47.4	8.58	0.18	3.57
December	57.3	1977	30.5	1972	46.8	8.09	0.17	3.53
January	60.8	1977	32.7	1972	48.0	8.42	0.18	3.61
February	102	1973	35.7	1972	66.8	22.4	0.33	5.03
March	259	1972	143	1978	186	39.4	0.21	14.0
April	563	1976	230	1974	360	112	0.31	27.1
May	543	1976	137	1974	286	142	0.50	21.5
June	189	1976	71.5	1974	119	52.7	0.44	8.99
July	95.3	1976	30.2	1974	57.8	22.0	0.38	4.35
August	45.1	1975	18.3	1971	34.1	8.87	0.26	2.57
September	46.3	1976	22.0	1971	35.0	8.47	0.24	2.64
Annual	159	1976	76.9	1974	111	28.1	0.25	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	29.6	34.2	74.5	210.1	114.7	54.2	26.9	18.4	21.1	27.8	31.9	30.5	29.8
90	36.5	38.2	106.9	231.5	142.9	58.9	32.5	19	23.8	29.7	33.1	31.2	32.5
85	40.6	43.3	113.5	240.1	156.4	62.2	34.9	25.7	24.7	32.6	39.7	38.4	35.9
80	41.9	47	117.9	248.9	163.6	65.8	36.4	26.6	26.2	36.6	40.2	42.5	39.1
75	42.9	49	125.3	257.7	171.7	69	38.2	27.7	27	38	43.9	43.4	41.5
70	44.6	51	135.7	271	180.2	74.9	40.2	30.3	31.5	40.4	45.1	43.9	43.5
65	45.2	53.1	143.3	288.5	189.9	80.8	42	30.9	32.5	41.2	45.8	44.5	45.2
60	46	55.3	148.5	301	207.7	87	44.3	31.8	33.2	41.9	46.8	45.5	46.8
55	47.1	59.6	153.9	311.7	225.4	93.4	47.6	32.9	34.1	42.2	47.2	46.3	48.6
50	48.9	60.9	159.6	325.7	250.3	105	51.1	33.8	34.8	42.6	47.5	47.1	52.4
45	49.9	62.2	165.6	340.8	267.1	112.4	54	34.7	35.6	42.9	47.7	48	56.7
40	50.9	64.1	172	355.3	286.5	119.9	58	36.1	37.4	43.3	48.1	48.9	61.9
35	51.8	67.3	180.7	366.9	322.2	127.9	60.6	39.1	38.8	43.6	48.7	50	72.9
30	52.5	70	195.8	379.6	344	139	65.5	41.1	40.8	44.5	49.5	51.8	100.8
25	53.1	73.5	220.3	394.5	360.3	155.3	70.7	41.9	42.3	46	51	52.8	134.4
20	55.5	78.8	244.6	411.3	384.1	173.6	76.8	42.6	43	46.4	53.7	54.2	171.9
15	57	91.4	273.1	431.6	414.5	188.9	82.9	43.4	44.2	47	58.6	56.1	222.5
10	58.2	103.9	311.9	499	540.9	206.9	90.3	44.2	45.4	47.8	59.7	57.4	287.5
5	62.6	124.9	387.3	725	618.5	250.2	99.9	46.4	46.1	50.4	62.1	58.7	376.7

4- 0.000-9M HELMAND RIVER AT GIZAB, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	212	211	[2]223	[2]230	[2]215
0.95	1.05	258	251	251	248	233
0.90	1.11	292	279	273	264	247
0.80	1.25	344	324	307	289	271
0.50	2	496	451	412	369	343
0.20	5	768	678	609	525	479
0.10	10	994	864	778	661	595
0.04	25	1,340	1,150	1,050	877	776
0.02	50	1,650	1,400	1,290	1,080	939
0.01	100	2,000	1,680	1,580	1,310	1,130
0.005	200	2,410	2,010	1,920	1,590	1,350
0.002	500	3,040	ng	ng	ng	ng

[1]Less than 10 years data used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

4- 0.000-9M HELMAND RIVER AT GIZAB, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	23.0	23.0	[1]22.9	23.4	24.3	24.6	25.6	28.5	33.5
0.10	10	25.1	25.3	[1]25.2	25.7	26.6	27.2	28.5	31.1	35.3
0.20	5	27.9	28.1	28.2	28.5	29.4	30.4	32.0	34.3	37.7
0.50	2	33.3	33.8	34.0	34.2	35.1	36.8	38.6	40.6	42.7

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 0.000-9M HELMAND RIVER AT GIZAB, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	25.4	27.5	28.8	30.2	38.0	61.1	97.2	124
0.10	10	28.1	30.8	32.3	33.9	46.0	71.5	102	132
0.20	5	31.6	34.8	36.6	38.3	57.3	85.1	108	144
0.50	2	38.7	42.6	44.4	46.2	84.1	113	124	172
		June-July-August				September-October-November			
0.05	20	24.2	24.3	24.7	25.2	18.2	18.9	19.8	21.5
0.10	10	25.8	26.0	26.5	27.3	21.1	21.8	22.6	24.3
0.20	5	28.1	28.2	28.8	30.0	24.9	25.5	26.2	27.8
0.50	2	33.0	33.1	33.8	35.6	32.4	32.9	33.6	34.9

4- 0.000-9M HELMAND RIVER AT GIZAB, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1972	28-Apr	--	646	1976	24-Apr	--	1,196
1973	11-Apr	--	410	1977	14-Apr	--	342
1974	30-Mar	--	288	1978	16-Apr	--	485
1975	4-Apr	--	695				
Annual peak discharge, from highest to lowest							
1976	24-Apr	--	1,196	1973	11-Apr	--	410
1975	4-Apr	--	695	1977	14-Apr	--	342
1972	28-Apr	--	646	1974	30-Mar	--	288
1978	16-Apr	--	485				

4- 0.000-9M HELMAND RIVER AT GIZAB, Continued

Monthly and annual mean discharges, in cubic meter per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1971	--	--	--	--	--	--	--	--	--	--	18.3	22	--
1972	28.2	32.2	30.5	32.7	35.7	259	393	349	155	65	39.3	40.4	122
1973	44.6	49.8	52.1	51.6	102	208	340	220	83.2	47.4	32.4	34.2	105
1974	42.9	46.7	44.1	45.3	53.3	170	230	137	71.5	30.2	26	25.7	76.9
1975	37.6	41	51	55.5	67.5	185	415	365	180	73	45.1	44.2	130
1976	46.3	47	44.5	46.8	58.2	191	563	543	189	95.3	42.7	46.3	159
1977	50	61.2	57.3	60.8	97.5	149	258	174	80.6	40	32.4	32.8	90.8
1978	40.4	47.5	44.3	43.5	61.1	143	319	211	77.1	53.5	36.8	34.6	92.6
1979	40.2	54.2	51	48	59	--	--	--	--	--	--	--	--

4- 0.000-10M HELMAND RIVER AT GARDANDEWAL

(U.S. Geological Survey identification number: 343000068160000)

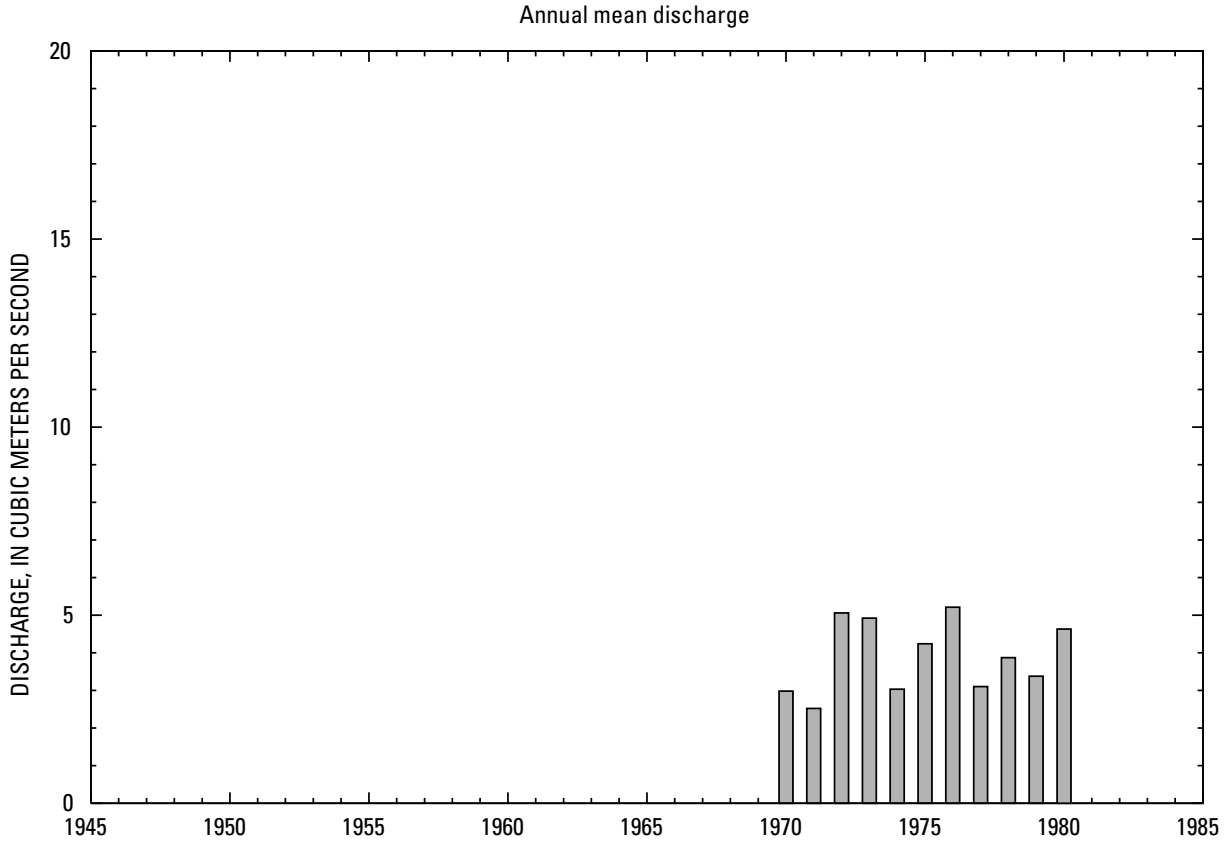
LOCATION: Lat 34º30'N., long 68º16'E.

DRAINAGE AREA: 605 km^2.

ALTITUDE: 2,955 meters plus mean sea level.

PERIOD OF RECORD: August 8, 1969 to September 30, 1980.

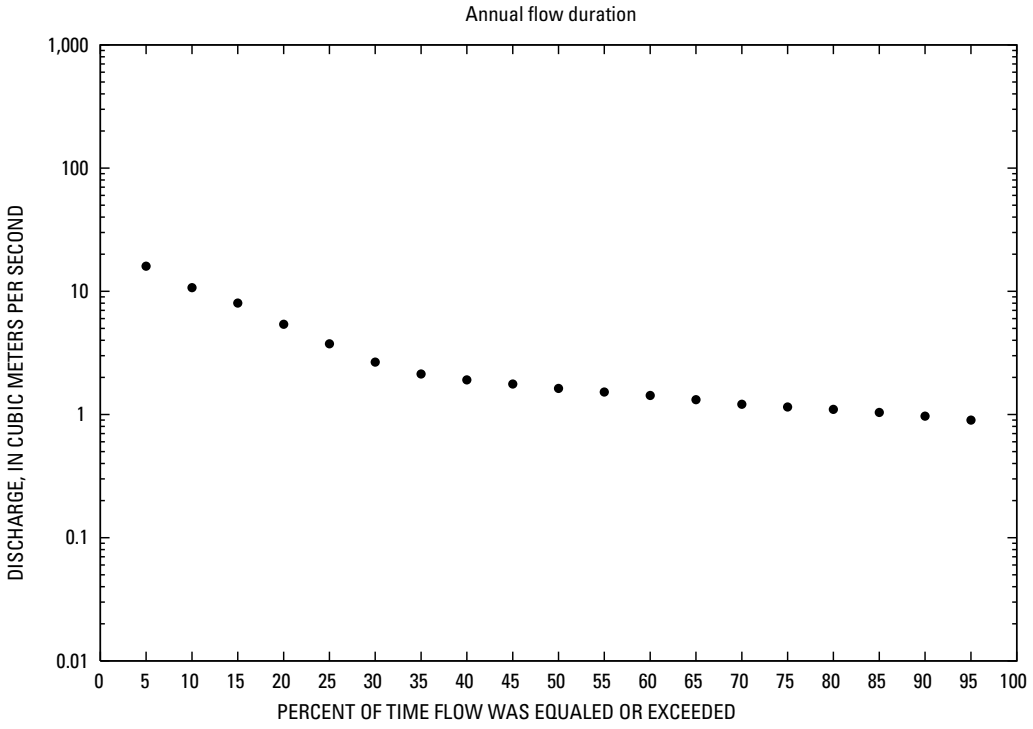
GAGE: --



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	1.54	1970	0.811	1978	1.19	0.24	0.20	2.55
November	1.62	1973	1.00	1972	1.24	0.21	0.17	2.65
December	1.87	1973	0.935	1980	1.22	0.27	0.22	2.60
January	1.85	1973	0.889	1976	1.24	0.30	0.25	2.64
February	1.77	1970	0.960	1976	1.31	0.33	0.25	2.80
March	2.53	1978	1.58	1980	2.05	0.38	0.18	4.37
April	13.5	1976	5.52	1971	8.93	2.74	0.31	19.1
May	24.2	1976	8.78	1971	15.3	5.91	0.39	32.7
June	17.1	1972	3.03	1971	8.47	4.38	0.52	18.1
July	5.68	1980	1.68	1971	2.91	1.09	0.37	6.22
August	2.08	1979	0.945	1971	1.58	0.32	0.21	3.37
September	1.79	1969	0.910	1977	1.39	0.32	0.23	2.97
Annual	5.21	1976	2.52	1971	3.90	0.96	0.25	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.87	0.94	1.12	3.23	7.75	2.63	1.56	0.95	0.94	0.86	0.88	0.94	0.9
90	0.94	0.95	1.23	4.09	8.18	3.33	1.71	1.04	0.96	0.93	0.94	0.95	0.97
85	0.95	0.96	1.28	4.56	8.54	3.56	1.94	1.2	1.03	0.95	0.95	0.95	1.04
80	0.96	1.02	1.32	5.02	8.89	3.99	2.03	1.24	1.04	1.02	1.02	0.96	1.1
75	1.03	1.04	1.45	5.53	9.29	4.28	2.09	1.36	1.13	1.03	1.03	1.03	1.15
70	1.03	1.05	1.5	5.88	10.3	4.53	2.17	1.39	1.14	1.03	1.03	1.04	1.21
65	1.04	1.06	1.57	6.23	10.8	5.01	2.29	1.47	1.2	1.04	1.1	1.12	1.32
60	1.05	1.12	1.66	6.72	11.4	5.46	2.39	1.52	1.22	1.04	1.12	1.13	1.43
55	1.13	1.14	1.8	7.19	12.5	5.85	2.49	1.56	1.32	1.12	1.21	1.14	1.52
50	1.19	1.22	1.85	7.83	13.6	6.31	2.57	1.59	1.4	1.12	1.22	1.19	1.63
45	1.2	1.3	1.94	8.43	15	6.82	2.66	1.63	1.43	1.13	1.31	1.2	1.77
40	1.21	1.33	1.98	8.8	16	7.86	2.76	1.74	1.49	1.22	1.33	1.21	1.91
35	1.22	1.46	2.01	9.56	17	8.82	2.91	1.77	1.54	1.3	1.38	1.21	2.13
30	1.4	1.58	2.2	10.3	18.1	10.6	3.16	1.79	1.63	1.31	1.39	1.22	2.66
25	1.48	1.6	2.34	11	19.6	11.5	3.37	1.81	1.65	1.4	1.41	1.33	3.75
20	1.56	1.67	2.53	12.2	21.2	13.5	3.51	1.93	1.67	1.5	1.46	1.41	5.4
15	1.6	1.77	2.77	13.1	23	14.2	3.82	1.97	1.74	1.52	1.48	1.5	8.04
10	1.66	1.8	3.47	15.2	25.5	16.4	4.28	2.01	1.77	1.54	1.55	1.57	10.7
5	0	1.89	4.18	20	29.3	20.1	5.44	2.05	1.97	1.56	1.78	0	16

4- 0.000-10M HELMAND RIVER AT GARDANDEWAL, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	8.30	6.51	6.46	6.12	5.88
0.95	1.05	11.2	9.23	8.96	8.33	7.84
0.90	1.11	13.2	11.0	10.6	9.80	9.12
0.80	1.25	16.0	13.7	13.0	11.9	10.9
0.50	2	22.9	20.1	18.9	17.2	15.4
0.20	5	32.5	29.0	27.2	24.5	21.6
0.10	10	38.9	34.7	32.7	29.5	25.8
0.04	25	46.9	41.9	39.6	35.8	31.0
0.02	50	52.9	47.1	44.8	40.4	34.9
0.01	100	58.8	52.2	49.9	45.2	38.7
0.005	200	64.7	57.2	55.0	49.9	42.7
0.002	500	72.6	ng	ng	ng	ng

4- 0.000-10M HELMAND RIVER AT GARDANDEWAL, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.774	0.778	0.780	0.782	0.815	0.835	0.866	0.910	0.983
0.10	10	0.796	0.800	0.806	0.811	0.840	0.863	0.897	0.936	1.01
0.20	5	0.830	0.835	0.844	0.852	0.877	0.905	0.943	0.976	1.04
0.50	2	0.925	0.929	0.945	0.957	0.978	1.02	1.06	1.09	1.15

Probability of occurrence of seasonal low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.807	0.829	[1]0.825	0.847	0.985	0.992	1.06	1.43
0.10	10	0.842	0.867	0.868	0.890	1.04	1.06	1.14	1.53
0.20	5	0.894	0.924	0.931	0.953	1.12	1.16	1.24	1.67
0.50	2	1.03	1.07	1.09	1.12	1.31	1.38	1.48	1.96
		June-July-August				September-October-November			
0.05	20	0.846	0.901	0.941	1.00	0.779	0.792	0.800	0.837
0.10	10	0.944	0.995	1.04	1.13	0.813	0.829	0.841	0.882
0.20	5	1.07	1.12	1.18	1.29	0.860	0.881	0.896	0.942
0.50	2	1.35	1.38	1.44	1.59	0.977	1.00	1.03	1.08

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meter)	Peak discharge (m^3/s)	Water year	Date	Gage height (meter)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1970	21-May	--	15.6	1976	15-May	--	39.5
1971	12-May	--	13.1	1977	27-May	--	13.9
1972	21-May	--	39.5	1978	16-Apr	--	25.8
1973	9-May	--	30.5	1979	26-Apr	--	20.8
1974	31-May	--	13.9	1980	20-May	--	27.0
1975	16-May	--	31.2				
Annual peak discharge, from highest to lowest							
1976	15-May	--	39.5	1979	26-Apr	--	20.8
1972	21-May	--	39.5	1970	21-May	--	15.6
1975	16-May	--	31.2	1977	27-May	--	13.9
1973	9-May	--	30.5	1974	31-May	--	13.9
1980	20-May	--	27.0	1971	12-May	--	13.1
1978	16-Apr	--	25.8				

4- 0.000-10M HELMAND RIVER AT GARDANDEWAL, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1969	--	--	--	--	--	--	--	--	--	--	--	1.79	--
1970	1.54	1.44	1.24	1.28	1.77	2.15	6.71	10.3	5.14	1.98	1.18	1.02	2.98
1971	1	1.33	1.35	1.59	1.75	2.12	5.52	8.78	3.03	1.68	0.945	1.07	2.52
1972	1.15	1	1.09	1.04	1.04	1.63	7.5	22.2	17.1	3.73	1.79	1.4	5.06
1973	1.34	1.62	1.87	1.85	1.76	2.19	11.7	21.6	9.33	2.81	1.62	1.27	4.92
1974	1.07	1.4	1.2	1.19	1.28	2.6	6.69	9.99	6.22	2.21	1.38	1.13	3.03
1975	1.02	1.08	1.14	1.05	1.01	1.61	7.65	18.2	11.7	2.99	1.64	1.64	4.24
1976	1.13	1.02	1	0.889	0.96	1.76	13.5	24.2	11.3	3.24	1.77	1.66	5.21
1977	1.49	1.35	1.5	1.53	1.53	2.43	8.21	9.07	5.5	2.19	1.45	0.91	3.1
1978	0.811	1.01	1.13	1.23	1.26	2.53	11.9	15.3	5.57	2.67	1.6	1.26	3.87
1979	1.06	1.27	0.957	1.01	1.03	1.9	11.8	9.94	4.98	2.85	2.08	1.75	3.38
1980	1.5	1.14	0.935	0.932	1.04	1.58	7.07	18.6	13.3	5.68	1.89	1.77	4.63

4- 1.21R-7A TARNAK RIVER NEAR SHAHJUY

(U.S. Geological Survey identification number: 323200067280000)

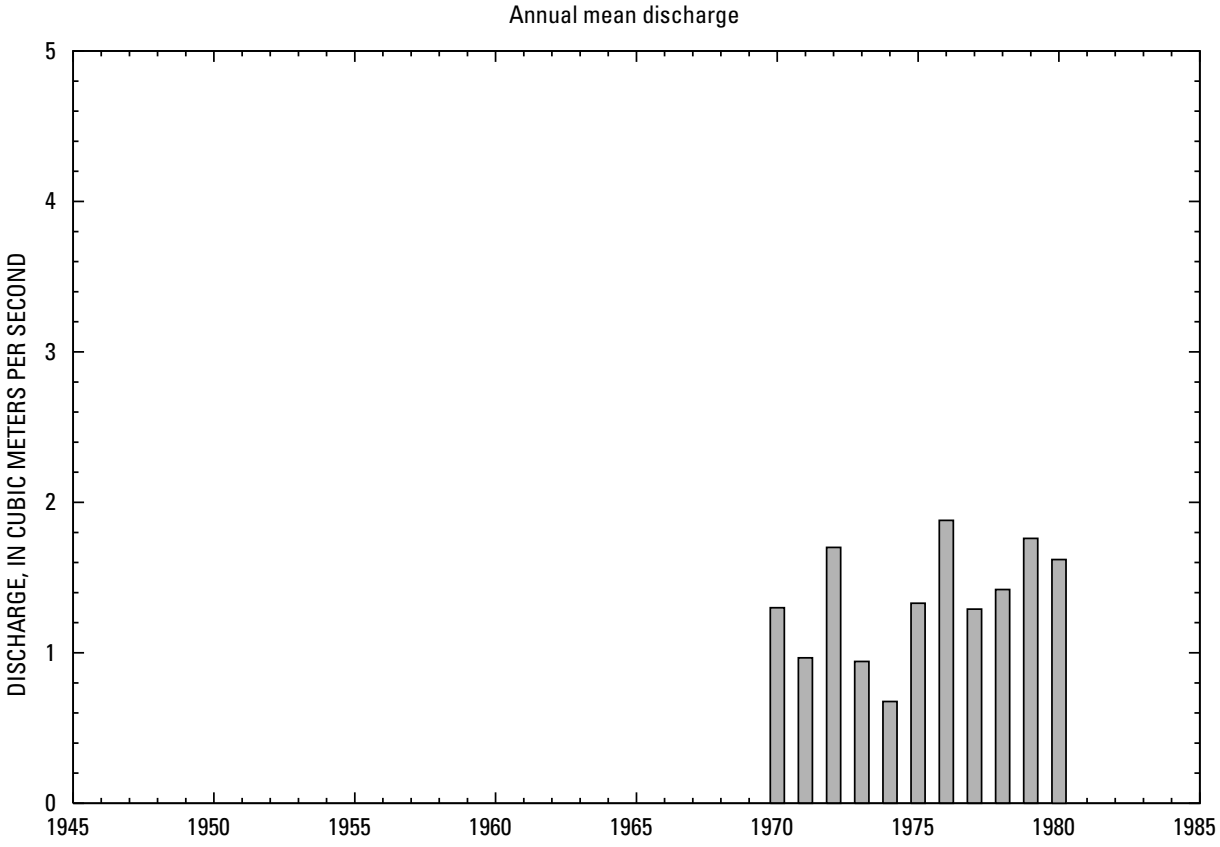
LOCATION: Lat 32º32'N., long 67º28'E.

DRAINAGE AREA: 8,120 km^2.

ALTITUDE: 1,043 meters plus mean sea level.

PERIOD OF RECORD: February 19, 1969 to September 30, 1980.

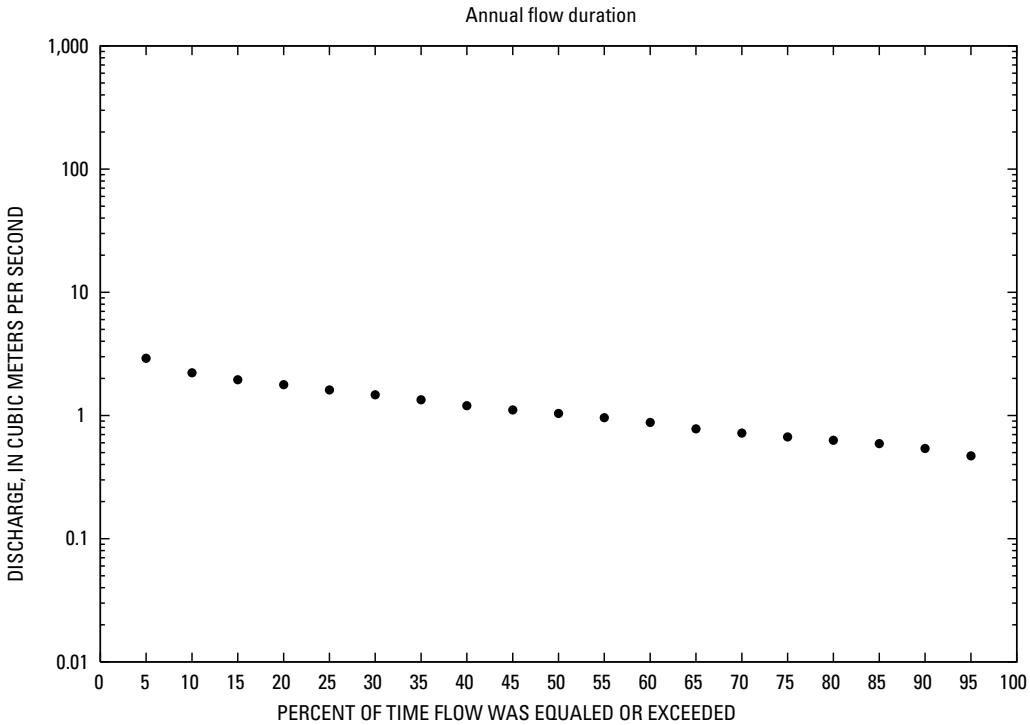
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	1.24	1980	0.500	1974	0.79	0.20	0.25	4.94
November	2.20	1970	0.484	1974	1.16	0.42	0.36	7.24
December	2.14	1970	0.407	1974	1.36	0.50	0.37	8.48
January	2.81	1972	0.413	1974	1.50	0.67	0.44	9.39
February	3.61	1979	0.486	1974	1.90	0.94	0.50	11.9
March	5.90	1980	1.08	1969	2.36	1.32	0.56	14.7
April	3.76	1972	0.883	1978	1.90	0.98	0.52	11.8
May	2.69	1976	0.660	1978	1.22	0.67	0.55	7.58
June	1.75	1976	0.527	1975	0.82	0.38	0.46	5.13
July	3.75	1978	0.522	1971	1.07	0.92	0.86	6.71
August	2.60	1978	0.573	1972	1.19	0.73	0.61	7.45
September	1.26	1976	0.471	1977	0.75	0.26	0.34	4.68
Annual	1.88	1976	0.676	1974	1.35	0.38	0.28	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.4	0.38	0.92	0.76	0.56	0.49	0.45	0.43	0.46	0.51	0.49	0.41	0.47
90	0.42	0.41	1.12	0.85	0.6	0.51	0.48	0.49	0.5	0.51	0.71	0.59	0.54
85	0.71	0.65	1.25	0.91	0.63	0.54	0.51	0.53	0.5	0.59	0.79	0.71	0.59
80	0.98	1.05	1.3	0.96	0.66	0.56	0.56	0.56	0.52	0.6	0.83	0.94	0.63
75	1.02	1.13	1.35	1	0.69	0.59	0.59	0.57	0.56	0.62	0.89	0.98	0.67
70	1.24	1.28	1.42	1.03	0.71	0.6	0.6	0.59	0.59	0.68	0.94	1.03	0.72
65	1.38	1.43	1.51	1.06	0.75	0.62	0.62	0.61	0.6	0.7	0.97	1.16	0.78
60	1.43	1.56	1.59	1.11	0.79	0.63	0.64	0.62	0.61	0.72	1	1.31	0.88
55	1.49	1.7	1.67	1.18	0.82	0.66	0.65	0.64	0.63	0.74	1.02	1.38	0.96
50	1.58	1.83	1.76	1.3	0.86	0.68	0.67	0.66	0.67	0.76	1.05	1.41	1.04
45	1.63	1.89	1.84	1.49	0.92	0.69	0.7	0.68	0.71	0.8	1.08	1.45	1.11
40	1.68	1.96	1.92	1.71	1.03	0.71	0.73	0.7	0.76	0.82	1.13	1.49	1.2
35	1.72	2.06	2.01	1.87	1.12	0.75	0.76	0.75	0.8	0.84	1.17	1.53	1.34
30	1.77	2.19	2.14	1.96	1.29	0.81	0.82	0.96	0.87	0.87	1.21	1.58	1.47
25	1.83	2.38	2.36	2.13	1.52	0.91	0.89	1.02	0.96	0.94	1.24	1.65	1.61
20	1.93	2.61	2.64	2.55	1.7	1.11	1.02	1.1	1.02	0.96	1.31	1.75	1.78
15	2.06	2.73	2.84	2.8	1.88	1.32	1.13	1.22	1.09	1.01	1.51	1.9	1.95
10	2.25	2.86	3.14	2.93	2.04	1.36	1.41	1.54	1.12	1.07	1.72	2.03	2.22
5	2.77	3.43	3.86	3.48	2.97	0	1.77	1.85	1.22	0	2.06	2.21	2.91

4- 1.21R-7A TARNAK RIVER NEAR SHAHJUY, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	2.10	1.47	1.25	1.30	[1]1.31
0.95	1.05	3.90	2.43	1.93	1.75	1.60
0.90	1.11	5.40	3.20	2.45	2.06	1.81
0.80	1.25	8.10	4.50	3.31	2.54	2.11
0.50	2	17.6	8.86	5.99	3.92	2.91
0.20	5	38.6	18.0	11.2	6.30	4.20
0.10	10	58.4	26.3	15.7	8.21	5.16
0.04	25	90.9	39.9	22.8	11.0	6.53
0.02	50	121	52.5	29.2	13.4	7.66
0.01	100	157	67.5	36.6	16.1	8.88
0.005	200	199	85.1	45.0	19.2	10.2
0.002	500	266	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 1.21R-7A TARNAK RIVER NEAR SHAHJUY, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.254	0.273	0.300	0.332	0.358	0.423	0.432	0.438	0.458
0.10	10	0.276	0.297	0.322	0.353	0.380	0.451	0.467	0.485	0.516
0.20	5	0.309	0.333	0.356	0.385	0.413	0.493	0.517	0.549	0.597
0.50	2	0.404	0.431	0.451	0.475	0.506	0.600	0.644	0.707	0.794

4- 1.21R-7A TARNAK RIVER NEAR SHAHJUY, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.287	0.340	0.356	0.368	0.388	0.450	0.515	0.549
0.10	10	0.406	0.466	0.492	0.525	0.419	0.482	0.549	0.607
0.20	5	0.587	0.653	0.693	0.759	0.471	0.535	0.603	0.700
0.50	2	1.02	1.08	1.16	1.29	0.637	0.702	0.776	0.980
		June-July-August				September-October-November			
0.05	20	0.296	0.339	0.381	0.447	0.380	0.397	0.437	0.444
0.10	10	0.320	0.365	0.402	0.460	0.407	0.428	0.465	0.476
0.20	5	0.361	0.407	0.438	0.485	0.448	0.474	0.508	0.522
0.50	2	0.491	0.538	0.557	0.584	0.560	0.595	0.620	0.641

4- 1.L00-9A ARGHANDAB RIVER AT SANG-I-MASHA, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1970	15-Apr	--	23.0	1976	23-Jul	--	216
1971	15-Apr	--	7.98	1977	30-Jun	--	46.1
1972	27-Apr	--	46.5	1978	5-Jul	--	220
1973	20-Jul	--	111	1979	6-Aug	--	83.0
1974	28-Mar	--	26.9	1980	19-Apr	--	81.0
1975	3-Apr	--	57.6				
Annual peak discharge, from highest to lowest							
1978	5-Jul	--	220	1972	27-Apr	--	46.5
1976	23-Jul	--	216	1977	30-Jun	--	46.1
1973	20-Jul	--	111	1974	28-Mar	--	26.9
1979	6-Aug	--	83.0	1970	15-Apr	--	23.0
1980	19-Apr	--	81.0	1971	15-Apr	--	7.98
1975	3-Apr	--	57.6				

4- 1.21R-7A TARNAK RIVER NEAR SHAHJUY, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1969	--	--	--	--	--	1.08	1.94	0.967	0.55	0.739	0.674	0.743	--
1970	0.931	2.2	2.14	2.12	2.19	1.82	1.04	0.694	0.65	0.661	0.661	0.6	1.3
1971	0.637	1.22	1.81	1.47	1.49	1.37	0.898	0.668	0.536	0.522	0.49	0.513	0.967
1972	0.641	1	1.71	2.81	3	3.12	3.76	1.93	0.733	0.6	0.573	0.582	1.7
1973	0.703	0.791	0.704	0.625	0.852	2.41	1.9	0.88	0.617	0.715	0.6	0.5	0.942
1974	0.5	0.484	0.407	0.413	0.486	1.5	1.03	0.676	0.652	0.675	0.632	0.638	0.676
1975	0.721	1.43	1.63	1.82	2.27	1.88	1.21	0.81	0.527	0.718	2.25	0.699	1.33
1976	0.841	1.11	1.46	1.62	2.55	2.84	2.95	2.69	1.75	1.92	1.6	1.26	1.88
1977	0.966	1.13	1.46	1.68	1.88	1.93	1.91	1.05	0.668	0.65	1.75	0.471	1.29
1978	0.789	1.16	1.34	1.37	1.48	1.31	0.883	0.66	0.728	3.75	2.6	0.88	1.42
1979	0.74	1.05	1.31	1.61	3.61	3.15	3.34	1.99	1.11	0.775	1.48	1.11	1.76
1980	1.24	1.19	0.972	1.01	1.1	5.9	1.88	1.57	1.35	1.17	1.01	1.01	1.62

4- 1.222R-6A LORA RIVER NEAR SHINKAY

(U.S. Geological Survey identification number: 320000067180000)

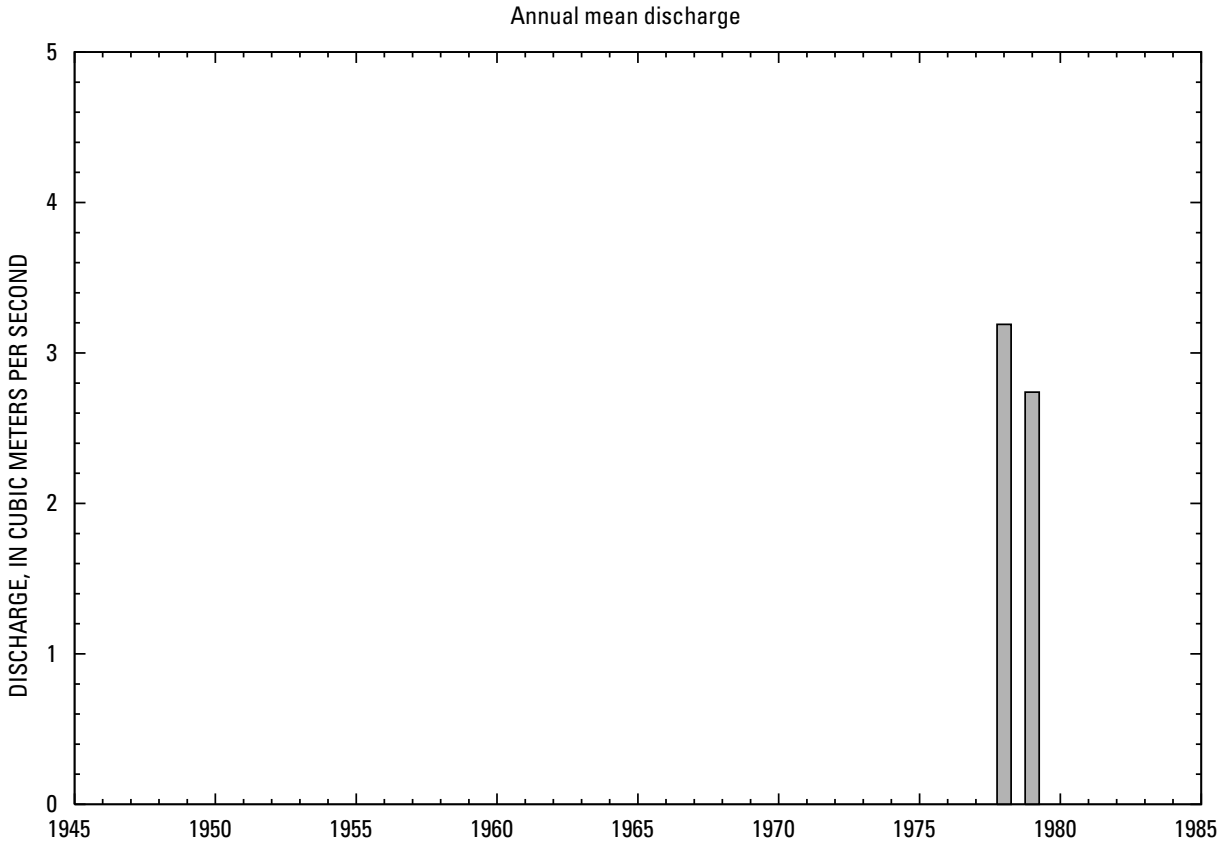
LOCATION: Lat 32º00'N., long 67º18'E.

DRAINAGE AREA: 2,930 km^2.

ALTITUDE: 1,882 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1977 to September 30, 1979.

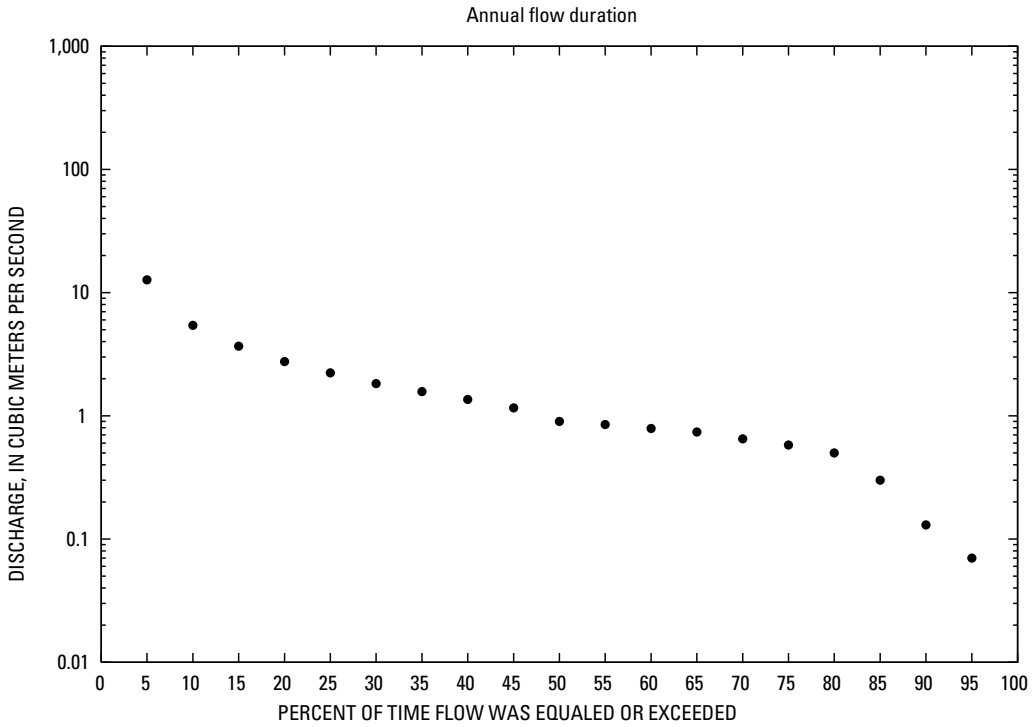
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	1.28	1979	0.064	1978	0.67	0.86	1.28	1.87
November	3.11	1979	0.232	1978	1.67	2.04	1.22	4.66
December	7.67	1978	0.615	1979	4.14	4.99	1.20	11.6
January	4.16	1978	0.242	1979	2.20	2.77	1.26	6.14
February	9.04	1979	5.68	1978	7.36	2.38	0.32	20.5
March	4.91	1978	2.90	1979	3.90	1.42	0.36	10.9
April	7.96	1979	1.16	1978	4.56	4.81	1.05	12.7
May	2.95	1979	0.955	1978	1.95	1.41	0.72	5.45
June	1.06	1979	0.445	1978	0.75	0.43	0.58	2.10
July	7.16	1978	0.897	1979	4.03	4.43	1.10	11.2
August	5.13	1978	2.34	1979	3.74	1.97	0.53	10.4
September	1.11	1979	0.626	1978	0.87	0.34	0.39	2.42
Annual	3.19	1978	2.74	1979	2.97	0.32	0.11	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.12	0.13	0.86	0.88	0.67	0.31	0.32	0.54	0.5	0.06	0.06	0.09	0.07
90	0.13	0.33	1.06	0.91	0.78	0.4	0.63	0.64	0.51	0.06	0.07	0.1	0.13
85	0.17	1.4	1.21	0.93	0.8	0.41	0.68	0.66	0.51	0.06	0.1	0.1	0.3
80	0.18	1.61	1.38	0.95	0.81	0.41	0.71	0.67	0.52	0.06	0.11	0.11	0.5
75	0.2	1.91	1.65	0.98	0.83	0.42	0.75	0.69	0.54	0.07	0.16	0.12	0.58
70	0.29	2.19	1.92	1	0.86	0.5	0.82	0.71	0.64	0.07	0.18	0.12	0.65
65	0.31	2.43	2.03	1.02	0.89	0.5	0.92	0.72	0.65	0.07	0.19	0.43	0.74
60	0.39	2.61	2.09	1.07	0.92	0.51	1	0.89	0.66	0.07	0.38	0.48	0.79
55	0.41	2.78	2.15	1.11	1.08	0.53	1.19	1.26	0.79	0.07	0.43	0.5	0.85
50	0.43	2.95	2.2	1.17	1.16	0.69	1.24	1.37	0.9	0.19	0.56	0.52	0.9
45	0.52	3.3	2.42	1.28	1.34	0.81	1.29	1.4	0.91	0.78	0.68	0.54	1.16
40	0.73	3.75	2.59	1.76	1.65	0.82	1.78	1.44	0.91	0.83	0.78	0.56	1.36
35	1.65	4.2	3.73	2.06	1.71	0.84	2.37	1.47	0.92	0.89	1.83	0.6	1.57
30	1.99	4.68	4.44	2.39	1.95	0.89	2.77	1.5	0.92	0.95	2.62	0.64	1.83
25	2.21	5.22	5.38	2.62	2.02	0.9	3.01	1.63	0.93	1.04	2.81	0.67	2.23
20	2.49	12.8	6.96	2.86	2.09	0.92	3.85	2.19	0	1.18	3.4	0.75	2.76
15	3.89	16.9	7.77	3.32	2.61	1.18	7.25	3.81	0	1.38	3.83	0.83	3.68
10	5.54	24.5	8.86	5.03	3.01	1.36	11.9	7.48	0	0	4.11	4.99	5.43
5	6.53	35.6	10.9	35.4	4.35	0	24.1	15.9	0	0	4.96	21	12.7

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	ng	ng	ng	ng
0.95	1.05	ng	ng	ng	ng	ng
0.90	1.11	ng	ng	ng	ng	ng
0.80	1.25	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng
0.04	25	ng	ng	ng	ng	ng
0.02	50	ng	ng	ng	ng	ng
0.01	100	ng	ng	ng	ng	ng
0.005	200	ng	ng	ng	ng	ng
0.002	500	ng	ng	ng	ng	ng

4- 1.222R-6A LORA RIVER NEAR SHINKAY, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng	ng

Probability of occurrence of seasonal low discharges

[m³/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng
		June-July-August				September-October-November			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng

4- 1.222R-6A LORA RIVER NEAR SHINKAY, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1978	25-Dec	--	160				
1979	2-Apr	--	66.6				
Annual peak discharge, from highest to lowest							
1978	25-Dec	--	160				
1979	2-Apr	--	66.6				

4- 1.222R-6A LORA RIVER NEAR SHINKAY, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1978	0.064	0.232	7.67	4.16	5.68	4.91	1.16	0.955	0.445	7.16	5.13	0.626	3.19
1979	1.28	3.11	0.615	0.242	9.04	2.9	7.96	2.95	1.06	0.897	2.34	1.11	2.74

4- 1.22R-1A ARGHASTAN RIVER NEAR KANDAHAR

(U.S. Geological Survey identification number: 312600065550000)

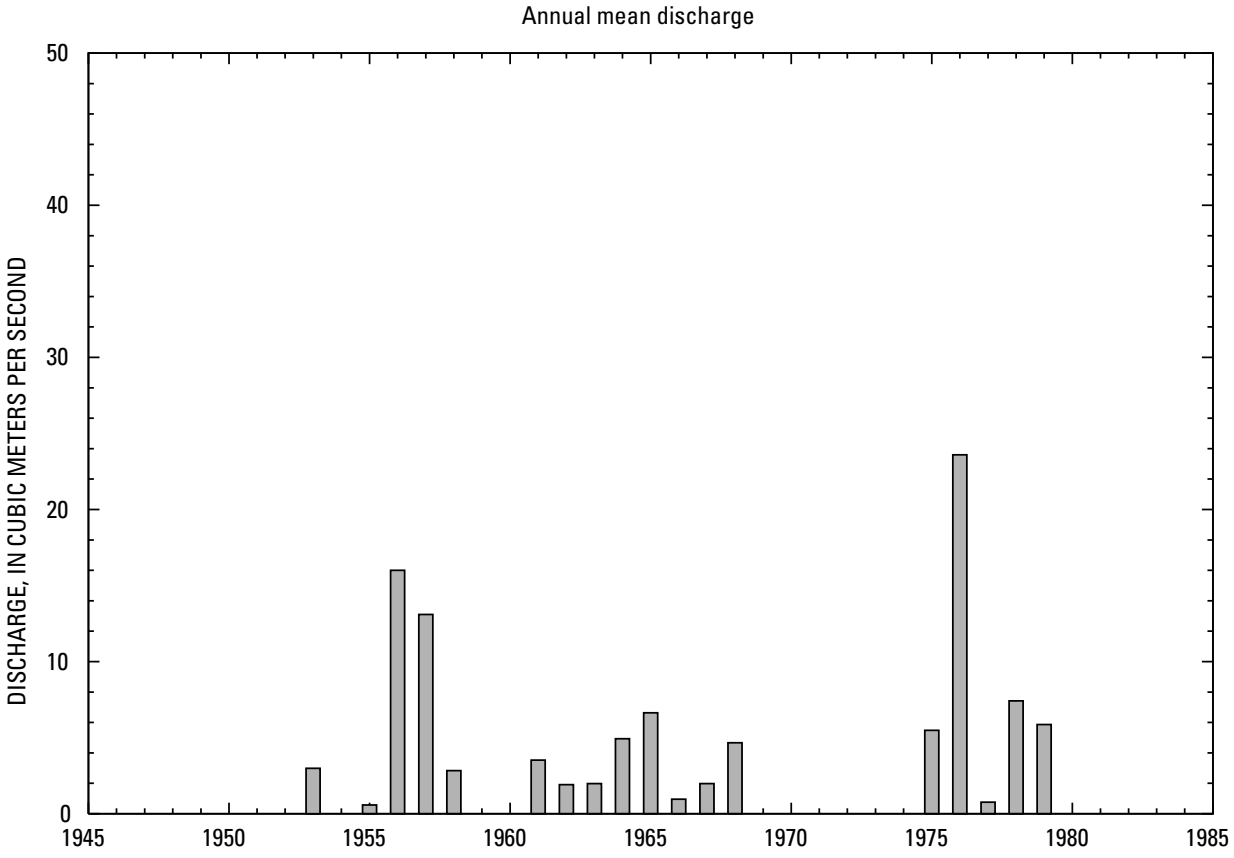
LOCATION: Lat 31º26'N., long 65º55'E., on upstream side of bridge pier on Kandahar-Chaman Highway, 22 km upstream from Dori River, and 28 km southeast of Kandahar.

DRAINAGE AREA: 15,245 km^2.

ALTITUDE: 1,031 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1952 to September 30, 1979.

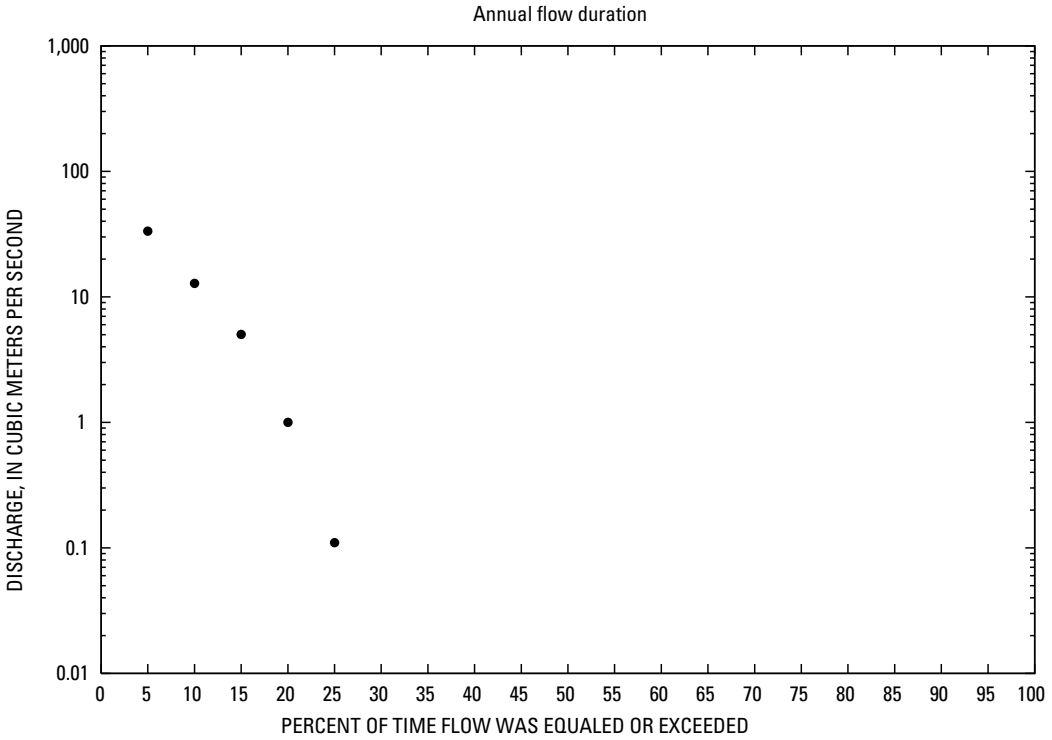
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m3/s, meters per second; m, more than 2 years of occurrence; ng, statistic not given]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	0	m	0	m	0	0	ng	0
November	0.78	1979	0	m	0.04	0.18	4.17	0.06
December	16.1	1978	0	m	2.25	5.16	2.29	3.18
January	15.7	1957	0	m	3.21	4.72	1.47	4.53
February	50.1	1957	0	1961, 1962	15.3	15.2	0.99	21.6
March	123	1976	0.201	1965	21.3	29.8	1.40	30.1
April	111	1976	0	m	16.8	29.2	1.73	23.8
May	13.6	1957	0	m	2.25	4.37	1.95	3.17
June	0.779	1957	0	m	0.07	0.2	2.96	0.09
July	97.5	1956	0	m	7.52	23.1	3.07	10.6
August	15.3	1978	0	m	2.04	4.49	2.20	2.88
September	0.007	1956	0	m	0	0	3.38	0
Annual	23.6	1976	0.573	1955	5.84	6.05	1.04	100



Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0.01	0	0	0	0	0	0
85	0	0	0	0	0	0	0.02	0	0	0	0	0	0
80	0	0	0	0	0	0	0.02	0	0	0	0	0	0
75	0	0	0	0	0	0	0.03	0	0	0	0	0	0
70	0	0	0.08	0	0	0	0.04	0	0	0	0	0	0
65	0	0	0.55	0	0	0	0.04	0	0	0	0	0	0
60	0	0.37	1.55	0	0	0	0.05	0	0	0	0	0	0
55	0	1.79	4.57	0	0	0	0.05	0	0	0	0	0	0
50	0	3.44	7.26	0.09	0	0	0.06	0	0	0	0	0	0
45	0	5.28	10.4	0.37	0	0	0.06	0	0	0	0	0	0
40	0.02	6.64	12.8	1.02	0	0	0.07	0	0	0	0	0	0
35	0.42	8.4	15.5	4.1	0	0	0.08	0	0	0	0	0	0
30	0.92	11.6	18.5	8.16	0	0	0.08	0	0	0	0	0	0
25	1.84	18.1	24.2	13.5	0.1	0	0.09	0	0	0	0	0	0.11
20	3.12	27.4	30.2	20.4	0.35	0	0.09	0	0	0	0	0.01	1
15	6.88	37.5	38.1	32.2	0.76	0	0.1	0.29	0	0	0	0.1	5.02
10	9.87	48.9	53.6	53.4	4.52	0.02	3	2.03	0	0	0	2	12.8
5	15.7	66.5	86.9	89	11.7	0.31	23.3	7.8	0	0	0	11.5	33.4

4- 1.22R-1A ARGHASTAN RIVER NEAR KANDAHAR, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	22.6	18.6	11.4	6.24	2.61
0.95	1.05	44.0	30.5	19.2	10.5	5.46
0.90	1.11	62.9	39.8	25.4	14.0	8.00
0.80	1.25	97.0	54.9	35.4	20.0	12.6
0.50	2	222	102	66.7	40.6	29.1
0.20	5	512	191	125	85.3	64.9
0.10	10	793	266	173	128	97.1
0.04	25	1,260	378	244	198	148
0.02	50	1,710	476	304	265	192
0.01	100	2,240	585	371	345	243
0.005	200	2,880	708	445	442	300
0.002	500	3,900	ng	ng	ng	ng

4- 1.22R-1A ARGHASTAN RIVER NEAR KANDAHAR, Continued

Probability of occurrence of annual low discharges

[m3/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	ng	ng	ng	ng	ng	ng	0	0
0.10	10	ng	ng	ng	ng	ng	ng	ng	0	0
0.20	5	ng	ng	ng	ng	ng	ng	ng	0	0
0.50	2	ng	ng	ng	ng	ng	ng	ng	0	0

Probability of occurrence of seasonal low discharges

[m3/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	ng	ng	0	0	ng	ng	0	0
0.10	10	ng	ng	0	0	ng	ng	0	0
0.20	5	ng	ng	0	0	ng	ng	0	0
0.50	2	ng	ng	0	0	ng	ng	0	0
		June-July-August				September-October-November			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m^3/s)	Water year	Date	Gage height (meters)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1953	14-Feb	1,020.00	314	1964	6-Jan	--	219
1954	13-Feb	1,021.09	1,190	1965	23-Apr	--	800
1955	16-Mar	1,019.98	81.2	1966	26-Feb	--	113
1956	20-Jul	1,020.80	620	1967	19-Feb	--	160
1957	8-Apr	1,020.01	147	1968	26-Feb	--	131
1958	14-Dec	1,020.40	169	1975	13-Feb	--	329
1959	2-Mar	1,019.98	122	1976	15-Mar	--	980
1961	9-Apr	--	228	1977	13-Aug	--	26.6
1962	31-Mar	--	78	1978	25-Dec	--	731
1963	27-Apr	--	157				
Annual peak discharge, from highest to lowest							
1954	13-Feb	1,021.09	1,190	1967	19-Feb	--	160
1976	15-Mar	--	980	1963	27-Apr	--	157
1965	23-Apr	--	800	1957	8-Apr	1,020.01	147
1978	25-Dec	--	731	1968	26-Feb	--	131
1956	20-Jul	1,020.80	620	1959	2-Mar	1,019.98	122
1975	13-Feb	--	329	1966	26-Feb	--	113
1953	14-Feb	1,020.00	314	1955	16-Mar	1,019.98	81.2
1961	9-Apr	--	228	1962	31-Mar	--	78
1964	6-Jan	--	219	1977	13-Aug	--	26.6
1958	14-Dec	1,020.40	169				

4- 1.22R-1A ARGHASTAN RIVER NEAR KANDAHAR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1953	0	0	0	0.024	37.5	0.576	0	0	0	0	0	0	2.93
1955	0	0	0	0.213	0.244	6.3	0	0.015	0	0	0	0	0.573
1956	0	0	5.48	6.29	7.51	37.8	23	0	0	97.5	12.5	0.007	16
1957	0	0	0	15.7	50.1	47.5	32.5	13.6	0.779	0	0	0	13.1
1958	0	0	15.9	9.99	5.84	2.13	0	0	0	0	0	0	2.83
1961	0	0	0	0.01	0	4.57	30.9	0	0	3.54	3.48	0	3.52
1962	0	0	0.252	1.19	0	12.2	9.16	0	0	0	0	0	1.91
1963	0	0	0	0	0.841	2.53	7.36	12.9	0	0	0	0	1.98
1964	0	0	0.061	7.38	21.9	27.5	2.85	0	0	0	0	0	4.93
1965	0	0	0.014	2.25	8.22	0.201	66.6	3.86	0	0	0	0	6.64
1966	0	0	0.81	0	7.27	1.15	2.83	0.013	0	0	0	0	0.958
1967	0	0	0	0	12.2	1.47	4.8	6.21	0	0	0	0	1.98
1968	0	0	0.942	0.356	16.1	38.3	0.216	0.282	0	0	0	0	4.67
1975	0	0	0.935	2	35	27.3	0.231	0	0	0	2.48	0.002	5.48
1976	0	0.01	0.011	0.036	30.2	123	111	3.22	0.055	16.9	0.002	0	23.6
1977	0	0	0.009	0	0.52	3.62	0.927	0.106	0	0.942	2.97	0	0.765
1978	0	0.003	16.1	10.5	14.2	16.2	0.05	0.119	0.002	16.3	15.3	0	7.42
1979	0	0.78	0.026	1.81	27.4	30.6	10.8	0.096	0.367	0.135	0	0	5.86

4- 1.2L0-5A DORI RIVER NEAR TAKHTAPUL

(U.S. Geological Survey identification number: 311300065570000)

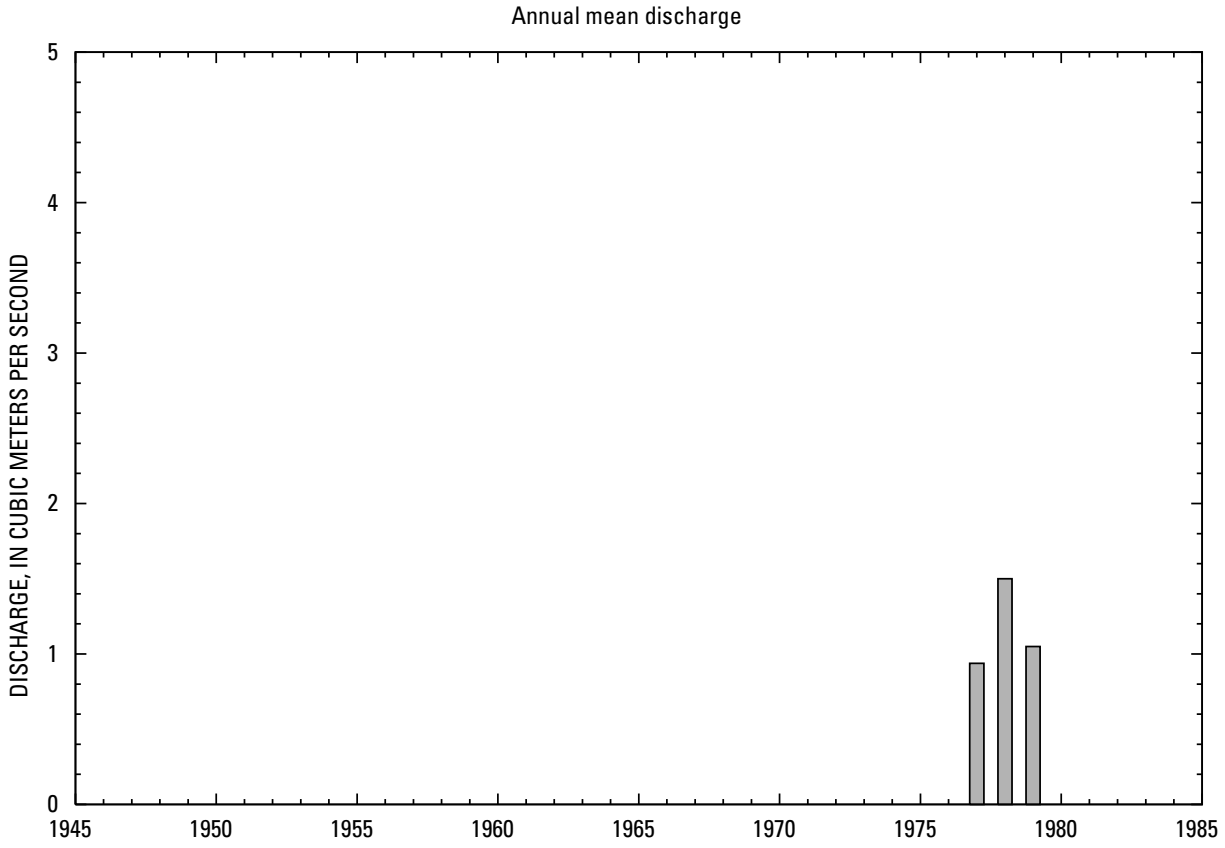
LOCATION: Lat 31º13'N., long 65º57'E.

DRAINAGE AREA: 4,185 km^2, of which approximately 960 km^2 is considered non-contributing.

ALTITUDE: 1,050 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1976 to March 2, 1980.

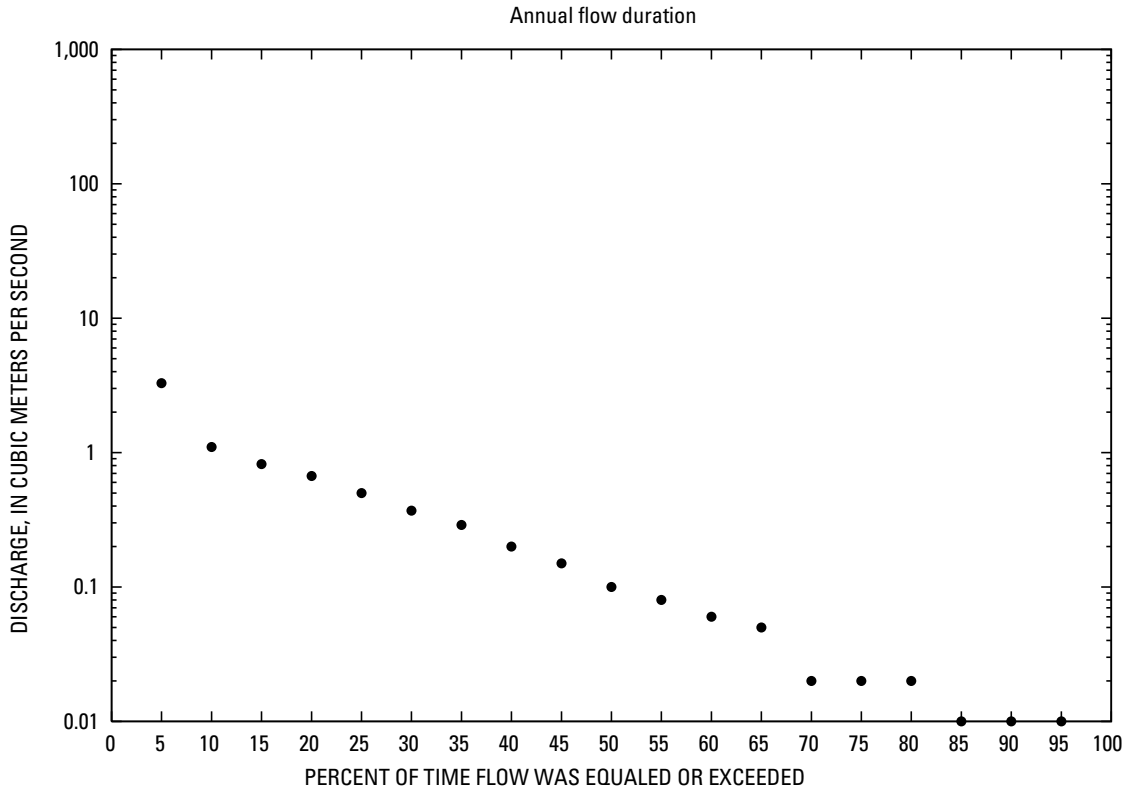
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	0.655	1977	0.010	1979, 1980	0.17	0.32	1.88	1.14
November	0.537	1979	0.010	1977	0.17	0.24	1.41	1.15
December	0.901	1978	0.339	1979	0.68	0.27	0.40	4.51
January	5.14	1980	0.652	1977	2.70	2.08	0.77	17.9
February	9.12	1979	0.742	1978	3.85	3.94	1.02	25.5
March	0.658	1979	0.048	1978	0.28	0.33	1.20	1.84
April	0.192	1979	0.053	1978	0.11	0.07	0.68	0.72
May	0.512	1979	0.010	1978	0.24	0.25	1.06	1.59
June	0.229	1979	0.010	1978	0.11	0.11	0.96	0.76
July	6.47	1978	0.110	1979	2.66	3.36	1.27	17.6
August	6.36	1977	0.088	1979	3.96	3.38	0.86	26.2
September	0.301	1978	0.044	1977	0.14	0.14	0.97	0.95
Annual	1.50	1978	0.938	1977	1.16	0.30	0.26	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.17	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09	0.01
90	0.3	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.12	0.01
85	0.57	0.06	0.02	0.02	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.21	0.01
80	0.61	0.2	0.02	0.02	0.02	0.02	0.05	0.04	0.01	0.01	0.01	0.24	0.02
75	0.64	0.33	0.02	0.04	0.02	0.02	0.06	0.05	0.02	0.01	0.01	0.26	0.02
70	0.67	0.43	0.05	0.04	0.02	0.02	0.09	0.05	0.02	0.01	0.01	0.28	0.02
65	0.71	0.55	0.06	0.04	0.05	0.04	0.1	0.06	0.02	0.01	0.02	0.3	0.05
60	0.75	0.75	0.08	0.05	0.06	0.05	0.1	0.06	0.02	0.01	0.02	0.32	0.06
55	0.79	0.8	0.09	0.05	0.08	0.05	0.11	0.09	0.04	0.01	0.02	0.34	0.08
50	0.84	0.84	0.09	0.05	0.1	0.06	0.12	0.12	0.05	0.02	0.02	0.38	0.1
45	0.92	0.88	0.1	0.05	0.14	0.06	0.13	0.18	0.06	0.02	0.02	0.46	0.15
40	1.03	0.93	0.1	0.06	0.21	0.1	0.17	0.2	0.09	0.02	0.02	0.55	0.2
35	1.13	0.99	0.12	0.08	0.32	0.11	0.22	0.22	0.11	0.02	0.05	0.63	0.29
30	1.22	1.18	0.23	0.08	0.41	0.13	0.41	0.26	0.13	0.02	0.09	0.71	0.37
25	1.38	1.74	0.42	0.09	0.48	0.2	0.63	0.72	0.2	0.02	0.11	0.78	0.5
20	1.64	2.24	0.62	0.09	0.51	0.21	1.68	2.05	0.22	0.02	0.24	0.85	0.67
15	2.06	3.45	0.75	0.11	0.55	0.26	3.56	5.26	0.24	0.02	0.32	0.93	0.82
10	3.05	7.11	0.89	0.22	0.61	0.29	6.44	13.7	0.38	0.02	0.5	1.09	1.1
5	7.78	14.6	1.16	0.3	0.78	0	15	26	0.62	0.02	0.54	2.33	3.29

4- 1.2L0-5A DORI RIVER NEAR TAKHTAPUL, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	32.8	ng	ng	ng	ng
0.95	1.05	47.0	ng	ng	ng	ng
0.90	1.11	57.2	ng	ng	ng	ng
0.80	1.25	73.1	ng	ng	ng	ng
0.50	2	119	ng	ng	ng	ng
0.20	5	197	ng	ng	ng	ng
0.10	10	258	ng	ng	ng	ng
0.04	25	348	ng	ng	ng	ng
0.02	50	423	ng	ng	ng	ng
0.01	100	506	ng	ng	ng	ng
0.005	200	597	ng	ng	ng	ng
0.002	500	732	ng	ng	ng	ng

[1]Less than 10 years of data used.

4- 1.2L0-5A DORI RIVER NEAR TAKHTAPUL, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng	ng

4- 1.2L0-5A DORI RIVER NEAR TAKHTAPUL, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng
		June-July-August				September-October-November			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng

4- 1.2L0-5A DORI RIVER NEAR TAKHTAPUL, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1976	15-Feb	--	90.3				
1977	10-Aug	--	63				
1978	21-Aug	--	154				
1979	12-Feb	--	240				
Annual peak discharge, from highest to lowest							
1979	12-Feb	--	240				
1978	21-Aug	--	154				
1976	15-Feb	--	90.3				
1977	10-Aug	--	63				

4- 1.2L0-5A DORI RIVER NEAR TAKHTAPUL, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1977	0.655	0.01	0.586	0.652	0.931	0.125	0.081	0.197	0.105	1.39	6.36	0.044	0.938
1978	0.011	0.085	0.901	3.68	0.742	0.048	0.053	0.01	0.01	6.47	5.42	0.301	1.5
1979	0.01	0.537	0.339	1.34	9.12	0.658	0.192	0.512	0.229	0.11	0.088	0.084	1.05
1980	0.01	0.061	0.893	5.14	4.6	--	--	--	--	--	--	--	--

4- 1.L00-1A ARGHANDAB RIVER AT QALA-I-BUST

(U.S. Geological Survey identification number: 313000064230000)

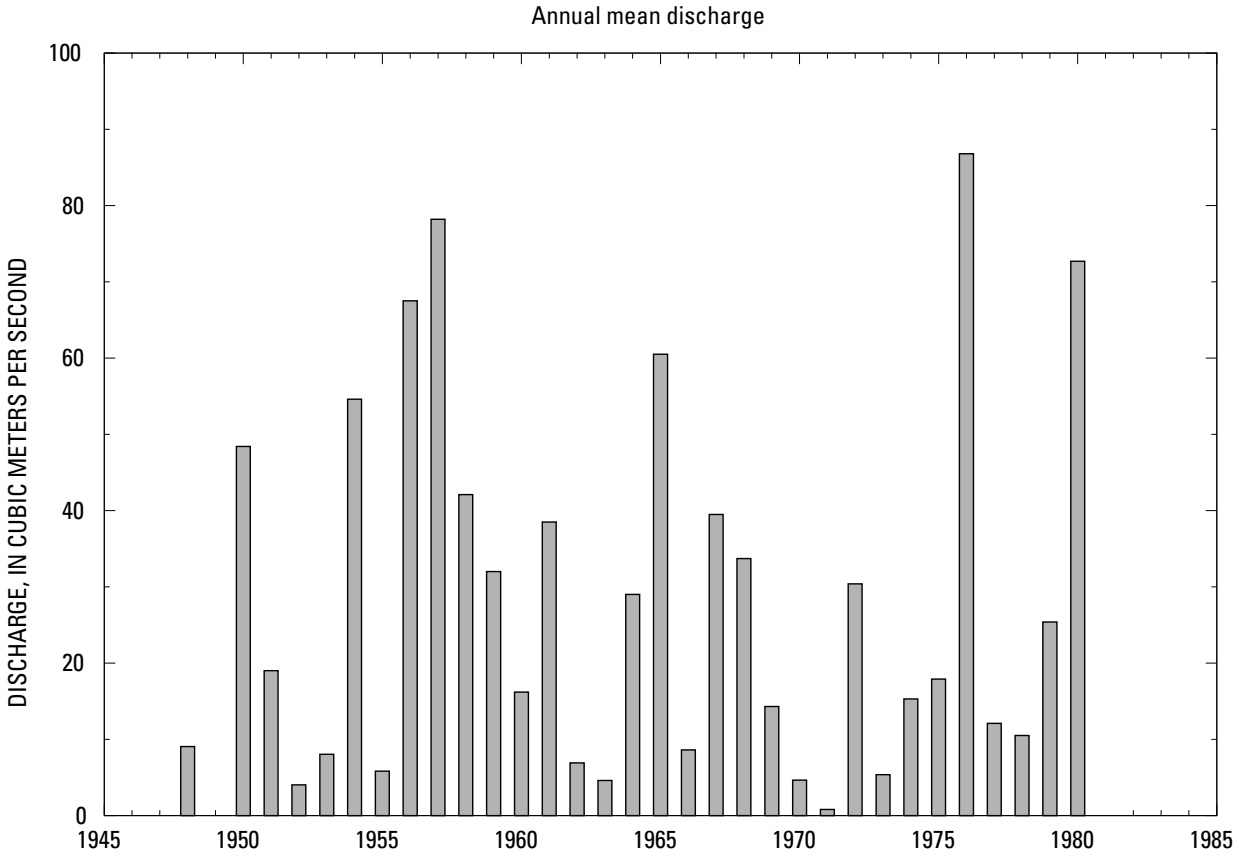
LOCATION: Lat 31º30'N., long 64º23'E., on right bank 3 km northeast of ruins of Qala-i-Bust, 6 km upstream from Helmand River, 8 km southeast of Lashkargah, and 179 km downstream from Arghandab Dam.

DRAINAGE AREA: 52,920 km^2, of which approximately 3,940 km^2 is considered noncontributing.

ALTITUDE: 756 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1947 to September 30, 1980.

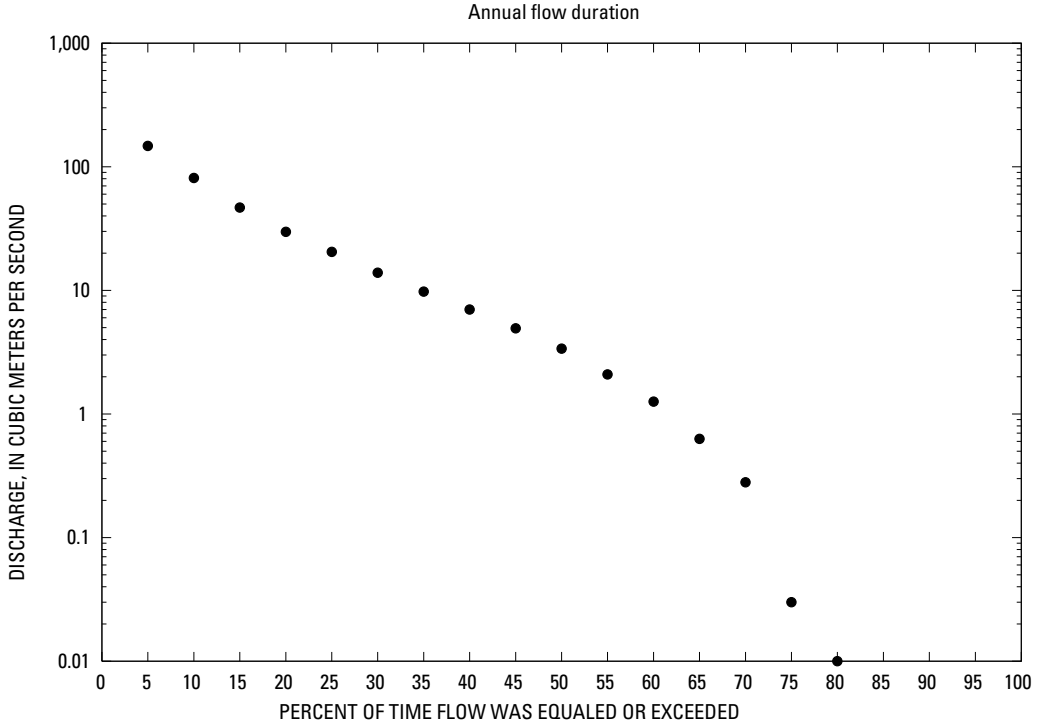
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m³/s, meters per second; m, more than 2 years of occurrence]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	12.1	1957	0	m	1.77	2.86	1.62	0.52
November	19.2	1958	0	m	3.28	4.51	1.38	0.97
December	199	1958	0	m	12.5	34.3	2.74	3.71
January	69.5	1957	0	m	16.9	18.1	1.07	4.99
February	202	1954	0.312	1948	36.8	40.2	1.09	10.9
March	395	1980	1.26	1953	69.8	86.8	1.24	20.7
April	312	1965	0.177	1971	110	112	1.01	32.6
May	211	1965	0.018	1971	55.5	62.1	1.12	16.4
June	70.5	1957	0	m	12.7	18.8	1.49	3.75
July	255	1956	0	m	12.6	44.5	3.52	3.74
August	44.4	1956	0	m	3.76	8.59	2.29	1.11
September	13.9	1976	0	m	1.94	3.49	1.80	0.57
Annual	86.8	1976	0.812	1971	28.2	24.4	0.86	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0	0.07	0.3	0.16	0.01	0	0	0	0	0	0	0	0
90	0	0.82	1.37	0.35	0.13	0	0	0	0	0	0	0	0
85	0	1.67	3.24	3.58	0.63	0	0	0	0	0	0	0	0
80	0.24	2.86	5.12	6.95	1.61	0	0	0	0	0	0	0	0.01
75	0.54	4.26	7.83	13.5	3.49	0.01	0	0	0	0	0	0.02	0.03
70	1.07	5.59	10.6	21.2	6.71	0.03	0	0	0	0	0	0.37	0.28
65	1.86	7.61	16.1	29.8	9.73	0.17	0.01	0.01	0.01	0	0.01	0.67	0.63
60	3.35	9.88	19.6	44	16.2	0.43	0.02	0.01	0.02	0.01	0.16	1.72	1.26
55	5.2	12.1	23.3	58	21.4	0.69	0.02	0.02	0.02	0.02	0.32	2.42	2.09
50	6.92	14.4	28.7	70.8	26.2	1.59	0.14	0.13	0.47	0.28	0.68	3.11	3.38
45	8.68	18.9	34.7	83.1	32.7	3.46	0.27	0.42	0.64	0.37	1.42	4.23	4.93
40	10.5	24.1	41.5	99	40.8	5.98	0.53	0.68	0.9	0.53	2.27	5.26	7
35	13	30.4	49.7	115.9	50.8	8.98	1.37	1.05	1.16	0.77	3	6.13	9.79
30	15.9	37.4	60.1	133.1	66.3	13.9	2.22	1.51	1.35	1.84	4.3	7.81	13.9
25	18.5	44.6	78.4	150.4	83.9	18.9	3.12	2.42	1.53	2.47	5.46	9.97	20.5
20	21.1	54.3	103	180.9	107.5	24	5.63	3.27	3.28	3.51	6.53	11.6	29.8
15	25.9	66.4	126.8	243.9	136.2	29.1	10.7	3.95	4.66	5.47	8.29	13.5	46.8
10	35.5	82.9	202.6	300.6	164.8	36.6	21.8	7.97	6.03	6.3	10.2	20.2	81.3
5	68.8	111.8	320.4	388.7	210.9	57	34	14.7	8.94	7.71	12.1	35.5	147.7

4- 1.L00-1A ARGHANDAB RIVER AT QALA-I-BUST, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	7.48	6.13	4.60	3.66
0.95	1.05	45.8	25.5	19.5	14.4	11.4
0.90	1.11	76.5	45.7	34.0	25.0	19.7
0.80	1.25	137	86.6	63.2	46.3	36.3
0.50	2	372	244	176	129	101
0.20	5	877	547	404	300	234
0.10	10	1,300	767	579	434	339
0.04	25	1,900	1,040	808	614	480
0.02	50	2,380	1,230	977	748	586
0.01	100	2,880	1,400	1,140	879	690
0.005	200	3,390	1,560	1,290	1,010	791
0.002	500	4,080	ng	ng	ng	ng

4- 1.L00-1A ARGHANDAB RIVER AT QALA-I-BUST, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	0	0	0	0	0	0	0	0
0.10	10	0	0	0	0	0	0	0	0	0
0.20	5	0	0	0	0	0	0	0	0	0.021
0.50	2	0.010	0.010	0.010	0.010	0.010	0.029	0.123	0.465	1.16

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0	0	0	0	0	0	0.001	0.124
0.10	10	0	0	0	0	0	0	0.023	0.434
0.20	5	0	0	0.010	0.117	0.002	0.046	0.214	1.70
0.50	2	0.678	0.814	1.32	3.38	2.17	3.27	4.65	14.5
		June-July-August				September-October-November			
0.05	20	0	0	0	0	0	0	0	0
0.10	10	0	0	0	0	0	0	0	0
0.20	5	0	0	0	0	0	0	0	0
0.50	2	0.015	0.017	0.019	0.024	0.040	0.082	0.093	0.115

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1948	9-Mar	--	127	1965	23-Apr	--	955
1950	30-Jan	3.80	1,698	1966	26-Feb	--	100
1951	28-Mar	1.54	273	1967	1-May	--	740
1952	16-Feb	0.97	56.9	1968	28-Feb	--	323
1953	16-Feb	2.11	529	1969	11-Dec	--	120
1954	14-Feb	3.30	1,256	1970	16-Apr	--	60
1955	31-Jan	0.63	28	1971	28-Feb	--	11.6
1956	27-Jul	3.13	990	1972	14-Mar	--	344
1957	6-Apr	2.90	925	1973	27-Jul	--	100
1958	12-Dec	3.02	988	1974	26-Jan	--	203
1959	2-Mar	1.64	256	1975	29-Apr	--	133
1960	18-Apr	1.85	356	1976	9-Apr	--	750
1961	10-Apr	3.80	1,160	1977	11-Jan	--	900
1962	2-Apr	--	156	1978	22-Aug	--	300
1963	16-May	--	328	1979	13-Feb	--	960
1964	8-Jan	--	949	1980	5-Mar	--	1,200
Annual peak discharge, from highest to lowest							
1950	30-Jan	3.80	1,698	1963	16-May	--	328
1954	14-Feb	3.30	1,256	1968	28-Feb	--	323
1980	5-Mar	--	1,200	1978	22-Aug	--	300
1961	10-Apr	3.80	1,160	1951	28-Mar	1.54	273
1956	27-Jul	3.13	990	1959	2-Mar	1.64	256
1958	12-Dec	3.02	988	1974	26-Jan	--	203
1979	13-Feb	--	960	1962	2-Apr	--	156
1965	23-Apr	--	955	1975	29-Apr	--	133
1964	8-Jan	--	949	1948	9-Mar	--	127
1957	6-Apr	2.90	925	1969	11-Dec	--	120
1977	11-Jan	--	900	1973	27-Jul	--	100
1976	9-Apr	--	750	1966	26-Feb	--	100
1967	1-May	--	740	1970	16-Apr	--	60
1953	16-Feb	2.11	529	1952	16-Feb	0.97	56.9
1960	18-Apr	1.85	356	1955	31-Jan	0.63	28
1972	14-Mar	--	344	1971	28-Feb	--	11.6

4- 1.L00-1A ARGHANDAB RIVER AT QALA-I-BUST, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1948	0	0	0	0	0.312	36	56	17	0	0	0	0	9.1
1949	0	0	0	0	--	--	--	--	0	0	0.548	0	--
1950	0	0	0	36.8	81.8	154	195	103	14.8	0.402	0	0	48.4
1951	0	0	0	0	1.84	54.8	90.3	68	12	0.213	0	0	19
1952	0	0	0	0	16.1	15.1	12.5	5.29	0.018	0	0	0	4.04
1953	0	0	0	7.13	89.6	1.26	3.74	0.852	0.79	0	0	0	8.03
1954	0	0.541	3.99	36.2	202	103	190	97.1	23.9	5.27	3.22	3.81	54.6
1955	5.68	8.28	12	22	14.9	5.12	0.295	1.7	0.299	0.013	0	0	5.83
1956	0	0	19.7	14.7	5.68	96.3	269	78	11.5	255	44.4	13.1	67.5
1957	12.1	11	11.8	69.5	81.4	160	300	195	70.5	26.8	3.17	0.633	78.2
1958	5.74	19.2	199	63.1	56.2	34.2	62.5	25.7	14.8	10.5	8.46	5.49	42.1
1959	0.829	7.63	17.9	20.7	39.9	98.7	111	38.1	23.7	19.4	1.94	4.93	32
1960	6.25	11	18.9	10.3	6.87	15.2	41.1	69.9	12.8	0.141	0.135	1.4	16.2
1961	2.78	4.66	6.84	8.1	28.3	51.1	202	114	25.3	9.87	4.06	6.44	38.5
1962	6.63	10.2	10.2	17.3	9.35	11.5	17.9	0.228	0.023	0.005	0	0.01	6.92
1963	0.01	0.011	1.37	0.195	0.781	3.08	11.7	34.3	3.39	0.013	0.01	0.01	4.61
1964	1.52	4.68	6.17	52.5	47.3	74.7	129	30.8	0.896	0.011	0.047	1.29	29
1965	2.47	2.57	3.27	12.6	39.1	72.3	312	211	59.1	5.93	3.33	4.91	60.5
1966	5.51	7.13	16.3	11.8	17.8	8.37	22.1	14.6	0.221	0.292	0.01	0.01	8.62
1967	0	0	0.528	0.531	57.5	14.1	178	181	44.1	2.15	0.034	0	39.5
1968	0	1.4	7.69	15	41.1	158	102	55.6	17.8	2.19	1.71	1.5	33.7
1969	1.88	1.5	29.9	18.5	18.7	25.6	39.8	21.8	9.45	2.77	0.984	0.536	14.3
1970	0.368	2.3	2.9	6.41	4.76	3.23	19.2	11.1	0.752	0.478	2.91	1.67	4.66
1971	0.475	0.989	2.74	1.12	2.48	1.84	0.177	0.018	0	0	0	0	0.812
1972	0	0.002	0.01	9.31	11.3	153	154	35.3	0.002	0	0	0.692	30.4
1973	0.64	0.8	3.98	2.14	2.22	12.7	23.2	2.75	0.003	13	1.69	1.14	5.37
1974	0.598	2.28	1.47	24.5	52.5	57.9	38.6	8.58	0.518	0	0	0	15.3
1975	0	0	3.98	5.31	24.3	43.2	87.3	42.3	1.99	0.227	6.16	0.924	17.9
1976	0.237	0.225	0.508	1.39	49.2	277	418	174	54.3	38	16.2	13.9	86.8
1977	4.21	4.17	5.58	37.5	36	42.6	13.5	0.213	0	0	3.05	0.252	12.1

4- 1.L00-1A ARGHANDAB RIVER AT QALA-I-BUST, Continued

Monthly and annual mean discharges, in cubic meters per second—Continued

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1978	0.39	3.19	19.2	18	21.3	15	3.89	2.71	0	22.7	20.1	0.01	10.5
1979	0.005	4.34	4.83	15	82.7	40.8	133	28.7	0.764	0.022	1.15	0.01	25.4
1980	0.01	0.01	2.48	18.8	34.4	395	294	108	14.6	1.38	0.654	1.4	72.7

4- 1.L00-3A ARGHANDAB RIVER NEAR KANDAHAR

(U.S. Geological Survey identification number: 313700065340000)

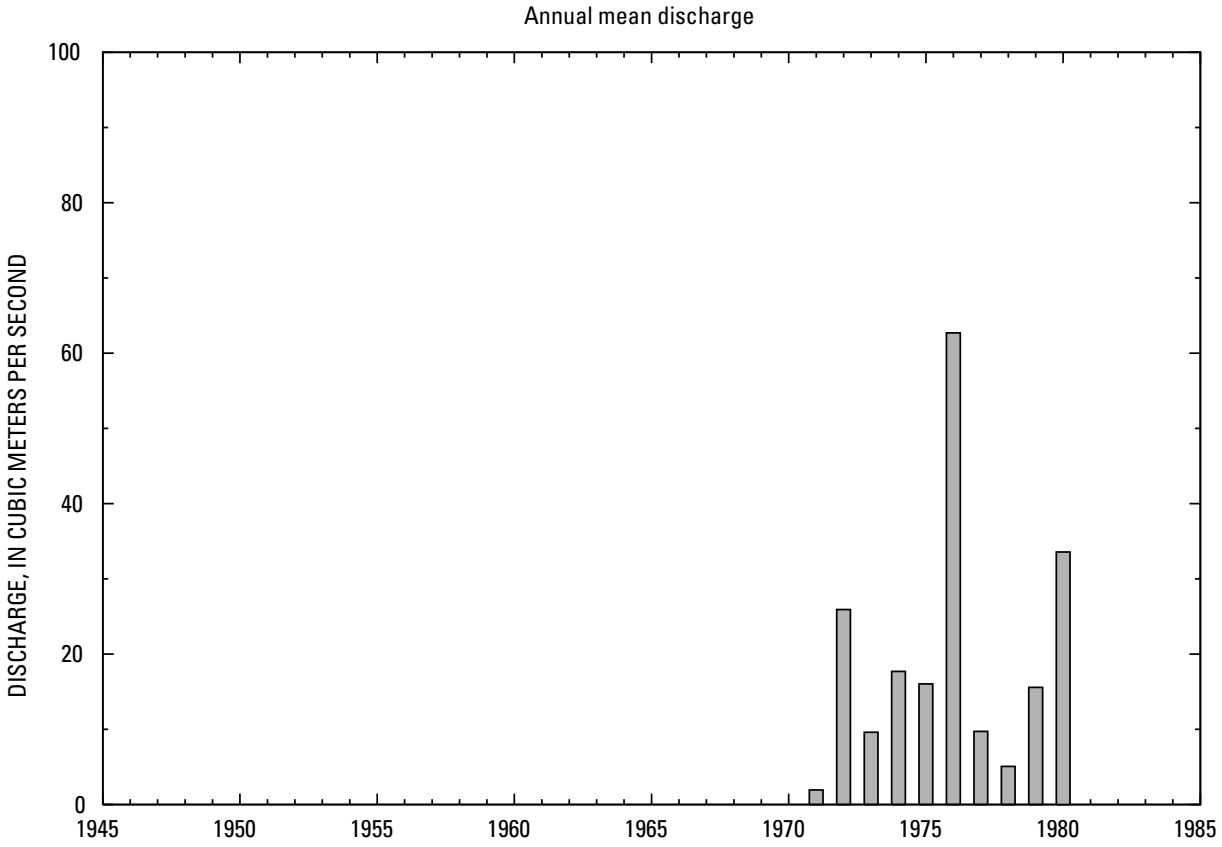
LOCATION: Lat 31º37'N., long 65º34'E.

DRAINAGE AREA: 14,245 km^2.

ALTITUDE: 973 meters plus mean sea level.

PERIOD OF RECORD: December 8, 1969 to September 30, 1980.

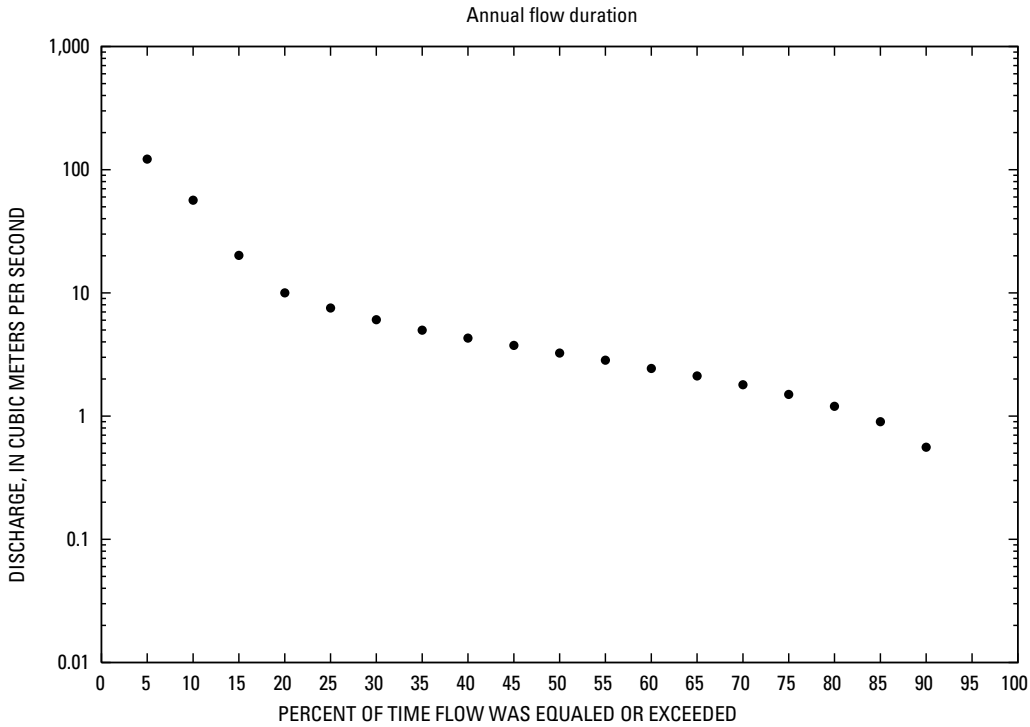
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	12.7	1977	0	1972	3.11	3.55	1.14	1.39
November	8.47	1977	0	1972	3.12	2.44	0.78	1.40
December	5.58	1977	0	1972	2.66	1.90	0.71	1.19
January	4.42	1977	0.005	1973	1.91	1.25	0.66	0.86
February	19.1	1977	0.265	1973	3.86	5.41	1.40	1.73
March	171	1976	0.971	1971	48.4	56.8	1.17	21.7
April	334	1976	2.16	1971	101	97.5	0.97	45.3
May	168	1976	0.811	1971	38.7	48.3	1.25	17.3
June	29.6	1976	1.77	1971	6.37	7.87	1.24	2.85
July	11.9	1976	0.925	1971	5.26	2.83	0.54	2.36
August	11.5	1976	0.013	1971	4.75	2.82	0.59	2.13
September	10.9	1976	0	1971	3.87	2.70	0.70	1.73
Annual	62.7	1976	1.93	1971	19.8	17.8	0.90	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0	0.14	0.37	1.75	0.16	0.49	0.98	0	0.82	0.41	0.4	0.04	0
90	0	0.52	0.7	3.24	1.94	1.43	1.65	1.9	1.78	0.83	0.8	0.09	0.56
85	0.02	0.6	0.98	5.49	2.39	1.71	2.46	2.38	1.98	1.05	0.99	0.4	0.9
80	0.09	0.67	1.38	10.6	3.18	1.97	2.99	2.8	2.17	1.14	1.4	0.88	1.2
75	0.58	0.73	1.67	25.4	5.8	2.26	3.24	3.12	2.33	1.22	1.54	1	1.5
70	0.69	0.79	1.89	37.1	6.56	2.63	3.44	3.38	2.57	1.3	1.63	1.12	1.8
65	0.8	0.89	2.22	44.7	7.66	3.02	3.64	3.65	2.78	1.39	1.72	1.39	2.12
60	0.91	1.01	2.62	57.2	10.4	3.43	3.96	3.86	2.88	1.56	1.82	1.71	2.44
55	1.07	1.2	3.13	66.6	13.8	3.75	4.33	4.04	3.01	2.07	1.9	1.86	2.84
50	1.22	1.31	4.02	76.4	18.4	3.97	4.73	4.23	3.21	2.29	1.98	1.99	3.25
45	1.32	1.47	5.89	87.4	22.4	4.18	5.36	4.41	3.43	2.52	2.16	2.23	3.75
40	1.42	1.72	12.5	99.8	26.8	4.4	5.75	4.59	3.78	2.73	2.91	2.62	4.3
35	1.52	2	20.4	115.7	33.1	4.62	6.06	4.8	4.05	2.9	3.56	3	4.99
30	1.69	2.19	24.8	131	42	5.03	6.37	5.18	4.26	3.07	3.77	3.71	6.06
25	1.87	2.38	56.1	145.9	51.3	6.08	6.68	5.56	4.8	3.23	3.95	3.98	7.54
20	2.12	2.81	79.2	163.3	63.4	7.2	6.99	5.94	5.24	3.38	4.48	4.36	9.99
15	2.47	4.51	104.3	192.5	79.1	8.48	7.35	6.89	5.61	3.78	6.13	4.92	20.2
10	3.47	7.95	181.8	238.1	102.2	10.6	7.84	8.73	6.48	5.82	7.61	5.56	56.6
5	4.16	18.1	275.1	317.5	165.4	18.8	8.6	11.2	11.2	13.6	8.02	6.19	121.9

4- 1.L00-3A ARGHANDAB RIVER NEAR KANDAHAR, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	[1]2.14	2.17	2.11	1.92
0.95	1.05	ng	10.3	9.74	9.01	7.64
0.90	1.11	75.1	21.1	19.4	17.6	14.6
0.80	1.25	102	44.6	40.3	36.2	29.5
0.50	2	177	136	122	110	90.6
0.20	5	290	283	264	242	211
0.10	10	368	367	351	326	297
0.04	25	468	447	440	418	400
0.02	50	541	489	[1]492	474	469
0.01	100	614	[1]521	[1]533	[1]520	[1]531
0.005	200	686	[1]544	[1]565	[1]557	[1]585
0.002	500	780	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 1.L00-3A ARGHANDAB RIVER NEAR KANDAHAR, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	0	0	0	0	0	0	0	0.127
0.10	10	0	0	0	0	0	0	0	0	0.313
0.20	5	0	0	0	0	0	0.276	0.495	0.834	0.771
0.50	2	0.260	0.306	0.344	0.401	0.881	1.36	1.45	1.77	2.51

4- 1.L00-3A ARGHANDAB RIVER NEAR KANDAHAR, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0	0	0	0	0.091	0.096	0.120	0.725
0.10	10	0	0	0	0	0.152	0.191	0.233	1.26
0.20	5	0	0	0	0	0.281	0.418	0.507	2.50
0.50	2	0.329	0.389	0.471	0.881	0.875	1.62	2.10	9.78
		June-July-August				September-October-November			
0.05	20	0	0	0	0.023	0	0	0	0
0.10	10	0.001	0.001	0.012	0.139	0	0	0	0
0.20	5	0.182	0.231	0.532	0.736	0.838	0.953	1.04	1.16
0.50	2	2.04	2.69	3.17	4.44	1.27	1.35	1.49	1.70

4- 1.L00-3A ARGHANDAB RIVER NEAR KANDAHAR, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1970	17-Apr	--	72.9	1976	25-Apr	--	456
1971	27-Nov	--	6.81	1977	11-Aug	--	283
1972	26-Mar	--	295	1978	25-Dec	--	168
1973	6-Apr	--	82.4	1979	2-Apr	--	195
1974	4-Apr	--	168	1980	21-Mar	--	272
1975	5-Apr	--	138				
Annual peak discharge, from highest to lowest							
1976	25-Apr	--	456	1974	4-Apr	--	168
1972	26-Mar	--	295	1975	5-Apr	--	138
1977	11-Aug	--	283	1973	6-Apr	--	82.4
1980	21-Mar	--	272	1970	17-Apr	--	72.9
1979	2-Apr	--	195	1971	27-Nov	--	6.81
1978	25-Dec	--	168				

4- 1.L00-3A ARGHANDAB RIVER NEAR KANDAHAR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1970	--	--	--	2.41	2.56	2.41	29.51	14.17	3.93	4.12	5.33	3.34	--
1971	3.28	5.32	5.57	1.36	0.894	0.971	2.16	0.811	1.77	0.925	0.013	0	1.93
1972	0	0	0	3.17	0.863	91.57	147	58.82	2.4	3.02	2.4	2.06	25.93
1973	1.04	1.2	0.994	0.005	0.265	29.29	59.47	9.47	1.97	4.53	3.93	3.05	9.6
1974	3.11	3.44	1.81	2.94	3.64	68.77	89.99	20.61	4.48	4.34	5.15	3.74	17.7
1975	1.38	1.51	1.62	1	2.83	22.03	90.27	50.61	5.85	5.95	4.07	5.36	16.04
1976	3.36	1.82	2.65	1.5	7.22	171	334	168	29.63	11.93	11.46	10.89	62.69
1977	12.74	8.47	5.58	4.42	19.1	19.22	23.35	4.96	4.74	6.03	6.35	2.6	9.72
1978	2.06	3.86	3.46	1.41	1.92	2.31	17.07	9.41	4.92	6.24	4.05	4.22	5.08
1979	1.97	3.66	3.73	2.03	2.26	7.08	128	25	3.73	3.54	3.82	3.09	15.58
1980	2.11	1.9	1.21	0.772	0.859	118	191	63.63	6.62	7.22	5.67	4.17	33.58

4- 1.L00-4A ARGHANDAB RIVER BELOW ARGHANDAB RESERVOIR

(U.S. Geological Survey identification number: 315000065520000)

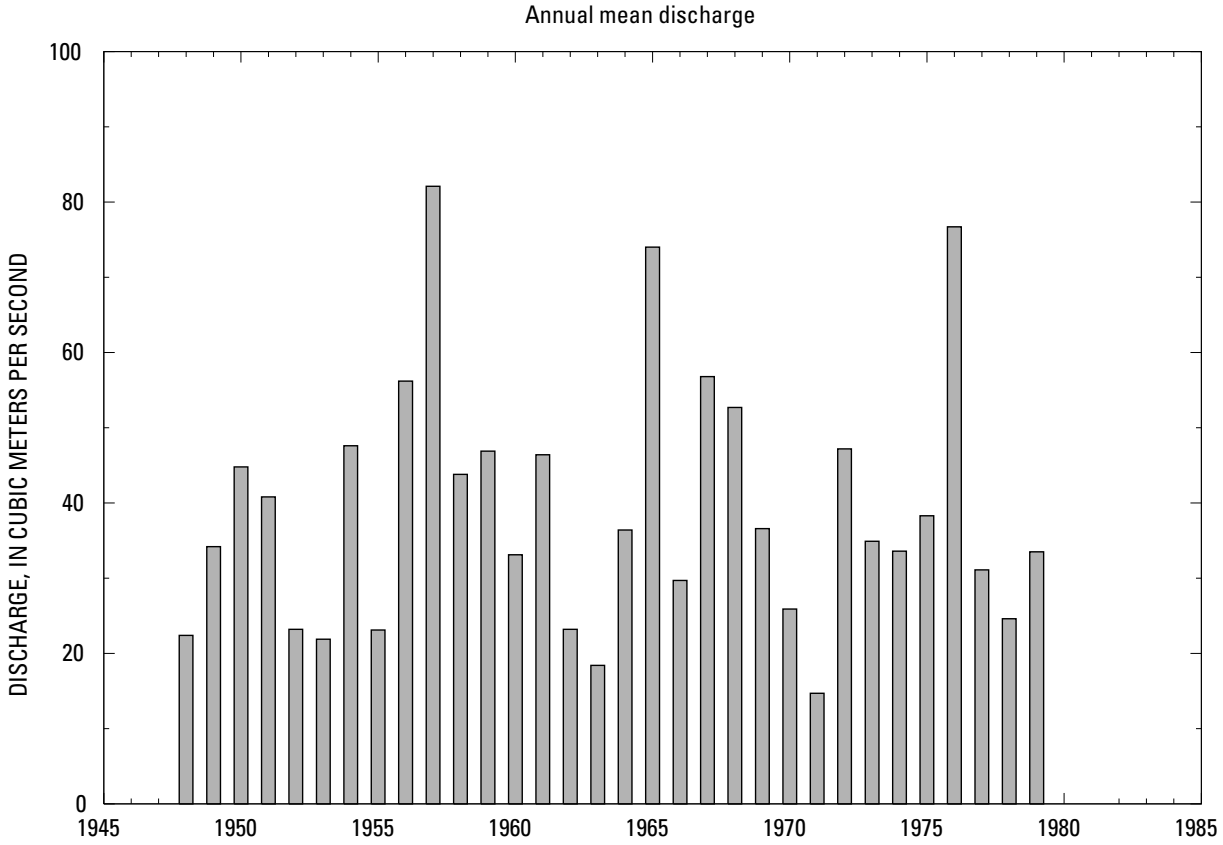
LOCATION: Lat 31º50'N., long 65º52'E., on left bank 3.5 km downstream from Arghandab Dam, 86 km upstream from Dori River, and 181 km upstream from Helmand River.

DRAINAGE AREA: 12,975 km^2.

ALTITUDE: 1,100 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1947 to September 30, 1979.

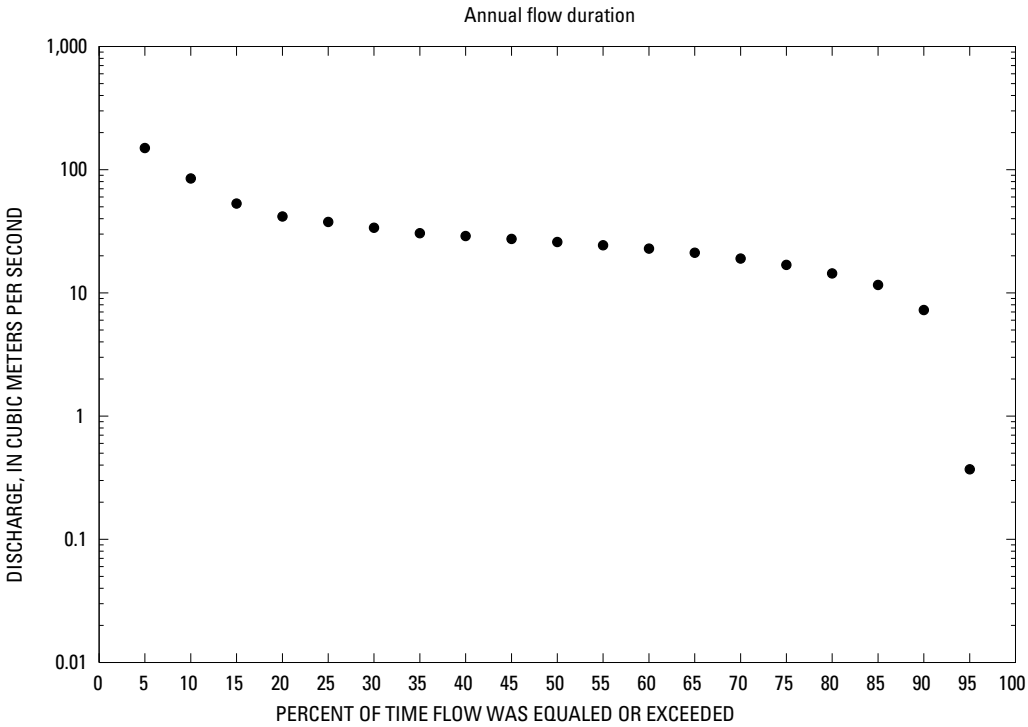
GAGE: Water-stage recorder. December 30, 1947 to December 22, 1951, water-stage recorder 2.5 km upstream at different datum. December 23, 1951 to October 16, 1952, staff gage and concrete control 3 km upstream at different datum.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	31.2	1966	0.859	1972	20.5	8.11	0.40	4.35
November	31.6	1966	4.22	1972	20.8	6.52	0.31	4.42
December	50.6	1958	5.29	1972	20.1	7.73	0.38	4.28
January	53.1	1958	0.285	1979	13.3	13.8	1.04	2.83
February	53.3	1958	0	1972	17.3	13.1	0.76	3.67
March	177	1968	10.1	1963	60.2	45.8	0.76	12.8
April	322	1957	20.7	1962	122	83.8	0.69	26.0
May	235	1967	14.9	1971	80.9	61.1	0.76	17.2
June	91.3	1965	12.6	1948	36.1	17.6	0.49	7.68
July	96.1	1956	6.76	1948	30.4	15.5	0.51	6.46
August	42.7	1956	4.60	1948	26.0	9.72	0.37	5.54
September	35.1	1956	1.87	1971	22.7	9.33	0.41	4.83
Annual	82.1	1957	14.7	1971	39.2	16.7	0.43	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.21	0.02	8.96	20.1	20.5	15.6	9.17	4.57	3.94	4.33	8.93	1.45	0.37
90	0.26	0.28	12.7	26	24.4	18.8	14.4	9.08	8.15	7.8	12.3	11.9	7.26
85	0.29	0.36	15.2	31	27.8	22.4	18.1	13.2	9.42	10.8	13.7	13.3	11.6
80	0.31	0.41	17.4	38.9	32.6	23.8	20.5	18.9	13	12.4	15.2	14.6	14.4
75	0.34	0.46	19.1	45	35.2	25.3	22.3	22	16.9	14.9	16.1	15.8	16.9
70	0.36	6.65	20.9	60.1	37.6	27	23.8	24.8	20.7	17.1	19.1	17	19
65	0.41	9.14	22.6	75.4	39.9	28.3	25.5	26	23.1	19.2	20	17.7	21.2
60	0.51	11.4	24.8	85.6	45.8	29.2	27.7	27.2	24.3	20.7	20.8	18.5	22.9
55	9.3	12.9	27.3	94.1	50.4	30	28.5	28.4	25.1	21.6	21.3	19.2	24.4
50	11.6	14.2	29.8	107	55.9	31	29.3	29.5	25.8	22.5	21.8	20	25.9
45	14.8	15.6	32.9	117.5	60.9	31.9	30.1	30.2	26.5	23.4	22.4	21	27.4
40	15.9	17.5	41.7	127.5	67.6	32.9	30.9	30.8	27.2	24.3	23.2	22.1	29
35	17	19.5	49.1	136.9	77.3	34.5	31.8	31.5	27.9	25.2	24	23.2	30.5
30	18.5	21.7	55.9	148.3	91.8	36.9	32.7	32.2	28.5	26.1	24.8	24.2	33.8
25	21.1	24.5	66.4	161.5	107.7	40.4	33.6	32.8	29.3	27.1	25.5	25.2	37.7
20	23.4	27.2	91.8	183.6	128.3	43.2	34.5	33.5	30.2	28	26.1	26.1	41.7
15	25.4	31.8	123.9	208.4	152.6	51.1	35.7	34.2	31.1	29.3	26.8	27.1	53.1
10	27.5	38	160.9	240.6	183.6	56.7	38.5	34.8	32	30.6	27.8	28	84.9
5	33.2	54.5	224	301.1	233.4	77.1	44.9	37.9	33.8	31.9	30.5	32	150.2

4- 1.L00-4A ARGHANDAB RIVER BELOW ARGHANDAB RESERVOIR, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	19.5	18.8	18.1	17.5	15.9
0.95	1.05	39.5	36.9	34.9	33.1	30.1
0.90	1.11	56.6	52.0	48.6	45.7	41.5
0.80	1.25	86.3	77.3	71.4	66.4	60.0
0.50	2	185	157	142	129	115
0.20	5	375	299	266	236	207
0.10	10	530	409	361	315	275
0.04	25	755	560	491	421	363
0.02	50	941	679	593	504	431
0.01	100	1,140	803	699	588	499
0.005	200	1,350	931	808	673	567
0.002	500	1,660	ng	ng	ng	ng

4- 1.L00-4A ARGHANDAB RIVER BELOW ARGHANDAB RESERVOIR, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	[1]0.015	0.014	0.015	0.055	0.554	1.82	4.28	5.83
0.10	10	0.025	[1]0.054	0.053	0.057	0.160	1.11	3.38	6.11	8.41
0.20	5	0.097	0.165	0.173	0.188	0.420	2.33	6.18	8.82	12.1
0.50	2	0.706	1.06	1.23	1.34	2.14	7.32	13.1	14.8	19.0

[1]Data does not fit log-Pearson Type III curve, use with caution.

Probability of occurrence of seasonal low discharges

[m^3/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.011	0.012	0.013	0.047	0.047	0.926	2.93	10.8
0.10	10	0.043	0.052	0.057	0.158	0.615	3.53	6.08	14.1
0.20	5	0.147	0.196	0.212	0.477	3.55	8.98	12.2	19.4
0.50	2	1.19	1.70	1.82	2.91	19.6	23.6	27.5	36.2
		June-July-August				September-October-November			
0.05	20	0.743	ng	ng	5.84	1.94	2.25	2.61	ng
0.10	10	3.56	ng	ng	9.47	5.17	5.77	6.16	ng
0.20	5	9.92	ng	ng	15.1	10.1	10.9	11.1	ng
0.50	2	24.7	ng	ng	26.7	20.4	21.0	21.0	ng

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1948	8-Mar	1,042.71	359	1964	22-Apr	--	140
1949	11-Mar	1,043.98	792	1965	23-Apr	--	671
1950	28-Jan	1,042.87	416	1966	15-Apr	--	104
1951	7-May	1,042.92	433	1967	29-Apr	--	361
1952	14-Feb	--	144	1968	13-Mar	--	250
1953	16-Apr	1,055.58	44.4	1969	16-Apr	--	153
1954	30-Mar	1,057.35	391	1970	16-Apr	--	113
1955	6-Apr	1,055.92	45.3	1971	4-Apr	--	28.1
1956	3-Apr	1,057.52	286	1972	26-Mar	--	324
1957	6-Apr	1,058.54	637	1973	1-Apr	--	120
1958	19-Apr	1,056.44	99.9	1974	23-Mar	--	175
1959	3-Apr	1,057.02	207	1975	5-Apr	--	170
1960	4-May	1,056.73	143	1976	23-Mar	--	526
1961	20-Apr	1,057.18	258	1977	14-Apr	--	95
1962	22-Dec	--	47	1978	23-Apr	--	85.6
1963	31-May	1,055.89	47.5	1979	3-Apr	--	258
Annual peak discharge, from highest to lowest							
1949	11-Mar	1,043.98	792	1975	5-Apr	--	170
1965	23-Apr	--	671	1969	16-Apr	--	153
1957	6-Apr	1,058.54	637	1952	14-Feb	--	144
1976	23-Mar	--	526	1960	4-May	1,056.73	143
1951	7-May	1,042.92	433	1964	22-Apr	--	140
1950	28-Jan	1,042.87	416	1973	1-Apr	--	120
1954	30-Mar	1,057.35	391	1970	16-Apr	--	113
1967	29-Apr	--	361	1966	15-Apr	--	104
1948	8-Mar	1,042.71	359	1958	19-Apr	1,056.44	99.9
1972	26-Mar	--	324	1977	14-Apr	--	95
1956	3-Apr	1,057.52	286	1978	23-Apr	--	85.6
1979	3-Apr	--	258	1963	31-May	1,055.89	47.5
1961	20-Apr	1,057.18	258	1962	22-Dec	--	47
1968	13-Mar	--	250	1955	6-Apr	1,055.92	45.3
1959	3-Apr	1,057.02	207	1953	16-Apr	1,055.58	44.4
1974	23-Mar	--	175	1971	4-Apr	--	28.1

4- 1.L00-4A ARGHANDAB RIVER BELOW ARGHANDAB RESERVOIR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1948	4.4	7.56	14.7	11.2	13.5	67.2	88.5	35.1	12.6	6.76	4.6	2.79	22.4
1949	5.76	10.6	13.6	15.6	17.7	135	129	42.7	15.6	8.09	10.1	5.13	34.2
1950	9.09	12.5	14.1	43.9	35.8	62.6	156	132	35.6	16.3	11.6	8.98	44.8
1951	10.9	15.4	18.3	17.9	24.2	66.4	124	139	38.2	15.7	9.63	8.95	40.8
1952	12.4	15.2	17.3	18.5	30.1	27.2	46.1	33.5	28.1	21.9	18.6	9.95	23.2
1953	9.75	15.3	15.4	24.5	21.3	18.6	39.8	28.9	23.8	23.1	22.2	20.1	21.9
1954	19.6	18.9	18.1	17.5	16	54.2	192	107	40.4	31.6	28	27	47.6
1955	26.4	25.8	25.5	25.5	21.3	13.2	36.2	30.5	21.6	19.3	18	13.6	23.1
1956	13.3	13	14	12.5	9.15	75	245	88.9	29.5	96.1	42.7	35.1	56.2
1957	26.1	22.8	24.6	34.2	39.8	125	322	203	86.4	49.7	24.8	26.1	82.1
1958	25.6	26.8	50.6	53.1	53.3	49.5	87.5	49.7	42	36.6	33	18.7	43.8
1959	18.2	23.9	23.2	20.9	21.1	97.2	136	72.2	53.5	32.8	31.8	31.7	46.9
1960	29.2	28.1	28.5	21	16.6	22	37.7	101	33	25.5	27.2	26.6	33.1
1961	26.7	26	25.7	25.7	35.1	26.4	136	129	38.1	30.6	29.7	28.9	46.4
1962	28.2	24.9	23.8	24.5	23.8	24.6	20.7	29.2	22.8	21.6	17.3	16.7	23.2
1963	16	15.5	13.2	3.11	12	10.1	21.3	21.9	28.4	26.5	26.8	25.8	18.4
1964	25.1	24.5	19.7	2.87	15.8	49.1	127	53.4	28.9	31	30.4	30	36.4
1965	27.3	20.9	17.7	15	4.56	90.8	286	231	91.3	35.8	33.5	31.7	74
1966	31.2	31.6	29.7	21.3	5.94	21.5	58.3	40.3	31.7	30.6	29.1	23.6	29.7
1967	22.6	19.9	13.6	5.68	2.79	24	204	235	67.4	29	29.9	25.5	56.8
1968	22.5	24.4	26	6.21	23	177	140	88.4	36.9	30.1	28.4	28.1	52.7
1969	26	21.9	17.6	0.34	34.6	75.5	85.5	58.5	33.2	29.2	30.2	26.8	36.6
1970	23.2	22	14.6	0.396	4.85	15.9	66.3	44.9	32.2	31.1	29.9	24.9	25.9
1971	24.3	24.7	23.5	0.29	10.1	18.3	26.2	14.9	15.8	14	2.24	1.87	14.7
1972	0.859	4.22	5.29	0.948	0	111	200	110	31.4	36.3	35.3	31.5	47.2
1973	27.9	25.4	18	0.397	13	68.5	104	46	28.9	24.1	32.8	29.9	34.9
1974	27.7	27.1	14.8	0.599	3.54	88.4	84.1	41.4	29	30	31	24.1	33.6
1975	19.3	21.1	22.1	0.473	5.33	50.1	130	78	34.1	34.9	32.6	30	38.3
1976	24.2	21.5	21	0.326	9.73	175	312	179	52.3	51.1	39.1	33.7	76.7

4- 1.L00-4A ARGHANDAB RIVER BELOW ARGHANDAB RESERVOIR, Continued

Monthly and annual mean discharges, in cubic meters per second—Continued

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1977	28.4	31.5	23.9	0.3	27.7	53.1	55.2	34.9	28.9	34.7	29.7	25.6	31.1
1978	20.7	19.5	15.3	0.342	0.4	18.6	51	39.8	33.2	34.3	32.5	28.7	24.6
1979	21.8	21.7	20	0.285	0.339	14	157	48.6	30.4	32.8	30.2	25.2	33.5

4- 1.L00-5A ARGHANDAB RIVER ABOVE ARGHANDAB RESERVOIR

(U.S. Geological Survey identification number: 315700066020000)

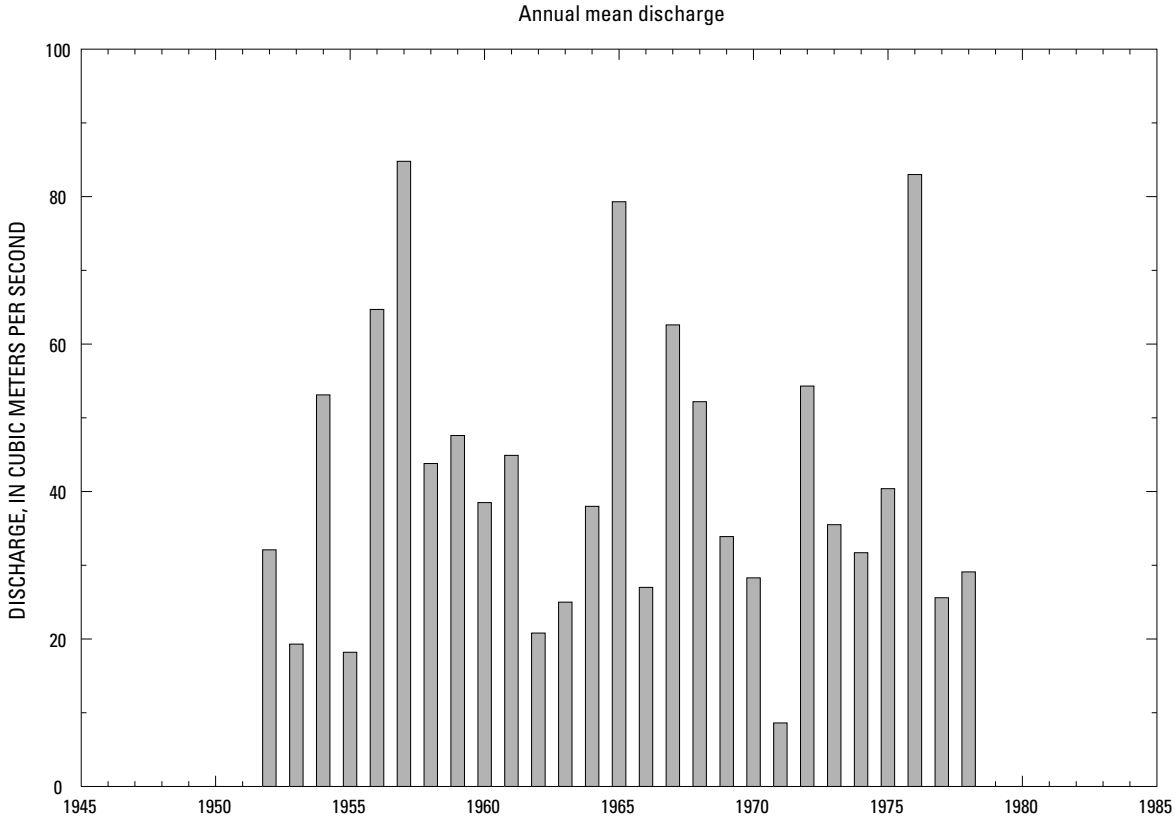
LOCATION: Lat 31º57'N., long 66º02'E., on right bank 44 km upstream from Arghandab Dam and about 64 km northeast of Kandahar.

DRAINAGE AREA: 11,525 km^2 (from Survey of India maps).

ALTITUDE: 1,154 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1951 to March 31, 1979.

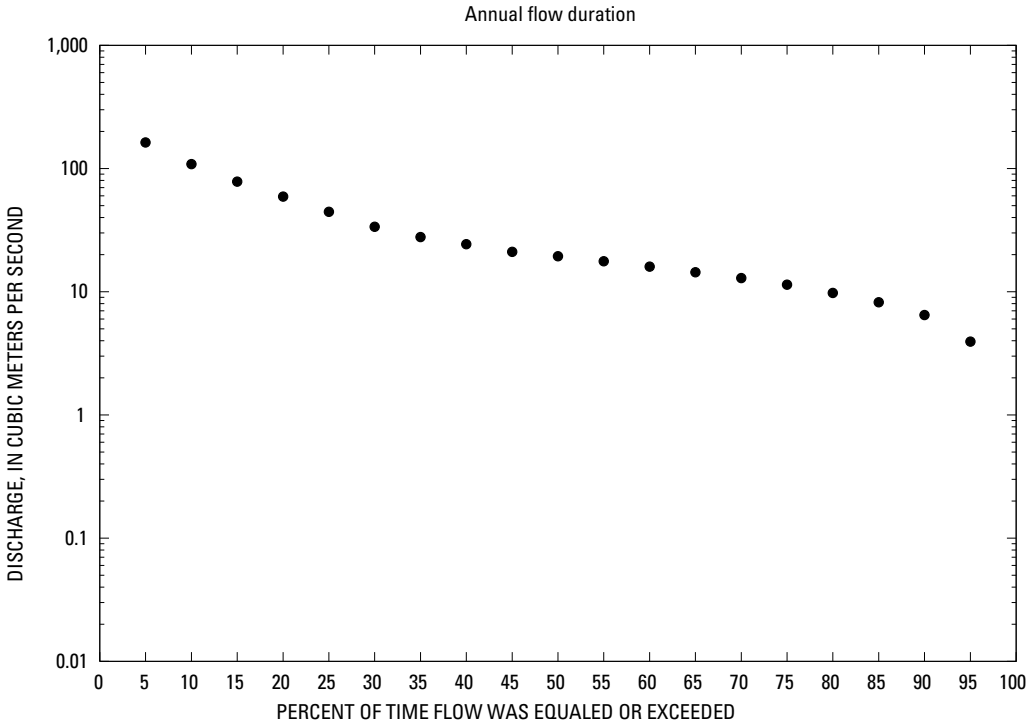
GAGE: Water-stage recorder. Prior to January 13, 1952, staff gage at same site and datum; January 13, 1952 to August 7, 1958, water-stage recorder at site about 0.8 km downstream at datum 14 m lower.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	18.7	1966	1.08	1972	11.1	4.10	0.37	2.24
November	41.8	1958	6.87	1972	17.1	6.61	0.39	3.43
December	59.1	1969	7.85	1972	21.4	10.9	0.51	4.30
January	57.3	1958	13.0	1963	23.4	9.39	0.40	4.71
February	82.8	1954	12.7	1963	39.9	18.1	0.45	8.02
March	216	1972	20.5	1963	95.1	57.9	0.61	19.1
April	333	1976	13.7	1971	138	89.4	0.65	27.8
May	230	1965	3.03	1971	81.8	60.6	0.74	16.4
June	90.2	1965	0.505	1971	29.2	22.4	0.77	5.87
July	104	1956	0.001	1971	21.5	21.3	0.99	4.31
August	28.7	1956	0.123	1971	11.0	6.95	0.63	2.21
September	18.2	1957	0.460	1971	8.01	4.39	0.55	1.61
Annual	84.8	1957	8.61	1971	41.6	20.0	0.48	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	13	15	19.7	26.5	14.7	6.09	2.69	2.01	2.15	4.18	8.37	11.5	3.94
90	13.7	16.4	23.4	39.7	19	7.91	4.22	2.97	2.87	6.12	9.88	13.5	6.46
85	14.6	17.4	35.2	53.2	23.9	9.43	5.35	3.54	3.42	6.98	11.2	14.1	8.21
80	15.5	18.6	41.6	63.1	28.8	11	6.26	3.91	4.05	7.71	12.1	14.7	9.79
75	16.5	20.2	46.2	70	33.9	12.7	7.21	5.31	5.15	8.29	12.7	15.2	11.4
70	17.2	21.7	50.7	78.4	39.1	14.5	8.25	5.91	5.56	8.87	13.2	15.7	12.9
65	17.9	22.9	56.5	86.2	44.4	16.4	9.3	6.49	5.96	9.44	13.6	16.3	14.4
60	18.6	24.2	62	93.7	51.3	18.4	10.7	7.28	6.33	9.93	14	16.8	16
55	19.3	25.7	68.7	102.3	56.4	21	12.1	8.2	6.69	10.4	14.6	17.5	17.7
50	20	29.1	75.8	113.5	61.6	23.6	13.6	9.06	7.08	10.9	15.3	18.2	19.4
45	20.6	33.8	82.4	125.5	67	25.9	15	9.83	7.67	11.4	16.3	19	21.1
40	21.4	37.7	90.1	135.9	73.2	28.1	16.5	10.5	8.27	11.9	17.3	19.6	24.3
35	22.2	40.3	98.1	148.2	80.8	30.2	18.4	11.2	9.12	12.5	18.2	20.2	27.8
30	23.1	45.2	106.6	162.2	92.5	32.4	20.9	12	9.92	13.2	19.1	20.9	33.7
25	24.3	53.2	118.2	181.3	109.4	36.7	23.4	12.9	10.6	13.9	20.1	22.3	44.5
20	26.2	58.1	135.1	201.9	129	41.2	27.3	17.4	11.3	14.5	21.1	23.8	59.2
15	30.3	63	157.3	230.2	150.9	48.7	31.4	18.9	12.9	15.4	22.8	25.3	78.3
10	35.5	73.6	196	270.3	181.7	61.1	39.3	21.2	14.8	17.2	24.9	28.7	108.5
5	53.3	96	255.2	333.2	233.6	84.9	55.3	25.4	17.5	19	28.2	38.6	163.1

4- 1.L00-5A ARGHANDAB RIVER ABOVE ARGHANDAB RESERVOIR, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	24.9	23.9	23.4	21.1
0.95	1.05	120	53.7	47.7	42.7	39.4
0.90	1.11	150	77.3	66.6	58.6	53.5
0.80	1.25	195	115	96.8	83.9	75.8
0.50	2	320	219	181	154	137
0.20	5	520	359	302	259	228
0.10	10	668	441	379	328	288
0.04	25	871	529	470	411	360
0.02	50	1,030	584	531	470	410
0.01	100	1,200	631	587	525	458
0.005	200	1,380	672	639	577	504
0.002	500	1,630	ng	ng	ng	ng

[1]Historic peak of 1939 not used.

4- 1.L00-5A ARGHANDAB RIVER ABOVE ARGHANDAB RESERVOIR, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	[1]120	183
0.05	20	0.805	0.845	0.919	1.08	1.56	1.91	[1]1.15	ng	2.79
0.10	10	1.96	2.02	2.12	2.32	2.86	3.44	[1]2.53	ng	4.78
0.20	5	3.19	3.24	3.36	3.57	4.08	4.84	5.23	ng	8.01
0.50	2	6.22	6.28	6.40	6.56	6.96	8.04	11.1	ng	14.9

[1]Data does not fit log-Pearson Type III curve, use with caution.

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	9.49	9.94	10.3	11.0	5.54	6.36	7.32	9.93
0.10	10	10.7	11.1	11.5	12.1	8.88	10.1	11.8	16.1
0.20	5	12.2	12.6	13.2	13.8	14.5	16.4	19.4	27.0
0.50	2	15.7	16.3	17.1	17.9	29.9	33.8	40.7	57.8
		June-July-August				September-October-November			
0.05	20	1.13	1.22	1.40	1.83	1.50	1.63	1.73	2.01
0.10	10	2.13	2.28	2.50	2.99	2.51	2.65	2.78	3.12
0.20	5	3.39	3.59	3.84	4.38	3.65	3.80	3.95	4.33
0.50	2	6.84	7.15	7.46	8.15	6.42	6.56	6.75	7.19

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1939	--	1,118.00	1,190	1965	23-Apr	--	603
1952	14-Feb	1,115.41	203	1966	14-Apr	--	181
1953	12-Feb	1,116.00	354	1967	27-Apr	--	561
1954	30-Mar	1,116.10	399	1968	25-Feb	--	356
1955	15-Mar	1,115.76	279	1969	10-Dec	--	250
1956	28-Jul	1,117.23	841	1970	26-Mar	--	135
1957	17-Mar	1,117.54	1,010	1971	27-Mar	--	24.7
1958	19-Nov	--	255	1972	12-Mar	--	500
1959	2-Mar	--	337	1973	20-Jul	--	175
1960	17-Apr	1,119.71	323	1974	14-Jan	--	190
1961	9-Apr	--	620	1975	27-Dec	--	248
1962	21-Apr	--	97	1976	23-Mar	--	581
1963	13-May	--	495	1977	9-Jan	--	195
1964	17-Feb	--	298	1978	21-Aug	--	436
Annual peak discharge, from highest to lowest							
1939	--	1,118.00	1,190	1960	17-Apr	1,119.71	323
1957	17-Mar	1,117.54	1,010	1964	17-Feb	--	298
1956	28-Jul	1,117.23	841	1955	15-Mar	1,115.76	279
1961	9-Apr	--	620	1958	19-Nov	--	255
1965	23-Apr	--	603	1969	10-Dec	--	250
1976	23-Mar	--	581	1975	27-Dec	--	248
1967	27-Apr	--	561	1952	14-Feb	1,115.41	203
1972	12-Mar	--	500	1977	9-Jan	--	195
1963	13-May	--	495	1974	14-Jan	--	190
1978	21-Aug	--	436	1966	14-Apr	--	181
1954	30-Mar	1,116.10	399	1973	20-Jul	--	175
1968	25-Feb	--	356	1970	26-Mar	--	135
1953	12-Feb	1,116.00	354	1962	21-Apr	--	97
1959	2-Mar	--	337	1971	27-Mar	--	24.7

4- 1.L00-5A ARGHANDAB RIVER ABOVE ARGHANDAB RESERVOIR, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1952	9.66	13.5	17	18.3	33.8	77.1	115	51.3	18	12.9	10.6	8.72	32.1
1953	9.69	13.3	14.5	14.3	47.8	50.4	37.8	21.4	13.7	4.63	3.25	3.55	19.3
1954	6.28	10.1	12.8	19.8	82.8	137	191	104	34.3	21.4	12.3	9.97	53.1
1955	13.4	17.6	18.1	18.8	16.6	50.3	30.8	29.8	12.2	4.37	3.04	2.4	18.2
1956	5.88	9.56	21.9	20.7	34	172	248	84.3	32	104	28.7	14.2	64.7
1957	17.3	21.8	19.3	34.8	61	162	331	206	86.4	40.8	21.5	18.2	84.8
1958	18.6	41.8	54.1	57.3	62.3	73.8	96.5	58.5	24.5	22.2	9.77	7.73	43.8
1959	12.1	16.6	20.9	21.8	31.4	187	138	68.4	28.9	24.2	9.87	10.3	47.6
1960	11.8	24.1	26.8	21.6	24.1	40.5	133	110	34.8	18.5	9.51	8.34	38.5
1961	12.4	18	16.5	16.9	19.5	45.8	212	119	38.2	21	11.8	9.87	44.9
1962	13.3	20.1	20.9	17.9	18.4	32.3	70.9	34.6	8.82	5.74	3.36	3.16	20.8
1963	8.96	10.4	13.8	13	12.7	20.5	58.7	104	33.9	9.67	6.65	6.38	25
1964	8.92	14.1	15.6	18.4	43.2	98.5	145	66.2	21.6	12.3	7.07	6.26	38
1965	10.3	13.6	17	33.8	76.4	116	291	230	90.2	38.7	21.9	15.9	79.3
1966	18.7	24.2	26.8	23.8	34	45.2	69.9	45.1	17.1	8.67	5.89	5.68	27
1967	9.06	14.1	14.9	13.8	49	86.4	242	192	68.6	30.1	19	12.6	62.6
1968	16.4	20.4	23.5	28.9	51.6	187	137	86.2	38.4	16.9	10.5	9.83	52.2
1969	13.3	17.3	59.1	32.9	38.3	73.8	83	48.4	20.2	8.29	6.18	6.64	33.9
1970	9.87	23	19.5	28.8	23.3	64	90.4	42	13.7	7.65	10.7	6.32	28.3
1971	8.58	12.9	14	13.7	15.9	20.8	13.7	3.03	0.505	0.001	0.123	0.46	8.61
1972	1.08	6.87	7.85	17.7	25.1	216	202	109	29.3	16.5	10.5	8.61	54.3
1973	11.7	16.3	23.8	23.7	50	103	104	41.5	12.8	29	6.59	5.95	35.5
1974	9.06	13.5	15.5	22.2	46.3	127	87	34.9	12.2	6.66	3.56	3.94	31.7
1975	8.87	12.3	22.8	23.2	44	101	134	75.7	29.1	15.2	13.3	6.88	40.4
1976	11.9	16.4	19.7	20.5	60	204	333	189	51.4	55.1	19.6	15.7	83
1977	17.5	21.8	22.8	38.7	49.9	53.1	56.2	21.6	8.79	4.91	10.9	3.06	25.6
1978	5.98	15.8	24.3	20.1	30.4	64	80	32.2	9.37	40.1	21.2	5.67	29.1
1979	11	18.4	16.3	20.7	36.4	55.4	--	--	--	--	--	--	--

4- 1.L00-6A ARGHANDAB RIVER AT MIZAN

(U.S. Geological Survey identification number: 321000066270000)

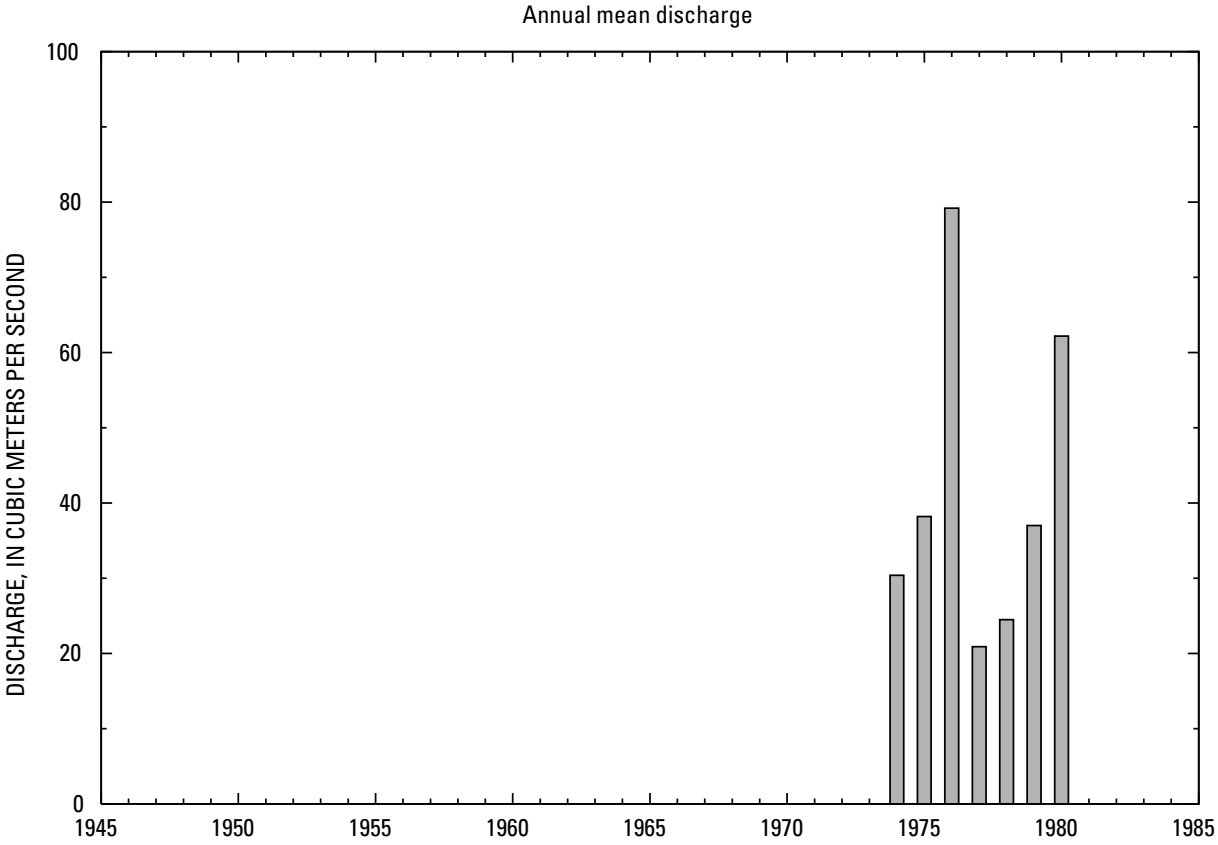
LOCATION: Lat 32º10'N., long 66º27'E.

DRAINAGE AREA: 9,310 km^2.

ALTITUDE: 1,312 meters plus mean sea level.

PERIOD OF RECORD: February 12, 1972 to September 30, 1980.

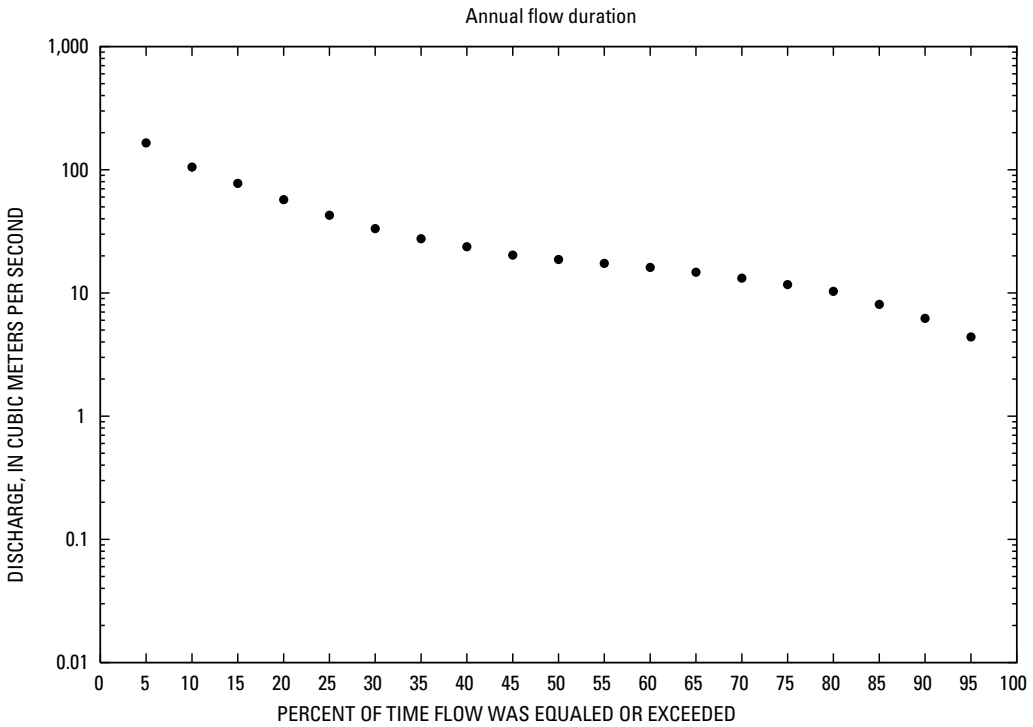
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	16.3	1980	4.35	1978	10.6	4.39	0.41	2.17
November	24.2	1980	9.86	1978	15.3	5.03	0.33	3.13
December	28.8	1980	12.8	1978	18.3	5.18	0.28	3.73
January	28.9	1980	14.8	1979	21.0	5.17	0.25	4.28
February	57.8	1976	26.2	1978	39.7	11.5	0.29	8.11
March	195	1976	46.0	1977	96.9	48.7	0.50	19.8
April	323	1976	50.0	1977	152	98.9	0.65	31.1
May	182	1976	17.1	1977	70.8	56.4	0.80	14.5
June	47.8	1976	6.18	1978	22.4	16.8	0.75	4.57
July	51.0	1976	4.19	1977	22.7	15.5	0.68	4.63
August	18.4	1976	4.21	1974	12.0	5.91	0.49	2.46
September	14.8	1976	2.67	1977	8.01	4.28	0.53	1.64
Annual	79.2	1976	20.9	1977	41.8	21.3	0.51	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	13.4	16.3	36.3	46.7	12.1	5.46	2.72	2.64	2.55	4.01	8.3	7.87	4.39
90	14.2	19.2	42.5	57.4	15.5	6.06	4.17	3.94	3.05	4.46	9.96	9.02	6.23
85	14.8	20.6	45.2	64	18	6.63	5.44	4.18	4.29	5.61	10.2	13.4	8.08
80	15.2	22.8	48.1	69.1	22.5	7.28	5.9	4.57	4.53	6.45	10.8	14.3	10.3
75	15.6	23.7	52.5	75	28	8.06	6.53	5.75	5.05	7.51	11.3	15	11.7
70	16	26.1	58.2	83.4	32	8.75	7.76	6.34	5.54	8.07	12.1	15.5	13.2
65	16.4	27.5	65.8	88.4	38.3	10.3	11.6	7.48	5.67	8.51	12.6	15.9	14.7
60	17	30.6	76.5	99	41.3	11.7	13.9	8.47	5.79	9	13.1	16.3	16.1
55	17.9	32.7	83.9	110.9	44.8	12.5	15.7	9.66	6.1	9.81	13.8	17	17.4
50	18.9	34.4	87.7	119.4	49.6	14.9	17	11.3	6.55	10.1	14.8	17.5	18.7
45	19.5	36	90.6	126.8	57.1	21.2	17.7	12.5	6.93	10.9	15.4	18	20.3
40	20.3	40.1	94.8	134.2	67.5	23.9	18.5	13	7.3	11.5	16	18.4	23.7
35	22.4	42.4	100.8	153.5	77.1	26	19.2	13.6	9.78	11.9	17	18.7	27.6
30	23.5	44.5	106	181.5	87.3	28.7	20.6	14.9	10.3	12.5	18.4	19.2	33.3
25	25.8	48	115	203.4	95.6	31.1	22.2	16	10.7	13.6	19	19.8	42.7
20	26.7	54.1	120.9	230.1	103.9	33.2	24.4	17.1	11.1	15	19.3	20.9	57.2
15	28.8	57.8	130.4	292	117.7	37.6	27.4	17.9	12.6	16.1	20.7	26.3	77.4
10	30.3	67.1	152.5	326	162.2	48.8	32.9	18.7	14	17.6	23.4	28.3	105.2
5	31.5	87.8	234.2	358.2	210.6	64.4	83.3	21	16.7	18.3	25.2	29.9	165.3

4- 1.L00-6A ARGHANDAB RIVER AT MIZAN, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	74.1	46.1	37.2	31.3	28.3
0.95	1.05	104	74.4	59.5	51.0	46.2
0.90	1.11	125	94.9	76.2	66.0	59.6
0.80	1.25	158	126	102	89.7	80.7
0.50	2	252	211	179	160	142
0.20	5	413	340	308	281	244
0.10	10	541	430	408	376	322
0.04	25	727	[2]545	548	510	429
0.02	50	884	[2]631	662	619	515
0.01	100	1,060	[2]718	783	737	606
0.005	200	1,250	[2]805	912	863	702
0.002	500	1,530	ng	ng	ng	ng

[1]Less than 10 years of data used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

4- 1.L00-6A ARGHANDAB RIVER AT MIZAN, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	1.40	1.41	1.45	1.64	2.16	2.72	3.15	3.53	5.05
0.10	10	2.02	2.06	2.13	2.32	2.79	3.41	4.00	4.54	6.26
0.20	5	3.01	3.10	3.20	3.39	3.74	4.47	5.26	6.03	7.97
0.50	2	5.63	5.82	5.99	6.16	6.32	7.38	8.64	9.84	12.1

4- 1.L00-6A ARGHANDAB RIVER AT MIZAN, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	7.09	7.30	7.59	11.8	7.50	8.34	9.64	15.1
0.10	10	8.51	8.74	9.06	12.5	10.0	11.0	12.7	19.0
0.20	5	10.5	10.7	11.1	13.5	14.2	15.3	17.8	25.5
0.50	2	14.8	15.2	15.7	16.4	27.2	29.5	34.0	47.4
		June-July-August				September-October-November			
0.05	20	1.45	1.52	1.70	2.15	1.97	1.97	2.09	2.53
0.10	10	2.14	2.27	2.49	3.00	2.62	2.63	2.75	3.12
0.20	5	3.30	3.54	3.82	4.39	3.59	3.62	3.73	4.01
0.50	2	6.81	7.25	7.70	8.48	5.98	6.10	6.20	6.39

4- 1.L00-6A ARGHANDAB RIVER AT MIZAN, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1973	5-Apr	--	166	1977	12-Aug	--	117
1974	24-Mar	--	175	1978	5-Jul	--	500
1975	4-Apr	--	193	1979	14-Apr	--	261
1976	23-Mar	--	560	1980	20-Apr	--	400
Annual peak discharge, from highest to lowest							
1976	23-Mar	--	560	1975	4-Apr	--	193
1978	5-Jul	--	500	1974	24-Mar	--	175
1980	20-Apr	--	400	1973	5-Apr	--	166
1979	14-Apr	--	261	1977	12-Aug	--	117

4- 1.L00-6A ARGHANDAB RIVER AT MIZAN, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1973	--	--	--	--	--	101	106	40.1	11.8	24.6	6.26	5.79	--
1974	8.48	12.1	14.5	20.1	42	121	86.9	35.4	10.7	6.02	4.21	4.45	30.4
1975	8.34	11	18.2	20.1	37.9	94	133	75	26.2	15.2	13.2	6.98	38.2
1976	10.7	14.6	18.1	18.5	57.8	195	323	182	47.8	51	18.4	14.8	79.2
1977	16.4	18.7	19.4	27.1	38.5	46	50	17.1	7.11	4.19	5.42	2.67	20.9
1978	4.35	9.86	12.8	17.2	26.2	58.6	74.1	25.5	6.18	36.8	17.1	5.78	24.5
1979	9.83	16.7	16.1	14.8	26.4	50.4	166	68.4	23.1	22.7	18.1	12.5	37
1980	16.3	24.2	28.8	28.9	49.3	109	278	123	46	20.8	13.5	11.1	62.2

4- 1.L00-9A ARGHANDAB RIVER AT SANG-I-MASHA

(U.S. Geological Survey identification number: 330800067280000)

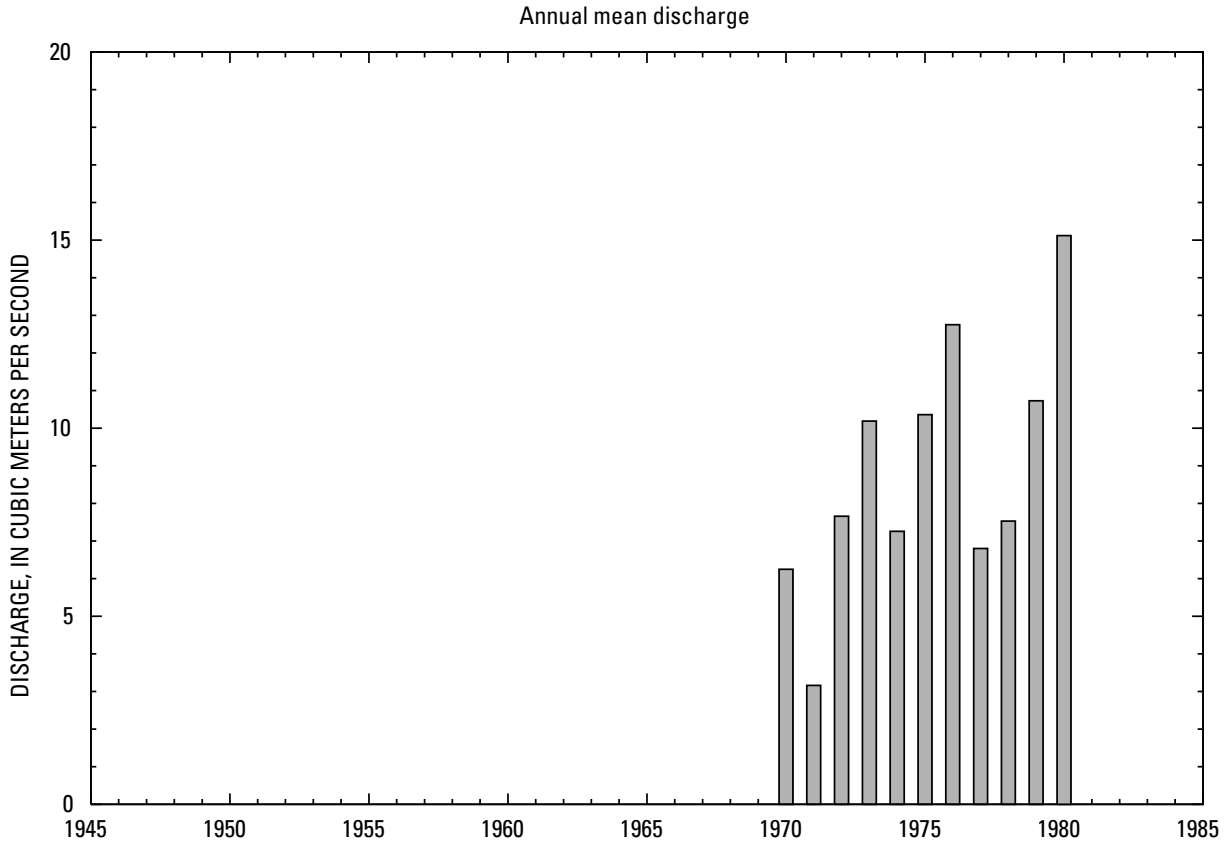
LOCATION: Lat 33º08'N., long 67º28'E.

DRAINAGE AREA: 2,155 km^2.

ALTITUDE: 2,302 meters plus mean sea level.

PERIOD OF RECORD: June 22, 1969 to September 30, 1980.

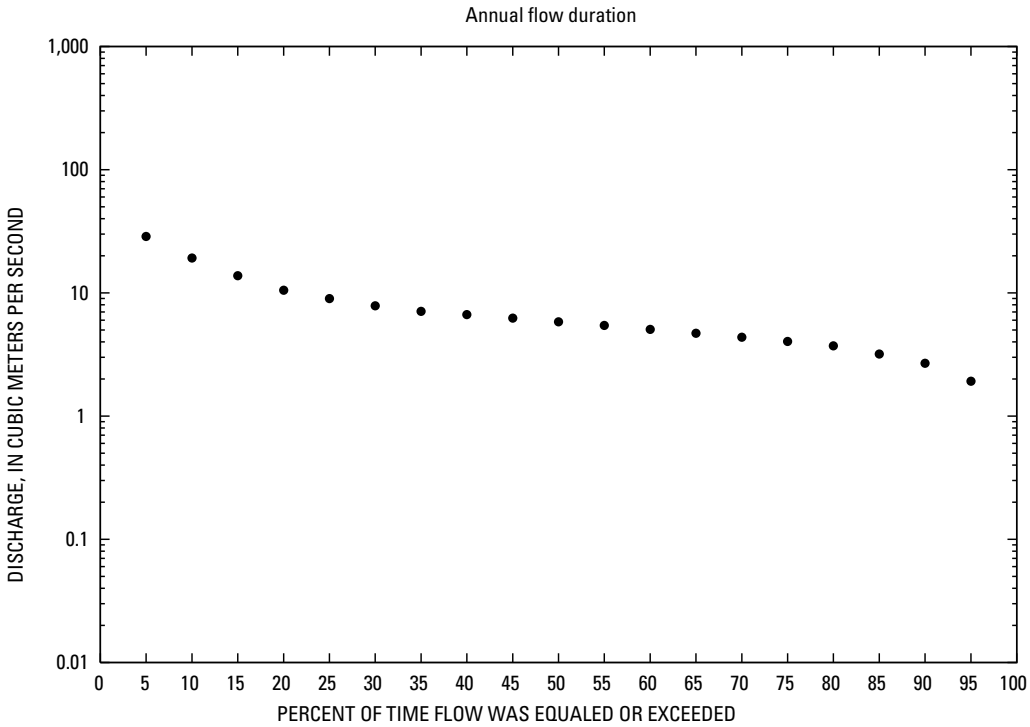
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	8.92	1980	2.59	1972	4.90	1.80	0.37	4.60
November	10.4	1980	3.77	1972	6.12	2.19	0.36	5.74
December	10.3	1980	4.25	1971	6.10	1.84	0.30	5.72
January	9.54	1980	3.78	1971	5.87	1.80	0.31	5.51
February	10.2	1980	3.84	1971	6.15	1.89	0.31	5.77
March	20.2	1973	5.54	1971	12.0	4.41	0.37	11.2
April	59.4	1980	5.97	1971	29.3	15.4	0.53	27.5
May	58.9	1976	2.11	1971	15.3	9.30	0.61	14.3
June	10.1	1980	0.775	1971	5.57	3.09	0.56	5.23
July	17.0	1976	0.632	1971	6.33	5.34	0.84	5.95
August	11.6	1976	1.80	1971	4.95	2.99	0.60	4.65
September	7.50	1976	1.15	1971	3.98	1.93	0.48	3.73
Annual	15.1	1980	3.16	1971	8.89	3.33	0.37	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	3.74	3.71	4.57	6.53	2.42	0.71	0.62	1.26	1.29	2.77	3.49	4.13	1.92
90	3.86	3.83	5.7	12.9	3.72	1.63	1.06	1.76	1.71	2.89	3.92	4.31	2.68
85	4.05	4.11	6.51	15	5.19	2.44	1.83	1.96	2.15	3.29	4.05	4.35	3.19
80	4.14	4.29	6.74	16.2	5.82	2.79	2.06	2.44	2.47	3.52	4.21	4.39	3.72
75	4.21	4.6	6.96	17.2	6.47	3.03	2.39	2.55	2.68	3.73	4.38	4.54	4.04
70	4.44	4.9	7.66	18.7	7.35	3.2	2.83	2.65	2.83	3.86	4.45	4.6	4.37
65	4.9	5.27	8.01	19.9	9.13	3.74	3.29	2.99	3.01	3.96	4.53	4.66	4.71
60	5.22	5.58	8.45	20.9	10.4	4.1	3.67	3.27	3.18	4.09	4.96	4.84	5.05
55	5.29	5.76	9.1	22.3	11.6	4.52	3.87	3.56	3.3	4.23	5.6	5.63	5.44
50	5.57	5.98	9.83	24.1	13.4	4.99	4.07	3.91	3.42	4.38	5.81	6.13	5.83
45	5.95	6.22	10.6	26.5	14.2	5.41	4.26	4.39	3.9	4.61	6.05	6.28	6.24
40	6.14	6.56	11.3	28.6	15.4	5.96	4.66	4.61	4.1	4.82	6.19	6.36	6.66
35	6.39	6.67	12.1	31.7	17.2	6.55	5.13	4.84	4.42	5.3	6.39	6.5	7.08
30	6.63	6.9	14.3	36.1	19.2	7.09	5.51	5.41	4.87	5.73	6.98	6.81	7.85
25	7.21	7.09	15.4	39.1	22.1	7.73	5.89	5.83	5.17	5.91	7.4	7.21	8.98
20	7.46	7.21	17.2	42	24.5	8.34	6.33	6.22	5.47	6.14	8.4	7.34	10.5
15	7.79	7.83	19.5	46.5	27.1	8.99	6.87	6.78	5.85	6.59	8.72	7.82	13.8
10	8.17	8.96	21.2	55.5	31.3	9.79	8.1	9.64	6.45	7.48	9.57	8.39	19.2
5	0	9.82	24.7	66.3	36.9	11.8	19.6	12.9	6.9	9.18	0	0	28.7

4- 1.L00-9A ARGHANDAB RIVER AT SANG-I-MASHA, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	4.20	[1]4.23	[1]4.13	[1]4.27	[1]4.28
0.95	1.05	10.1	9.58	9.24	8.87	8.39
0.90	1.11	15.6	14.1	13.4	12.5	11.5
0.80	1.25	25.8	21.5	20.1	18.2	16.4
0.50	2	61.9	42.0	37.9	33.2	29.0
0.20	5	133	69.8	60.1	52.3	45.0
0.10	10	190	85.9	72.0	63.0	54.2
0.04	25	269	103	84.0	74.2	64.0
0.02	50	332	114	90.9	81.0	70.1
0.01	100	397	123	96.5	86.7	75.3
0.005	200	464	130	101	91.6	79.9
0.002	500	554	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 1.L00-9A ARGHANDAB RIVER AT SANG-I-MASHA, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.456	0.457	0.484	0.510	0.603	0.843	1.04	1.22	1.66
0.10	10	0.692	0.697	0.732	0.769	0.901	1.20	1.43	1.64	2.12
0.20	5	1.10	1.11	1.15	1.20	1.39	1.78	2.04	2.27	2.79
0.50	2	2.30	2.33	2.38	2.47	2.75	3.34	3.65	3.89	4.44

4- 1.L00-9A ARGHANDAB RIVER AT SANG-I-MASHA, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	3.29	3.37	3.42	3.49	1.59	1.72	2.03	2.90
0.10	10	3.56	3.65	3.71	3.79	2.19	2.41	2.76	4.14
0.20	5	3.95	4.05	4.12	4.22	3.10	3.46	3.86	5.98
0.50	2	4.91	5.04	5.13	5.27	5.35	6.09	6.56	10.0
		June-July-August				September-October-November			
0.05	20	0.487	0.518	0.547	0.643	0.731	0.804	0.925	1.33
0.10	10	0.762	0.809	0.855	0.991	1.10	1.17	1.29	1.69
0.20	5	1.24	1.31	1.38	1.57	1.68	1.76	1.85	2.21
0.50	2	2.65	2.77	2.90	3.18	3.17	3.24	3.26	3.48

4- 1.L00-9A ARGHANDAB RIVER AT SANG-I-MASHA, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1970	15-Apr	--	23.0	1976	23-Jul	--	216
1971	15-Apr	--	7.98	1977	30-Jun	--	46.1
1972	27-Apr	--	46.5	1978	5-Jul	--	220
1973	20-Jul	--	111	1979	6-Aug	--	83.0
1974	28-Mar	--	26.9	1980	19-Apr	--	81.0
1975	3-Apr	--	57.6				
Annual peak discharge, from highest to lowest							
1978	5-Jul	--	220	1972	27-Apr	--	46.5
1976	23-Jul	--	216	1977	30-Jun	--	46.1
1973	20-Jul	--	111	1974	28-Mar	--	26.9
1979	6-Aug	--	83.0	1970	15-Apr	--	23.0
1980	19-Apr	--	81.0	1971	15-Apr	--	7.98
1975	3-Apr	--	57.6				

4- 1.L00-9A ARGHANDAB RIVER AT SANG-I-MASHA, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1969	--	--	--	--	--	--	--	--	--	4.09	4.03	4.17	--
1970	5.94	7.95	5.11	5.19	5.76	9.51	16.92	8.37	3.19	2.16	2.58	2.46	6.25
1971	3.95	4.2	4.25	3.78	3.84	5.54	5.97	2.11	0.775	0.632	1.8	1.15	3.16
1972	2.59	3.77	4.39	4.1	3.98	9.65	24.99	20.74	7.06	4	3.24	3.39	7.66
1973	4.4	5.24	6.34	6.26	7.79	20.24	33.44	13.6	5.33	9.73	5.09	4.91	10.19
1974	5.84	6.76	7.58	7.85	6.67	13.95	19.75	8.62	2.6	2.36	2.45	2.71	7.26
1975	3.81	4.15	4.59	4.17	4.37	14.04	40.25	26.03	8.84	5.4	4.91	3.67	10.36
1976	4.57	6.05	6.24	5.93	6.32	10.41	42.02	28.93	6.27	16.99	11.63	7.5	12.75
1977	6.63	8.94	7.44	7.27	7.48	10.14	16.53	6.57	3.38	2.21	2.47	2.78	6.8
1978	3.18	4.12	4.48	4.47	5.16	9.81	22.01	8.4	4.01	16.06	6.15	2.4	7.53
1979	4.1	5.72	6.38	6.02	5.99	9.35	41.37	17.81	9.69	6.27	9.41	6.84	10.73
1980	8.92	10.37	10.27	9.54	10.24	18.86	59.36	26.89	10.1	6.1	5.62	5.72	15.12

4-13.R00-4A PUNJAB RIVER AT WARAS

(U.S. Geological Survey identification number: 341400066550000)

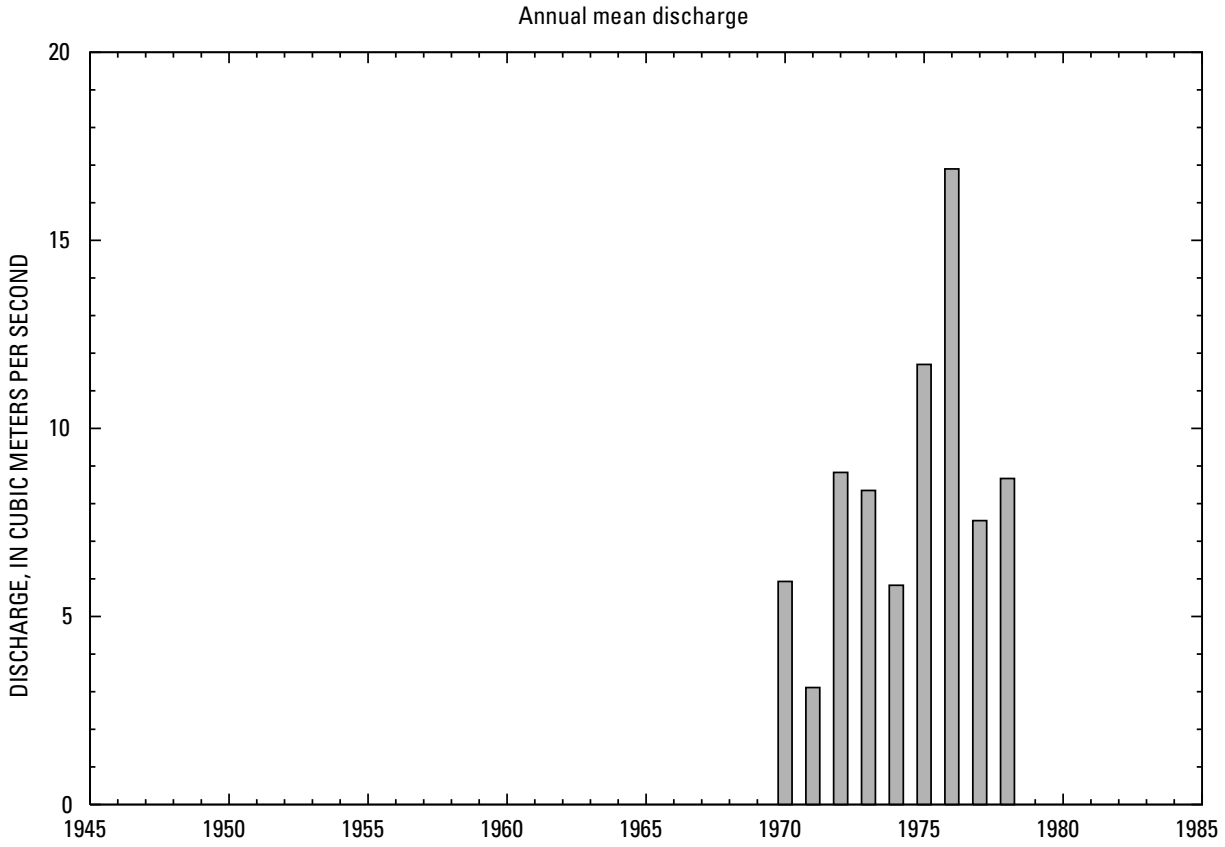
LOCATION: Lat 34º14'N., long 66º55'E.

DRAINAGE AREA: 1,710 km^2.

ALTITUDE: 2,480 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1969 to January 20, 1979.

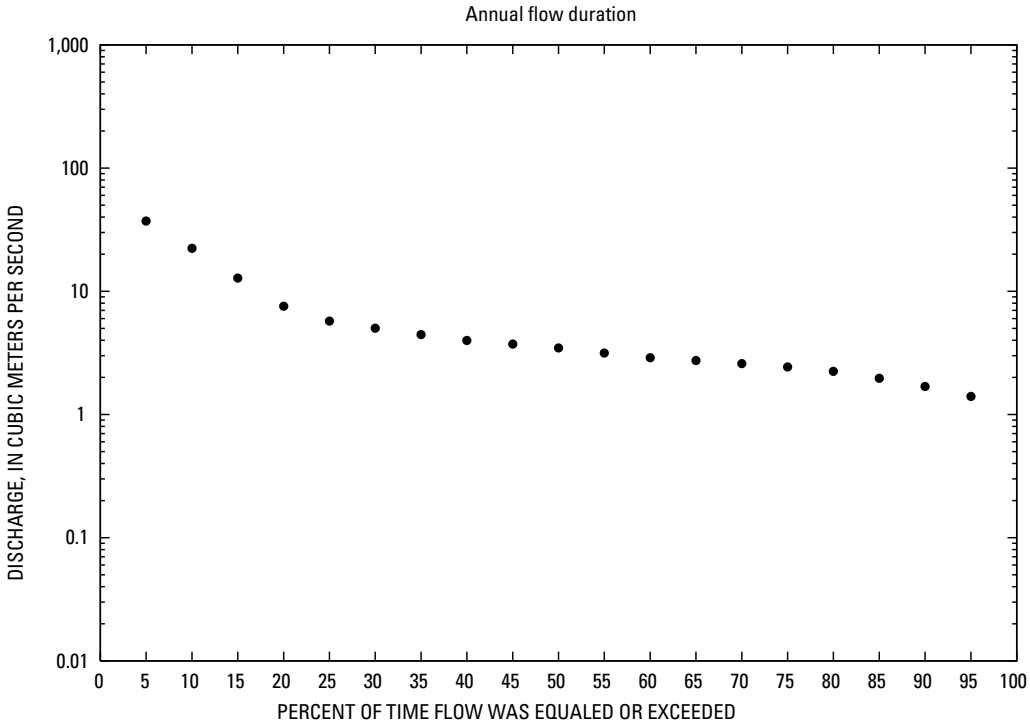
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	5.20	1977	1.65	1972	3.26	1.11	0.34	3.18
November	5.60	1970	1.85	1972	3.21	1.25	0.39	3.13
December	4.19	1977	1.56	1973	2.97	0.92	0.31	2.89
January	6.25	1977	1.33	1973	3.38	1.34	0.40	3.30
February	7.95	1977	1.78	1973	4.17	1.80	0.43	4.07
March	10.7	1977	3.24	1972	5.76	2.63	0.46	5.61
April	53.9	1976	7.73	1971	30.3	13.5	0.45	29.6
May	93.6	1976	3.45	1971	33.9	27.6	0.81	33.0
June	20.5	1976	0.997	1971	7.47	6.27	0.84	7.28
July	5.03	1976	0.753	1971	2.73	1.43	0.52	2.66
August	4.84	1978	1.06	1971	2.54	1.13	0.45	2.47
September	4.50	1976	1.44	1971	2.88	0.88	0.30	2.81
Annual	16.9	1976	3.11	1971	8.54	3.95	0.46	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	1.24	1.5	2.52	7.02	2.86	0.94	0.77	0.97	1.49	1.64	1.8	1.52	1.4
90	1.73	2.29	2.66	7.48	5.7	1.34	0.81	1.29	1.57	1.85	1.9	1.77	1.69
85	2.21	2.38	2.77	9.06	8.25	2.13	1.4	1.46	2.2	2.49	2.05	1.81	1.97
80	2.27	2.48	2.88	12.7	12.1	2.3	1.59	1.57	2.31	2.54	2.27	1.96	2.24
75	2.34	2.64	3.05	16.2	13.8	2.67	1.66	1.67	2.47	2.59	2.37	2.03	2.43
70	2.48	2.91	3.37	18.6	15.9	3.13	1.72	1.8	2.52	2.63	2.44	2.22	2.59
65	2.74	3.07	3.46	20.3	17.8	3.54	1.77	1.92	2.57	2.66	2.51	2.37	2.74
60	2.87	3.22	3.59	23	19.5	3.88	1.84	2.02	2.63	2.69	2.57	2.84	2.89
55	3.08	3.75	3.76	24.9	21.2	4.31	1.98	2.12	2.7	2.72	2.63	2.94	3.15
50	3.37	4.1	4.01	26.3	23.5	4.65	2.32	2.24	2.78	2.81	2.74	3.01	3.47
45	3.46	4.3	4.53	27.1	28.3	5.04	2.83	2.36	2.81	3.09	3.05	3.07	3.73
40	3.55	4.46	5.08	28	32.5	5.8	3.01	2.54	2.84	3.35	3.26	3.28	3.99
35	3.67	4.7	6.02	29.4	37.2	6.51	3.32	2.65	2.88	3.45	3.55	3.36	4.45
30	3.8	4.85	6.62	32	42.9	7.41	3.5	2.73	3.27	3.5	3.63	3.45	5.01
25	3.93	4.98	7.58	36.6	49	8.69	3.62	2.8	3.52	3.56	3.72	3.73	5.74
20	4.06	5.25	8.69	42.2	54.6	10.1	4.01	2.87	3.62	3.73	3.99	3.91	7.57
15	4.25	5.85	9.83	49.4	59.1	12.4	4.6	3.05	3.75	4.87	4.52	4.05	12.8
10	4.77	6.98	11.7	58.4	71.6	17.7	4.82	3.34	4.17	4.98	4.94	4.21	22.3
5	5.81	7.96	13.4	64.5	106.1	24.7	5.47	3.56	4.51	5.34	5.7	4.44	37.2

4- 13.R00-4A PUNJAB RIVER AT WARAS, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	5.24	4.80	4.33	4.23
0.95	1.05	ng	11.2	10.5	9.58	8.94
0.90	1.11	ng	16.1	15.3	14.0	12.8
0.80	1.25	38.8	24.4	23.2	21.4	19.3
0.50	2	66.7	49.0	46.4	42.7	38.0
0.20	5	108	87.5	81.5	74.2	66.5
0.10	10	137	113	104	94.0	85.1
0.04	25	173	145	131	117	107
0.02	50	199	167	149	132	123
0.01	100	224	188	165	145	137
0.005	200	250	208	180	158	150
0.002	500	283	ng	ng	ng	ng

[1]Less than 10 years of data used.

4- 13.R00-4A PUNJAB RIVER AT WARAS, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.725	0.725	0.719	0.730	0.745	0.822	0.943	1.08	1.33
0.10	10	0.848	0.856	0.862	0.880	0.912	0.996	1.13	1.27	1.53
0.20	5	1.03	1.05	1.07	1.10	1.16	1.25	1.40	1.55	1.80
0.50	2	1.50	1.54	1.60	1.67	1.77	1.90	2.08	2.26	2.45

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	1.15	1.24	1.24	1.28	1.46	1.68	1.92	2.69
0.10	10	1.34	1.45	1.47	1.55	1.65	1.86	2.07	2.96
0.20	5	1.60	1.73	1.79	1.93	1.94	2.14	2.32	3.39
0.50	2	2.16	2.35	2.48	2.76	2.87	3.06	3.20	4.66
		June-July-August				September-October-November			
0.05	20	0.758	0.766	0.783	0.807	1.31	1.34	1.40	1.52
0.10	10	0.937	0.963	1.01	1.05	1.44	1.49	1.56	1.70
0.20	5	1.19	1.24	1.33	1.40	1.62	1.70	1.78	1.93
0.50	2	1.80	1.89	2.06	2.18	2.12	2.23	2.33	2.51

4- 13.R00-4A PUNJAB RIVER AT WARAS, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1970	26-Apr	--	30.8	1975	15-May	--	138
1971	13-Apr	--	10.8	1976	24-Apr	--	144
1972	11-May	--	77.6	1977	1-May	--	69.9
1973	25-Apr	--	65.5	1978	17-Apr	--	83.2
1974	12-May	--	35.3				
Annual peak discharge, from highest to lowest							
1976	24-Apr	--	144	1973	25-Apr	--	65.5
1975	15-May	--	138	1974	12-May	--	35.3
1978	17-Apr	--	83.2	1970	26-Apr	--	30.8
1972	11-May	--	77.6	1971	13-Apr	--	10.8
1977	1-May	--	69.9				

4- 13.R00-4A PUNJAB RIVER AT WARAS, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1970	5.05	5.6	3.79	3	3.41	3.96	22.7	14.8	3.05	1.71	1.8	2.45	5.93
1971	2.51	2.59	3.78	3.89	4.49	4.76	7.73	3.45	0.997	0.753	1.06	1.44	3.11
1972	1.65	1.85	1.86	2.29	2.35	3.24	25.4	44.8	12.3	3.8	2.69	3.59	8.83
1973	3.11	2.06	1.56	1.33	1.78	4.88	38.3	34.1	5.42	2.31	2.38	2.85	8.35
1974	2.69	2.33	2.36	3.29	3.68	6.41	23.9	16.1	3.33	1.75	1.73	2.4	5.83
1975	2.66	2.5	2.13	2.98	5.21	9.39	37.3	55.7	12.1	3.89	2.9	3.47	11.7
1976	3.56	3.65	3.63	3.72	3.78	3.45	53.9	93.6	20.5	5.03	3.55	4.5	16.9
1977	5.2	5.01	4.19	6.25	7.95	10.7	23.1	18.5	3.69	1.54	1.89	2.71	7.55
1978	2.77	2.99	3.16	3.68	4.91	5.02	40.6	24.1	5.81	3.8	4.84	2.49	8.67
1979	3.39	3.48	3.22	--	--	--	--	--	--	--	--	--	--

4-14.R00-1A MARKHANA RIVER AT DAHANE RISHQA

(U.S. Geological Survey identification number: 342100067290000)

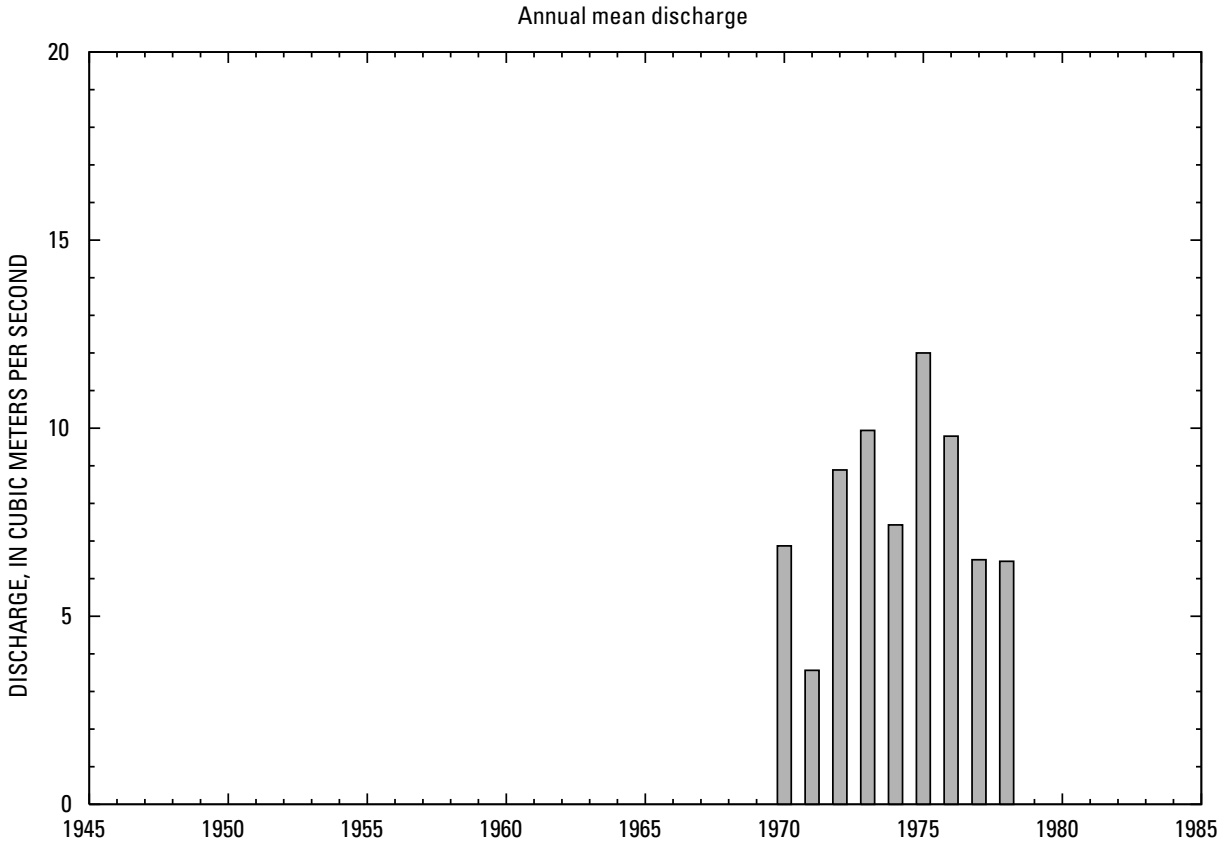
LOCATION: Lat 34º21'N., long 67º29'E.

DRAINAGE AREA: 1,080 km^2.

ALTITUDE: 2,580 meters plus mean sea level.

PERIOD OF RECORD: August 9, 1969 to September 30, 1978.

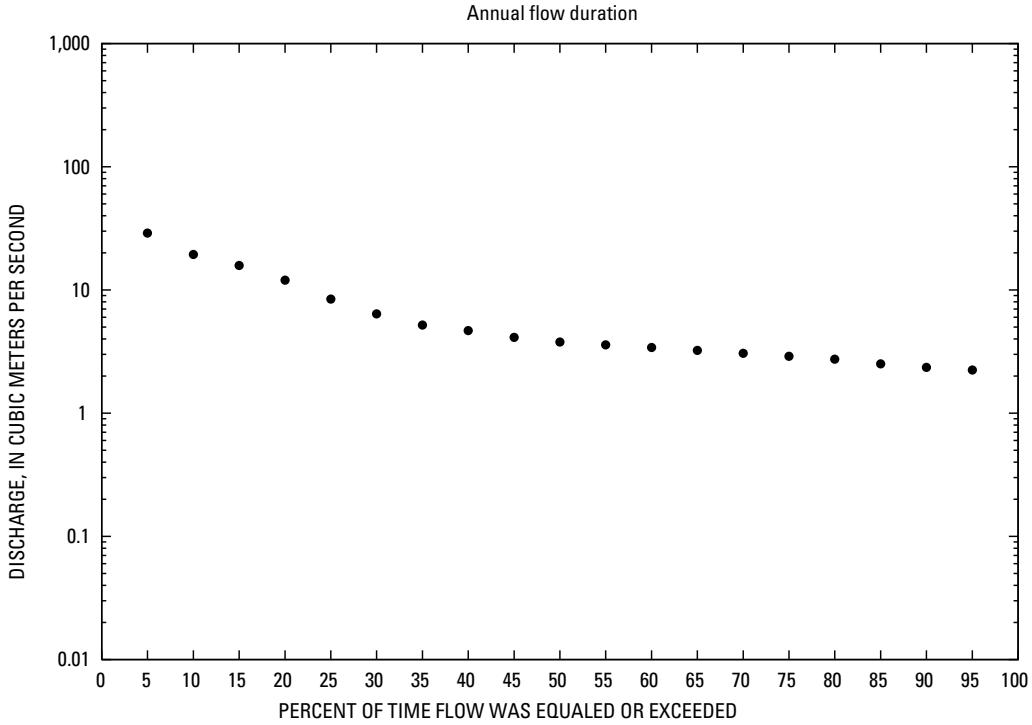
GAGE: --



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	5.13	1970	2.31	1972	3.47	0.85	0.24	3.64
November	5.35	1970	2.19	1972	3.25	0.92	0.28	3.41
December	4.64	1970	2.27	1972	3.04	0.73	0.24	3.19
January	3.62	1970	2.38	1978	2.86	0.44	0.15	3.00
February	5.56	1975	2.31	1978	3.19	1.01	0.32	3.35
March	9.89	1974	2.55	1976	5.91	3.03	0.51	6.21
April	27.6	1975	7.63	1971	18.8	6.08	0.32	19.7
May	44.7	1976	7.83	1971	27.2	13.2	0.48	28.5
June	25.2	1975	3.18	1971	13.6	6.65	0.49	14.3
July	11.0	1975	2.24	1971	6.23	2.72	0.44	6.54
August	5.39	1976	2.23	1971	3.88	1.12	0.29	4.08
September	5.36	1969	2.58	1971	3.77	0.82	0.22	3.96
Annual	12.0	1975	3.56	1971	7.94	2.49	0.31	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	2.25	1.91	2.17	4.8	7.24	2.8	2.13	1.93	2.59	1.6	2.23	2.26	2.24
90	2.3	2.2	2.3	6.15	10.2	4.02	2.4	2.59	2.8	2.4	2.27	2.28	2.35
85	2.35	2.28	2.54	7.72	14.9	6.96	2.78	2.68	3.08	2.46	2.4	2.3	2.51
80	2.4	2.39	2.71	8.99	16.6	7.83	3.57	2.79	3.13	2.8	2.44	2.31	2.74
75	2.43	2.45	2.88	12.7	17.3	8.72	3.91	3.16	3.25	3.01	2.56	2.41	2.9
70	2.46	2.51	3.16	14	18	9.48	4.08	3.28	3.29	3.07	2.61	2.62	3.06
65	2.54	2.58	3.27	15.4	18.6	10.3	4.31	3.41	3.42	3.15	2.76	2.76	3.23
60	2.57	2.64	3.55	16.3	19.5	11.1	4.57	3.5	3.45	3.27	2.93	2.79	3.41
55	2.6	2.71	3.96	17.1	21.4	11.8	5.23	3.58	3.47	3.3	2.97	2.91	3.59
50	2.62	2.77	4.44	17.9	23.3	12.4	5.6	3.64	3.5	3.42	3.01	2.94	3.78
45	2.75	2.83	5.21	18.7	24.8	13.1	5.99	3.71	3.54	3.45	3.16	2.97	4.13
40	2.79	2.95	5.8	19.4	28.3	13.9	6.8	3.82	3.69	3.47	3.2	3.09	4.68
35	2.93	3.07	6.84	20.2	31	14.8	7.23	4.24	3.86	3.59	3.28	3.13	5.2
30	2.99	3.21	7.59	22	34.3	16.2	7.63	4.61	3.95	3.63	3.47	3.26	6.4
25	3.15	3.51	8.04	23.9	36.9	17.7	8.02	4.95	4.17	3.67	3.56	3.3	8.43
20	3.23	3.94	8.68	26.4	39.7	19.3	8.47	5.07	4.59	4.13	3.81	3.45	12
15	3.46	4.22	11.4	28.9	44.1	21.9	9.42	5.2	4.7	4.34	4.13	3.57	15.8
10	3.62	4.63	12.4	33.7	50.4	24	11.1	5.36	4.82	5.03	4.99	4.56	19.4
5	3.91	5.89	13.2	37.8	55.1	29.5	12.5	5.95	5.82	5.12	5.16	0	29

4- 14.R00-1A MARKHANA RIVER AT DAHANE RISHQA, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m^3/s)	Maximum mean discharge[2]			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	6.01	6.16	5.98	5.61
0.95	1.05	ng	10.8	10.6	10.2	9.72
0.90	1.11	ng	14.4	13.9	13.2	12.7
0.80	1.25	31.5	19.8	18.8	17.8	17.0
0.50	2	45.0	33.6	31.6	29.7	27.6
0.20	5	60.1	51.8	49.2	46.0	40.9
0.10	10	68.2	62.5	60.3	56.3	48.5
0.04	25	76.7	74.6	73.4	68.5	56.7
0.02	50	82.0	82.5	82.4	76.9	62.0
0.01	100	86.5	89.6	90.8	84.8	66.6
0.005	200	90.5	96.0	98.8	92.2	70.7
0.002	500	95.0	ng	ng	ng	ng

[1]Less than 10 years of data used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

4- 14.R00-1A MARKHANA RIVER AT DAHANE RISHQA, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	1.40	1.50	1.58	1.76	1.91	2.12	2.15	2.18	2.23
0.10	10	1.54	1.62	1.71	1.86	2.05	2.23	2.26	2.30	2.39
0.20	5	1.71	1.77	1.87	1.99	2.22	2.36	2.40	2.45	2.58
0.50	2	2.02	2.06	2.17	2.23	2.50	2.63	2.68	2.76	2.96

4- 14.R00-1A MARKHANA RIVER AT DAHANE RISHQA, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	1.45	1.67	1.89	2.21	1.92	1.93	1.84	1.96
0.10	10	1.61	1.80	1.97	2.27	2.15	2.18	2.22	2.44
0.20	5	1.82	1.98	2.09	2.36	2.48	2.54	2.77	3.18
0.50	2	2.19	2.33	2.37	2.58	3.30	3.50	4.15	5.16
		June-July-August				September-October-November			
0.05	20	1.72	1.74	1.83	1.94	1.95	2.07	2.15	2.21
0.10	10	1.98	2.02	2.12	2.28	2.06	2.17	2.24	2.32
0.20	5	2.34	2.40	2.53	2.72	2.22	2.32	2.37	2.49
0.50	2	3.19	3.27	3.43	3.70	2.62	2.71	2.75	2.96

4- 14.R00-1A MARKHANA RIVER AT DAHANE RISHQA, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1970	26-Apr	--	24.5	1975	18-May	--	60.6
1971	4-May	--	11.2	1976	18-May	--	72.0
1972	20-May	--	57.0	1977	26-May	--	35.4
1973	2-May	--	52.1	1978	6-May	--	47.2
1974	10-May	--	36.5				
Annual peak discharge, from highest to lowest							
1976	18-May	--	72.0	1974	10-May	--	36.5
1975	18-May	--	60.6	1977	26-May	--	35.4
1972	20-May	--	57.0	1970	26-Apr	--	24.5
1973	2-May	--	52.1	1971	4-May	--	11.2
1978	6-May	--	47.2				

4- 14.R00-1A MARKHANA RIVER AT DAHANE RISHQA, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1969	--	--	--	--	--	--	--	--	--	--	--	5.36	--
1970	5.13	5.35	4.64	3.62	3.54	5.64	16.9	17.1	8.96	4.61	3.39	3.47	6.87
1971	3.34	2.82	2.4	2.58	2.56	3.31	7.63	7.83	3.18	2.24	2.23	2.58	3.56
1972	2.31	2.19	2.27	2.41	2.77	3.38	21.9	37.6	17.3	7.33	3.74	3.35	8.89
1973	3.43	3.69	3.27	3.46	2.93	8.69	26.5	34.4	16.3	7.16	5.08	4.07	9.94
1974	3.39	2.82	2.86	2.68	2.77	9.89	19.9	20	12.6	5.38	3.5	3.19	7.43
1975	3.05	3.2	3.46	2.98	5.56	8.58	27.6	43.5	25.2	11	5.34	3.91	12
1976	3.7	3.38	3.02	2.62	2.48	2.55	16.1	44.7	19.6	8.78	5.39	4.83	9.79
1977	4.26	3.34	3.06	2.98	3.81	8.57	16.3	17.4	8.64	3.28	2.98	3.28	6.5
1978	2.6	2.45	2.35	2.38	2.31	2.59	16.3	22	11.1	6.3	3.31	3.68	6.46

4-16.R00-3A SYAHSANG RIVER NEAR GARDANDEWAL

(U.S. Geological Survey identification number: 343400068110000)

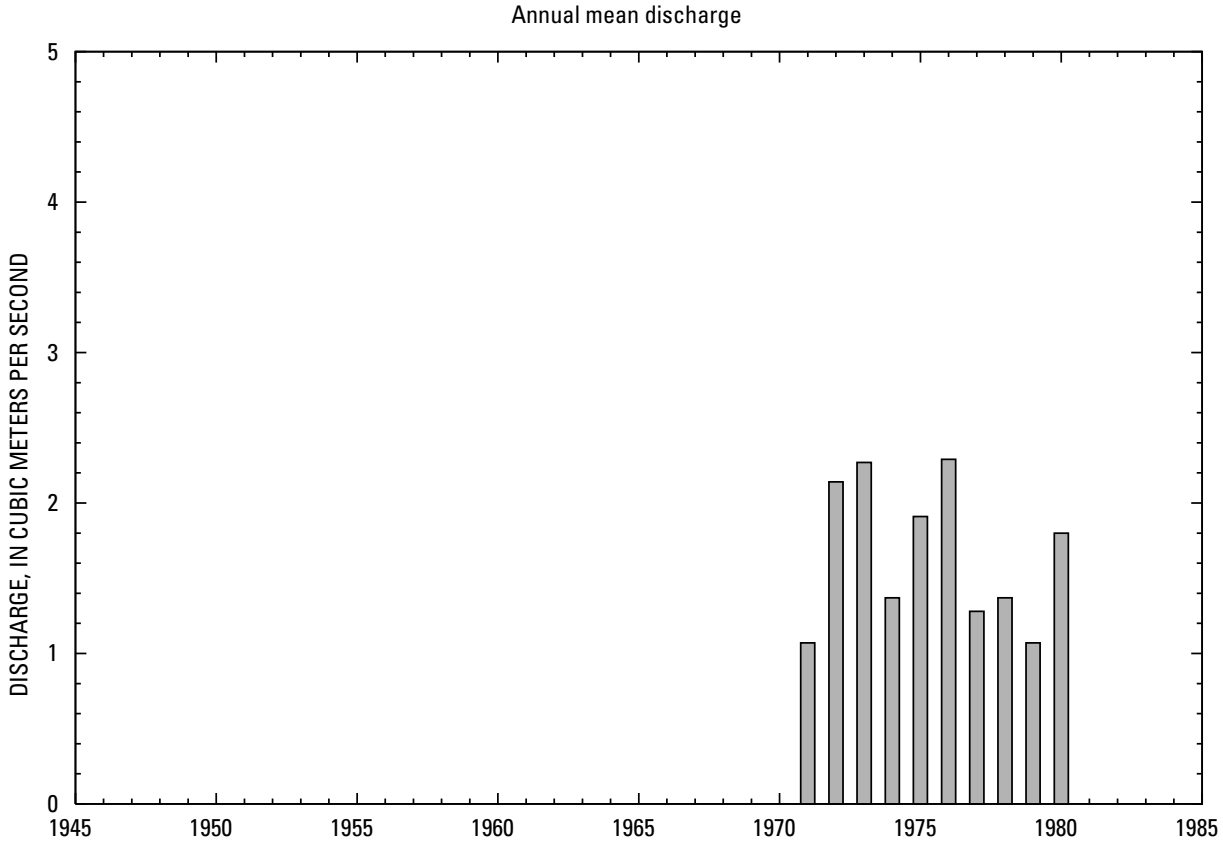
LOCATION: Lat 34º34'N., long 68º11'E.

DRAINAGE AREA: 160 km^2.

ALTITUDE: 3,010 meters plus mean sea level.

PERIOD OF RECORD: May 9, 1970 to September 30, 1980.

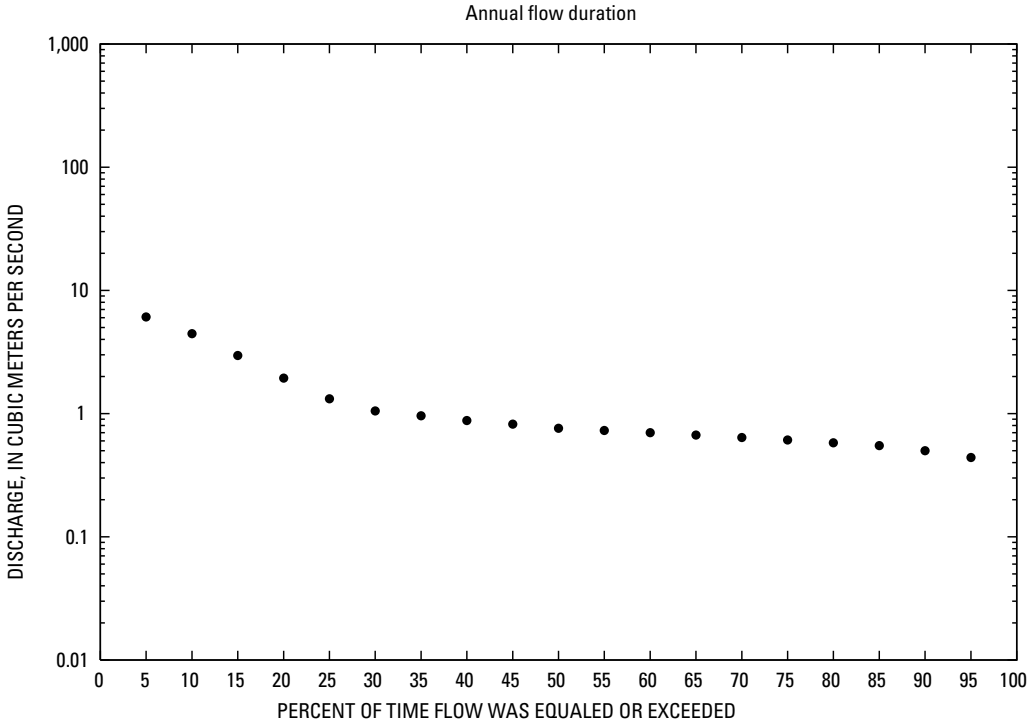
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	1.12	1973	0.554	1972	0.75	0.18	0.24	3.81
November	1.06	1977	0.513	1972	0.72	0.18	0.25	3.66
December	0.916	1973	0.386	1972	0.64	0.16	0.25	3.27
January	0.820	1973	0.451	1972	0.63	0.13	0.21	3.18
February	0.820	1973	0.470	1972	0.63	0.11	0.18	3.22
March	1.31	1977	0.588	1972	0.91	0.24	0.26	4.63
April	6.79	1973	2.32	1980	3.97	1.37	0.34	20.2
May	12.5	1976	2.80	1979	6.60	3.62	0.55	33.6
June	4.89	1972	1.12	1971	2.46	1.43	0.58	12.5
July	2.72	1980	0.181	1971	0.99	0.67	0.67	5.04
August	0.925	1978	0.125	1971	0.62	0.24	0.39	3.15
September	1.00	1972	0.486	1971	0.74	0.18	0.24	3.77
Annual	2.29	1976	1.07	1971, 1979	1.66	0.48	0.29	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.43	0.47	0.52	1.19	2.1	0.53	0.18	0.14	0.5	0.56	0.5	0.34	0.44
90	0.45	0.48	0.57	1.59	2.51	0.94	0.34	0.28	0.54	0.57	0.52	0.49	0.5
85	0.47	0.5	0.6	1.86	2.86	1.02	0.43	0.36	0.56	0.59	0.57	0.5	0.55
80	0.48	0.51	0.63	2.16	3.29	1.09	0.5	0.43	0.58	0.6	0.6	0.5	0.58
75	0.5	0.55	0.67	2.36	3.55	1.16	0.53	0.48	0.59	0.61	0.61	0.51	0.61
70	0.51	0.59	0.7	2.61	3.78	1.29	0.56	0.5	0.6	0.61	0.61	0.58	0.64
65	0.57	0.6	0.72	2.75	4.14	1.39	0.71	0.52	0.64	0.66	0.61	0.59	0.67
60	0.59	0.61	0.74	2.93	4.51	1.48	0.75	0.55	0.67	0.67	0.62	0.6	0.7
55	0.6	0.62	0.76	3.16	4.77	1.58	0.79	0.58	0.69	0.67	0.67	0.61	0.73
50	0.62	0.67	0.82	3.36	5.04	1.79	0.87	0.6	0.72	0.68	0.68	0.62	0.76
45	0.68	0.67	0.84	3.59	5.47	1.96	0.92	0.68	0.76	0.71	0.68	0.62	0.82
40	0.69	0.68	0.85	4.01	5.81	2.18	0.97	0.72	0.78	0.74	0.69	0.63	0.88
35	0.71	0.7	0.91	4.36	7.22	2.64	1.04	0.73	0.81	0.75	0.74	0.68	0.96
30	0.72	0.71	0.94	4.74	8.16	3.23	1.11	0.75	0.83	0.82	0.76	0.74	1.05
25	0.72	0.71	1.03	5.25	8.78	3.8	1.17	0.78	0.9	0.83	0.83	0.81	1.32
20	0	0.72	1.12	5.8	9.74	4.47	1.24	0.81	0.93	0.94	0.87	0.83	1.94
15	0	0	1.27	6.34	11.3	4.72	1.34	0.85	0.95	1	0.93	0.84	2.96
10	0	0	1.49	6.92	13.8	4.99	1.67	0.89	0.99	1.06	1.02	0.85	4.45
5	0	0	1.73	8.41	15.5	5.48	2.31	0.98	1.06	0	1.06	0	6.09

4- 16.R00-3A SYAHSANG RIVER NEAR GARDANDEWAL, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	2.70	[1]2.72	[1]2.68	[1]2.71	[1]2.55
0.95	1.05	4.20	3.74	3.64	3.56	3.30
0.90	1.11	5.20	4.45	4.32	4.16	3.81
0.80	1.25	6.70	5.54	5.35	5.05	4.57
0.50	2	10.8	8.57	8.20	7.54	6.63
0.20	5	16.7	13.6	12.9	11.7	9.93
0.10	10	20.6	17.4	16.6	14.9	12.4
0.04	25	25.6	23.0	21.8	19.5	15.9
0.02	50	29.3	27.5	26.1	23.3	18.8
0.01	100	33.0	32.5	30.9	27.6	21.9
0.005	200	36.7	[1]38.0	36.1	32.2	25.3
0.002	500	41.5	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 16.R00-3A SYAHSANG RIVER NEAR GARDANDEWAL, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.129	0.129	0.131	0.132	0.153	0.186	0.252	0.322	0.384
0.10	10	0.194	0.196	0.201	0.205	0.227	0.264	0.325	0.384	0.436
0.20	5	0.291	0.298	0.306	0.315	0.336	0.375	0.423	0.464	0.504
0.50	2	0.492	0.512	0.528	0.545	0.562	0.595	0.612	0.624	0.650

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.341	0.341	0.345	0.377	0.477	[1]0.476	0.477	0.550
0.10	10	0.389	0.389	0.393	0.420	0.515	0.520	0.524	0.611
0.20	5	0.450	0.450	0.454	0.475	0.562	0.575	0.583	0.691
0.50	2	0.575	0.575	0.578	0.588	0.655	0.684	0.703	0.868
		June-July-August				September-October-November			
0.05	20	0.138	0.142	0.144	0.166	0.213	0.349	0.409	0.476
0.10	10	0.203	0.214	0.220	0.246	0.275	0.401	0.451	0.507
0.20	5	0.299	0.323	0.336	0.365	0.361	0.469	0.506	0.550
0.50	2	0.511	0.557	0.588	0.623	0.547	0.611	0.629	0.659

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 16.R00-3A SYAHSANG RIVER NEAR GARDANDEWAL, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1971	18-Apr	--	4.66	1976	14-May	--	21.5
1972	20-May	--	16.7	1977	15-Nov	--	14.6
1973	5-May	--	17.4	1978	19-Apr	--	8.84
1974	31-May	--	6.00	1979	18-Apr	--	5.65
1975	22-May	--	9.00	1980	21-May	--	14.6
Annual peak discharge, from highest to lowest							
1976	14-May	--	21.5	1975	22-May	--	9.00
1973	5-May	--	17.4	1978	19-Apr	--	8.84
1972	20-May	--	16.7	1974	31-May	--	6.00
1980	21-May	--	14.6	1979	18-Apr	--	5.65
1977	15-Nov	--	14.6	1971	18-Apr	--	4.66

4- 16.R00-3A SYAHSANG RIVER NEAR GARDANDEWAL, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1970	--	--	--	--	--	--	--	--	1.48	0.52	0.374	0.668	--
1971	0.742	0.623	0.61	0.694	0.71	1.03	2.54	3.91	1.12	0.181	0.125	0.486	1.07
1972	0.554	0.513	0.386	0.451	0.47	0.588	3.08	11.5	4.89	1.28	0.848	1	2.14
1973	1.12	0.979	0.916	0.82	0.82	1.2	6.79	9.44	2.34	1.02	0.756	0.947	2.27
1974	0.852	0.798	0.82	0.76	0.71	0.88	3.31	4.76	1.96	0.55	0.502	0.533	1.37
1975	0.589	0.61	0.607	0.573	0.61	0.851	4.65	8	3.7	1.26	0.598	0.782	1.91
1976	0.73	0.672	0.652	0.644	0.687	0.936	4.94	12.5	2.92	1.01	0.753	0.981	2.29
1977	0.977	1.06	0.811	0.75	0.701	1.31	3.8	2.81	1.41	0.535	0.438	0.708	1.28
1978	0.667	0.725	0.603	0.624	0.607	0.997	4.95	3.51	1.19	1.02	0.925	0.642	1.37
1979	0.655	0.651	0.52	0.474	0.513	0.665	3.31	2.8	1.21	0.81	0.616	0.595	1.07
1980	0.6	0.557	0.5	0.466	0.509	0.641	2.32	6.78	4.79	2.72	0.871	0.8	1.8

4- 3.L00-2T SANGIN WASH (SERAJ CANAL) AT SANGIN

(U.S. Geological Survey identification number: 320300064500000)

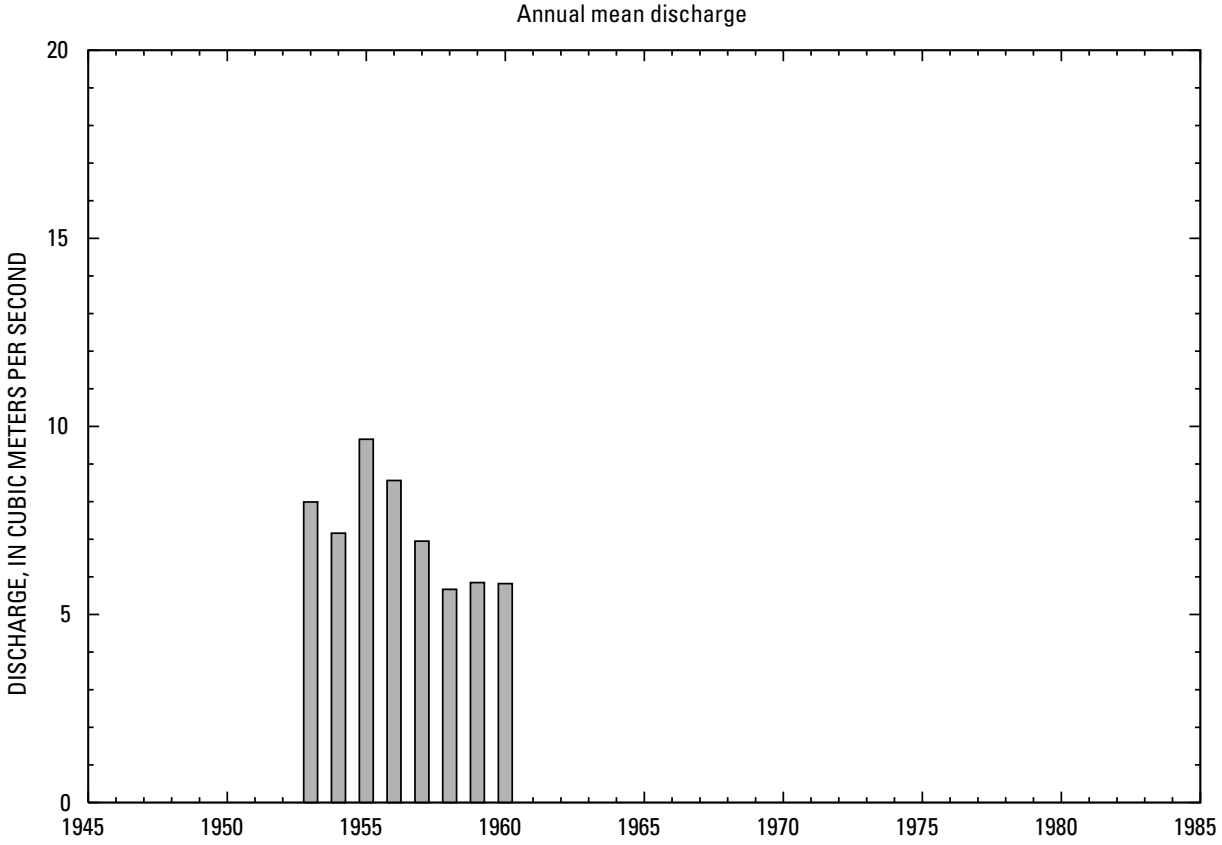
LOCATION: Lat 32º03'N., long 64º50'E., on left bank about 100 m upstream from office of the Governor of Sangin district in village of Sangin, about 500 m downstream from canal inlet and control gate structure on Helmand River, 35 km northeast of Girishk, and about 40 km downstream from Kajakai Dam.

DRAINAGE AREA: --

ALTITUDE: --

PERIOD OF RECORD: October 1, 1952 to September 30, 1960.

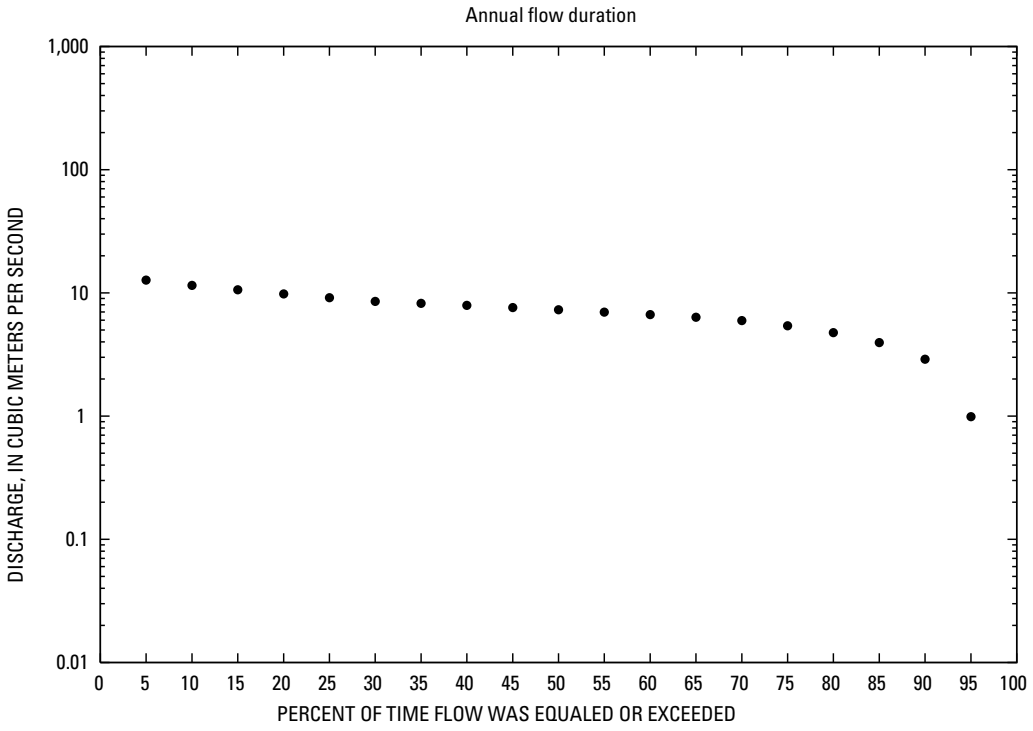
GAGE: Staff gage read twice daily.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	12.2	1956	5.18	1960	7.90	2.24	0.28	9.15
November	11.4	1956	2.51	1958	6.69	3.20	0.48	7.76
December	9.01	1957	2.33	1960	5.90	2.50	0.42	6.84
January	6.98	1955	1.41	1958	4.72	1.80	0.38	5.48
February	6.31	1960	0.359	1957	4.80	2.01	0.42	5.56
March	11.2	1956	4.52	1959	7.45	2.17	0.29	8.64
April	13.5	1955, 1956	4.02	1960	9.13	3.23	0.35	10.6
May	13.5	1955	5.65	1956	8.94	2.69	0.30	10.4
June	11.2	1955	3.86	1957	6.80	2.89	0.42	7.88
July	9.63	1953	4.69	1960	7.70	1.69	0.22	8.92
August	10.4	1956	6.66	1958	8.35	1.18	0.14	9.67
September	10.6	1955	6.46	1958	7.92	1.34	0.17	9.17
Annual	9.66	1955	5.67	1958	7.21	1.45	0.20	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.91	0.24	3.62	0.81	2.34	0.78	2.12	5.99	4.32	5.29	0.15	0.52	0.99
90	1.63	0.26	4.5	4.65	4.4	1.73	4.37	6.61	5.49	5.77	0.57	1.37	2.9
85	2.89	1.07	4.78	6.08	5.97	2.52	5.61	6.97	6.48	6.04	1.35	2.18	3.95
80	3.05	3.42	5.04	6.59	6.53	3.67	5.88	7.33	6.9	6.37	3.08	2.48	4.76
75	3.38	4.06	5.57	7.04	6.92	4.88	6.16	7.51	7.18	6.55	3.85	2.87	5.41
70	3.87	4.24	5.86	7.37	7.29	5.61	6.5	7.69	7.46	6.71	6.12	3.14	5.96
65	4.12	4.41	6.13	7.63	7.66	6.04	6.92	7.86	7.73	6.87	6.57	3.49	6.34
60	4.31	4.62	6.38	7.9	8.01	6.34	7.3	8.04	7.83	7.02	6.91	4.45	6.66
55	4.52	5.13	6.61	8.16	8.37	6.68	7.53	8.22	7.93	7.17	7.25	5.03	6.98
50	4.76	5.3	6.85	8.51	8.72	7.17	7.77	8.37	8.03	7.31	7.57	6.27	7.3
45	5.02	5.46	7.1	8.95	9.07	7.5	8	8.53	8.13	7.48	7.88	6.56	7.61
40	5.32	5.61	7.36	9.4	9.72	7.73	8.24	8.68	8.23	7.85	8.18	6.86	7.92
35	5.64	5.77	7.61	10.4	10.7	7.96	8.49	8.84	8.33	8.19	8.44	7.69	8.23
30	6.02	5.97	8.05	11.5	11.4	8.19	8.79	9	8.64	8.5	8.7	8.23	8.54
25	6.31	6.18	8.7	12.1	11.9	9.52	9.1	9.15	8.97	9.14	8.97	8.63	9.14
20	6.53	6.38	10.5	12.7	12.5	10.1	9.4	10.1	9.79	9.72	9.41	9.07	9.81
15	6.75	6.65	11.2	13.5	13	10.7	9.77	10.6	10	10.4	10.2	9.58	10.6
10	7.03	7.07	12.1	14.4	13.8	11.3	11.2	10.9	10.2	11.8	10.9	10.5	11.5
5	7.48	7.94	13.2	15.9	14.7	12.2	12.5	11.2	10.4	12.2	11.5	12.1	12.7

4- 3.L00-2T SANGIN WASH (SERAJ CANAL) AT SANGIN, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	7.00	[2]6.23	6.30	5.99	6.10
0.95	1.05	9.10	7.78	7.70	7.30	7.18
0.90	1.11	10.3	8.71	8.52	8.08	7.82
0.80	1.25	11.8	9.96	9.60	9.11	8.67
0.50	2	14.7	12.7	11.9	11.3	10.5
0.20	5	17.3	15.9	14.5	13.8	12.7
0.10	10	18.5	17.8	16.0	15.2	14.0
0.04	25	19.7	[2]20.0	17.7	16.8	15.5
0.02	50	20.3	[2]21.5	18.8	17.9	16.6
0.01	100	20.8	[2]22.9	19.9	18.9	17.6
0.005	200	21.2	[2]24.2	20.8	19.8	18.5
0.002	500	21.7	ng	ng	ng	ng

[1]Less than 10 years of data used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

4- 3.L00-2T SANGIN WASH (SERAJ CANAL) AT SANGIN, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	0	0	0.014	0.624	2.29	[1]2.20	2.85	3.78
0.10	10	0	0	0	0.044	0.836	2.45	2.57	3.22	4.15
0.20	5	0	0	0.113	0.146	1.17	2.69	3.09	3.71	4.65
0.50	2	0	0.165	0.424	0.890	2.11	3.34	4.27	4.89	5.84

[1]Data does not fit log-Pearson Type III curve, use with caution.

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0	0.194	0.231	0.668	0	0.233	0.690	3.69
0.10	10	0	0.296	0.391	0.949	0	0.482	1.18	4.06
0.20	5	0	0.490	0.701	1.41	0.215	1.02	2.04	4.57
0.50	2	0.477	1.26	1.85	2.72	1.79	3.00	4.33	5.78
		June-July-August				September-October-November			
0.05	20	0	0.476	1.57	3.09	0	0	0.019	2.11
0.10	10	0	0.674	1.91	3.45	0	0	0.096	2.65
0.20	5	0	1.03	2.45	3.98	0	0.345	0.483	3.46
0.50	2	1.52	2.40	4.00	5.34	1.13	3.02	3.97	5.56

4- 3.L00-2T SANGIN WASH (SERAJ CANAL) AT SANGIN, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1953	1-May	1.68	12.6	1957	19-Mar	2.00	17.3
1954	21-Apr	--	16.8	1958	15-Dec	1.34	11.2
1955	26-Dec	1.80	16.9	1959	3-Mar	1.74	14.7
1956	13-Apr	2.00	17.3	1960	15-Apr	1.44	9.29
Annual peak discharge, from highest to lowest							
1957	19-Mar	2.00	17.3	1959	3-Mar	1.74	14.7
1956	13-Apr	2.00	17.3	1953	1-May	1.68	12.6
1955	26-Dec	1.80	16.9	1958	15-Dec	1.34	11.2
1954	21-Apr		16.8	1960	15-Apr	1.44	9.29

4- 3.L00-2T SANGIN WASH (SERAJ CANAL) AT SANGIN, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1953	7.53	7.19	6.71	6.35	5.78	6.29	7.81	12.1	10.9	9.63	8.78	6.65	7.99
1954	7.31	7.16	5.44	3.32	5.77	5.43	10.6	9.68	5.06	9.25	9.07	7.7	7.16
1955	9.87	9.52	8.45	6.98	5	9.13	13.5	13.5	11.2	9.31	8.55	10.6	9.66
1956	12.2	11.4	7.86	4.47	5.89	11.2	13.5	5.65	3.87	7.26	10.4	8.96	8.56
1957	8.24	8.58	9.01	5.66	0.359	8.66	8.14	8.25	3.86	7.19	7.35	7.49	6.95
1958	6.79	2.51	4.21	1.41	5.9	7.64	7.81	6.48	5.79	6.35	6.66	6.46	5.67
1959	6.06	3.03	3.21	4.1	3.38	4.52	7.67	7.86	7.54	7.88	7.4	7.35	5.85
1960	5.18	4.15	2.33	5.51	6.31	6.75	4.02	8	6.17	4.69	8.58	8.12	5.82

4-4.R00-2A MUSA QALA RIVER NEAR MUSA QALA

(U.S. Geological Survey identification number: 321700064460000)

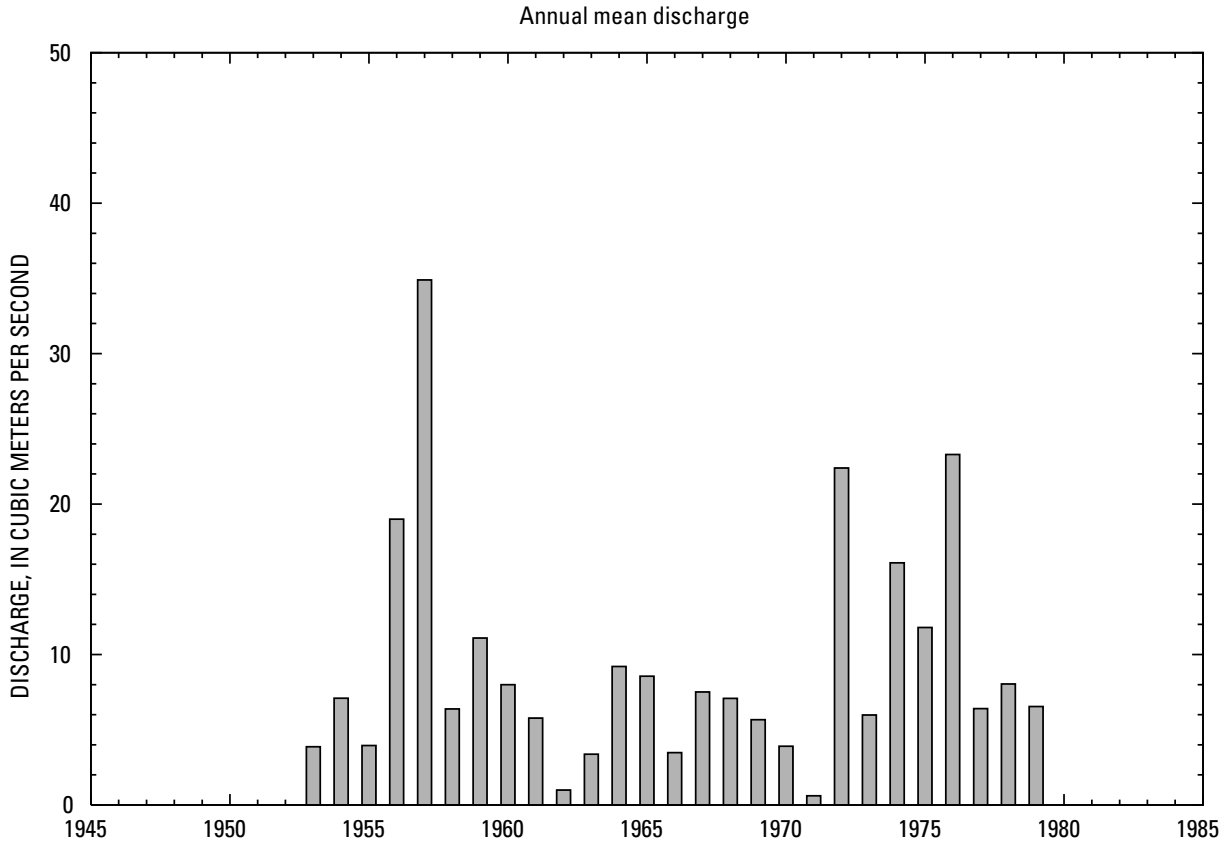
LOCATION: Lat 32º17'N., long 64º46'E., on left bank at Musa Qala, 26 km upstream from Helmand River.

DRAINAGE AREA: 3,215 km^2.

ALTITUDE: 1,000 meters plus mean sea level.

PERIOD OF RECORD: April 21, 1952 to September 30, 1979.

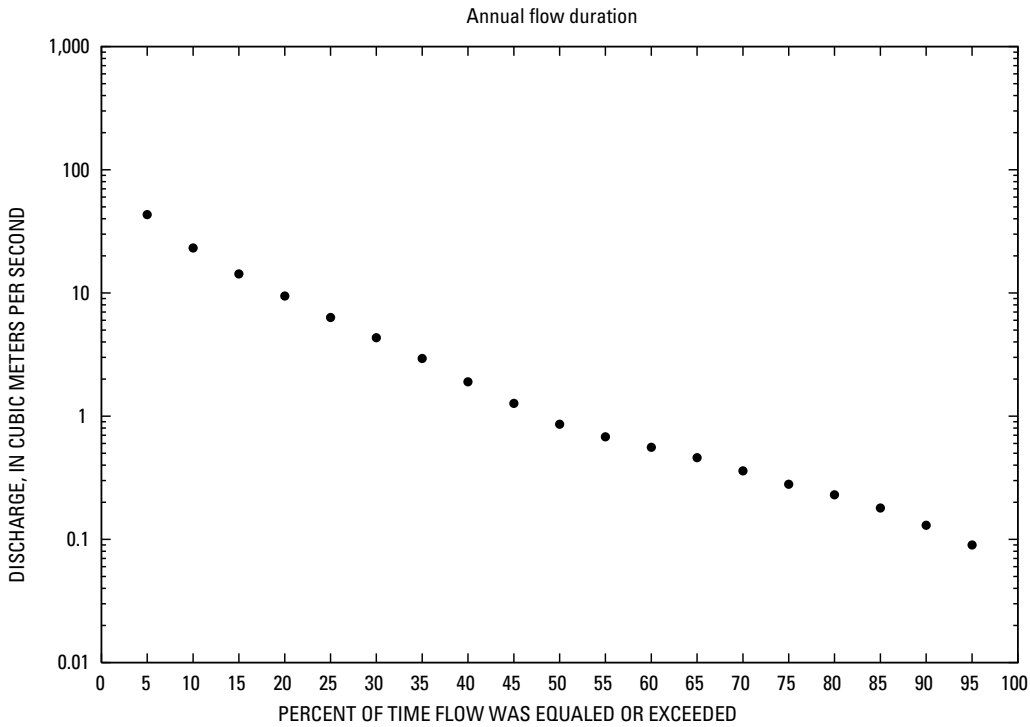
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	1.47	1961	0.077	1953	0.32	0.33	1.04	0.29
November	10.6	1958	0.054	1963	0.99	2.05	2.07	0.89
December	15.4	1958	0.109	1955	2.66	3.80	1.43	2.39
January	15.9	1974	0.073	1967	4.58	4.45	0.97	4.11
February	40.3	1974	0.172	1955	15.0	10.4	0.70	13.4
March	154	1957	1.52	1971	41.4	45.8	1.11	37.1
April	141	1957	0.885	1971	31.9	30.3	0.95	28.6
May	77.4	1957	0.750	1971	10.9	14.8	1.36	9.74
June	10.8	1957	0.210	1962	2.19	2.16	0.99	1.96
July	8.71	1976	0.111	1966	1.05	1.69	1.60	0.94
August	1.34	1960	0.031	1963	0.37	0.30	0.81	0.33
September	1.36	1960	0.050	1952	0.28	0.30	1.08	0.25
Annual	34.9	1957	0.612	1971	9.30	7.73	0.83	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.18	0.19	1.26	2.39	0.58	0.24	0.1	0.04	0.06	0.07	0.07	0.13	0.09
90	0.22	0.43	2.94	4.54	0.75	0.33	0.14	0.07	0.07	0.08	0.08	0.19	0.13
85	0.41	1.01	4.66	5.92	1.12	0.41	0.2	0.09	0.08	0.09	0.12	0.25	0.18
80	0.51	2.28	6.9	7.06	1.75	0.51	0.23	0.12	0.09	0.11	0.15	0.33	0.23
75	0.64	2.78	9.59	8.54	2.47	0.57	0.27	0.15	0.1	0.12	0.18	0.38	0.28
70	0.79	3.57	11.7	9.88	2.97	0.67	0.3	0.18	0.12	0.13	0.22	0.47	0.36
65	1.06	4.37	13.4	11.5	3.57	0.82	0.36	0.2	0.14	0.14	0.26	0.56	0.46
60	1.44	4.95	15.3	13.6	4.2	1	0.41	0.22	0.15	0.16	0.29	0.64	0.56
55	1.63	5.77	17.7	15.7	5.11	1.18	0.45	0.25	0.17	0.19	0.32	0.71	0.68
50	1.83	6.71	20.2	18.1	6.1	1.4	0.49	0.27	0.19	0.21	0.41	0.78	0.86
45	2.09	8.23	23	21.2	7.08	1.64	0.54	0.3	0.2	0.23	0.47	0.85	1.27
40	2.36	9.85	26	23.8	8.07	1.88	0.58	0.33	0.21	0.26	0.52	0.92	1.9
35	3.15	12	29.6	28.5	9.07	2.15	0.65	0.38	0.24	0.28	0.55	1.02	2.94
30	3.78	14.8	33.7	33.6	10.1	2.54	0.74	0.43	0.28	0.32	0.59	1.13	4.33
25	4.44	16.7	41.8	38.4	11.3	2.88	0.87	0.47	0.35	0.38	0.7	1.41	6.33
20	5.23	19.3	54.6	44.5	12.7	3.26	1.09	0.51	0.39	0.4	0.83	2.61	9.45
15	7.05	26.1	69.2	57.5	16.1	3.74	1.56	0.57	0.45	0.49	0.91	3.99	14.3
10	9.6	35.2	104	79.1	22.7	4.61	2.11	0.66	0.59	0.74	1.29	5.44	23.2
5	15.1	52.5	167.4	120.4	36	6.23	2.71	1.21	1.09	1.14	2.86	9.64	43.2

4- 4.R00-2A MUSA QALA RIVER NEAR MUSA QALA, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	8.20	3.40	3.01	2.56	2.06
0.95	1.05	20.7	11.3	9.64	7.89	6.03
0.90	1.11	33.2	19.8	16.6	13.4	10.0
0.80	1.25	58.1	36.9	30.2	23.7	17.5
0.50	2	162	99.8	77.8	58.8	43.2
0.20	5	427	214	159	116	86.9
0.10	10	694	294	212	152	116
0.04	25	1,140	389	272	193	151
0.02	50	1,570	453	311	219	174
0.01	100	2,070	511	345	241	195
0.005	200	2,650	562	374	260	213
0.002	500	3,560	ng	ng	ng	ng

4- 4.R00-2A MUSA QALA RIVER NEAR MUSA QALA, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.009	0.016	0.017	0.024	0.035	0.051	0.060	0.076	0.119
0.10	10	0.022	0.031	0.033	0.036	0.048	0.065	0.077	0.097	0.153
0.20	5	0.044	0.053	0.056	0.058	0.070	0.089	0.106	0.131	0.211
0.50	2	0.122	0.124	0.131	0.137	0.147	0.171	0.203	0.248	0.413

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.070	0.082	0.084	0.096	0.175	0.236	0.409	0.832
0.10	10	0.111	0.127	0.137	0.164	0.335	0.445	0.712	1.30
0.20	5	0.186	0.214	0.243	0.304	0.692	0.898	1.32	2.21
0.50	2	0.455	0.556	0.679	0.933	2.30	2.84	3.73	5.81
		June-July-August				September-October-November			
0.05	20	0	0	0.028	0.050	0.019	0.028	0.036	0.048
0.10	10	0.018	0.035	0.047	0.074	0.034	0.039	0.047	0.060
0.20	5	0.059	0.081	0.083	0.116	0.054	0.059	0.067	0.079
0.50	2	0.189	0.206	0.210	0.258	0.123	0.130	0.139	0.149

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1953	14-Feb		187	1967	27-Apr	--	220
1954	5-Apr	1.56	215	1968	9-Mar	--	681
1955	14-Mar	2.53	1,075	1969	16-Apr	--	85.7
1956	13-Dec	1.78	458	1970	9-Mar	--	30.0
1957	17-Mar	3.60	2,009	1971	25-Feb	--	10.8
1958	11-Dec	--	69.3	1972	12-Mar	--	496
1959	3-Mar	--	99.0	1973	25-Feb	--	142
1960	18-Apr	2.93	127	1974	21-Feb	--	199
1961	10-Apr	--	248	1975	15-May	--	222
1962	14-Nov	--	16.4	1976	27-Mar	--	400
1963	12-May	--	114	1977	10-Mar	--	42.0
1964	1-Apr	--	283	1978	9-Mar	--	158
1965	21-Apr	--	246	1979	18-Feb	--	56.0
1966	27-Apr	--	72.6				
Annual peak discharge, from highest to lowest							
1957	17-Mar	3.60	2,009	1978	9-Mar	--	158
1955	14-Mar	2.53	1,075	1973	25-Feb	--	142
1968	9-Mar	--	681	1960	18-Apr	2.93	127
1972	12-Mar	--	496	1963	12-May	--	114
1956	13-Dec	1.78	458	1959	3-Mar	--	99.0
1976	27-Mar	--	400	1969	16-Apr	--	85.7
1964	1-Apr	--	283	1966	27-Apr	--	72.6
1961	10-Apr	--	248	1958	11-Dec	--	69.3
1965	21-Apr	--	246	1979	18-Feb	--	56.0
1975	15-May	--	222	1977	10-Mar	--	42.0
1967	27-Apr	--	220	1970	9-Mar	--	30.0
1954	5-Apr	1.56	215	1962	14-Nov	--	16.4
1974	21-Feb	--	199	1971	25-Feb	--	10.8
1953	14-Feb	--	187				

4- 4.R00-2A MUSA QALA RIVER NEAR MUSA QALA, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1952	--	--	--	--	--	--	--	2.09	0.478	0.244	0.07	0.05	--
1953	0.077	0.069	0.246	0.354	20.6	7.58	14.7	0.887	3.07	0.422	0.093	0.064	3.87
1954	0.14	0.28	1.66	2.08	22.1	9.67	41.9	7.84	1.1	0.255	0.078	0.064	7.1
1955	0.105	0.098	0.109	0.196	0.172	31.3	8.19	5.28	0.539	0.469	0.229	0.103	3.95
1956	0.08	0.07	8.54	6.82	18.9	132	43.1	10.3	2.6	2.95	0.802	0.23	19
1957	0.332	0.658	0.916	9.92	17.4	154	141	77.4	10.8	2.91	0.882	1.04	34.9
1958	1.11	10.6	15.4	7.85	16.9	13.2	7.96	1.67	0.92	0.677	0.546	0.587	6.38
1959	0.409	0.311	3.37	5.03	12.6	55.4	39.3	10.4	3.61	1.77	0.605	0.544	11.1
1960	0.727	0.857	7.81	4.35	4.64	14.5	43.4	11.1	3.7	2.33	1.34	1.36	7.99
1961	1.47	2.97	1.24	1.71	2.63	7.23	42.6	7.33	1.3	0.678	0.383	0.175	5.77
1962	0.093	0.46	0.673	0.541	0.87	2.32	5.25	1.12	0.21	0.178	0.131	0.06	0.988
1963	0.098	0.054	0.123	0.192	0.21	4.4	10.9	22	1.99	0.12	0.031	0.07	3.38
1964	0.116	0.18	0.465	1.31	27.1	45.3	30.2	3.64	1.99	0.604	0.281	0.28	9.2
1965	0.28	0.286	0.404	8.68	29.3	17.7	30.2	14.4	2.52	0.46	0.254	0.13	8.56
1966	0.13	0.612	1.67	1.83	7.64	8.6	17.9	3.28	0.37	0.111	0.072	0.073	3.48
1967	0.106	0.167	0.187	0.073	15.9	15.6	32.5	20.8	5	0.724	0.085	0.081	7.51
1968	0.085	0.5	1.36	3.56	9.72	46.6	12.5	7.86	1.54	0.521	0.3	0.127	7.08
1969	0.103	0.464	7.49	4.06	5.53	20.3	20.3	6.55	1.78	0.784	0.429	0.225	5.67
1970	0.202	0.492	0.829	3.94	7.34	21.5	11	0.87	0.22	0.235	0.234	0.164	3.9
1971	0.202	0.255	0.311	0.452	1.38	1.52	0.885	0.75	0.626	0.559	0.321	0.133	0.612
1972	0.177	0.438	0.38	14.5	18.5	146	52.5	29	4.84	0.864	0.492	0.367	22.4
1973	0.419	0.66	1.72	1.67	19.4	29.5	14	2.9	0.75	0.854	0.499	0.423	5.98
1974	0.4	0.5	0.703	15.9	40.3	96	30.4	7.39	1.79	0.442	0.173	0.192	16.1
1975	0.277	0.425	9.76	13	28.4	39.1	35.8	12.2	2.25	0.816	0.365	0.21	11.8
1976	0.294	0.5	1.03	2.85	20	119	107	16.1	3.71	8.71	0.801	0.297	23.3
1977	0.277	0.791	0.77	4.66	27.9	25	13.9	3.63	0.965	0.16	0.338	0.202	6.4
1978	0.214	2.82	3.94	4.64	12.4	36.5	28.1	6.54	1.04	0.327	0.197	0.149	8.04
1979	0.684	1.22	0.797	3.52	16.3	18.2	25.3	10.9	1.57	0.323	0.301	0.357	6.54

4- 5.L00-1A TIRIN RIVER AT ANARJUY/DEHRAOUT

(U.S. Geological Survey identification number: 323800065340000)

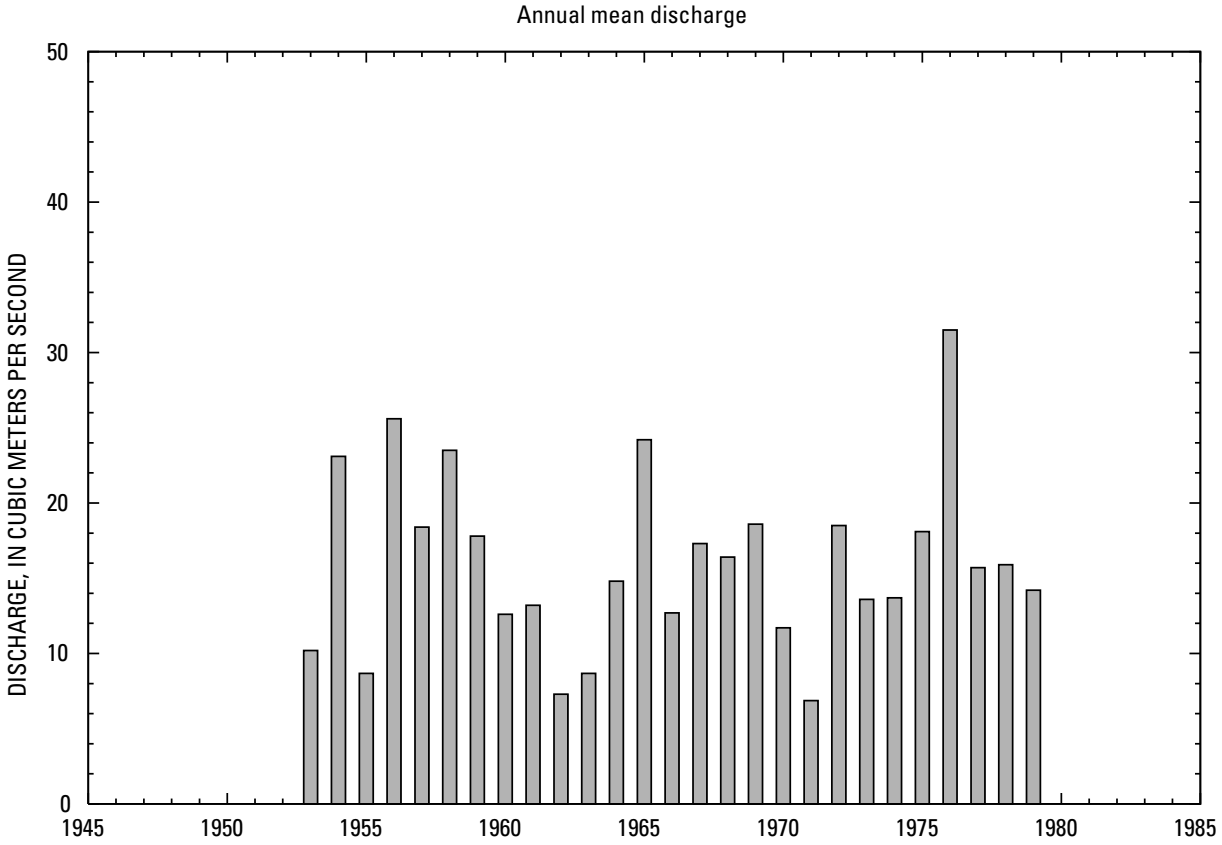
LOCATION: Lat 32º38'N., long 65º34'E., on left bank at Dehraout, 6 km upstream from Helmand River, and 65 km upstream from Kajakai Dam.

DRAINAGE AREA: 8,055 km^2 (from Survey of India maps).

ALTITUDE: 1,115 meters plus mean sea level.

PERIOD OF RECORD: December 13, 1951 to September 30, 1979.

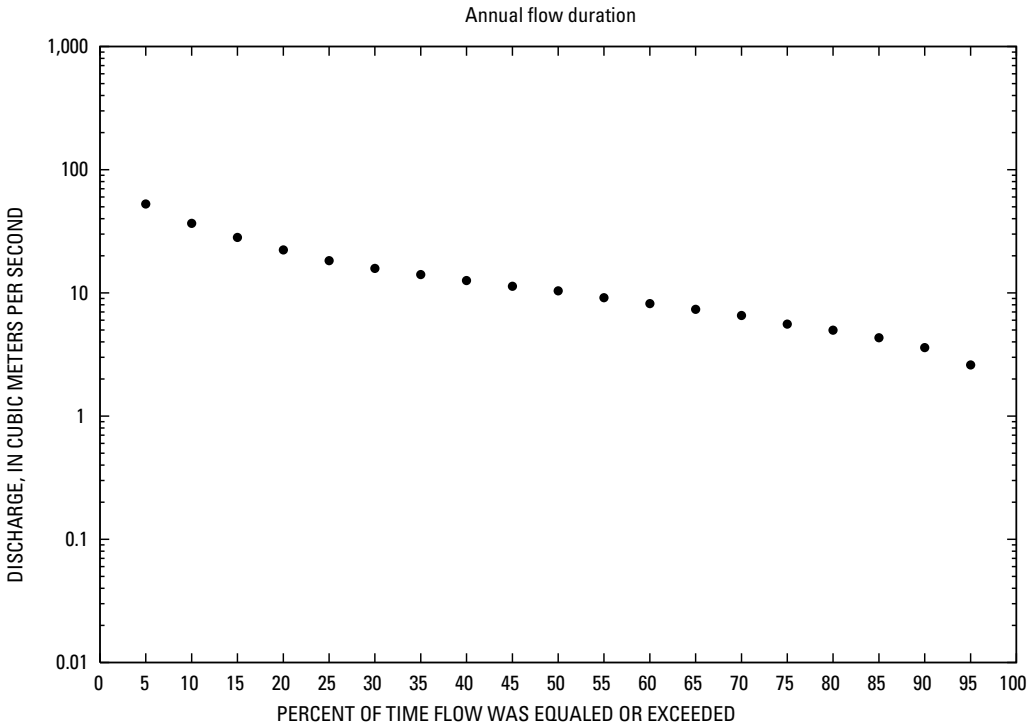
GAGE: Water-stage recorder.



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	13.1	1966	3.26	1964	6.62	2.55	0.39	3.44
November	19.0	1958	4.90	1972	9.78	3.57	0.37	5.09
December	28.6	1958	6.06	1972	12.9	5.29	0.41	6.72
January	29.9	1958	7.25	1963	14.4	5.57	0.39	7.51
February	46.0	1958	7.56	1963	20.0	9.09	0.45	10.4
March	70.3	1956	11.2	1963	33.2	14.8	0.45	17.3
April	115	1976	10.3	1971	44.0	25.0	0.57	22.9
May	71.0	1976	1.77	1971	22.5	16.2	0.72	11.7
June	26.6	1965	1.53	1971	9.21	6.74	0.73	4.79
July	28.4	1976	1.49	1971	8.41	7.07	0.84	4.37
August	18.4	1957	1.41	1971	6.05	3.95	0.65	3.15
September	14.2	1957	2.19	1971	5.15	2.99	0.58	2.68
Annual	31.5	1976	6.87	1971	16.0	5.88	0.37	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	7.4	8.03	10.1	11.6	3.27	2.21	2.03	1.82	2.21	3.1	4.72	5.93	2.6
90	8.29	8.7	12	14.6	5.62	2.85	2.39	2.13	2.35	3.6	5.33	7.19	3.6
85	8.9	10.1	14.5	17.5	6.83	3.32	2.72	2.51	2.62	3.96	5.65	7.73	4.32
80	9.57	11.1	16.2	19.9	8.19	4	3.19	2.77	2.91	4.26	6.34	8.25	4.98
75	10.2	11.8	18.9	22.6	9.18	4.43	3.67	3.15	3.34	4.56	6.9	8.99	5.57
70	10.7	12.5	20.6	25	10.3	4.93	4.09	3.53	3.73	4.88	7.22	9.58	6.55
65	11.1	13.5	22.9	28.6	11.6	5.34	4.47	3.83	3.92	5.14	7.75	10.1	7.35
60	11.5	14.7	25.2	32.1	13	5.98	4.87	4.14	4.05	5.45	8.29	10.4	8.18
55	12	15.7	27.5	34.8	14.7	6.38	5.22	4.46	4.25	5.92	8.69	10.8	9.14
50	12.4	16.7	29.3	38.2	16.5	6.81	5.54	4.78	4.51	6.35	9.07	11.3	10.4
45	13.1	17.8	31.3	41.5	18.8	7.45	6.01	5	4.69	6.69	9.48	11.9	11.3
40	13.8	18.8	33.5	44.8	21.6	8.12	6.63	5.22	4.98	6.97	10.1	12.6	12.6
35	14.5	20	36.1	49.2	23.7	9.38	7.1	5.53	5.18	7.24	10.5	13.2	14.1
30	15.4	21.4	39.1	53.6	25.4	10.5	7.59	5.95	5.35	7.48	10.9	13.7	15.8
25	16.6	23.6	41.6	58.1	29.9	11.6	8.29	6.77	5.59	7.77	11.3	14.2	18.3
20	17.6	26.8	46.7	63.3	35.1	12.9	9.22	7.35	6.12	8.38	12.3	14.9	22.3
15	19.1	29.8	51.4	70.1	42.2	15.2	12.7	8.77	6.89	8.98	13.9	16	28.2
10	23.1	36.7	58.7	78.8	50.4	20.5	18.9	12.3	9.85	10.9	14.9	18.4	36.7
5	28.8	43.4	72.6	103.3	61.2	23.8	22.9	16.6	12.9	12.6	16.5	26.8	52.7

4- 5.L00-1A TIRIN RIVER AT ANARJUY/DEHRAOUT, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	16.6	15.0	13.8	13.1
0.95	1.05	54.8	28.2	24.0	21.1	19.4
0.90	1.11	68.0	36.3	30.2	26.1	23.7
0.80	1.25	87.2	47.8	39.2	33.4	30.0
0.50	2	135	74.7	61.2	51.9	45.9
0.20	5	199	106	89.0	77.0	68.3
0.10	10	240	122	105	93.1	83.1
0.04	25	288	139	124	112	102
0.02	50	322	149	137	126	115
0.01	100	354	157	148	140	128
0.005	200	385	165	158	152	142
0.002	500	424	ng	ng	ng	ng

4- 5.L00-1A TIRIN RIVER AT ANARJUY/DEHRAOUT, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	1.45	1.48	1.55	1.60	1.72	1.88	1.98	2.10	2.70
0.10	10	1.73	1.77	1.84	1.91	2.04	2.26	2.40	2.58	3.29
0.20	5	2.16	2.20	2.30	2.38	2.54	2.82	3.04	3.31	4.18
0.50	2	3.38	3.45	3.60	3.72	3.96	4.38	4.78	5.26	6.48

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	4.89	5.46	5.84	6.41	2.58	2.83	2.98	3.85
0.10	10	5.53	6.06	6.42	7.07	3.44	3.84	4.23	5.61
0.20	5	6.44	6.92	7.27	8.03	4.79	5.43	6.23	8.48
0.50	2	8.68	9.14	9.58	10.6	8.62	9.83	11.9	16.7
		June-July-August				September-October-November			
0.05	20	1.47	1.58	1.65	1.78	1.86	1.97	2.08	2.24
0.10	10	1.74	1.88	1.96	2.12	2.12	2.26	2.37	2.54
0.20	5	2.17	2.35	2.46	2.65	2.52	2.69	2.80	3.00
0.50	2	3.50	3.80	3.97	4.27	3.68	3.91	4.06	4.31

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1952	27-Mar	2.00	102	1966	15-Apr	--	205
1953	26-May	1.64	70.2	1967	31-Mar	--	220
1954	15-Mar	--	142	1968	22-Dec	--	142
1955	14-Mar	1.19	47.8	1969	15-Apr	--	166
1956	20-Mar	2.10	172	1970	23-Aug	--	88.4
1957	17-Mar	2.65	249	1971	25-Feb	--	50.0
1958	2-Feb	1.70	125	1972	28-Apr	--	191
1959	2-Mar	1.70	122	1973	19-Jul	--	256
1960	16-Apr	1.71	95.9	1974	26-Jan	--	122
1961	3-Apr	--	75.0	1975	15-May	--	148
1962	24-Dec	--	24.3	1976	24-Apr	--	236
1963	12-May	--	112	1977	9-Jan	--	169
1964	30-Mar	--	98.3	1978	25-Dec	--	315
1965	3-Feb	--	109	1979	29-Mar	--	182
Annual peak discharge, from highest to lowest							
1978	25-Dec	--	315	1958	2-Feb	1.70	125
1973	19-Jul	--	256	1974	26-Jan	--	122
1957	17-Mar	2.65	249	1959	2-Mar	1.70	122
1976	24-Apr	--	236	1963	12-May	--	112
1967	31-Mar	--	220	1965	3-Feb	--	109
1966	15-Apr	--	205	1952	27-Mar	2.00	102
1972	28-Apr	--	191	1964	30-Mar	--	98.3
1979	29-Mar	--	182	1960	16-Apr	1.71	95.9
1956	20-Mar	2.10	172	1970	23-Aug	--	88.4
1977	9-Jan	--	169	1961	3-Apr	--	75.0
1969	15-Apr	--	166	1953	26-May	1.64	70.2
1975	15-May	--	148	1971	25-Feb	--	50.0
1968	22-Dec	--	142	1955	14-Mar	1.19	47.8
1954	15-Mar	--	142	1962	24-Dec	--	24.3

4- 5.L00-1A TIRIN RIVER AT ANARJUY/DEHRAOUT, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1952	--	--	--	--	--	--	38	18.9	6.38	5.52	4.62	4.05	--
1953	4.72	6.67	8.68	9.83	17.5	32	22.7	8.25	4.66	2.42	2.39	2.53	10.2
1954	4.09	5.94	10.1	21.4	37.8	51.4	76.1	40.6	13	7.97	5.8	4.59	23.1
1955	6.83	11	11.5	11.4	10.5	17.8	14.2	8.79	3.91	3	2.61	2.81	8.68
1956	4.05	5.27	16.9	10.2	15.4	70.3	103	36.3	7.03	25.2	8.17	5.76	25.6
1957	5.47	9.38	11	17.6	20	29.9	28	22.6	22.7	21.9	18.4	14.2	18.4
1958	12.4	19	28.6	29.9	46	54.1	40.3	15.8	11.4	10.1	8.25	7.36	23.5
1959	7.46	9.11	14.9	17	18.4	47.9	54.7	20.3	7.77	6.64	4.86	4.88	17.8
1960	6.84	10.8	13.8	11.9	12.2	16.6	34.9	25.6	5.38	4.2	4.58	5.03	12.6
1961	5.5	9.77	10.8	10.7	11.3	20.9	41.8	22.3	10.5	6.13	4.44	4.44	13.2
1962	6.74	9.7	11.5	10.2	9.02	11.5	15.1	4.79	2.37	2.27	2.05	2.5	7.29
1963	3.94	5	6.4	7.25	7.56	11.2	15.7	34.6	5.55	2.41	1.96	2.24	8.67
1964	3.26	6.86	6.76	10.5	17.4	34.5	67	16.4	4.46	5.46	3.62	2.35	14.8
1965	3.59	6.39	8.38	16.3	37.5	38	50.8	57.9	26.6	17.8	15	13.1	24.2
1966	13.1	14.1	16.3	15.4	17.6	15.5	34.9	7.54	4.77	3.61	5.39	4.72	12.7
1967	6.12	9.02	8.29	9.05	30.5	26.8	35.8	39.9	22.6	9.42	5.69	5.73	17.3
1968	8.09	9.99	15.3	7.12	17.6	39.8	42.1	24.4	11.2	8.36	7.2	6.48	16.4
1969	8.17	11.7	26.1	19.2	22.2	40.2	47.6	21.4	9.64	6.47	5.03	5.38	18.6
1970	7.68	15.9	13.6	15.3	15	21.7	21.9	8.06	4.12	4.33	9.71	3.71	11.7
1971	5.28	7.41	10	10.8	15	15.8	10.3	1.77	1.53	1.49	1.41	2.19	6.87
1972	3.35	4.9	6.06	13.5	15	47.8	67.4	33.8	12.1	7.07	5.6	5.27	18.5
1973	7.72	10.4	14.2	14.3	20.1	30.2	30.2	11.2	5.87	13	3.2	3.74	13.6
1974	5.78	7	9.12	15.3	20.2	44.2	38.7	11	3.86	3.02	2.72	3.52	13.7
1975	5.75	7.09	12.4	13.4	16.7	41.7	62.6	31.7	9.97	6.31	5.5	4.88	18.1
1976	7.48	10.1	13.4	12.5	25.2	50.6	115	71	22.9	28.4	12.2	10.7	31.5
1977	11.5	14.3	15.1	28.8	28.2	31.8	28.6	9.27	5.96	4.52	6.53	4.54	15.7
1978	7.31	14.3	18.4	17.8	18.9	29.2	41.9	11.8	5.19	14	8.74	3.89	15.9
1979	6.51	12.9	11.1	13	18.2	24.8	51.9	14.4	6.44	4.38	3.85	3.69	14.2

4- 5.L00-4A TIRIN RIVER AT TIRIN

(U.S. Geological Survey identification number: 323800065560000)

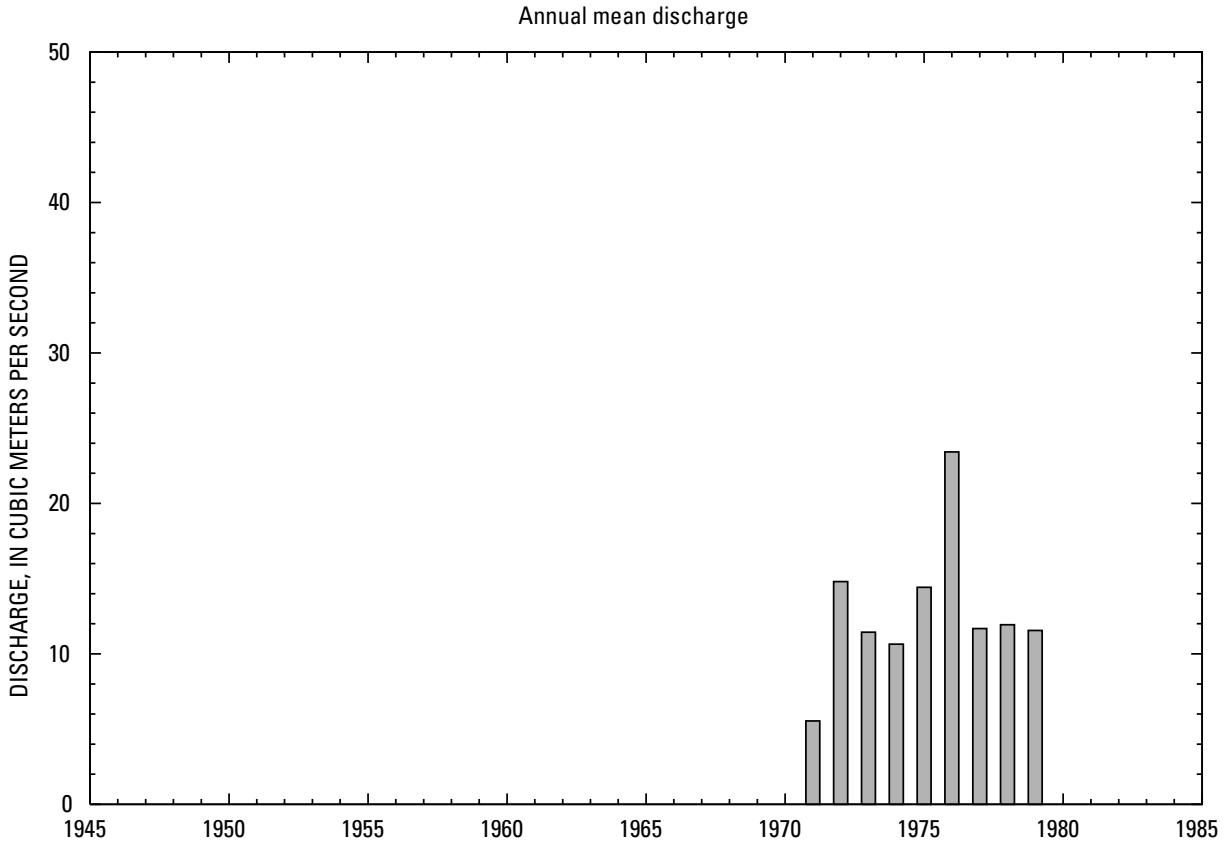
LOCATION: Lat 32º38'N., long 65º56'E.

DRAINAGE AREA: 3,680 km^2.

ALTITUDE: 1,358 meters plus mean sea level.

PERIOD OF RECORD: December 21, 1969 to March 19, 1980.

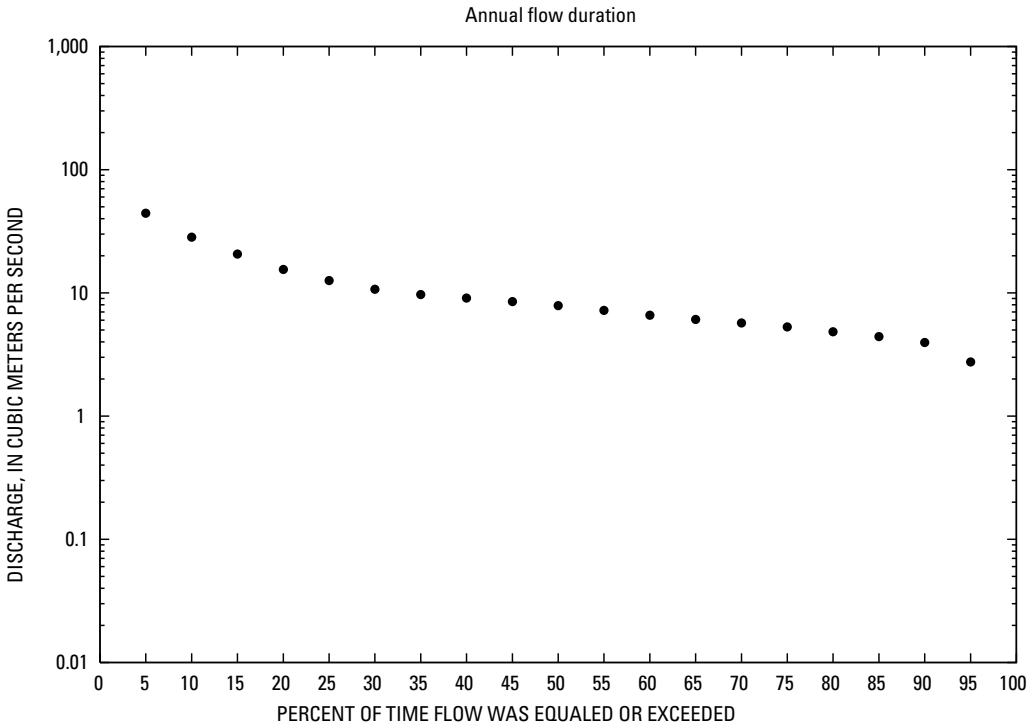
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	8.66	1977	2.86	1972	5.14	1.49	0.29	3.44
November	10.1	1977	4.10	1972	6.89	1.77	0.26	4.61
December	10.7	1977	4.37	1972	7.96	1.66	0.21	5.32
January	15.3	1977	7.20	1978	9.25	2.26	0.24	6.18
February	18.7	1977	9.18	1978	12.4	3.16	0.26	8.27
March	36.9	1972	11.6	1971	25.0	7.39	0.30	16.7
April	91.3	1976	8.67	1971	39.8	23.9	0.60	26.6
May	57.3	1976	2.26	1971	17.4	15.9	0.91	11.6
June	18.3	1976	1.91	1971	7.23	4.44	0.61	4.83
July	22.7	1976	2.08	1971	8.24	6.55	0.79	5.51
August	10.4	1976	1.74	1971	5.73	2.56	0.45	3.83
September	9.04	1976	2.25	1971	4.57	1.81	0.40	3.06
Annual	23.4	1976	5.54	1971	12.8	4.77	0.37	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	6.06	7.84	10.2	9.58	2.25	2	2.19	1.76	2.24	2.78	4.17	4.4	2.75
90	6.82	8.2	12.2	12.1	3.04	2.16	2.84	2.16	2.64	3.23	4.71	5.69	3.96
85	7.41	8.42	12.8	16.9	6.44	4.18	3.86	3.51	3.02	3.88	5.13	6.34	4.42
80	7.61	8.59	13.7	19.9	7.38	4.56	4.1	3.78	3.42	4.11	5.46	6.62	4.83
75	7.81	8.79	15.3	22.1	7.96	4.88	4.32	3.99	3.95	4.27	5.69	6.97	5.29
70	8	9.09	16.5	23.7	8.38	5.29	4.53	4.13	4.01	4.38	5.99	7.18	5.7
65	8.19	9.89	17.7	25	8.94	5.5	4.74	4.28	4.07	4.53	6.2	7.36	6.09
60	8.38	10.3	19	26.8	9.77	5.74	5.12	4.46	4.13	4.79	6.33	7.54	6.59
55	8.57	10.7	20.5	30.7	10.5	6.03	5.44	4.63	4.19	4.96	6.54	7.68	7.22
50	8.7	11.3	22.4	34.9	11.3	6.24	5.58	5.05	4.25	5.07	6.7	7.82	7.87
45	8.81	11.5	23.6	38.7	12.2	6.43	5.72	5.26	4.31	5.16	6.83	8.31	8.51
40	8.93	11.9	24.8	42.1	13.4	6.61	5.87	5.46	4.36	5.27	6.95	8.5	9.09
35	9.09	12.4	25.9	44.9	14.7	6.83	6.01	5.63	4.49	5.4	7.13	8.59	9.71
30	9.48	13.2	27.6	47.8	16.2	7.06	6.16	5.79	4.63	5.56	7.35	8.69	10.7
25	9.88	13.9	30.9	51	19.1	7.77	6.54	5.95	4.83	5.76	7.63	8.78	12.6
20	10.3	15.1	34.7	54.3	24.6	9.17	6.92	6.34	5.2	5.94	7.94	8.94	15.5
15	10.8	15.8	37.2	57.7	30.8	10.3	11	8.95	5.47	6.2	9.36	9.39	20.7
10	11.5	18	41.6	69.7	40.3	12.6	13.6	9.85	6.23	7.07	10.2	10.4	28.3
5	15.2	21.4	52.8	93	61.5	17.9	21.5	11.1	8.77	8.7	10.5	10.9	44.3

4- 5.L00-4A TIRIN RIVER AT TIRIN, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	16.8	[1]7.56	8.67	8.32	7.58
0.95	1.05	34.8	15.8	15.5	14.7	13.6
0.90	1.11	49.6	22.5	20.6	19.5	18.1
0.80	1.25	74.0	33.1	28.7	26.9	24.9
0.50	2	145	62.1	51.0	46.8	42.6
0.20	5	255	102	84.6	75.8	66.2
0.10	10	329	125	107	94.8	80.5
0.04	25	418	150	136	118	96.8
0.02	50	481	167	156	134	108
0.01	100	540	181	176	150	118
0.005	200	596	[1]193	195	165	127
0.002	500	665	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 5.L00-4A TIRIN RIVER AT TIRIN, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	1.70	1.78	1.82	1.84	1.90	2.06	2.13	2.18	2.44
0.10	10	2.04	2.13	2.17	2.22	2.28	2.46	2.62	2.70	3.05
0.20	5	2.53	2.62	2.67	2.75	2.82	3.02	3.30	3.42	3.89
0.50	2	3.73	3.82	3.89	4.02	4.10	4.36	4.86	5.07	5.78

Probability of occurrence of seasonal low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	4.52	4.59	4.66	4.78	2.22	2.38	2.48	2.86
0.10	10	5.05	5.16	5.30	5.52	3.18	3.40	3.57	4.24
0.20	5	5.71	5.87	6.09	6.43	4.62	4.93	5.28	6.53
0.50	2	7.04	7.28	7.61	8.04	7.94	8.54	9.63	13.0
		June-July-August				September-October-November			
0.05	20	1.79	1.94	1.97	2.04	2.08	2.20	2.32	2.44
0.10	10	2.20	2.38	2.44	2.53	2.39	2.50	2.61	2.73
0.20	5	2.79	3.01	3.11	3.23	2.84	2.94	3.04	3.14
0.50	2	4.24	4.50	4.64	4.86	3.91	3.99	4.07	4.16

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m^3/s)	Water year	Date	Gage height (meters)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1970	23-Aug	--	94.2	1975	17-May	--	127
1971	25-Feb	--	30.7	1976	22-Jul	--	325
1972	27-Apr	--	160	1977	4-Apr	--	66.2
1973	19-Jul	--	280	1978	4-Jul	--	318
1974	7-Apr	--	100	1979	30-Mar	--	171
Annual peak discharge, from highest to lowest							
1976	22-Jul	--	325	1975	17-May	--	127
1978	4-Jul	--	318	1974	7-Apr	--	100
1973	19-Jul	--	280	1970	23-Aug	--	94.2
1979	30-Mar	--	171	1977	4-Apr	--	66.2
1972	27-Apr	--	160	1971	25-Feb	--	30.7

4- 5.L00-4A TIRIN RIVER AT TIRIN, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1970	--	--	--	10.23	11.6	18.75	20.75	7.13	4.59	4.55	6.21	3.04--	
1971	4.07	6.42	7.83	8.35	9.59	11.63	8.67	2.26	1.91	2.08	1.74	2.25	5.54
1972	2.86	4.1	4.37	7.21	9.41	36.86	61.61	26.42	9.63	6.14	5.03	4.27	14.8
1973	5.4	7.11	8.96	10.25	16.85	28.07	27.95	10.54	6.05	9.1	3.59	3.91	11.44
1974	4.52	5.2	6.45	9.44	10.4	29.88	33.9	11.36	4.61	3.93	4.03	4.19	10.65
1975	5.04	5.79	7.83	8.01	11.54	30.76	52.76	25.47	8.5	6.19	5.92	5.48	14.42
1976	5.67	7.06	8.59	8.75	13.05	29.18	91.34	57.26	18.33	22.74	10.41	9.04	23.42
1977	8.66	10.06	10.66	15.31	18.66	24.09	22.43	10.16	6.2	4.75	5.58	4.18	11.68
1978	4.7	6.88	8.59	7.2	9.18	22.02	35.81	11.49	6.05	17.08	9.29	4.75	11.93
1979	5.62	9.35	8.63	8.85	10.97	18.68	42.98	11.72	6.41	5.85	5.52	4.63	11.56
1980	4.91	6.92	7.66	8.14	14.87	--	--	--	--	--	--	--	--

4- 5.L00-8A TIRIN RIVER AT UROSGAN

(U.S. Geological Survey identification number: 325800066390000)

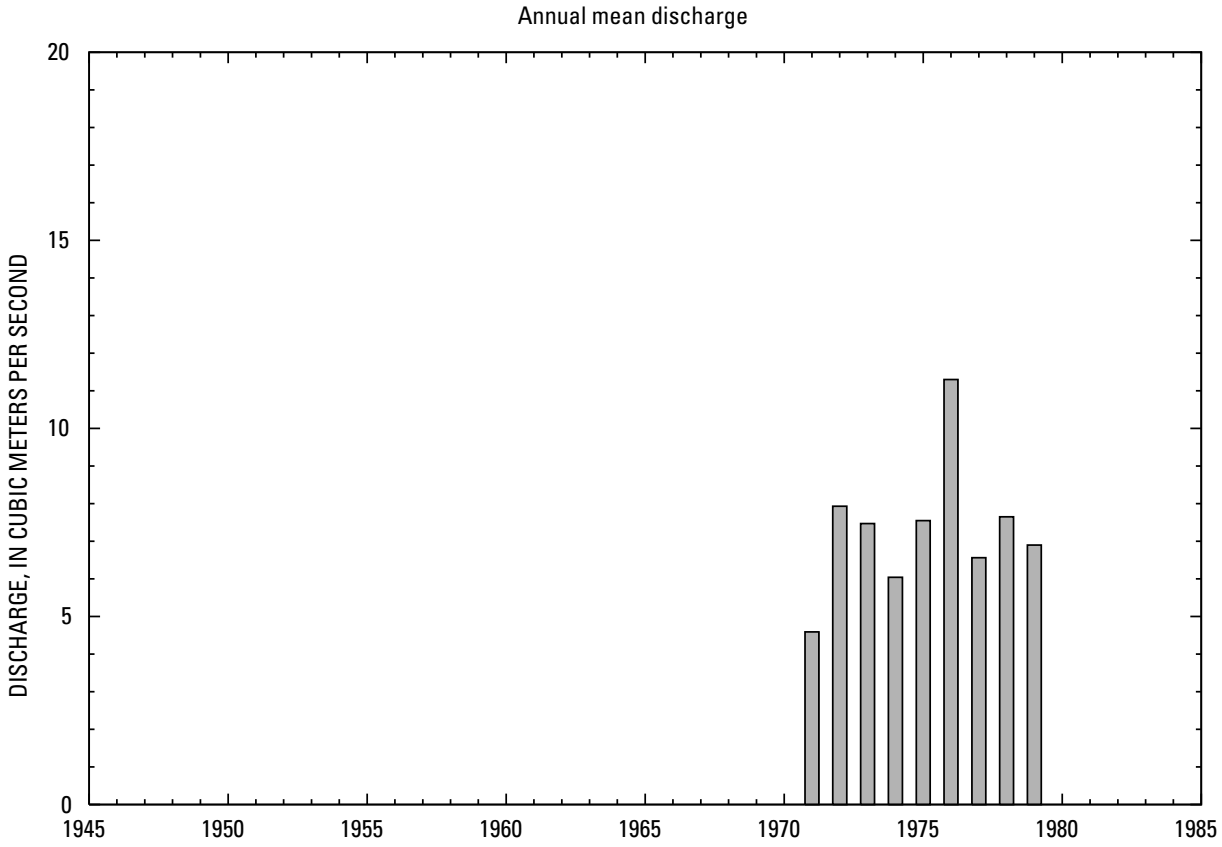
LOCATION: Lat 32º58'N., long 66º39'E.

DRAINAGE AREA: 1,060 km^2.

ALTITUDE: 2,028 meters plus mean sea level.

PERIOD OF RECORD: April 1, 1970 to February 19, 1980.

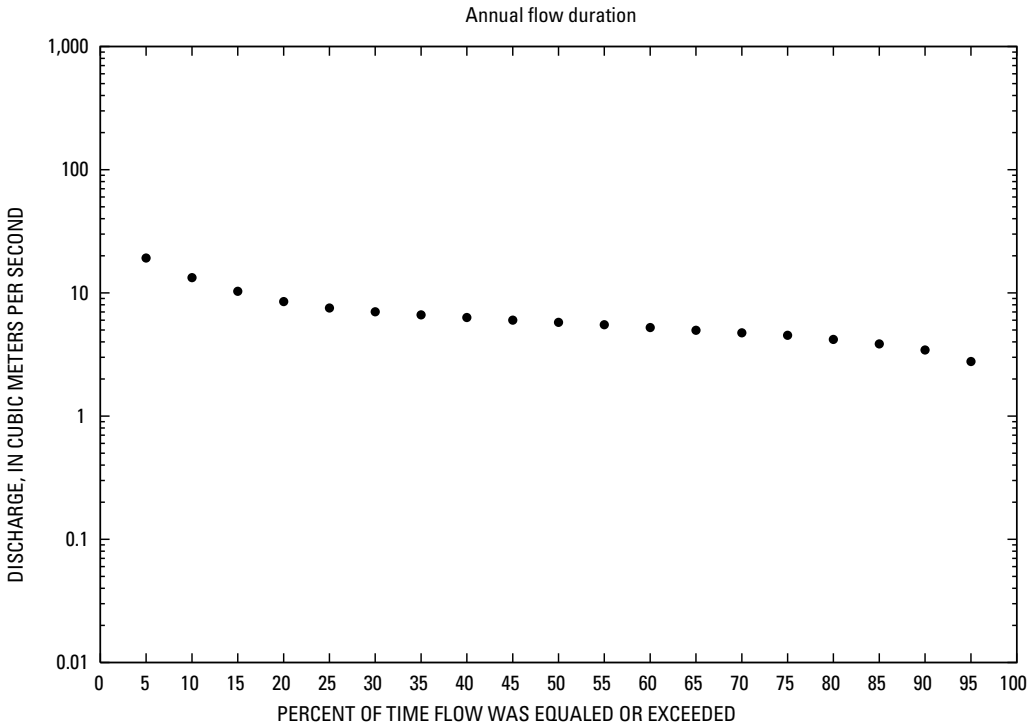
GAGE: --



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	7.03	1977	3.08	1975	4.38	1.27	0.29	5.03
November	6.83	1977	3.19	1975	5.29	1.10	0.21	6.08
December	6.61	1973	3.75	1975	5.45	0.99	0.18	6.26
January	7.29	1973	4.13	1975	5.53	0.96	0.17	6.36
February	7.96	1973	4.55	1975	6.12	1.06	0.17	7.04
March	14.8	1972	6.83	1979	10.6	2.65	0.25	12.2
April	29.7	1976	6.49	1971	16.8	7.59	0.45	19.3
May	22.5	1976	2.62	1971	9.71	5.38	0.55	11.2
June	13.2	1976	2.54	1971	6.31	2.77	0.44	7.25
July	15.2	1976	2.71	1971	6.60	3.98	0.60	7.58
August	9.33	1976	2.63	1971	5.74	2.22	0.39	6.60
September	7.93	1976	2.52	1971	4.44	1.57	0.35	5.11
Annual	11.3	1976	4.59	1971	7.33	1.81	0.25	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	4.12	4.4	5.16	6.83	2.59	2.42	2.64	2.71	2.53	2.78	3.19	3.44	2.77
90	4.29	4.67	6.44	8.18	3.18	3.02	2.79	2.95	2.61	2.85	3.75	4.07	3.44
85	4.38	4.91	6.8	8.59	6.09	4.38	3.52	3.53	2.98	3.02	4.15	4.12	3.85
80	4.55	5.1	7.46	8.96	6.48	4.69	3.68	3.7	3.05	3.22	4.35	4.37	4.19
75	4.89	5.26	7.8	9.77	6.71	4.89	4.3	3.87	3.13	3.39	4.41	4.56	4.53
70	5.03	5.48	8.2	10.5	6.94	5.06	4.55	4.28	3.3	3.49	4.67	4.85	4.75
65	5.11	5.54	8.4	11.5	7.17	5.21	4.69	4.51	3.68	3.74	4.79	5.16	4.97
60	5.17	5.73	8.6	12.5	7.39	5.37	4.83	4.7	3.85	3.94	4.97	5.45	5.24
55	5.24	5.81	8.95	14.1	7.67	5.73	4.97	4.86	3.99	4.07	5.19	5.55	5.52
50	5.44	6.19	9.36	16	8.15	5.98	5.11	5.05	4.11	4.32	5.28	5.73	5.76
45	5.52	6.41	9.78	17.2	8.4	6.14	5.25	5.29	4.32	4.41	5.5	5.78	6.01
40	5.73	6.45	10.2	18.3	8.63	6.31	5.4	5.57	4.4	4.5	5.78	5.84	6.31
35	5.81	6.49	10.7	19.5	8.89	6.57	5.55	5.82	4.48	4.59	5.87	6.11	6.63
30	6.04	6.52	11.3	20.6	10.2	6.83	5.7	5.98	4.87	4.76	6.04	6.16	7.03
25	6.3	6.71	12.2	21.7	11.2	7.05	5.85	6.14	5.41	4.91	6.16	6.22	7.55
20	6.51	7.02	13.1	22.7	12.7	7.24	7.12	6.69	5.86	5.29	6.26	6.41	8.51
15	6.81	7.57	14.3	23.7	14.6	7.5	8.72	8.07	6.33	5.8	6.56	6.49	10.3
10	6.92	7.72	17.5	25.9	17.7	9.07	12.7	9.35	6.77	6.76	6.88	6.59	13.3
5	7.27	7.91	21.2	35.6	23.2	0	13.5	9.86	7.67	6.96	7.02	6.74	19.2

4- 5.L00-8A TIRIN RIVER AT UROSGAN, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	7.10	[1]5.81	[1]6.18	[1]6.53	[1]6.32
0.95	1.05	10.4	9.54	[1]9.6	9.37	8.87
0.90	1.11	13.0	12.2	11.9	11.2	10.5
0.80	1.25	17.3	16.1	15.3	13.9	12.9
0.50	2	31.4	26.2	23.4	20.5	18.4
0.20	5	61.8	39.9	33.7	29.1	25.7
0.10	10	90.8	48.5	39.9	34.6	30.2
0.04	25	140	58.7	47.0	41.2	35.5
0.02	50	188	65.8	51.8	45.9	39.3
0.01	100	248	72.5	56.2	50.4	42.9
0.005	200	321	78.8	60.3	54.8	46.4
0.002	500	444	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 5.L00-8A TIRIN RIVER AT UROSGAN, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	[1]2.11	2.09	2.10	2.20	2.34	2.50	2.59	2.60	2.74
0.10	10	2.29	2.30	2.32	2.41	2.56	2.77	2.92	2.97	3.16
0.20	5	2.56	2.60	2.62	2.71	2.88	3.13	3.35	3.47	3.71
0.50	2	3.28	3.37	3.42	3.50	3.69	4.00	4.30	4.51	4.80

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 5.L00-8A TIRIN RIVER AT UROSGAN, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	3.26	[1]3.25	3.36	3.64	2.75	2.75	2.78	3.01
0.10	10	3.60	3.62	3.70	3.94	3.52	3.56	3.60	3.94
0.20	5	4.04	4.08	4.15	4.32	4.45	4.60	4.70	5.24
0.50	2	4.92	4.99	5.04	5.12	5.91	6.38	6.80	7.99
		June-July-August				September-October-November			
0.05	20	2.52	2.55	2.56	2.68	2.14	2.14	2.28	2.38
0.10	10	2.83	2.87	2.89	3.04	2.31	2.34	2.46	2.58
0.20	5	3.26	3.32	3.36	3.55	2.57	2.62	2.73	2.88
0.50	2	4.35	4.42	4.52	4.75	3.29	3.39	3.47	3.66

[1]Data does not fit log-Pearson Type III curve, use with caution.

4- 5.L00-8A TIRIN RIVER AT UROSGAN, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1970	22-Aug	--	20.0	1975	4-Apr	--	37.2
1971	19-Mar	--	10.2	1976	23-Jul	--	82.6
1972	26-Apr	--	40.0	1977	29-Mar	--	15.2
1973	18-Jul	--	40.2	1978	5-Jul	--	137
1974	23-Mar	--	28.1	1979	8-Apr	--	27.5
Annual peak discharge, from highest to lowest							
1978	5-Jul	--	137	1974	23-Mar	--	28.1
1976	23-Jul	--	82.6	1979	8-Apr	--	27.5
1973	18-Jul	--	40.2	1970	22-Aug	--	20.0
1972	26-Apr	--	40.0	1977	29-Mar	--	15.2
1975	4-Apr	--	37.2	1971	19-Mar	--	10.2

4- 5.L00-8A TIRIN RIVER AT UROSGAN, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1970	--	--	--	--	--	--	8.84	8.31	6.64	5.33	6.83	3.37	--
1971	3.33	5.19	5.8	6.28	6.82	8.35	6.49	2.62	2.54	2.71	2.63	2.52	4.59
1972	3.32	4.25	4.22	5.09	6.52	14.8	24.9	12.9	6.73	4.28	3.92	4.32	7.93
1973	4.82	5.84	6.61	7.29	7.96	12.8	14.7	7.5	5.4	7.2	5.56	4.01	7.47
1974	3.53	4.36	4.41	4.65	5.83	13.4	14.7	7.01	4.45	3.56	3.47	3.12	6.04
1975	3.08	3.19	3.75	4.13	4.55	11.7	23.9	12.4	6.45	5.72	5.98	5.73	7.55
1976	5.95	5.95	5.72	5.57	5.74	9.08	29.7	22.5	13.2	15.2	9.33	7.93	11.3
1977	7.03	6.83	6.41	6.68	6.98	9.19	9.83	6.59	4.95	4.73	5.19	4.29	6.56
1978	4.6	5.02	5.3	5.12	5.7	9.54	15.4	7.33	7.03	12.1	9.12	5.41	7.65
1979	4.24	6.19	6.21	5.25	4.97	6.83	19.4	9.91	5.7	5.13	5.33	3.7	6.9
1980	3.89	6.06	6.03	5.28	--	--	--	--	--	--	--	--	--

4- 6.R00-1A KAJ RIVER NEAR YAKHDAN

(U.S. Geological Survey identification number: 325800065300000)

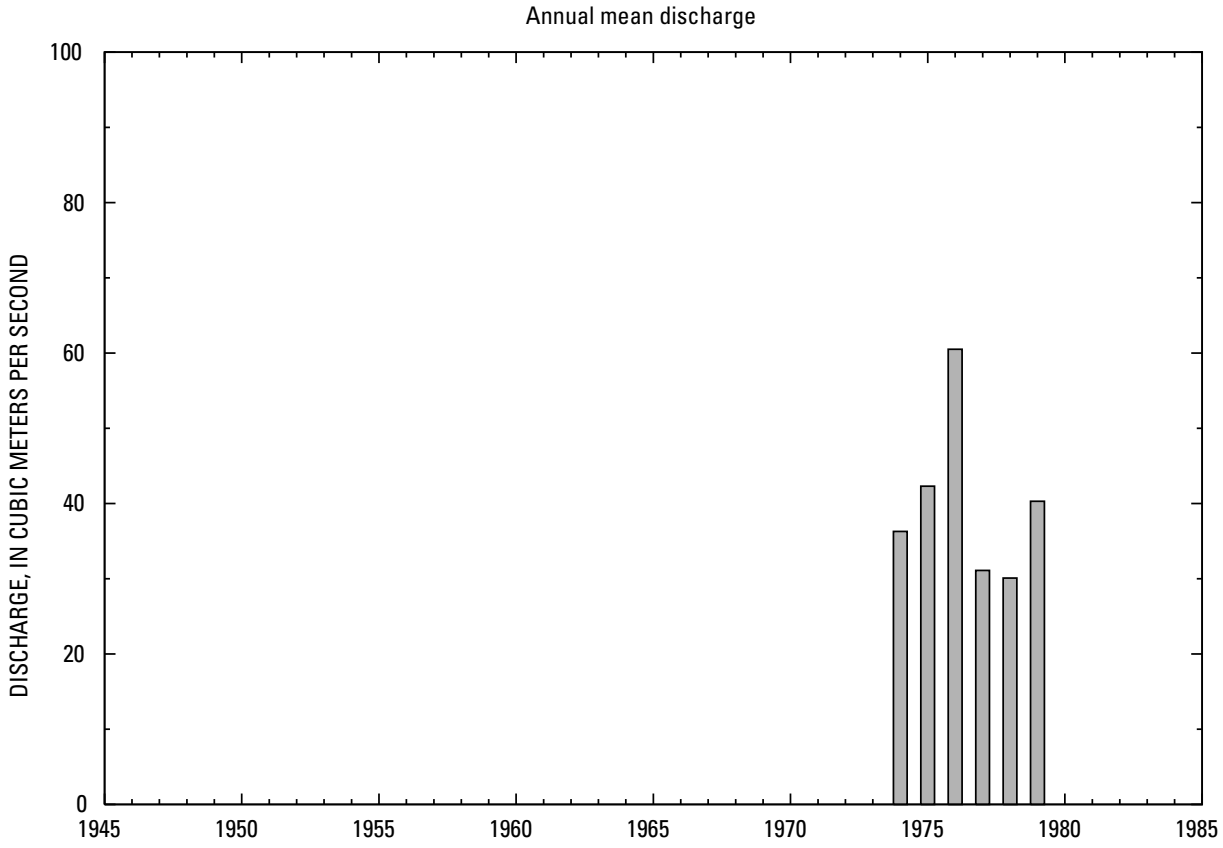
LOCATION: Lat 32º58'N., long 65º30'E.

DRAINAGE AREA: 11,590 km^2.

ALTITUDE: 1,125 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1973 to March 18, 1980.

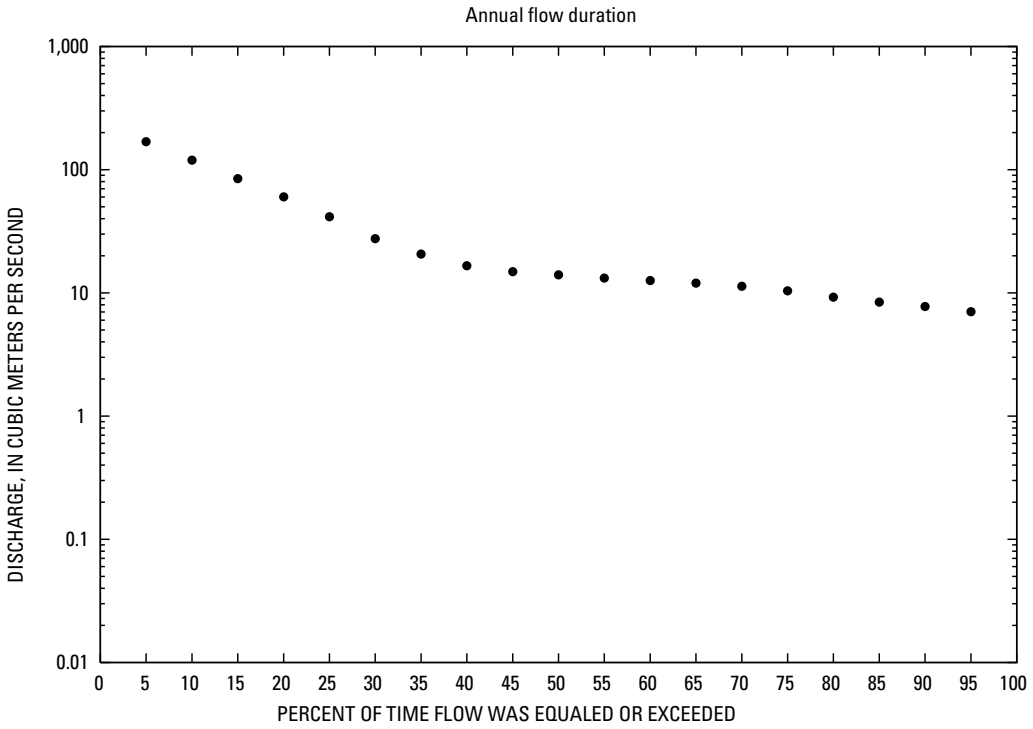
GAGE: --



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	17.4	1980	8.36	1979	10.7	3.19	0.30	2.19
November	18.6	1978	10.3	1974	14.2	3.46	0.24	2.91
December	17.8	1980	11.4	1974	13.7	2.11	0.15	2.80
January	18.0	1977, 1980	11.0	1974	14.5	2.88	0.20	2.98
February	41.4	1980	17.1	1975	26.2	8.61	0.33	5.38
March	116	1974	60.7	1979	86.3	24.7	0.29	17.7
April	287	1976	115	1978	171	62.3	0.36	35.1
May	171	1976	44.1	1978	93.1	50.3	0.54	19.1
June	43.9	1976	13.4	1978	26.8	11.7	0.44	5.50
July	14.9	1979	7.97	1978	12.8	4.83	0.38	2.63
August	14.2	1979	7.17	1974	8.96	2.62	0.29	1.84
September	15.1	1979	6.53	1978	9.00	3.14	0.35	1.85
Annual	60.5	1976	30.1	1978	40.1	11.1	0.28	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	10.2	13.3	28.5	90.6	30.3	11.4	6.7	6.41	5.76	7.48	9.61	11	7.05
90	10.9	14	31.6	98.2	37.2	12	7.74	6.67	6.25	7.91	10.1	11.2	7.74
85	11.1	14.4	39.6	105.1	41.2	12.4	8.23	6.87	6.75	8.09	10.5	11.3	8.42
80	11.3	14.8	45.9	110	44.5	13.6	8.69	7.31	6.94	8.49	10.9	11.6	9.24
75	11.9	15.3	53.2	118	49.4	15.6	9.07	7.47	7.14	8.59	11.2	11.9	10.4
70	12.4	16.1	58.5	127	51.9	17.5	9.4	7.8	7.54	8.68	11.4	12	11.3
65	12.7	17.2	62	136	58.5	19.2	9.72	7.85	7.67	8.8	11.6	12.2	12
60	13	18	65.8	142.2	63.4	20	10	7.9	7.75	8.95	11.9	12.3	12.6
55	13.3	18.6	70.1	147	68.3	21	10.4	7.95	7.83	9.1	12.1	12.5	13.2
50	13.6	19.4	74.3	156	73.9	22.4	11.5	7.99	7.91	9.25	12.4	12.8	14
45	13.8	21	79.9	166	79.4	23.8	12.3	8.07	8.05	9.69	12.7	13	14.9
40	14	22.9	83.1	170.2	91	25.1	13	8.19	8.19	10.2	13.3	13.3	16.6
35	14.2	24.9	86.8	174.5	101	28.3	13.5	8.31	8.35	10.7	13.7	13.5	20.7
30	14.8	26.8	91	182.3	119.3	30.4	14.1	8.47	8.81	11.2	14.1	13.8	27.6
25	15.8	29	105.2	198.4	129.8	33.7	14.6	9.11	9.01	11.4	14.8	14.4	41.5
20	16.5	34	112.2	215.5	144	38.3	15.2	10.3	10.5	12.1	16	15.2	60.2
15	17.1	38.1	126.7	229.8	160.8	44.4	15.8	12.4	14.1	14.2	17.5	16.4	84.6
10	18.7	45.7	170.2	273.2	184.9	49.4	16.8	13.8	14.5	16.9	19	17	119.4
5	22	51.5	192.9	330	211.4	57.6	20.2	0	15.7	17.5	21.5	18.5	169

4- 6.R00-1A KAJ RIVER NEAR YAKHDAN, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	146	[2]126	129	115	90.2
0.95	1.05	168	142	140	124	104
0.90	1.11	183	154	148	132	113
0.80	1.25	206	172	162	145	127
0.50	2	268	224	205	183	164
0.20	5	369	314	285	253	223
0.10	10	447	387	354	312	269
0.04	25	560	496	460	402	333
0.02	50	654	590	555	482	385
0.01	100	757	670	667	576	443
0.005	200	871	818	797	684	506
0.002	500	1,040	ng	ng	ng	ng

[1]Less than 10 years of data used.

[2]Data does not fit log-Pearson Type III curve, use with caution.

4- 6.R00-1A KAJ RIVER NEAR YAKHDAN, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	4.91	5.05	5.12	5.40	5.91	6.44	6.69	7.24	8.85
0.10	10	5.31	5.43	5.54	5.80	6.22	6.72	6.96	7.46	9.10
0.20	5	5.80	5.88	6.04	6.26	6.60	7.06	7.32	7.79	9.47
0.50	2	6.71	6.75	6.94	7.09	7.30	7.75	8.09	8.67	10.4

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	8.17	9.45	10.6	10.9	21.4	21.6	24.0	42.0
0.10	10	8.60	9.74	10.7	11.1	22.6	24.7	27.3	44.0
0.20	5	9.19	10.2	11.0	11.4	24.2	28.8	31.9	47.3
0.50	2	10.6	11.4	11.9	12.4	27.7	38.3	42.1	58.0
		June-July-August				September-October-November			
0.05	20	5.41	5.92	6.13	6.53	5.08	5.30	5.55	6.26
0.10	10	5.62	6.07	6.26	6.67	5.28	5.55	5.78	6.43
0.20	5	5.97	6.35	6.50	6.95	5.64	5.96	6.17	6.75
0.50	2	7.04	7.28	7.41	7.94	6.89	7.32	7.48	7.93

4- 6.R00-1A KAJ RIVER NEAR YAKHDAN, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1974	22-Mar	--	200	1977	14-Apr	--	218
1975	15-May	--	348	1978	18-Nov	--	206
1976	24-Apr	--	485	1979	29-Mar	--	310
Annual peak discharge, from highest to lowest							
1976	24-Apr	--	485	1977	14-Apr	--	218
1975	15-May	--	348	1978	18-Nov	--	206
1979	29-Mar	--	310	1974	22-Mar	--	200

4- 6.R00-1A KAJ RIVER NEAR YAKHDAN, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1974	8.7	10.3	11.4	11	19.4	116	151	60.5	21.9	10.8	7.17	7.08	36.3
1975	9.05	10.7	14.8	13.1	17.1	72.8	176	131	35.3	12.2	8.13	7.84	42.3
1976	9.17	12.1	13.6	13.3	21.9	115	287	171	43.9	21.4	8.34	9.39	60.5
1977	11.8	16.3	12.9	18	34.1	64.1	122	52.4	16.6	9.54	8.53	8.07	31.1
1978	10.2	18.6	12.7	12	24.7	89.4	115	44.1	13.4	7.97	7.37	6.53	30.1
1979	8.36	13.2	12.4	16.3	25	60.7	174	99.7	29.7	14.9	14.2	15.1	40.3
1980	17.4	18.1	17.8	18	41.4	--	--	--	--	--	--	--	--

5- 0.000-4W KHASH RIVER AT DEHMAZANG

(U.S. Geological Survey identification number: 315500063070000)

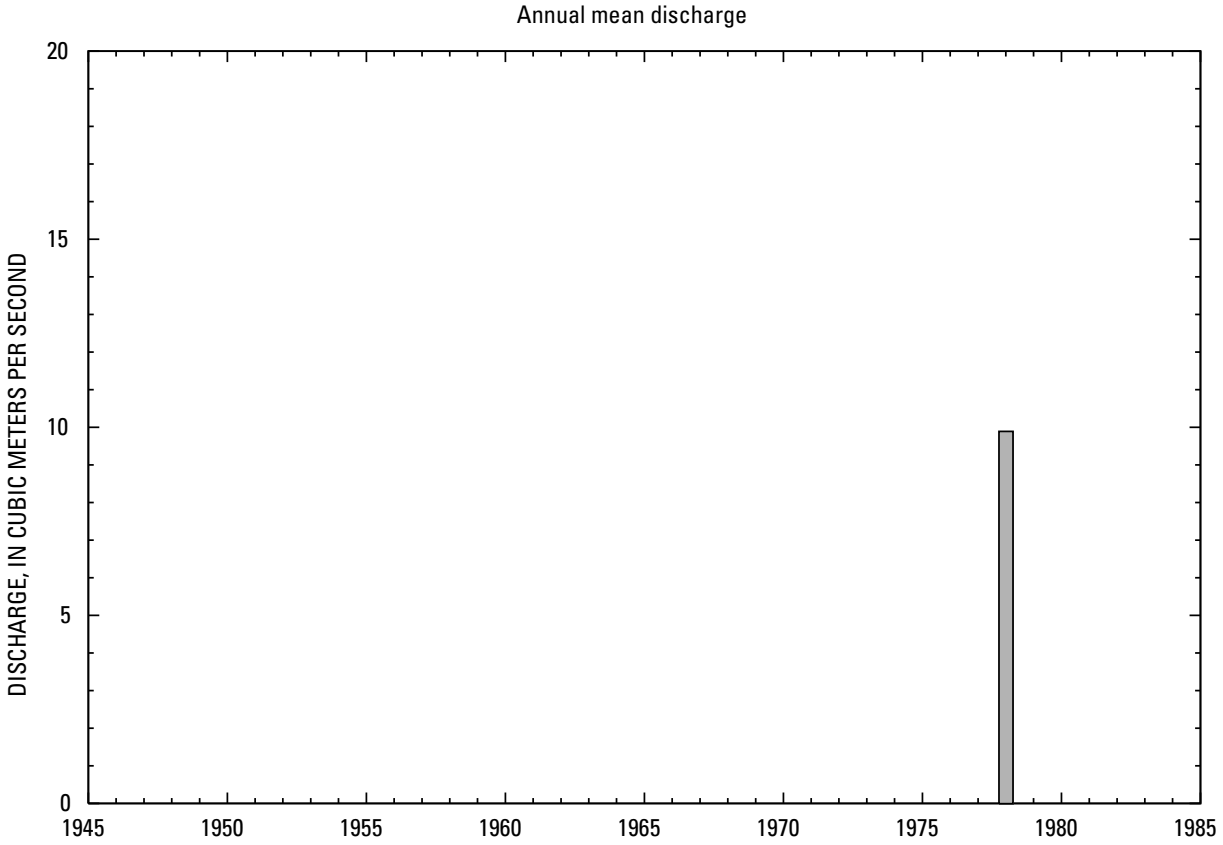
LOCATION: Lat 31º55'N., long 63º07'E.

DRAINAGE AREA: 5,925 km^2.

ALTITUDE: 700 meters plus mean sea level.

PERIOD OF RECORD: April 1, 1976 to September 30, 1978.

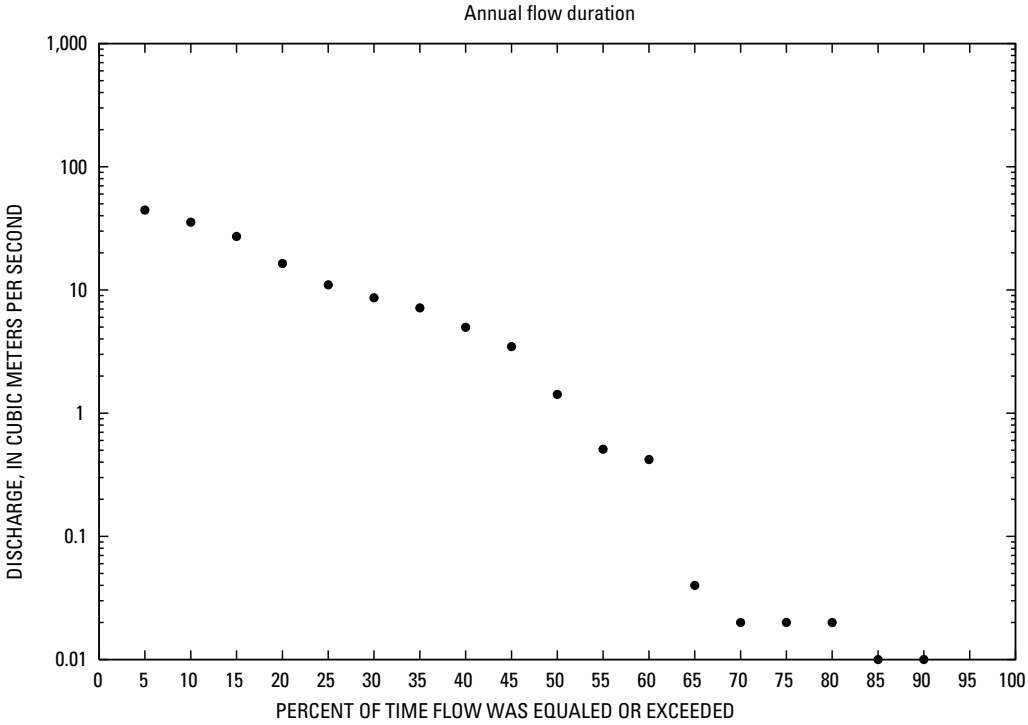
GAGE: --



Statistics of monthly and annual mean discharges

[m³/s, meters per second; ng, statistic not given]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	0.010	1978	ng	ng	0.01	ng	ng	0.01
November	3.83	1978	ng	ng	3.83	ng	ng	3.56
December	4.50	1978	ng	ng	4.50	ng	ng	4.19
January	5.81	1978	ng	ng	5.81	ng	ng	0.541
February	14.6	1978	ng	ng	14.6	ng	ng	13.6
March	45.8	1978	ng	ng	45.8	ng	ng	42.6
April	32.6	1978	16.0	1977	24.3	11.7	0.48	22.6
May	9.96	1978	4.64	1977	7.30	3.76	0.52	6.79
June	1.70	1978	0.698	1977	1.20	0.71	0.59	1.12
July	0.070	1978	0.020	1977	0.05	0.04	0.79	0.04
August	0.167	1977	0.015	1978	0.09	0.11	1.18	0.08
September	0.010	1977	0.003	1978	0.01	0	0.76	0.01
Annual	9.87	1978	ng	ng	9.87	ng	ng	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	3.03	7.09	26.5	9.15	2.65	0.02	0.02	0.01	0	0	0.01	0.5	0
90	3.06	7.19	26.9	10.2	3.02	0.02	0.02	0.01	0	0	0.01	0.51	0.01
85	3.09	7.28	27.6	11.5	3.43	0.03	0.02	0.01	0	0	0.01	0.51	0.01
80	3.12	7.38	28.8	12.3	3.93	0.03	0.02	0.01	0	0	0.01	0.52	0.02
75	3.89	7.48	30.4	14.4	4.11	0.24	0.02	0.02	0	0	0.01	0.52	0.02
70	3.96	7.63	31.4	16.5	4.56	0.35	0.02	0.02	0	0	0.02	0.53	0.02
65	4.02	7.79	32.2	20.6	5.03	0.41	0.02	0.02	0	0	0.02	0.53	0.04
60	5.01	9.01	33.4	21.4	5.22	0.6	0.03	0.02	0	0	0.02	0.54	0.42
55	5.06	9.6	35.1	22	5.74	0.76	0.03	0.02	0	0	0.02	0.54	0.51
50	5.11	9.99	36.8	22.6	5.97	0.96	0.03	0.02	0	0	0.02	0.55	1.42
45	5.15	10.4	39.6	24	6.62	1.08	0.03	0.02	0	0	0.02	0.55	3.47
40	5.95	10.8	42.5	25.3	7.04	1.25	0.03	0.02	0	0	0.46	0.56	4.98
35	6.96	11.3	43.8	26.7	7.57	1.53	0.03	0.03	0	0	0.6	0.56	7.15
30	7.03	11.8	44.4	33.1	7.96	1.78	0.03	0.03	0	0	0.77	0.57	8.65
25	7.11	12.2	45	34.9	9.1	2	0.03	0.03	0	0	0.98	6.69	11
20	7.19	15.4	50.7	36.8	10.4	2.31	0.04	0.03	0	0	2.3	7.35	16.4
15	8	26.5	53	39.3	12.5	2.63	0.04	0.08	0	0	5.51	9.15	27.2
10	9.29	36.2	65.4	40.6	14	3	0.05	0.24	0	0	7.92	12.1	35.5
5	0	0	0.05	0	15.7	0	0.21	0.43	0	0	0	0	44.6

5- 0.000-4W KHASH RIVER AT DEHMAZANG, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	ng	ng	ng	ng
0.95	1.05	ng	ng	ng	ng	ng
0.90	1.11	ng	ng	ng	ng	ng
0.80	1.25	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng
0.04	25	ng	ng	ng	ng	ng
0.02	50	ng	ng	ng	ng	ng
0.01	100	ng	ng	ng	ng	ng
0.005	200	ng	ng	ng	ng	ng
0.002	500	ng	ng	ng	ng	ng

5- 0.000-4W KHASH RIVER AT DEHMAZANG, Continued

Probability of occurrence of annual low discharges

[m3/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng	ng

5- 0.000-4W KHASH RIVER AT DEHMAZANG, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second; ng, statistic not given]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng
		June-July-August				September-October-November			
0.05	20	ng	ng	ng	ng	ng	ng	ng	ng
0.10	10	ng	ng	ng	ng	ng	ng	ng	ng
0.20	5	ng	ng	ng	ng	ng	ng	ng	ng
0.50	2	ng	ng	ng	ng	ng	ng	ng	ng

5- 0.000-4W KHASH RIVER AT DEHMAZANG, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1977	6-Apr	--	32.2				
1978	9-Mar	--	211				
Annual peak discharge, from highest to lowest							
1978	9-Mar	--	211				
1977	6-Apr	--	32.2				

5- 0.000-4W KHASH RIVER AT DEHMAZANG, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1977	--	--	--	--	--	--	16	4.64	0.698	0.02	0.167	0.01	--
1978	0.01	3.83	4.5	5.81	14.6	45.8	32.6	9.96	1.7	0.07	0.015	0.003	9.87

5- 0.000-5M KHASH RIVER AT DILARAM

(U.S. Geological Survey identification number: 320900063260000)

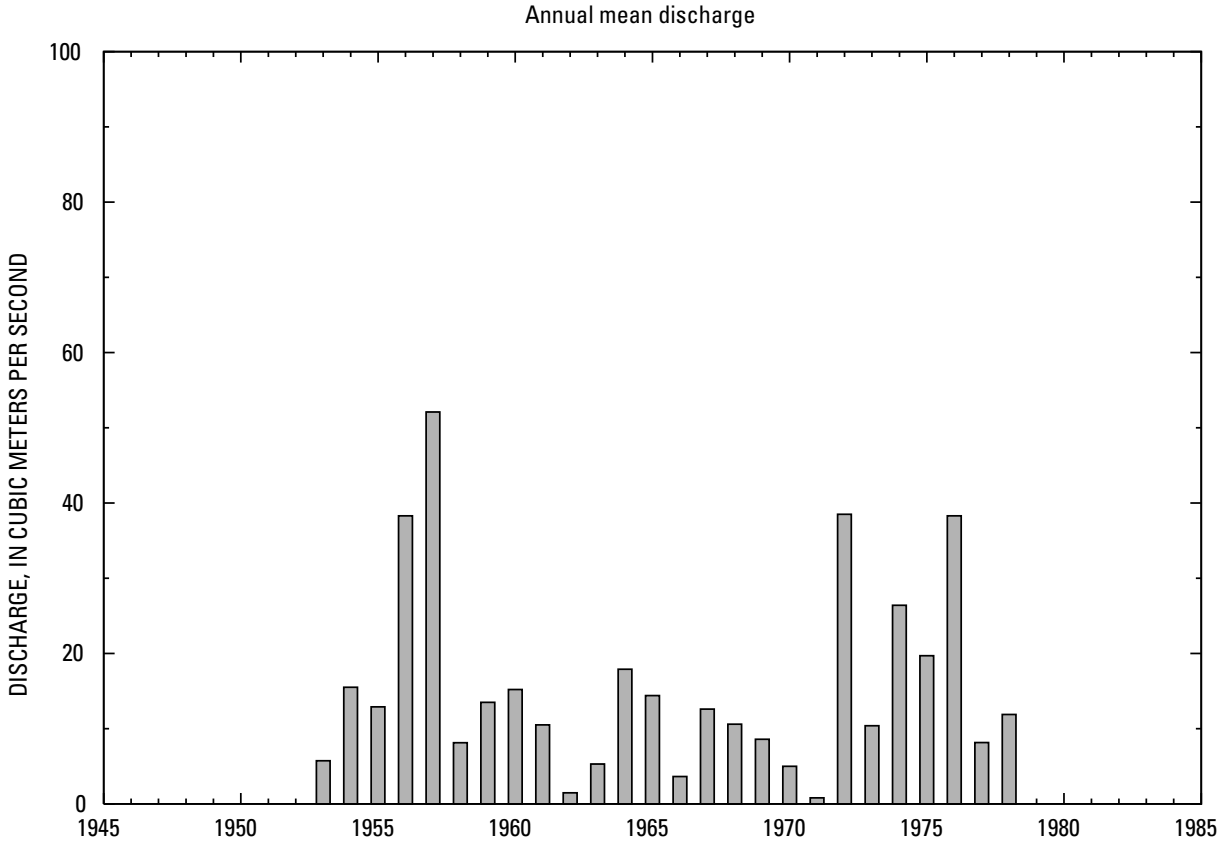
LOCATION: Lat 32º09'N., long 63º26'E., on right bank about 300 m downstream from highway bridge at Dilaram, about 180 km upstream from Chakhansur.

DRAINAGE AREA: 5,585 km^2.

ALTITUDE: 810 meters plus mean sea level.

PERIOD OF RECORD: October 1, 1952 to September 30, 1978.

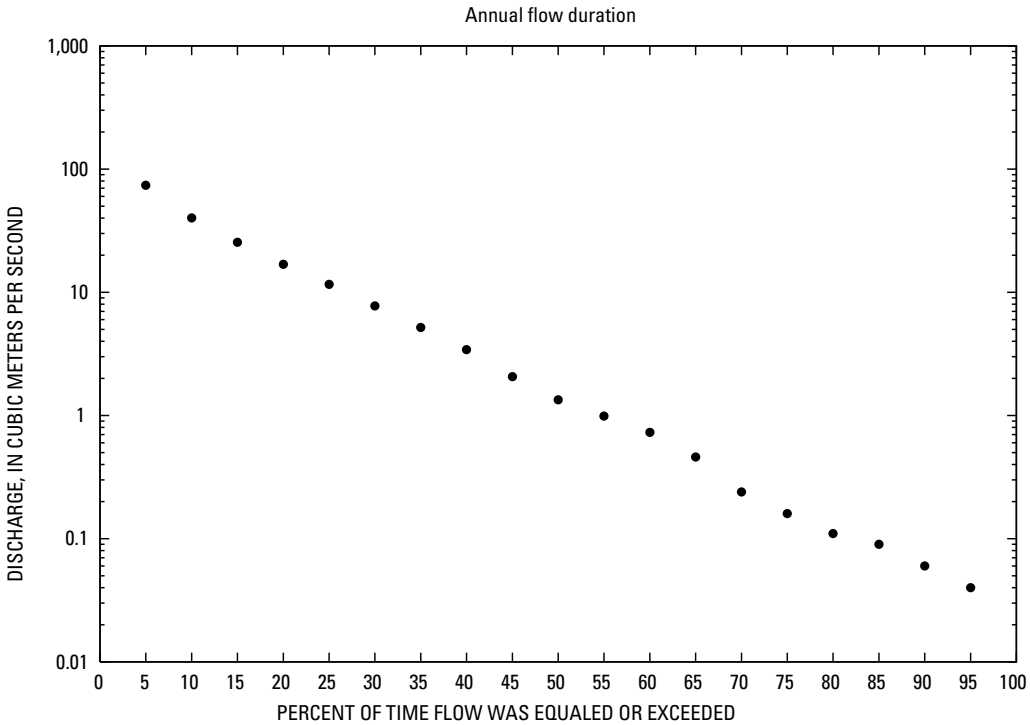
GAGE: Water-stage recorder. Prior to August 1, 1958, water-stage recorder on left bank about 3 km downstream at same datum.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	1.13	1958	0	1953	0.18	0.25	1.38	0.1
November	5.20	1958	0.009	1953	0.87	1.40	1.61	0.46
December	22.5	1958	0.030	1972	3.08	5.34	1.73	1.64
January	34.2	1957	0.066	1967	8.07	9.74	1.21	4.30
February	60.4	1974	0.087	1963	22.5	18.6	0.83	12.0
March	288	1956	2.35	1971	69.4	78.1	1.13	37.0
April	264	1957	3.28	1971	57.0	56.8	1.00	30.3
May	45.3	1976	0.895	1971	19.2	13.8	0.72	10.2
June	16.4	1972	0.040	1971	5.01	3.59	0.72	2.67
July	7.78	1976	0.030	1971	1.77	2.11	1.19	0.94
August	3.86	1957	0	1953	0.59	0.86	1.47	0.31
September	1.73	1957	0	1953	0.23	0.36	1.61	0.12
Annual	52.1	1957	0.803	1971	15.6	12.9	0.83	100



Monthly and annual flow duration, in cubic meter per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.09	0.33	1.7	5.97	1.92	0.2	0.04	0.03	0.03	0	0.02	0.04	0.04
90	0.11	0.9	3.03	8.52	3.38	0.5	0.1	0.05	0.04	0.02	0.03	0.06	0.06
85	0.4	1.13	6.9	10.6	4.64	0.88	0.12	0.06	0.04	0.03	0.04	0.08	0.09
80	0.76	1.5	10.1	13.1	5.99	1.38	0.15	0.07	0.05	0.03	0.05	0.09	0.11
75	0.87	2.43	12.9	15.6	7.28	1.83	0.2	0.08	0.06	0.04	0.06	0.11	0.16
70	0.98	3.68	17.8	18.2	8.37	2.15	0.3	0.11	0.07	0.06	0.06	0.15	0.24
65	1.11	4.81	21.5	21.4	10	2.55	0.4	0.13	0.07	0.06	0.08	0.34	0.46
60	1.25	6.52	25.7	25	11.7	3.02	0.52	0.14	0.08	0.07	0.1	0.54	0.73
55	1.6	7.88	30	29.1	13.2	3.48	0.64	0.16	0.09	0.09	0.13	0.74	0.99
50	1.94	10.2	33.6	34.2	14.7	3.91	0.75	0.18	0.09	0.1	0.2	0.8	1.34
45	2.38	11.8	37.1	39.7	16.4	4.41	0.89	0.21	0.11	0.12	0.37	0.85	2.07
40	3.06	13.7	41.6	45.4	18.1	4.97	1.12	0.24	0.13	0.13	0.48	0.9	3.42
35	3.7	16.9	48.3	52.3	19.9	5.59	1.4	0.28	0.15	0.15	0.57	1	5.18
30	4.52	21.9	57.8	61.6	21.8	6.23	1.7	0.32	0.15	0.17	0.7	1.13	7.76
25	6.37	31.2	71.9	73.4	24.1	7.07	2.08	0.5	0.17	0.19	0.84	1.37	11.6
20	10.4	37.9	90.2	86.8	27.1	8.1	2.97	0.77	0.22	0.24	0.97	1.96	16.9
15	14.2	44	114.4	113.8	31.3	9.47	3.96	1.14	0.36	0.28	1.09	4.91	25.5
10	19.3	51.2	172.2	148.8	38	11.1	4.9	1.62	0.54	0.44	1.21	7.08	40.1
5	30.6	82.4	270.8	183.2	55.9	13.8	6.41	3.02	1.11	0.76	1.47	12.7	74

5- 0.000-5M KHASH RIVER AT DILARAM, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	18.9	8.38	5.26	3.55	2.92
0.95	1.05	47.1	19.8	14.3	10.5	8.40
0.90	1.11	74.2	30.9	23.5	17.9	14.0
0.80	1.25	125	52.0	41.3	32.2	25.0
0.50	2	309	135	110	86.4	65.9
0.20	5	684	329	255	194	147
0.10	10	992	513	377	278	211
0.04	25	1,430	811	553	389	296
0.02	50	1,790	1,080	695	472	360
0.01	100	2,160	1,390	842	553	424
0.005	200	2,540	1,740	995	631	486
0.002	500	3,060	ng	ng	ng	ng

5- 0.000-5M KHASH RIVER AT DILARAM, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0.004	0.006	0.006	0.008	0.010	0.016	0.022	[1]0.018	0.056
0.10	10	0.011	0.012	0.013	0.015	0.017	0.024	0.033	[1]0.031	0.094
0.20	5	0.020	0.023	0.024	0.026	0.028	0.036	0.048	0.058	0.171
0.50	2	0.060	0.063	0.065	0.068	0.071	0.083	0.105	0.170	0.477

[1]Data does not fit log-Pearson Type III curve, use with caution.

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.015	0.024	0.027	0.036	0.223	0.505	0.881	2.08
0.10	10	0.028	0.043	0.050	0.068	0.544	1.01	1.64	3.38
0.20	5	0.059	0.086	0.105	0.149	1.39	2.12	3.18	5.75
0.50	2	0.246	0.331	0.425	0.646	5.54	6.67	8.86	13.5
		June-July-August				September-October-November			
0.05	20	0.023	0.028	0.033	[1]0.029	0.004	0.006	0.008	0.010
0.10	10	0.032	0.037	0.044	0.048	0.011	0.014	0.015	0.018
0.20	5	0.045	0.051	0.061	0.076	0.021	0.025	0.026	0.029
0.50	2	0.098	0.108	0.129	0.194	0.064	0.068	0.070	0.073

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1953	14-Feb	2.52	756	1966	25-Feb	--	119
1954	13-Feb	1.83	265	1967	28-Apr	--	81.2
1955	15-Mar	2.97	1,387	1968	10-Mar	--	820
1956	4-Mar	2.56	993	1969	16-Apr	--	102
1957	17-Mar	--	1,274	1970	21-Aug	--	59
1958	6-Dec	1.90	427	1971	25-Feb	--	138
1959	2-Mar	6.44	229	1972	12-Mar	--	595
1960	16-Apr	7.52	611	1973	25-Feb	--	170
1961	10-Apr	--	495	1974	19-Jan	--	424
1962	14-Nov	--	30.3	1975	15-May	--	268
1963	12-May	--	362	1976	23-Mar	--	765
1964	1-Apr	--	317	1977	5-Apr	--	50
1965	22-Apr	--	300	1978	9-Mar	--	222
Annual peak discharge, from highest to lowest							
1955	15-Mar	2.97	1,387	1965	22-Apr	--	300
1957	17-Mar	--	1,274	1975	15-May	--	268
1956	4-Mar	2.56	993	1954	13-Feb	1.83	265
1968	10-Mar	--	820	1959	2-Mar	6.44	229
1976	23-Mar	--	765	1978	9-Mar	--	222
1953	14-Feb	2.52	756	1973	25-Feb	--	170
1960	16-Apr	7.52	611	1971	25-Feb	--	138
1972	12-Mar	--	595	1966	25-Feb	--	119
1961	10-Apr	--	495	1969	16-Apr	--	102
1958	6-Dec	1.90	427	1967	28-Apr	--	81.2
1974	19-Jan	--	424	1970	21-Aug	--	59
1963	12-May	--	362	1977	5-Apr	--	50
1964	1-Apr	--	317	1962	14-Nov	--	30.3

5- 0.000-5M KHASH RIVER AT DILARAM, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Annual	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1953	0	0.009	0.064	0.683	24.5	15	20.7	5.23	4.52	0.055	0	0	5.74
1954	0.004	0.028	0.104	8.84	46.4	29.2	78.3	20.4	4.45	1.3	0.153	0.057	15.5
1955	0.057	0.057	0.113	0.839	1.15	121	16.8	10.4	2.14	0.293	0.144	0.138	12.9
1956	0.113	0.113	4.72	24.9	32.1	288	74	20.8	5.02	4.08	2.03	0.664	38.3
1957	0.429	0.99	0.85	34.2	42.9	225	264	38.5	6.64	6.84	3.86	1.73	52.1
1958	1.13	5.2	22.5	11.4	16.6	15.2	11.4	6.58	3.71	3.79	0.396	0.164	8.14
1959	0.265	0.65	1.44	3.77	10.1	64.5	55.6	18.5	5.14	1.32	0.345	0.178	13.5
1960	0.142	3.91	9.13	4.17	4.45	24.5	89.8	35	9.19	2.45	0.669	0.216	15.2
1961	0.19	0.893	1.06	1.08	1.12	11.8	79.5	25.6	4.58	0.66	0.194	0.14	10.5
1962	0.171	0.593	0.846	0.999	1.37	3.57	6.96	2.69	0.262	0.12	0.068	0.078	1.47
1963	0.08	0.08	0.08	0.08	0.087	6.63	16.9	33.3	5.28	0.609	0.076	0.08	5.31
1964	0.073	0.035	0.319	1.73	37.6	77.7	83.7	10.2	4.26	0.514	0.159	0.08	17.9
1965	0.135	0.157	0.592	15.5	59.5	26.8	40.8	25.4	6.55	1.24	0.211	0.037	14.4
1966	0.035	0.579	1.34	2.75	8.8	11.6	11.6	5.49	1.51	0.125	0.067	0.06	3.63
1967	0.093	0.647	0.525	0.066	22.7	31.1	62.1	26.9	7.77	1.03	0.215	0.118	12.6
1968	0.167	0.593	0.852	2.14	8.68	70.2	23.5	15.2	4.37	0.776	0.181	0.08	10.6
1969	0.203	0.507	10.9	6.31	10.4	27.6	28.8	14	3.69	0.725	0.135	0.03	8.6
1970	0.03	0.896	1.01	2.7	5.33	26.3	17.3	3.62	1.01	0.074	1.51	0.363	5.01
1971	0.066	0.05	0.12	0.36	2.57	2.35	3.28	0.895	0.04	0.03	0.03	0.03	0.803
1972	0.028	0.11	0.03	23.1	28.7	205	125	54.3	16.4	5.09	1.21	0.447	38.5
1973	0.289	0.691	2.84	3.15	25.9	43.6	28.6	13.8	3.59	2.44	1.02	0.098	10.4
1974	0.144	0.078	0.276	24.5	60.4	134	64.4	22.9	9.9	2.17	0.188	0.118	26.4
1975	0.028	0.14	13.3	22.4	43.8	59.2	64.1	26.2	7.25	1.73	0.302	0.056	19.7
1976	0.022	0.029	0.096	1.52	39.7	200	155	45.3	9.52	7.78	1.52	0.795	38.3
1977	0.718	1.1	1.17	5.83	32.9	31.6	18.9	5.73	1.35	0.211	0.408	0.043	8.16
1978	0.054	4.47	5.93	6.93	16.7	53.7	40.2	12.1	2.12	0.484	0.156	0.064	11.9

6- 0.000-3M FARAH RIVER AT FARAH

(U.S. Geological Survey identification number: 322200062040000)

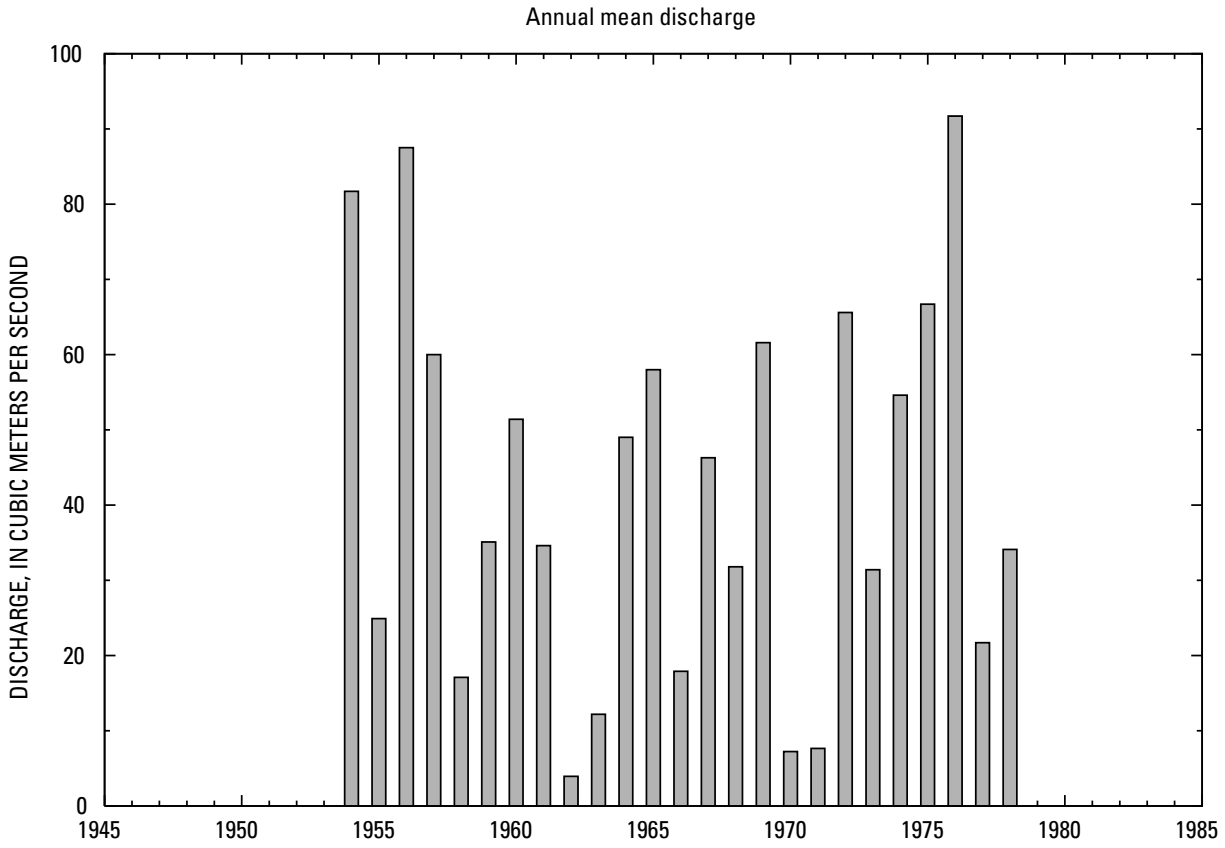
LOCATION: Lat 32º22'N., long 62º04'E., on downstream side of bridge on Farah-Heart Road, 8 km southwest of Farah, and about 130 km upstream from Hamun-i-Sabari in the Chakhansur-Sistan basin.

DRAINAGE AREA: 26,700 km^2.

ALTITUDE: 650 meters plus mean sea level.

PERIOD OF RECORD: April 1, 1953 to September 30, 1978.

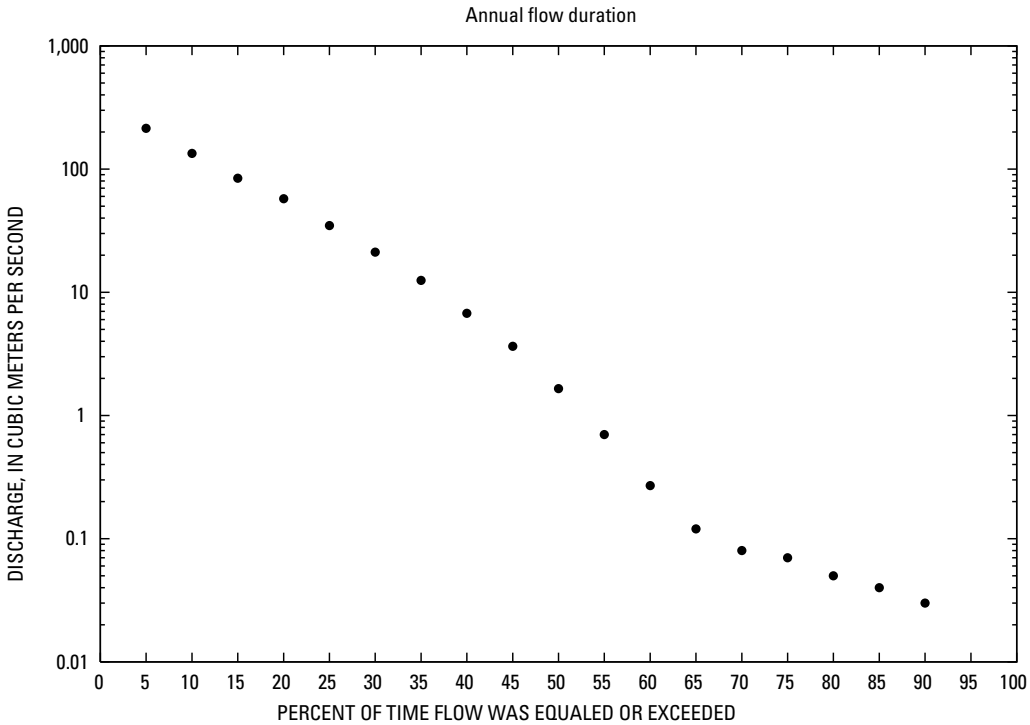
GAGE: Water-stage recorder. Prior to July 14, 1958, staff gage 300 m upstream at datum 0.55 m higher.



Statistics of monthly and annual mean discharges

[m^3/s, meters per second; m, more than 2 years of occurrence]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	1.93	1958	0	m	0.15	0.38	2.51	0.03
November	19.5	1964	0	1971, 1972	2.41	5.41	2.25	0.47
December	109	1969	0.013	1971	10.9	23.4	2.14	2.15
January	64.7	1965	0.044	1963	20.7	24.5	1.18	4.08
February	362	1954	0.059	1961	64.1	80.8	1.26	12.6
March	416	1976	6.79	1962	144	113	0.78	28.4
April	508	1956	16.6	1962	177	130	0.74	34.8
May	165	1976	4.58	1962	68.7	49.0	0.71	13.5
June	72.9	1954	0	1971	15.2	15.8	1.04	2.99
July	36.4	1956	0	1970, 1971	3.63	8.45	2.33	0.71
August	10.2	1957	0	1970, 1971	0.66	2.04	3.11	0.13
September	5.89	1957	0	1970, 1971	0.28	1.15	4.08	0.06
Annual	91.7	1976	3.93	1962	42.2	25.5	0.60	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.06	0.07	1.15	15.2	3.83	0.04	0	0	0	0	0	0.03	0
90	0.11	0.19	4.56	25.1	6.25	0.21	0.02	0	0	0	0	0.04	0.03
85	0.13	1.25	12.2	31.8	12.8	0.87	0.04	0.02	0.01	0	0.03	0.04	0.04
80	0.26	4.01	22.8	44.4	17.9	1.3	0.07	0.03	0.02	0.02	0.03	0.05	0.05
75	0.39	5.99	36.6	55.2	22.3	2.15	0.1	0.03	0.03	0.02	0.04	0.06	0.07
70	0.72	7.96	52.5	72.9	26.6	3.39	0.17	0.04	0.03	0.03	0.04	0.07	0.08
65	1.1	10.7	65.1	82.7	30.7	4.65	0.23	0.05	0.03	0.03	0.04	0.13	0.12
60	1.53	15.1	74.5	94.2	35.5	6.06	0.35	0.06	0.03	0.03	0.05	0.2	0.27
55	2.73	18.7	84.9	107.8	41.6	7.6	0.48	0.07	0.04	0.04	0.06	0.29	0.7
50	3.9	24.1	97.6	124.5	48.5	9.24	0.56	0.07	0.04	0.04	0.06	0.46	1.65
45	5.15	30.6	110.4	144	56.9	10.5	0.63	0.08	0.04	0.04	0.07	0.75	3.65
40	6.44	36.6	125.3	163.5	65.7	11.7	0.8	0.09	0.05	0.05	0.08	1.06	6.76
35	7.81	45.1	140.2	180.6	75.5	13.4	1.08	0.1	0.06	0.06	0.08	1.33	12.5
30	12.5	55.5	156.1	195.4	85.3	15.2	1.78	0.12	0.07	0.06	0.1	2.02	21.2
25	18	65.8	178	214.4	101.2	18	2.41	0.17	0.07	0.07	0.12	2.61	34.8
20	25.1	77.2	199.8	244.2	117.5	21.5	3.03	0.31	0.09	0.08	0.2	5.8	57.5
15	33.8	102	245.2	310.7	135.7	27.1	4.42	0.45	0.1	0.11	0.51	11.1	84.4
10	47.1	142.1	330.9	402	153.9	35.2	6.62	1.41	0.17	0.17	1.92	25.7	134.1
5	92.9	251.5	504	559.6	200.4	53.9	17.5	3.95	0.37	1.24	8.42	58.2	214.5

6- 0.000-3M FARAH RIVER AT FARAH, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	27.3	23.2	17.4	14.2
0.95	1.05	154	80.9	61.2	47.6	38.3
0.90	1.11	246	134	103	76.0	60.7
0.80	1.25	409	229	172	126	99.4
0.50	2	906	528	385	278	213
0.20	5	1,620	960	697	497	369
0.10	10	2,040	1,210	882	625	455
0.04	25	2,480	1,460	1,080	759	542
0.02	50	2,750	1,610	1,200	839	592
0.01	100	2,970	1,730	1,300	905	633
0.005	200	3,150	1,820	1,380	960	665
0.002	500	3,340	ng	ng	ng	ng

6- 0.000-3M FARAH RIVER AT FARAH, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	0	0	0	0	0	0	0	0.001
0.10	10	0	0	0	0	0	0.008	0.015	0.019	0.014
0.20	5	0	0	0	0	0	0.011	0.017	0.026	0.073
0.50	2	0.020	0.020	0.021	[1]0.020	0.023	0.025	0.032	0.055	0.588

[1]Data does not fit log-Pearson Type III curve, use with caution.

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.009	0.014	[1]0.008	0.019	0.002	0.009	0.019	4.80
0.10	10	0.018	0.020	0.021	0.041	0.115	0.353	0.728	8.82
0.20	5	0.032	[1]0.031	0.049	0.103	1.05	2.64	4.96	16.9
0.50	2	0.103	[1]0.102	0.250	0.640	13.8	22.3	33.6	46.4
		June-July-August				September-October-November			
0.05	20	0	0	0	0	0	0	0	0
0.10	10	0	0	0	0.003	0	0	0	0
0.20	5	0.017	0.017	0.018	[1]0.013	0	0	0.003	0.011
0.50	2	0.042	0.044	0.049	0.081	0.020	0.021	[1]0.019	0.023

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1953	11-Apr	5.75	3,102	1966	27-Apr	--	500
1954	10-Feb	5.35	1,840	1967	27-Apr	--	700
1955	14-Mar	5.85	2,173	1968	11-Mar	--	700
1956	5-Mar	--	2,207	1969	16-Apr	--	1,138
1957	17-Mar	--	1,132	1970	28-Mar	--	61.6
1958	29-Mar	2.22	170	1971	26-Mar	--	840
1959	29-Mar	3.10	736	1972	19-Mar	--	1,062
1960	17-Apr	3.51	1,087	1973	25-Feb	--	995
1961	3-Apr	--	1,104	1974	20-Feb	--	827
1962	24-Dec	--	133	1975	4-Apr	--	1,052
1963	13-May	--	914	1976	23-Mar	--	1,800
1964	17-Feb	--	694	1977	6-Apr	--	118
1965	2-Feb	--	1,104	1978	9-Mar	--	375
Annual peak discharge, from highest to lowest							
1953	11-Apr	5.75	3,102	1963	13-May	--	914
1956	5-Mar	--	2,207	1971	26-Mar	--	840
1955	14-Mar	5.85	2,173	1974	20-Feb	--	827
1954	10-Feb	5.35	1,840	1959	29-Mar	3.10	736
1976	23-Mar	--	1,800	1968	11-Mar	--	700
1969	16-Apr	--	1,138	1967	27-Apr	--	700
1957	17-Mar	--	1,132	1964	17-Feb	--	694
1965	2-Feb	--	1,104	1966	27-Apr	--	500
1961	3-Apr	--	1,104	1978	9-Mar	--	375
1960	17-Apr	3.51	1,087	1958	29-Mar	2.22	170
1972	19-Mar	--	1,062	1962	24-Dec	--	133
1975	4-Apr	--	1,052	1977	6-Apr	--	118
1973	25-Feb	--	995	1970	28-Mar	--	61.6

6- 0.000-3M FARAH RIVER AT FARAH, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1953	--	--	--	--	--	--	187	17.2	37	3.55	0.06	0.06	--
1954	0.06	0.06	0.382	3.07	362	149	291	124	72.9	5.86	0.224	0.06	81.7
1955	0.067	0.076	0.125	3.2	5.22	214	38.6	26.2	7.55	0.191	0.08	0.1	24.9
1956	0.245	0.078	21.9	54.5	24.2	302	508	90.5	11.4	36.4	2.91	0.138	87.5
1957	0.045	0.08	3.04	59.3	68.4	234	261	33.2	20.9	26.7	10.2	5.89	60
1958	1.93	4.48	18.3	10.6	30.7	37.6	51.7	41.8	8.1	0.434	0.072	0.053	17.1
1959	0.06	0.06	3.54	7.64	19.1	165	141	55.9	26.6	1.25	0.11	0.08	35.1
1960	0.08	10.2	26.2	6.37	34.3	86.9	265	148	39.8	2.69	0.06	0.045	51.4
1961	0.025	0.013	0.057	0.101	0.059	51.8	264	89.6	9.6	0.803	0.02	0.01	34.6
1962	0.01	0.037	10.5	4.95	3.48	6.79	16.6	4.58	0.135	0.043	0.002	0.01	3.93
1963	0.02	0.028	0.036	0.044	1.88	14.4	18.5	102	6.72	0.098	0.03	0.03	12.2
1964	0.03	19.5	0.42	7.41	120	155	208	71.4	10	2.52	0.102	0.03	49
1965	0.03	0.03	0.03	64.7	228	116	178	102	22.9	0.777	0.117	0.019	58
1966	0.03	0.03	0.178	1.2	11	20.2	135	46.6	2.25	0.345	0.03	0.03	17.9
1967	0.267	0.167	0.04	3.06	83.9	73.3	224	156	19.2	0.661	0.182	0.03	46.3
1968	0.397	0.04	1.81	5.87	20.9	154	84	94.7	17.5	0.381	0.074	0.03	31.8
1969	0.03	0.727	109	62.6	52.3	188	247	67	10.5	1.58	0.145	0.03	61.6
1970	0.03	6.78	1.48	6.45	9.37	32.1	25.9	4.75	0.277	0	0	0	7.23
1971	0	0	0.013	0.104	2.88	42	43.7	2.9	0	0	0	0	7.64
1972	0	0	0.35	55.1	52.8	400	195	62.3	16.5	2.16	0.074	0.03	65.6
1973	0	0.137	2.75	2.51	91.9	138	104	35.1	6.39	0.742	0.179	0.015	31.4
1974	0	0.06	0.397	63	122	273	146	47.9	6.54	0.697	0.226	0.048	54.6
1975	0.05	0.05	43.4	26.7	79.2	134	358	141	17	3.55	0.757	0.279	66.7
1976	0.142	0.086	2.04	0.401	43.4	416	453	165	17.2	2.39	1.35	0.19	91.7
1977	0.156	0.21	0.813	30	75.9	64.6	68.6	20.7	4.39	0.186	0.015	0.01	21.7
1978	0.11	17.2	25.7	38.9	60.3	139	90.8	35.9	3.04	0.426	0.027	0.08	34.1

6- 0.000-4S FARAH RIVER NEAR DAULATABAD

(U.S. Geological Survey identification number: 324500062370000)

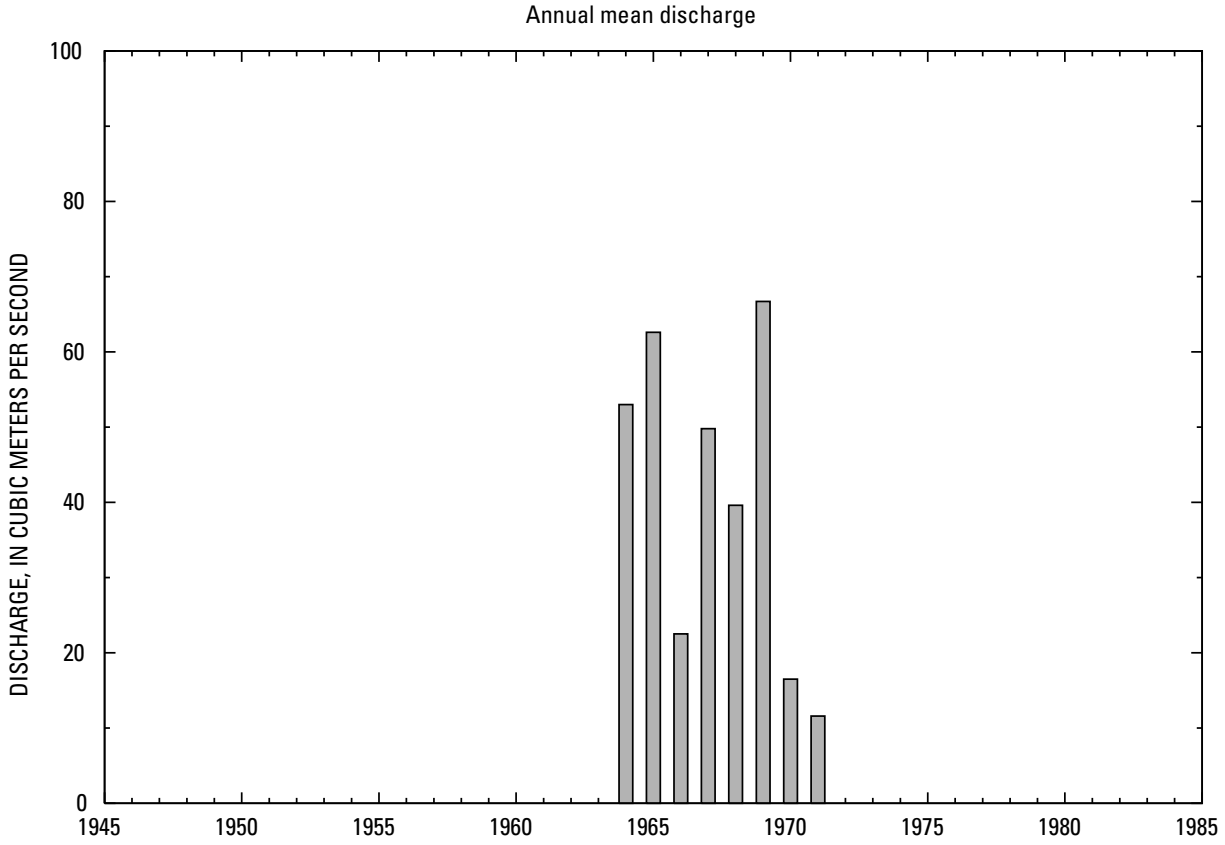
LOCATION: Lat 32º45'N., long 62º37'E., on upstream side of bridge pier on Kandahar-Heart Highway at Daulatabad and about 70 km upstream from Farah.

DRAINAGE AREA: 21,850 km^2.

ALTITUDE: 785 meters plus mean sea level.

PERIOD OF RECORD: March 29, 1963 to September 30, 1971.

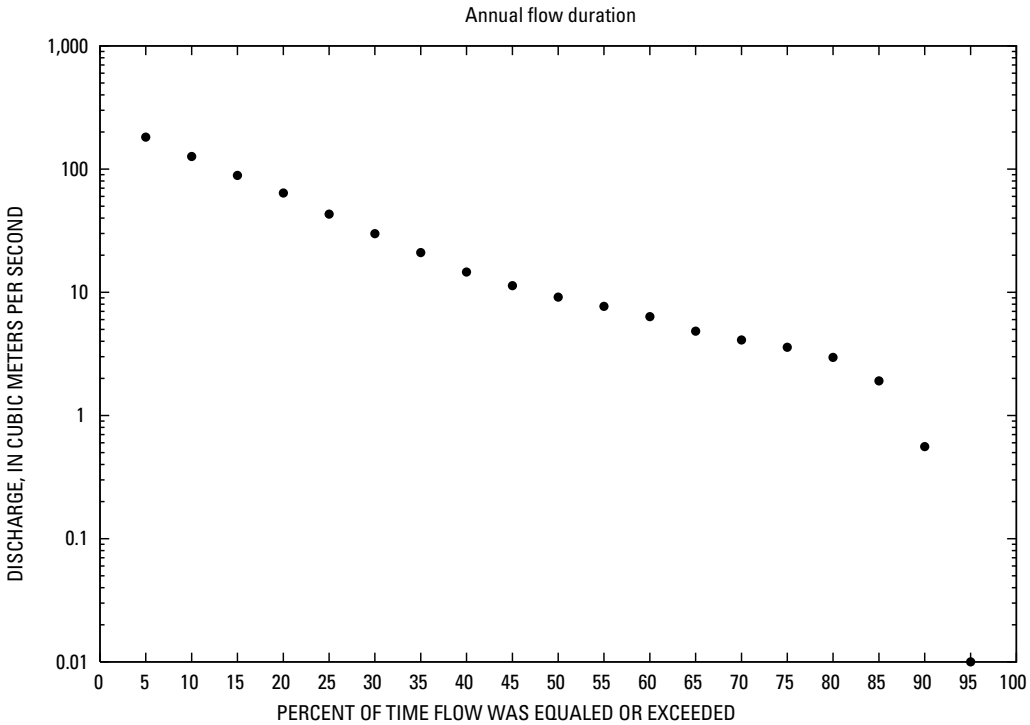
GAGE: Staff gage read once or twice daily.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	5.79	1968	0.267	1971	3.31	1.66	0.50	0.69
November	25.4	1964	1.87	1971	11.1	7.58	0.68	2.32
December	98.6	1969	3.56	1971	19.9	32.0	1.60	4.16
January	72.7	1969	3.84	1971	27.7	28.1	1.01	5.79
February	204	1965	9.97	1971	71.6	65.6	0.92	14.9
March	194	1969	25.1	1966	105	60.9	0.58	22.0
April	238	1969	40.3	1963	134	77.2	0.58	27.9
May	149	1967	8.40	1971	80.1	47.2	0.59	16.7
June	33.3	1965	0.700	1971	17.2	11.7	0.68	3.59
July	11.5	1965	0	1971	4.49	3.92	0.87	0.94
August	6.29	1965	0	1970. 1971	2.28	2.32	1.02	0.48
September	5.40	1965	0	1970	2.11	1.94	0.92	0.44
Annual	66.7	1969	11.6	1971	40.3	21.2	0.53	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	3.31	4.5	11.4	29	6.56	0.02	0.01	0.04	0	0.23	0.69	3.64	0.01
90	3.59	6.89	22.5	32.5	10.1	1.73	0.03	0.09	0	0.44	3.2	3.78	0.56
85	3.99	10.5	25.3	36.9	15.4	2.79	0.04	0.13	0	1.19	3.65	3.92	1.91
80	4.62	13.7	27.3	45.1	21.2	3.89	0.37	0.17	0.02	1.41	4.31	4.17	2.96
75	6.78	16.6	42.5	51.2	27.3	5	0.79	0.2	0.27	1.56	5.18	4.6	3.58
70	7.79	20.7	54.7	59.4	39.2	6.85	1.25	0.25	0.34	2.03	5.93	7.97	4.1
65	8.37	25.1	62.2	69.7	49.9	9.02	1.89	0.55	1.02	2.24	6.48	8.29	4.84
60	9.03	27.9	68.5	78.4	56.2	11.1	2.38	0.83	1.22	2.49	7	8.61	6.34
55	10.1	29.6	75	87	61.2	12.3	2.78	1.33	1.39	2.74	7.51	8.93	7.69
50	12	31.4	88.5	95.3	69	13.6	3.64	1.56	1.64	2.98	8.01	9.31	9.14
45	13	36.6	96.3	117.6	76.3	15.5	4.38	2.1	2.05	3.23	8.51	9.76	11.3
40	14.3	42.6	113.8	135.2	83.5	18.2	5.3	2.42	2.79	3.61	8.99	10.2	14.6
35	17.4	50.2	126.2	150.1	92.1	21	5.84	3.51	3.16	3.93	9.47	10.8	21
30	21.6	73	138.1	161.1	101	23.9	6.57	3.92	3.38	4.08	9.94	11.5	29.9
25	27	81.3	150	171.5	110.2	26.9	7.4	4.25	3.6	4.23	10.7	12.2	43.1
20	30.7	99.2	163	185.7	121.6	29.9	8.21	4.56	3.88	4.38	12.2	12.9	63.9
15	35.3	121	180.2	211.1	136.5	33.7	9.08	4.91	4.23	4.54	13.9	13.6	88.8
10	55	156.9	207.5	267	159.3	37.9	10.1	5.37	4.76	4.85	17.6	43.1	126.7
5	119.2	285.1	244.5	360.8	196.6	45.6	12.5	0	0	7.1	24.1	69.6	181.7

6- 0.000-4S FARAH RIVER NEAR DAULATABAD, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous[1] (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	47.6	41.0	35.8	34.6
0.95	1.05	ng	115	87.3	68.9	61.1
0.90	1.11	ng	170	124	93.6	79.7
0.80	1.25	497	256	179	131	106
0.50	2	646	459	317	222	168
0.20	5	863	659	474	329	237
0.10	10	1,020	740	551	386	272
0.04	25	1,220	803	623	443	306
0.02	50	1,370	831	662	477	326
0.01	100	1,540	850	692	505	342
0.005	200	1,710	862	715	527	356
0.002	500	1,950	ng	ng	ng	ng

[1]Less than 10 years of data used.

6- 0.000-4S FARAH RIVER NEAR DAULATABAD, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	0	0	0	0	0	0.028	0.141	1.01
0.10	10	0	0	0	0	0	0	0.102	0.330	1.67
0.20	5	0.241	0.246	0.256	0.283	0.323	0.387	[1]0.378	0.793	2.78
0.50	2	1.13	1.18	1.28	1.43	1.63	1.89	2.14	2.72	5.67

[1]Data does not fit log-Pearson Type III curve, use with caution.

6- 0.000-4S FARAH RIVER NEAR DAULATABAD, Continued

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	2.29	2.63	2.81	3.05	2.58	3.38	4.41	7.25
0.10	10	3.06	3.20	3.45	3.70	4.96	6.20	7.95	12.1
0.20	5	4.16	[1]4.12	4.49	4.77	9.92	11.9	15.0	21.3
0.50	2	6.56	7.11	7.80	8.37	28.4	32.0	40.1	52.1
		June-July-August				September-October-November			
0.05	20	0	0	0	0	0	0	0	0
0.10	10	0	0	0	0	0	0	0	0
0.20	5	0	0	0	0	0.317	0.352	0.389	0.535
0.50	2	1.19	1.22	1.30	1.51	1.29	1.48	1.63	1.94

[1]Data does not fit log-Pearson Type III curve, use with caution.

6- 0.000-4S FARAH RIVER NEAR DAULATABAD, Continued

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m³/s)	Water year	Date	Gage height (meters)	Peak discharge (m³/s)
Annual peak discharge, by year							
1963	12-May	--	875	1968	10-Mar	--	716
1964	17-Feb	--	451	1969	15-Apr	--	1,200
1965	3-Feb	--	749	1970	27-Mar	--	111
1966	27-Apr	--	585	1971	25-Mar	--	520
1967	28-Apr	--	692				
Annual peak discharge, from highest to lowest							
1969	15-Apr	--	1,200	1966	27-Apr	--	585
1963	12-May	--	875	1971	25-Mar	--	520
1965	3-Feb	--	749	1964	17-Feb	--	451
1968	10-Mar	--	716	1970	27-Mar	--	111
1967	28-Apr	--	692				

6- 0.000-4S FARAH RIVER NEAR DAULATABAD, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1963	--	--	--	--	--	--	40.3	117	15.6	2.33	0.777	1.1	--
1964	1.92	25.4	10.6	20.1	125	156	204	72.9	17.1	4.35	1.61	1.65	53
1965	3.17	10.2	8.58	71.4	204	122	180	109	33.3	11.5	6.29	5.4	62.6
1966	4.67	9.63	11	12.1	35.7	25.1	116	50.2	6.71	1.16	0.229	0.393	22.5
1967	3.57	5.42	4.25	4.64	90.9	83.6	215	149	31.2	7.71	4.06	3.47	49.8
1968	5.79	8.24	8.66	17	34.5	158	103	103	24.7	5.44	2.79	2.81	39.6
1969	3.45	8.83	98.6	72.7	51.1	194	238	95	21.4	7.54	4.77	4.14	66.7
1970	3.61	19.1	14.3	20	21.3	53.8	45.9	16.6	3.88	0.351	0	0	16.5
1971	0.267	1.87	3.56	3.84	9.97	51.2	60.3	8.4	0.7	0	0	0.027	11.6

6- 0.000-5M FARAH RIVER NEAR PETCH TANGI

(U.S. Geological Survey identification number: 325100062520000)

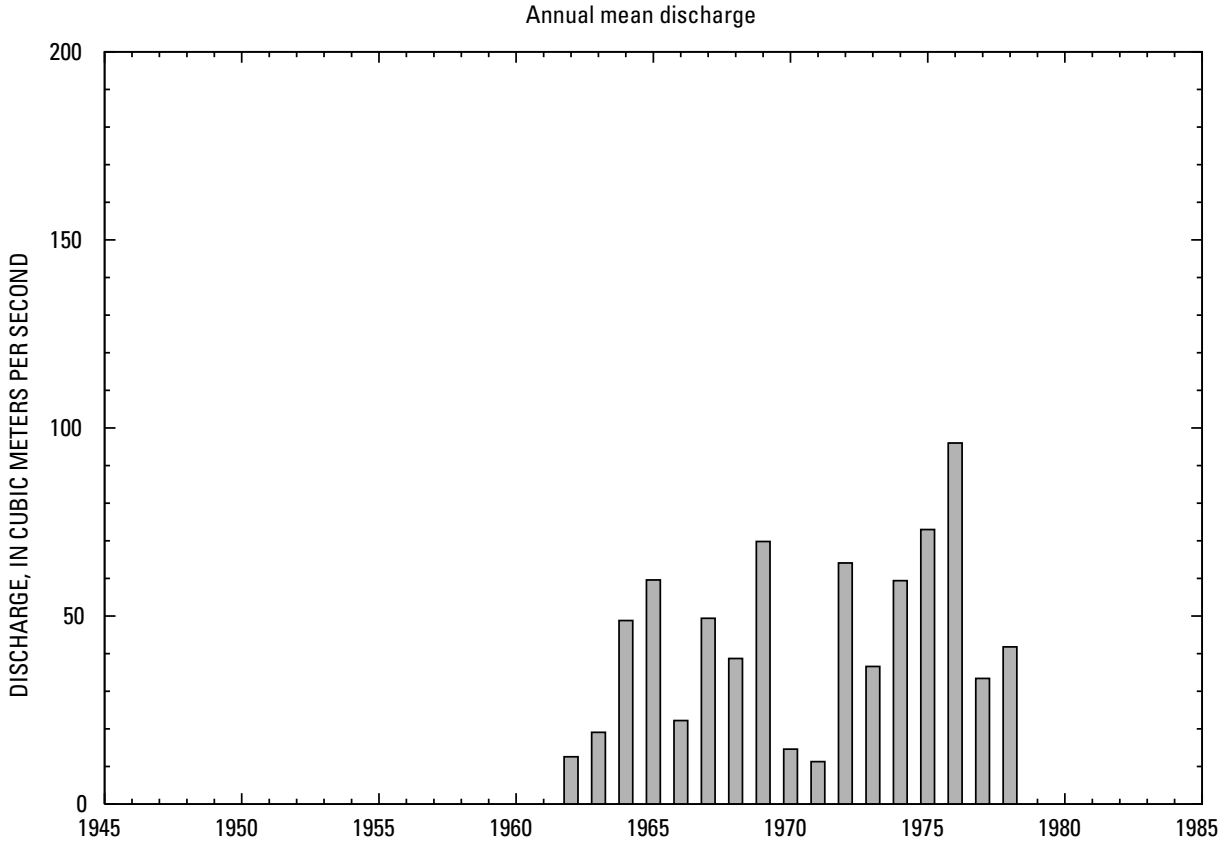
LOCATION: Lat 32º51'N., long 62º52'E., on left bank at Petch-i-Tangi and about 45 km upstream from Daulatabad.

DRAINAGE AREA: 19,215 km^2.

ALTITUDE: 860 meters plus mean sea level.

PERIOD OF RECORD: December 8, 1960 to September 30, 1978.

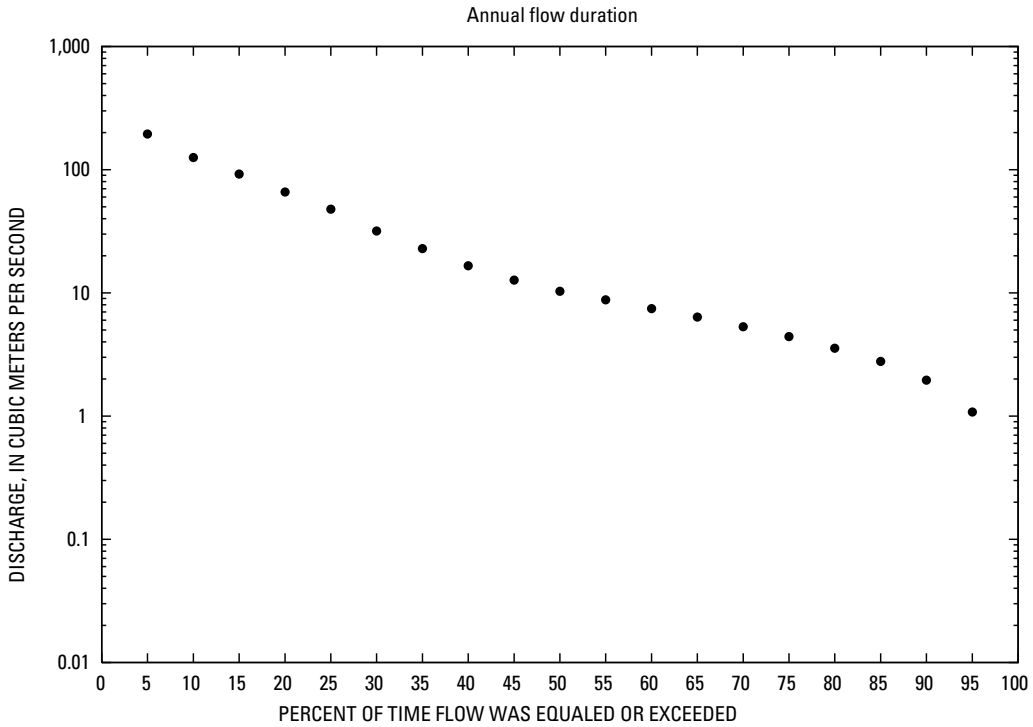
GAGE: Staff gage read once or twice daily.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	8.69	1977	0.519	1972	4.22	2.37	0.56	0.80
November	23.6	1964	2.42	1972	9.85	5.91	0.60	1.87
December	97.6	1969	4.16	1972	18.2	23.0	1.26	3.45
January	74.8	1965	4.33	1971	27.5	23.6	0.86	5.21
February	186	1965	6.73	1961	65.3	47.5	0.73	12.4
March	373	1976	25.5	1962	133	103	0.78	25.1
April	435	1976	39.1	1962	158	106	0.67	29.9
May	149	1975	10.6	1971	77.2	45.9	0.59	14.6
June	48.9	1975	1.69	1971	20.8	14.3	0.69	3.94
July	18.6	1975	0	1971	6.99	5.69	0.81	1.32
August	10.7	1976	0	1970, 1971	3.91	3.09	0.79	0.74
September	8.77	1976	0.005	1971	3.37	2.46	0.73	0.64
Annual	96	1976	11.3	1971	44.1	24.2	0.55	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	3.93	5.07	11.3	30.4	8.83	2.31	0.01	0.38	0	0.52	2.57	3.41	1.08
90	4.37	6.17	18.8	36.4	16.8	3.62	1.13	0.77	0.03	1.28	3.19	3.97	1.96
85	4.94	8.3	22.5	44.6	21.5	4.69	1.42	0.95	1.07	1.76	3.59	4.32	2.78
80	5.73	11.9	25.4	53.4	26.3	5.95	1.76	1.09	1.29	1.99	3.96	4.96	3.56
75	6.66	16.3	42.1	70.2	31.6	7.37	2.13	1.19	1.48	2.21	4.57	6	4.42
70	7.45	19.9	57	82.6	37.6	8.9	2.94	1.91	1.66	2.41	5.33	6.81	5.31
65	8.66	23.2	70.9	93.4	45.2	10.5	3.49	2.46	2.13	2.74	6	7.49	6.36
60	9.66	27	80.5	104.4	52.9	12.3	4.14	2.58	2.33	3.05	6.46	8.06	7.45
55	10.6	33.9	89.5	116	58.9	14.2	4.67	2.8	2.55	3.39	6.93	8.61	8.8
50	11.7	42.6	101.6	123.7	64	16.5	5.21	3.32	3.05	3.72	7.41	9.11	10.3
45	12.9	46.9	109.5	133.1	71.5	18.9	5.83	3.5	3.31	4.04	7.91	9.62	12.7
40	14.5	52.5	117.8	145	78.4	21.2	6.6	3.84	3.53	4.5	8.41	10.2	16.6
35	16.7	60	130.2	158.5	85.7	23.5	8.16	4.59	3.75	4.86	9.29	10.8	22.9
30	20	68.3	145.9	173	94.7	26.9	9.1	5.15	4.34	5.19	10.2	11.4	31.8
25	27.6	77.7	167.8	192.4	107.8	30.3	10.1	6.14	5.06	5.7	10.9	12.4	47.8
20	32	91.5	193.6	214.3	120.5	35.1	11.8	6.75	5.73	6.31	11.5	13.3	65.9
15	41.3	109.9	222.3	250	136.8	40.1	13.7	7.36	6.41	7.04	12.5	16.6	92.2
10	53.7	131.4	280.5	326.8	162.9	47.3	16.1	8.25	7.11	7.92	14.7	26.3	125.5
5	88.8	228.2	429	453	190.5	56.1	19.3	10.3	8.51	9.08	21	62.8	194.8

6- 0.000-5M FARAH RIVER NEAR PETCH TANGI, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	36.1	29.9	26.7	[1]27.8
0.95	1.05	ng	86.3	67.1	55.1	50.5
0.90	1.11	271	130	98.3	78.1	67.9
0.80	1.25	404	201	150	115	95.4
0.50	2	714	398	294	220	173
0.20	5	1,000	657	495	370	291
0.10	10	1,120	800	615	465	372
0.04	25	1,200	945	746	574	474
0.02	50	1,240	1,030	828	647	549
0.01	100	1,260	1,100	899	713	621
0.005	200	1,270	1,160	961	773	692
0.002	500	1,280	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

6- 0.000-5M FARAH RIVER NEAR PETCH TANGI, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	0	0	0	0	0	0.022	0.249	1.13
0.10	10	0	0	0	0	0	0	0.128	0.557	1.79
0.20	5	0.983	0.995	1.04	1.09	1.14	1.25	0.663	1.26	2.89
0.50	2	2.51	2.52	2.58	2.67	2.77	2.94	4.12	3.90	5.91

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	2.69	2.89	3.02	3.47	4.19	5.42	7.24	12.5
0.10	10	3.39	3.46	3.67	4.27	6.39	8.19	10.6	17.7
0.20	5	4.38	[1]4.34	4.66	5.54	10.4	13.1	16.6	26.4
0.50	2	6.63	6.87	7.53	9.40	24.3	29.5	36.0	52.7
		June-July-August				September-October-November			
0.05	20	0	0	0	0	0	0	0	0.034
0.10	10	0	0	0	0	0	0	0	0.141
0.20	5	1.07	1.12	1.18	1.27	1.10	1.14	1.20	0.569
0.50	2	2.66	2.74	2.86	3.13	2.64	2.69	2.77	3.24

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m^3/s)	Water year	Date	Gage height (meters)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1961	2-Apr	--	996	1970	29-Jan	--	88.2
1962	24-Dec	--	175	1971	25-Mar	--	751
1963	12-May	--	549	1972	20-Jan	--	1,062
1964	2-Apr	--	430	1973	24-Feb	--	836
1965	3-Feb	--	722	1974	26-Jan	--	712
1966	26-Apr	--	498	1975	3-Apr	--	966
1967	27-Apr	--	639	1976	23-Mar	--	1,125
1968	10-Mar	--	792	1977	5-Apr	--	170
1969	15-Apr	--	1,028	1978	9-Mar	--	801
Annual peak discharge, from highest to lowest							
1976	23-Mar	--	1,125	1965	3-Feb	--	722
1972	20-Jan	--	1,062	1974	26-Jan	--	712
1969	15-Apr	--	1,028	1967	27-Apr	--	639
1961	2-Apr	--	996	1963	12-May	--	549
1975	3-Apr	--	966	1966	26-Apr	--	498
1973	24-Feb	--	836	1964	2-Apr	--	430
1978	9-Mar	--	801	1962	24-Dec	--	175
1968	10-Mar	--	792	1977	5-Apr	--	170
1971	25-Mar	--	751	1970	29-Jan	--	88.2

6- 0.000-5M FARAH RIVER NEAR PETCH TANGI, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1961	--	--	--	6.02	6.73	58.4	238	87.4	14.8	4.32	3.43	3.42	--
1962	3.92	7.64	18.2	8.62	20.6	25.5	39.1	20.4	3.89	1.52	1.14	1.39	12.6
1963	2.2	3.48	4.19	4.43	13.2	29.2	40.5	108	16.2	3.33	1.07	1.52	19.1
1964	2.21	23.6	10.8	18.2	102	145	183	72.3	20.5	6.57	3.13	2.79	48.8
1965	3.95	10.3	7.91	74.8	186	107	156	118	37.5	12.3	6.69	5.83	59.6
1966	6.3	9.85	11.8	11.1	29.2	26.2	109	50.5	9.49	2.36	1	1.12	22.2
1967	3.56	4.61	4.33	5.21	90.1	79.2	211	147	34.8	9.29	4.9	4.3	49.4
1968	6.92	9.42	11.7	17.3	32.5	150	99.6	94.9	28.3	6.27	3.17	3.32	38.7
1969	3.5	9.55	97.6	63.8	53.1	198	250	101	33.1	11.7	7.66	7.15	69.8
1970	6.53	17.1	12	18.2	20.4	42.5	40.8	14.6	3.46	0.679	0	0.035	14.6
1971	1.06	2.79	4.33	4.33	9.08	46.9	54.8	10.6	1.69	0	0	0.005	11.3
1972	0.519	2.42	4.16	56	50.6	324	181	89.6	33.5	13.7	6.48	5.07	64.1
1973	5.02	8	15.6	16.1	105	120	106	46.8	13.2	3.66	2.56	2.41	36.6
1974	3.16	6.99	7.79	62.7	111	280	158	55.5	16.2	7.29	4.48	3.48	59.4
1975	4.21	6.96	48.8	29.8	88.4	146	325	149	48.9	18.6	8.86	6.35	73
1976	7.93	11.8	16.4	11.2	75.2	373	435	148	39.9	17.6	10.7	8.77	96
1977	8.69	12.7	11	41.9	97.2	96.3	93.5	30	9.36	2.02	2.36	1.43	33.4
1978	2.06	20.2	23.2	45.8	84.9	141	123	45.2	9.67	4.66	2.84	2.31	41.8

6- 0.L00-1A MALMAND RIVER NEAR SHAWALAT

(U.S. Geological Survey identification number: 325100063180000)

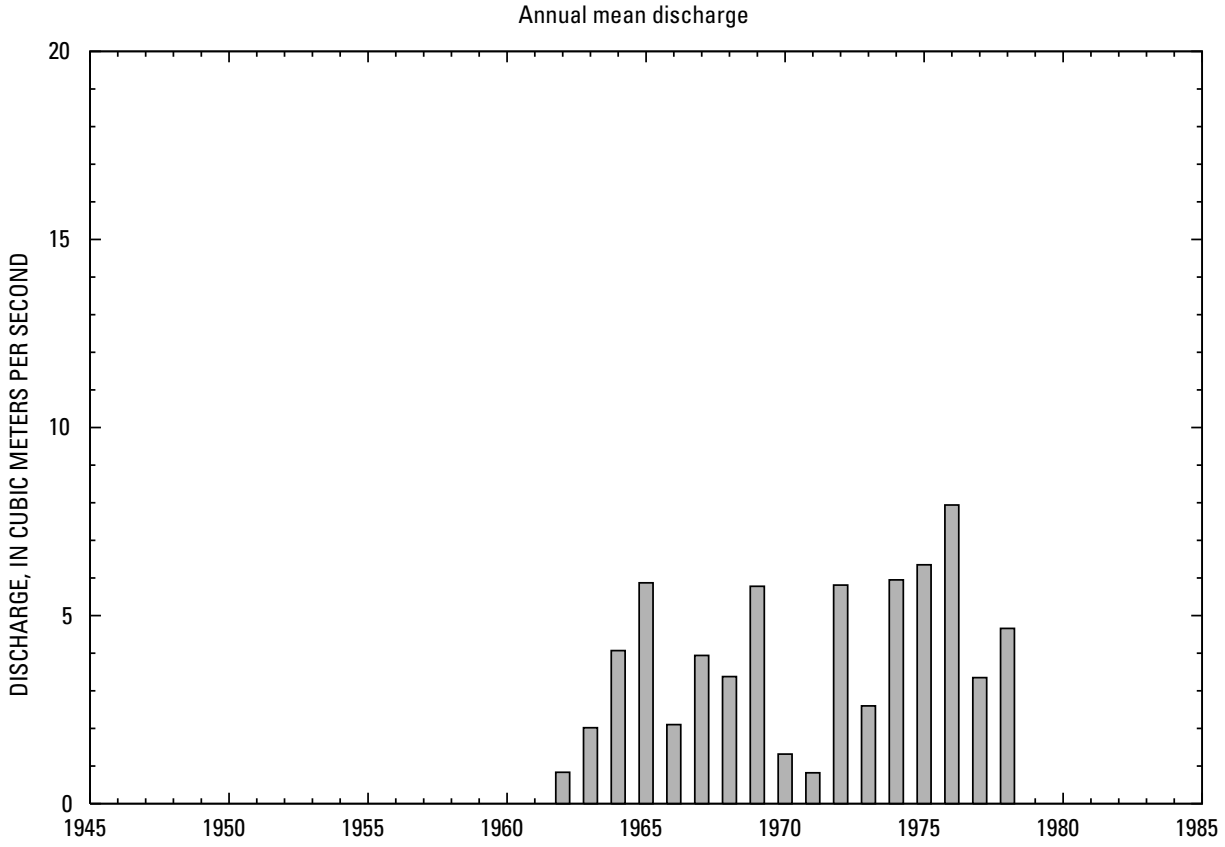
LOCATION: Lat 32º51'N., long 63º18'E., on bridge pier, about 0.5 km upstream from Adraskand River, and about 1 km north of Adraskand.

DRAINAGE AREA: 1,450 km^2.

ALTITUDE: 1,060 meters plus mean sea level.

PERIOD OF RECORD: March 1, 1961 to September 30, 1978.

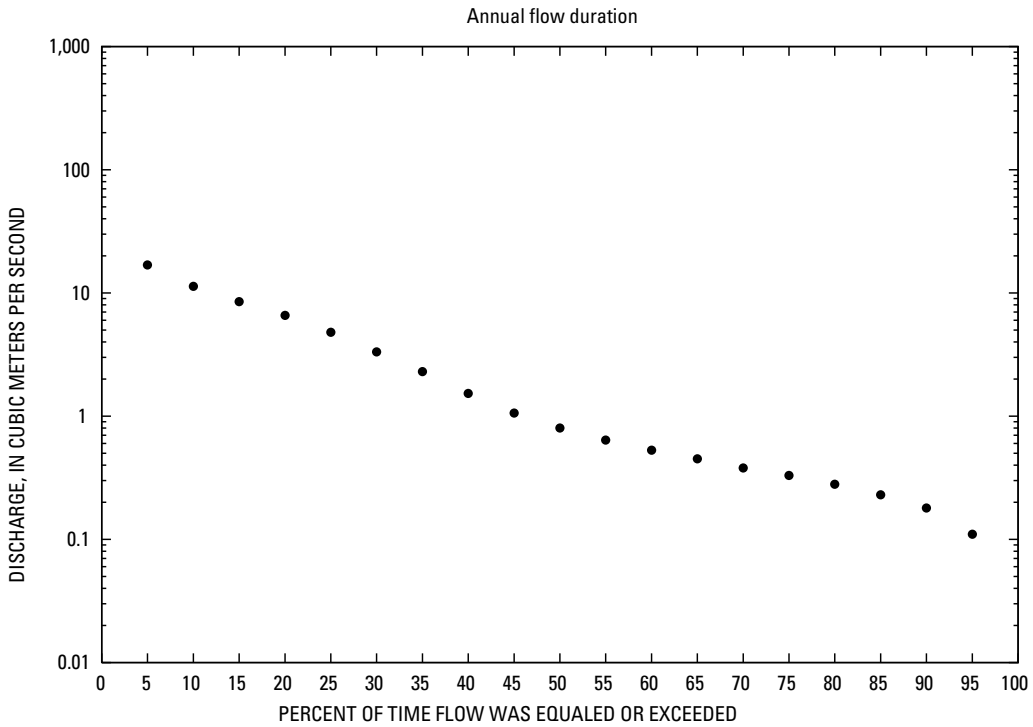
GAGE: Staff gage read once or twice daily.



Statistics of monthly and annual mean discharges

[m^3/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Water year of occurrence	Discharge (m^3/s)	Standard deviation (m^3/s)	Coefficient of variation	Percentage of annual discharge
October	1.01	1967	0.037	1972	0.330	0.220	0.65	0.70
November	3.09	1978	0.147	1971	0.670	0.690	1.03	1.41
December	5.52	1969	0.222	1965	1.27	1.55	1.22	2.67
January	9.19	1978	0.247	1971	2.76	2.64	0.95	5.81
February	24.1	1965	0.764	1971	5.90	5.40	0.92	12.4
March	26.5	1972	1.71	1962	10.4	7.19	0.69	21.9
April	44.8	1976	2.59	1962	14.4	10.2	0.70	30.3
May	18.1	1976	0.920	1962	7.90	4.48	0.57	16.6
June	4.65	1975	0.256	1971	2.43	1.44	0.59	5.12
July	1.78	1972	0.059	1971	0.840	0.550	0.66	1.77
August	1.28	1977	0.010	1971	0.380	0.300	0.80	0.80
September	0.490	1976	0.016	1970	0.260	0.140	0.54	0.55
Annual	7.94	1976	0.821	1971	3.93	2.13	0.54	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.24	0.4	0.86	2.57	0.68	0.27	0.07	0.01	0.02	0.05	0.13	0.2	0.11
90	0.32	0.65	1.4	3.39	1.26	0.31	0.15	0.02	0.04	0.08	0.18	0.24	0.18
85	0.37	0.74	1.98	4.25	2.27	0.41	0.17	0.1	0.14	0.17	0.21	0.28	0.23
80	0.42	1.13	2.94	5.88	3.06	0.86	0.25	0.12	0.15	0.19	0.22	0.31	0.28
75	0.58	1.64	4.29	7.09	4.25	1.06	0.31	0.14	0.16	0.21	0.24	0.35	0.33
70	0.7	1.87	5.05	7.74	5.17	1.2	0.45	0.18	0.17	0.22	0.26	0.38	0.38
65	0.76	2.26	6.15	8.39	5.73	1.45	0.5	0.25	0.2	0.23	0.28	0.4	0.45
60	0.81	2.68	6.76	9.12	6.15	1.67	0.6	0.27	0.23	0.25	0.32	0.44	0.53
55	0.88	3.19	7.25	10.1	6.65	1.81	0.64	0.3	0.25	0.28	0.35	0.49	0.64
50	0.97	3.76	7.68	11.4	7.25	2.11	0.67	0.33	0.26	0.29	0.38	0.56	0.8
45	1.1	4.53	8.18	12.4	7.95	2.32	0.72	0.36	0.26	0.31	0.4	0.61	1.06
40	1.23	5.44	9.15	13.3	8.66	2.73	0.8	0.39	0.28	0.33	0.44	0.67	1.53
35	1.33	6.1	10.2	14.4	9.33	3.11	0.89	0.42	0.31	0.35	0.47	0.73	2.3
30	2.31	6.76	11.4	15.9	10	3.39	0.96	0.44	0.35	0.37	0.49	0.79	3.32
25	3.15	7.42	13.5	17.8	10.9	3.68	1.1	0.47	0.37	0.4	0.52	0.95	4.8
20	3.86	8.2	16.4	19.7	11.8	4.02	1.34	0.52	0.4	0.41	0.56	1.11	6.58
15	4.51	9.04	19	21.9	13	4.42	1.57	0.56	0.44	0.43	0.79	1.43	8.51
10	6.14	11	23	26.5	14.4	4.89	1.87	0.63	0.47	0.48	0.95	1.7	11.3
5	9.97	17	31	41.9	16.9	5.4	2.24	0.76	0.52	0.54	1.26	3.04	16.9

6- 0.L00-1A MALMAND RIVER NEAR SHAWALAT, Continued

Probability of occurrence of annual high discharges

[m^3/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m^3/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	3.72	2.75	2.14	1.95
0.95	1.05	ng	7.57	5.48	4.30	3.76
0.90	1.11	63.8	10.7	7.72	6.07	5.21
0.80	1.25	79.3	15.9	11.4	8.99	7.55
0.50	2	122	30.9	22.5	17.8	14.4
0.20	5	193	54.3	40.8	32.1	25.3
0.10	10	248	70.1	53.9	42.2	32.9
0.04	25	326	89.4	70.8	55.2	42.5
0.02	50	390	103	83.3	64.7	49.6
0.01	100	460	116	95.8	74.1	56.5
0.005	200	536	129	108	83.3	63.3
0.002	500	648	ng	ng	ng	ng

6- 0.L00-1A MALMAND RIVER NEAR SHAWALAT, Continued

Probability of occurrence of annual low discharges

[m^3/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m^3/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	0.014	0.015	0.017	0.017	0.021	0.032	0.047	0.107
0.10	10	0.019	0.028	0.030	0.034	0.036	0.043	0.061	0.083	0.162
0.20	5	0.055	0.056	0.061	0.071	0.078	0.091	0.115	0.147	0.251
0.50	2	[1]0.165	0.154	0.164	0.190	0.219	0.247	0.274	0.329	0.484

[1]Data does not fit log-Pearson Type III curve, use with caution.

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.159	0.170	[1]0.167	0.193	0.340	0.396	0.582	1.12
0.10	10	0.192	0.207	0.209	0.240	0.579	0.681	0.967	1.71
0.20	5	0.240	0.264	0.276	0.320	1.04	1.24	1.68	2.72
0.50	2	0.374	0.431	0.483	0.607	2.74	3.27	4.10	5.78
		June-July-August				September-October-November			
0.05	20	0.015	0.016	0.018	0.020	0	0.017	0.017	0.027
0.10	10	0.030	0.034	0.039	0.045	0.026	0.035	0.037	0.051
0.20	5	0.066	0.073	0.085	0.099	[1]0.077	0.075	0.079	0.098
0.50	2	0.206	0.218	0.254	0.297	[1]0.209	0.204	0.216	0.237

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m^3/s)	Water year	Date	Gage height (meters)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1961	2-Apr	--	87.0	1970	9-Mar	--	6.88
1962	13-Apr	--	115	1971	25-Mar	--	76.0
1963	14-Mar	--	145	1972	24-Apr	--	70.0
1964	13-Nov	--	99.2	1973	24-Feb	--	57.0
1965	1-Feb	--	167	1974	18-Jan	--	117
1966	12-Apr	--	96.6	1975	25-Apr	--	133
1967	21-Apr	--	199	1976	23-Jul	--	324
1968	10-Mar	--	232	1977	26-May	--	254
1969	15-Apr	--	80.9	1978	18-Nov	--	242
Annual peak discharge, from highest to lowest							
1976	23-Jul	--	324	1962	13-Apr	--	115
1977	26-May	--	254	1964	13-Nov	--	99.2
1978	18-Nov	--	242	1966	12-Apr	--	96.6
1968	10-Mar	--	232	1961	2-Apr	--	87.0
1967	21-Apr	--	199	1969	15-Apr	--	80.9
1965	1-Feb	--	167	1971	25-Mar	--	76.0
1963	14-Mar	--	145	1972	24-Apr	--	70.0
1975	25-Apr	--	133	1973	24-Feb	--	57.0
1974	18-Jan	--	117	1970	9-Mar	--	6.88

6- 0.L00-1A MALMAND RIVER NEAR SHAWALAT, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1961	--	--	--	--	--	7.05	19.2	10.2	2.13	0.582	0.36	0.25	--
1962	0.298	0.653	0.611	0.668	1.94	1.71	2.59	0.92	0.329	0.158	0.114	0.15	0.836
1963	0.19	0.267	0.338	0.4	0.955	3.9	6.23	9.3	1.81	0.496	0.123	0.135	2.02
1964	0.194	1.11	0.359	1.97	7.41	10.3	14.7	7.98	3.57	1.02	0.335	0.175	4.07
1965	0.22	0.22	0.222	6.92	24.1	9.1	13.2	11.7	4.42	1.26	0.377	0.323	5.87
1966	0.436	0.762	0.822	0.964	3.9	3.3	8.77	4.41	1.52	0.375	0.104	0.136	2.1
1967	1.01	0.21	0.309	0.431	5.44	6	16.8	12.1	3.33	1.26	0.345	0.267	3.94
1968	0.402	0.5	0.9	1.24	3.62	10.9	9.6	9.31	2.76	0.833	0.236	0.245	3.38
1969	0.285	0.536	5.52	3.91	4.52	16.7	21.9	9.39	4	1.63	0.55	0.483	5.78
1970	0.452	1.15	0.803	1.24	1.9	4.15	4.11	1.68	0.286	0.108	0.014	0.016	1.32
1971	0.063	0.147	0.229	0.247	0.764	2.53	4.42	1.15	0.256	0.059	0.01	0.018	0.821
1972	0.037	0.159	0.278	3.94	4.22	26.5	18.5	9.47	3.75	1.78	0.503	0.375	5.81
1973	0.35	0.583	1.14	0.978	4.5	8.21	8.46	4.59	1.26	0.63	0.392	0.237	2.6
1974	0.241	0.667	1.34	3.94	11.1	23	17.1	9.16	3.44	1	0.449	0.308	5.95
1975	0.251	0.336	3.22	5.05	8.12	11.8	27.9	12.3	4.65	1.85	0.757	0.342	6.35
1976	0.374	0.585	0.687	0.711	5.34	19.8	44.8	18.1	3.29	1	0.565	0.49	7.94
1977	0.487	0.462	0.544	5.2	7.33	7.8	9.9	5.24	1.34	0.459	1.28	0.456	3.35
1978	0.374	3.09	4.28	9.19	5.1	14.6	11.1	5.25	1.67	0.648	0.301	0.265	4.66

7-0.000-7 M ADRASKAN RIVER AT ADRASKAN

(U.S. Geological Survey identification number: 333800062160000)

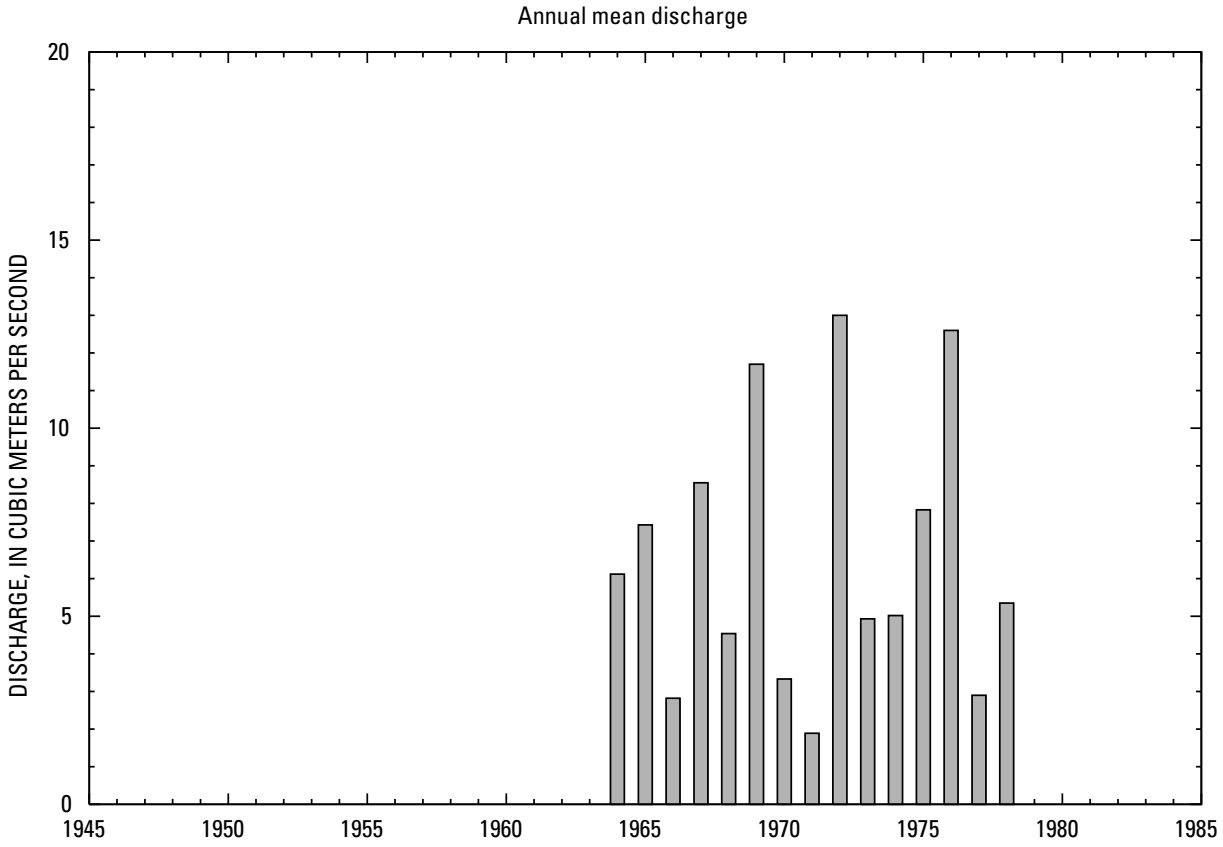
LOCATION: Lat 33º38'N., long 62º16'E., on bridge pier on Kandahar-Heart Highway at Adraskand, about 0.5 km upstream from Gaz River.

DRAINAGE AREA: 1,970 km^2.

ALTITUDE: 1,340 meters plus mean sea level.

PERIOD OF RECORD: March 30, 1933 to September 30, 1978.

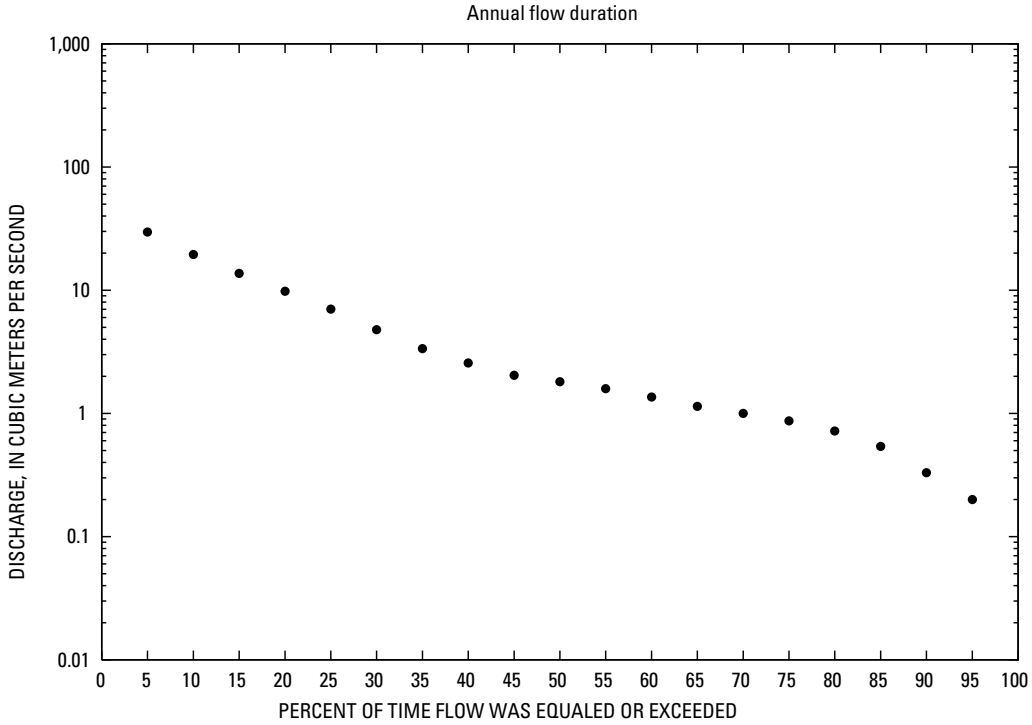
GAGE: Staff gage read once or twice daily.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	1.77	1970	0.149	1964	0.79	0.50	0.64	1.02
November	4.50	1978	0.703	1972	1.69	1.00	0.59	2.19
December	19.3	1969	0.415	1964	2.79	4.62	1.66	3.61
January	10.7	1969	1.02	1971	3.03	2.65	0.87	3.93
February	19.5	1972	1.57	1971	7.66	5.24	0.68	9.93
March	40.8	1972	2.46	1971	17.9	10.4	0.58	23.2
April	57.1	1976	3.85	1963	23.4	17.6	0.75	30.4
May	34.4	1967	2.80	1970	13.4	9.40	0.70	17.4
June	10.9	1976	0.715	1970	3.98	3.00	0.75	5.17
July	3.52	1972	0.306	1970	1.35	0.93	0.69	1.75
August	2.04	1976	0.010	1971	0.58	0.53	0.92	0.75
September	1.37	1976	0.010	1971	0.56	0.42	0.75	0.72
Annual	13.0	1972	1.89	1971	6.53	3.60	0.55	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.91	1.29	2.07	3.16	2.41	0.73	0.14	0.01	0.01	0.12	0.37	0.45	0.2
90	0.98	1.4	2.97	4.86	3.21	0.8	0.28	0.02	0.02	0.19	0.53	0.85	0.33
85	1.04	1.6	3.58	6.08	3.69	1.01	0.35	0.14	0.09	0.23	0.72	0.9	0.54
80	1.19	1.77	5.52	7.01	4.33	1.42	0.42	0.18	0.16	0.31	0.77	0.95	0.72
75	1.33	1.92	6.9	8.14	5.06	1.61	0.55	0.2	0.24	0.35	0.81	1.02	0.87
70	1.43	2.33	9.83	9.82	5.68	1.76	0.7	0.21	0.29	0.44	0.86	1.08	1
65	1.54	2.72	11.7	11.8	6.31	1.94	0.78	0.22	0.32	0.51	0.91	1.15	1.14
60	1.64	2.98	13.3	13.5	6.96	2.3	0.86	0.27	0.34	0.59	0.97	1.25	1.36
55	1.74	3.64	14.5	14.9	7.61	2.76	0.93	0.31	0.42	0.63	1.13	1.54	1.59
50	1.82	4.92	15.6	16.6	8.36	2.99	1	0.4	0.51	0.68	1.26	1.67	1.81
45	1.9	6	16.7	19.9	9.29	3.23	1.12	0.53	0.58	0.82	1.37	1.78	2.04
40	2.02	7.56	17.9	23.1	10.7	3.51	1.27	0.65	0.64	0.88	1.48	1.85	2.57
35	2.18	8.21	19.4	26	13.1	3.94	1.51	0.73	0.71	0.93	1.59	1.92	3.36
30	2.63	9.67	21.2	29.1	15.3	4.59	1.67	0.77	0.77	0.97	1.71	1.98	4.79
25	2.89	11	23.3	31.5	17.6	5.18	1.84	0.82	0.81	1.11	1.84	2.05	7.02
20	3.18	12.2	25.8	34.5	19.9	6.46	2.23	0.9	0.86	1.2	1.98	2.29	9.82
15	4.3	13.3	29.4	41.5	22.8	7.56	2.51	1.03	1.04	1.34	2.18	2.79	13.7
10	8.93	16.7	35.8	51.7	29.6	8.73	2.83	1.24	1.18	1.57	2.57	3.35	19.5
5	12.1	24.5	47.5	67.9	38.8	11.2	3.21	1.9	1.33	1.75	3.41	13.5	29.7

7- 0.000-7M ADRASKAN RIVER AT ADRASKAN, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	9.60	[1]8.70	8.90	7.09	5.08
0.95	1.05	19.2	15.0	13.7	10.9	8.69
0.90	1.11	27.6	19.6	17.2	13.7	11.4
0.80	1.25	42.4	26.8	22.4	17.9	15.5
0.50	2	94.4	46.0	36.6	29.8	26.6
0.20	5	204	74.1	58.6	49.0	42.9
0.10	10	302	92.7	74.3	63.2	53.8
0.04	25	456	116	95.0	82.7	67.4
0.02	50	591	132	111	98.2	77.2
0.01	100	744	148	127	114	86.8
0.005	200	917	163	144	132	96.1
0.002	500	1,180	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

7- 0.000-7M ADRASKAN RIVER AT ADRASKAN, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	0	0.007	0.010	0.013	0.017	0.053	0.136	0.374
0.10	10	0	0.012	0.019	0.024	0.031	0.041	0.095	0.192	0.457
0.20	5	[1]0.052	0.050	0.052	0.063	0.079	0.108	0.177	0.286	0.580
0.50	2	[1]0.256	0.246	0.244	0.275	0.329	0.427	0.479	0.580	0.904

[1]Data does not fit log-Pearson Type III curve, use with caution.

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.401	0.451	0.539	0.587	0.963	1.24	1.45	2.14
0.10	10	[1]0.559	0.537	0.624	0.683	1.31	1.65	2.00	2.89
0.20	5	[1]0.777	0.680	0.764	0.843	1.88	2.33	2.91	4.12
0.50	2	[1]1.19	1.15	1.24	1.38	3.70	4.42	5.69	7.95
		June-July-August				September-October-November			
0.05	20	0.014	0.014	0.015	0.016	0	0.008	0.011	0.017
0.10	10	0.030	0.031	0.035	0.039	0	0.023	0.029	0.042
0.20	5	0.070	0.075	0.086	0.101	[1]0.077	0.071	0.081	0.107
0.50	2	0.271	0.294	0.338	0.414	[1]0.408	0.354	0.375	0.427

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m^3/s, meters per second; --, no data]

Water year	Date	Gage height (meters)	Peak discharge (m^3/s)	Water year	Date	Gage height (meters)	Peak discharge (m^3/s)
Annual peak discharge, by year							
1963	12-May	--	390	1971	16-Apr	--	15.6
1964	13-Nov	--	310	1972	26-Apr	--	120
1965	6-May	--	37.5	1973	25-Mar	--	70.0
1966	15-Apr	--	45.5	1974	3-Mar	--	76.0
1967	26-Apr	--	300	1975	3-Apr	--	46.6
1968	18-May	--	198	1976	26-Mar	--	148
1969	8-May	--	200	1977	28-Mar	--	29.0
1970	9-Mar	--	54.0	1978	18-Nov	--	109
Annual peak discharge, from highest to lowest							
1963	12-May	--	390	1974	3-Mar	--	76.0
1964	13-Nov	--	310	1973	25-Mar	--	70.0
1967	26-Apr	--	300	1970	9-Mar	--	54.0
1969	8-May	--	200	1975	3-Apr	--	46.6
1968	18-May	--	198	1966	15-Apr	--	45.5
1976	26-Mar	--	148	1965	6-May	--	37.5
1972	26-Apr	--	120	1977	28-Mar	--	29.0
1978	18-Nov	--	109	1971	16-Apr	--	15.6

7- 0.000-7M ADRASKAN RIVER AT ADRASKAN, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1963	--	--	--	--	--	--	3.85	13.2	1.4	0.376	0.182	0.157	--
1964	0.149	1.83	0.415	1.29	7.08	16.1	30.2	12.2	2.91	0.915	0.436	0.323	6.12
1965	0.526	0.8	0.942	5.38	12.4	19	23.3	18.2	5.45	1.92	1.11	0.692	7.43
1966	0.931	1.46	1.83	1.92	2.28	2.92	11.8	7.09	2.85	0.598	0.212	0.15	2.82
1967	0.328	0.944	1.15	1.05	5.36	12.2	38.4	34.4	5.85	1.53	0.724	0.727	8.55
1968	1.01	1.37	2.06	2.6	3.74	7.92	8.82	21.4	3.06	1.03	0.461	0.81	4.54
1969	1.01	1.64	19.3	10.7	8.91	28.9	45.6	16.3	4.49	1.42	0.963	1.28	11.7
1970	1.77	2.88	2.03	1.65	2.02	17.3	8.27	2.8	0.715	0.306	0.011	0.02	3.33
1971	0.305	0.901	0.994	1.02	1.57	2.46	7.86	3.43	2.86	1.41	0.01	0.01	1.89
1972	0.211	0.703	1.05	6.4	19.5	40.8	55.5	17.9	9.68	3.52	1.06	0.97	13
1973	1.14	2.01	1.73	1.53	11.1	23.1	10.4	4.88	1.76	1.35	0.211	0.33	4.93
1974	0.517	0.908	1.11	1.41	2.64	22.4	19.9	7.15	2.3	1	0.371	0.452	5.02
1975	0.561	1.05	3.02	4.01	11.7	19.7	29.6	14.7	6.51	2.05	0.865	0.775	7.83
1976	1.11	2.05	2.31	1.77	13.8	26.4	57.1	29.9	10.9	3.06	2.04	1.37	12.6
1977	1.68	2.26	1.82	2.51	4.57	6.53	9.31	4.06	1.14	0.314	0.3	0.511	2.9
1978	0.546	4.5	2.03	2.21	8.2	22.1	14.9	6.77	1.88	0.804	0.296	0.319	5.35

7-5.R00-1A RUD-I-GAZ RIVER NEAR ADRASKAN

(U.S. Geological Survey identification number: 334200062170000)

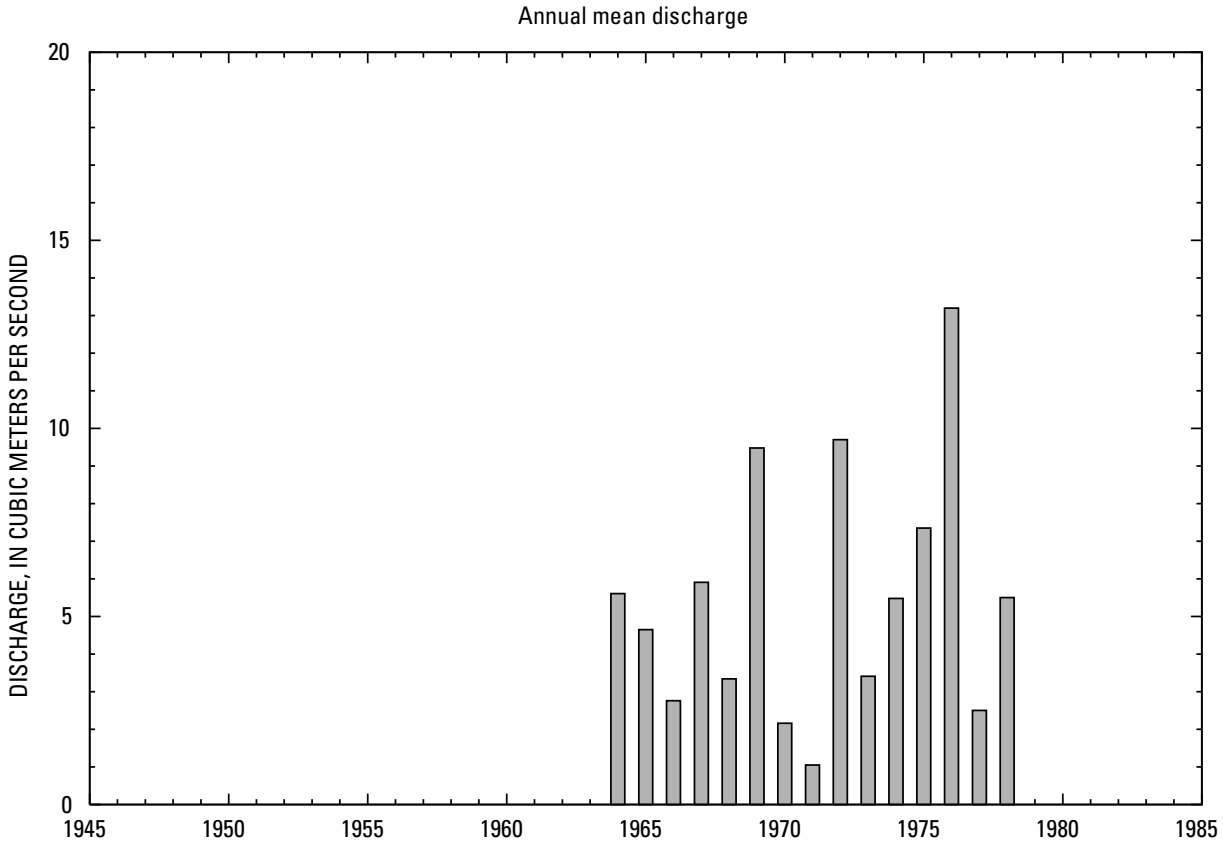
LOCATION: Lat 33º42'N., long 62º17'E., on bridge pier, about 0.5 km upstream from Adraskan River, and about 1 km north of Adraskan.

DRAINAGE AREA: 2,180 km^2.

ALTITUDE: 1,380 meters plus mean sea level.

PERIOD OF RECORD: May 12, 1963 to September 30, 1978.

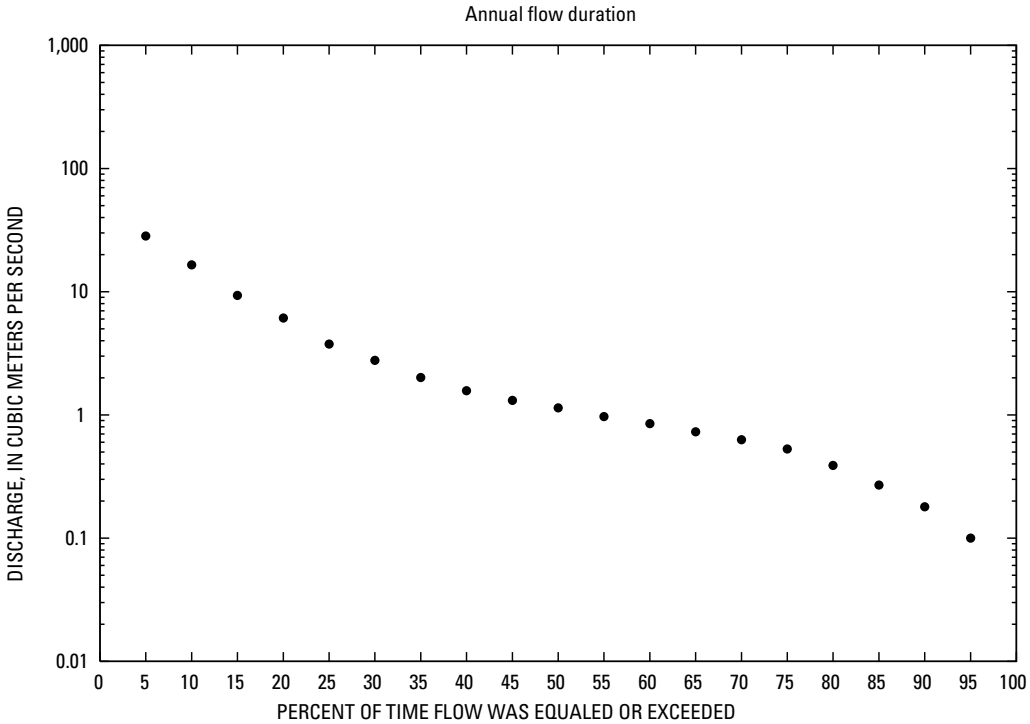
GAGE: Staff gage read once or twice daily.



Statistics of monthly and annual mean discharges

[m³/s, meters per second]

Month	Maximum		Minimum		Mean			
	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Water year of occurrence	Discharge (m³/s)	Standard deviation (m³/s)	Coefficient of variation	Percentage of annual discharge
October	1.10	1977	0.062	1972	0.51	0.33	0.66	0.77
November	2.48	1978	0.209	1971	0.96	0.62	0.65	1.46
December	11.9	1969	0.410	1965	1.74	2.84	1.63	2.65
January	6.68	1969	0.602	1964	2.07	1.51	0.73	3.15
February	8.14	1969	1.04	1971	4.51	2.42	0.54	6.86
March	39.9	1972	1.75	1967	19.3	13.4	0.70	29.3
April	76.7	1976	6.45	1971	24.2	18.7	0.77	36.9
May	25.6	1976	1.29	1971	9.10	8.14	0.89	13.8
June	4.80	1967	0.232	1971	1.78	1.53	0.86	2.70
July	1.93	1976	0.075	1971	0.75	0.58	0.77	1.14
August	1.16	1976	0	1970, 1971	0.39	0.35	0.90	0.59
September	1.05	1976	0	1971	0.40	0.34	0.85	0.61
Annual	13.2	1976	1.05	1971	5.47	3.31	0.61	100



Monthly and annual flow duration, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards]

Percentage of days discharge equaled or exceeded	January	February	March	April	May	June	July	August	September	October	November	December	Annual
95	0.55	0.76	1.48	3.7	0.79	0.1	0.08	0.02	0	0.09	0.17	0.37	0.1
90	0.63	1	2.25	5.43	1.21	0.31	0.11	0.03	0.03	0.12	0.2	0.49	0.18
85	0.69	1.3	3.19	6.75	1.65	0.48	0.17	0.06	0.08	0.14	0.23	0.55	0.27
80	0.76	1.56	3.69	7.75	1.95	0.57	0.23	0.1	0.11	0.18	0.27	0.59	0.39
75	0.85	1.71	4.18	9.36	2.33	0.66	0.3	0.13	0.14	0.21	0.35	0.67	0.53
70	0.98	2.03	5.56	10.4	2.63	0.77	0.34	0.14	0.16	0.26	0.45	0.75	0.63
65	1.29	2.3	8.31	11.4	2.91	0.88	0.37	0.19	0.18	0.29	0.52	0.82	0.73
60	1.38	2.62	10.9	12.6	3.22	0.97	0.41	0.21	0.19	0.32	0.59	0.89	0.85
55	1.44	3.01	14	14.8	3.61	1.07	0.51	0.23	0.21	0.43	0.67	0.96	0.97
50	1.49	3.27	15.8	17	4.67	1.23	0.58	0.28	0.29	0.46	0.74	1.1	1.14
45	1.55	3.55	17.9	20.4	5.28	1.34	0.64	0.31	0.38	0.54	0.81	1.16	1.31
40	1.6	3.88	20	23.3	6.17	1.44	0.7	0.35	0.43	0.64	0.86	1.2	1.57
35	1.66	4.7	22.1	25.5	7.85	1.62	0.89	0.45	0.56	0.7	0.93	1.25	2.01
30	1.96	5.62	24.7	27.7	9.84	1.95	1.01	0.52	0.6	0.74	0.99	1.29	2.77
25	2.23	6.2	27.2	31.7	12.3	2.36	1.13	0.64	0.64	0.76	1.05	1.35	3.76
20	2.44	6.96	29.8	35.8	15.2	2.98	1.26	0.78	0.7	0.8	1.15	1.41	6.13
15	2.74	7.83	35.3	41.1	17.7	3.54	1.42	0.85	0.81	0.93	1.24	1.47	9.34
10	5.8	8.6	43.5	50.6	23	4.39	1.65	0.91	0.92	1.01	1.45	1.64	16.5
5	6.74	10.4	54.5	77	30.2	5.36	2.06	1.05	0	1.08	1.86	7.29	28.3

7- 5.R00-1A RUD-I-GAZ RIVER NEAR ADRASKAN, Continued

Probability of occurrence of annual high discharges

[m³/s, meters per second; ng, statistic not given]

Exceedance probability	Recurrence interval (years)	Maximum instantaneous (m³/s)	Maximum mean discharge			
			3-day period	7-day period	15-day period	30-day period
0.99	1.01	ng	[1]6.92	6.95	6.18	4.47
0.95	1.05	ng	13.6	12.0	10.1	7.73
0.90	1.11	35.3	18.9	15.8	13.1	10.2
0.80	1.25	49.7	27.1	21.7	17.7	14.2
0.50	2	89.5	49.1	38.1	30.9	25.5
0.20	5	148	78.8	63.4	52.4	43.9
0.10	10	187	96.6	80.8	68.4	57.3
0.04	25	234	116	103	90.0	75.2
0.02	50	268	129	120	107	88.9
0.01	100	299	141	136	125	103
0.005	200	329	[1]151	153	143	117
0.002	500	367	ng	ng	ng	ng

[1]Data does not fit log-Pearson Type III curve, use with caution.

7- 5.R00-1A RUD-I-GAZ RIVER NEAR ADRASKAN, Continued

Probability of occurrence of annual low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)								
		Number of consecutive days								
		1	3	7	14	30	60	90	120	183
0.05	20	0	0	0	0	0	0	0	0.042	0.141
0.10	10	0	0	0	0	0	0.010	0.034	0.075	0.198
0.20	5	0.061	0.063	0.069	0.074	0.084	[1]0.067	0.110	0.142	0.289
0.50	2	0.216	0.222	0.234	0.244	0.271	0.354	0.364	0.386	0.550

[1]Data does not fit log-Pearson Type III curve, use with caution.

Probability of occurrence of seasonal low discharges

[m³/s, meters per second]

Nonexceedance probability	Recurrence interval (years)	Minimum mean discharge (m³/s)							
		Number of consecutive days							
		1	7	14	30	1	7	14	30
		December-January-February				March-April-May			
0.05	20	0.258	0.336	0.344	0.438	0.475	0.576	0.611	1.05
0.10	10	0.342	0.387	0.402	0.490	0.606	0.746	0.850	1.43
0.20	5	0.465	0.473	0.499	0.581	0.832	1.04	1.28	2.09
0.50	2	0.770	0.780	0.835	0.909	1.62	2.04	2.84	4.54
		June-July-August				September-Ocotber-November			
0.05	20	0	0	0	0	0	0	0	0
0.10	10	0	0	0	0	0	0.007	0.015	0.027
0.20	5	0.064	0.074	0.083	0.102	[1]0.072	0.048	0.066	0.091
0.50	2	0.207	0.229	0.239	0.286	0.246	0.302	0.297	0.331

[1]Data does not fit log-Pearson Type III curve, use with caution.

Annual peak discharge and corresponding gage height

[m³/s, meters per second; --, no data]

Water year	Date	Gage height (meter)	Peak discharge (m³/s)	Water year	Date	Gage height (meter)	Peak discharge (m³/s)
Annual peak discharge, by year							
1963	12-May	--	70.0	1971	12-Apr	--	13.4
1964	24-Apr	--	40.0	1972	24-Mar	--	133
1965	24-Apr	--	97.2	1973	26-Mar	--	75.0
1966	15-Apr	--	34.0	1974	12-Apr	--	131
1967	28-Apr	--	132	1975	14-May	--	153
1968	18-May	--	156	1976	8-Apr	--	156
1969	8-May	--	229	1977	4-Apr	--	29.7
1970	25-Mar	--	53.1	1978	18-Nov	--	89.5
Annual peak discharge, from highest to lowest							
1969	8-May	--	229	1978	18-Nov	--	89.5
1976	8-Apr	--	156	1973	26-Mar	--	75.0
1968	18-May	--	156	1963	12-May	--	70.0
1975	14-May	--	153	1970	25-Mar	--	53.1
1972	24-Mar	--	133	1964	24-Apr	--	40.0
1967	28-Apr	--	132	1966	15-Apr	--	34.0
1974	12-Apr	--	131	1977	4-Apr	--	29.7
1965	24-Apr	--	97.2	1971	12-Apr	--	13.4

7- 5.R00-1A RUD-I-GAZ RIVER NEAR ADRASKAN, Continued

Monthly and annual mean discharges, in cubic meters per second

[Data were not rounded in accordance with U.S. Geological Survey publication standards; --, no data]

Year	October	November	December	January	February	March	April	May	June	July	August	September	Annual
1963	--	--	--	--	--	--	--	--	0.412	0.295	0.207	0.184	--
1964	0.275	1.71	0.576	0.602	4.06	18	30.8	9.03	1.35	0.803	0.239	0.113	5.61
1965	0.24	0.29	0.41	3.07	7.25	21.5	14.5	5.96	1.47	0.615	0.246	0.399	4.65
1966	0.574	0.763	1.19	1.56	2.33	4.01	16.5	4.23	1.3	0.493	0.271	0.145	2.76
1967	0.248	0.22	0.463	0.812	1.28	1.75	34.4	24.4	4.8	1.34	0.764	0.6	5.91
1968	0.734	0.808	1.01	1.36	1.83	11.4	8.69	11.3	1.18	0.643	0.443	0.623	3.34
1969	0.849	0.964	11.9	6.68	8.14	37.5	32	10	2.31	1.31	0.919	1	9.48
1970	1.02	1.51	1.26	1.6	2.09	7.56	8.55	1.84	0.337	0.222	0	0.019	2.16
1971	0.101	0.209	0.706	0.638	1.04	1.91	6.45	1.29	0.232	0.075	0	0	1.05
1972	0.062	1.07	0.855	3.3	3.84	39.9	45.2	15	4.2	1.61	0.737	0.715	9.7
1973	0.75	0.894	1.3	1.56	6.35	17.9	9.4	1.76	0.619	0.319	0.136	0.174	3.41
1974	0.187	0.432	0.562	1.36	3.93	31.8	21	4.2	1.09	0.54	0.296	0.379	5.48
1975	0.43	0.559	1.69	2.66	6.45	22.6	31	17.1	3.16	1.34	0.626	0.707	7.35
1976	0.694	1.29	1.59	1.66	6.99	36.4	76.7	25.6	4.38	1.93	1.16	1.05	13.2
1977	1.1	1.24	1.18	1.83	5.02	7.16	9.37	2.15	0.728	0.176	0.106	0.198	2.5
1978	0.372	2.48	1.47	2.35	7.04	29.5	19.1	2.57	0.85	0.26	0.076	0.113	5.5

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